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Pacific Northwest
NATIONAL LABORATORY

ENVVEST Ambient Monitoring Program

In-Progress Summary 2009–2017

September 2018

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RK Johnston
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U.S. DEPARTMENT OF ENERGY

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Project ENVVEST

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Summary

This report summarizes the in-progress findings (2009–2017) of surface water chemistry within the Puget Sound Naval Shipyard & Intermediate Maintenance Facility (PSNS & IMF, part of Naval Base Kitsap-Bremerton [NBK]), and surrounding marine waters (Sinclair and Dyes Inlets), collected under Project ENVironmental inVESTment's (ENVVEST's) Ambient Monitoring Program. Project ENVVEST was initiated as a cooperative effort among the NBK, regulatory agencies, and local stakeholders to protect beneficial uses of Sinclair and Dyes Inlets. The overall goal of the Ambient Monitoring Program, under Project ENVVEST, is monitoring and tracking environmental water quality to support characterization of the status and trends of ecological resources, assess the effectiveness of cleanup and pollution control measures, and determine whether discharges from all sources are protective of beneficial uses, including those related to aquatic life and human health, in the receiving waters of the Inlets—all in the context of U.S. Environmental Protection Agency (EPA) National Pollution Discharge and Elimination System (NPDES) regulations, Comprehensive Environmental Response, Compensation, and Liability Act cleanup requirements, and EPA aquatic life criteria. This report is provided by the Pacific Northwest National Laboratory's (PNNL's) Marine Science Laboratory (MSL). MSL has been instrumental in designing the field sampling programs for biota, sediments, stormwater, and marine water for Project ENVVEST, and providing chemical analyses of metals and organics at the required low levels of detection to meet Project goals.

The ENVVEST Ambient Monitoring Program objectives are as follows:

- Extend the baseline for assessing continuous process improvement of the PSNS & IMF operations and other sources of contamination into Sinclair and Dyes Inlets.
- Provide data for validation of proposed mixing zones and model verification; ambient data are needed to inform the development of discharge limits, verify and validate discharge models, and assess total loading of all contaminants into the two inlets.
- Obtain data and information about the toxicity of effluents and receiving waters for NPDES permit requirements for the PSNS & IMF; specific toxicity tests of effluents and ambient waters are needed to inform the permit process.
- Develop procedures needed to meet ambient monitoring requirements for water, sediment, and biota in support of adaptive management actions.

Investigative Activities

Under the Ambient Monitoring Program, the PSNS & IMF and MSL initiated marine water sampling in August 2009, and proceeding collections have captured wet and dry periods (e.g., summer/fall [dry] and winter/spring [wet]) for a total of 24 campaigns over 8 years. Monitored stations, to date, have been grouped into five main zones based on proximity to industrial activities: 1) end-of-pipe NPDES-regulated PSNS & IMF outfalls; 2) nearshore along the industrialized waterfront of the PSNS & IMF and within 30 m of a monitored outfall; 3) along the floating security barrier of the PSNS & IMF; 4) nearshore in Sinclair Inlet along the Bremerton and Port Orchard waterfront, the mouth of the Port Washington Narrows, and reference locations in Dyes Inlet, Port Orchard Passage, and Rich Passage; and 5) central marine waters in Sinclair and Dyes Inlets and the passages to central Puget Sound. The 24 sampling campaigns conducted are identified as AMB01 through AMB24.

Sampling consisted of composite or grab samples for permit-specific trace metals (Hg, Cu, Pb, and Zn), ancillary parameters (total suspended solids, total organic carbon, dissolved organic carbon, salinity, ammonia as nitrogen, nitrate + nitrite as nitrogen, total Kjeldahl nitrogen, total phosphorous, and

oil/grease) and supporting metals (Al, Ag, As, Cd, Cr, and Ni). It should be noted that at the time of this report, NPDES permit guidance is only in effect for Cu; other metals classified as permit-specific in this report are those included in current and historic NPDES draft permits. This report summarizes data for these permit-specific metals as both spatial and temporal trends.

Findings

The following conclusions can be drawn, regarding the PSNS & IMF Nearshore zone, from this in-progress summary:

- Hg in the PSNS & IMF waters remains well below chronic criteria specified in Washington Administrative Code (WAC) 173-201A-240 apart from PSNS Nearshore station PS03. Human health criteria have not been reached during monitoring events under Project ENVVEST.
- Cu has intermittently breached WAC 173-201A-240 chronic criteria in the PS07, PS08, PS09 sampling area; the acute level was breached at only one time (i.e., July 2013).
- Pb consistently remains an order of magnitude below the WAC 173-201A-240 chronic threshold in the PSNS & IMF ambient waters.
- Zn, on average, remains well below WAC 173-201A-240 chronic aquatic life criteria.
- The limitation threshold for Cu, established in NPDES Industrial Permit No. WA00206-2 by which the EPA regulates discharges from NBK-Bremerton, has been exceeded once during ENVVEST seasonal monitoring campaigns. The Zn threshold has not been in effect during this monitoring period and is generally an order of magnitude below the limitation threshold. Hg and Pb discharges are not currently regulated.

Recommendations

The data set described in this report provides a baseline for assessing continuous process improvement of the PSNS & IMF operations and other sources of contamination entering Sinclair and Dyes Inlets. The Ambient Monitoring Program can be continually used to this end, with each event in turn demonstrating protection of beneficial uses to all stakeholders. In light of NPDES regulations toward the reduction of Hg, Cu, Pb, and Zn in industrial shipyards (EPA 2008a,b), and strong statistical differences between PSNS & IMF Nearshore and Barrier samples, continuous monitoring should focus on mixing zone model verification, toward mixing zone inclusion in future permit structures. This effort will tie together the Sediment Quality Verification, Mussel Watch, and Non-Dry-Dock Stormwater Programs that MSL has performed and continues to perform for the PSNS & IMF. The recommended primary focus is Cu reduction and fate, based on proximity of its current concentrations in the PSNS & IMF to aquatic life criteria thresholds and its low median effective concentrations relative to a multitude of aquatic species.

Abbreviations and Acronyms

AKART	All Known, Available, and Reasonable Methods of Treatment
AN	ammonia as nitrogen
ANOVA	analysis of variance
BMP	best management practice
CASS	coastal Atlantic seawater standard
CRM	certified reference material
CVAF	cold vapor atomic fluorescence
DD	dry dock
DOC	dissolved organic carbon
DOE	Washington Department of Ecology
DSWE	dry weather storm event
DWE	dry weather event
ENVVEST	ENVironmental inVESTment
EPA	U.S. Environmental Protection Agency
FFCA	Federal Facility Compliance Agreement
FIAS	flow-injection atomic spectroscopy
HEM	hexane extractable material
HGAA	hydride generation atomic absorption
HSD	honest significant difference
HTCO	high temperature catalytic oxidation
IC	inorganic carbon
ICP-MS	inductively coupled plasma mass spectrometry
KPUD	Kitsap Public Utility District
LCS	laboratory control sample
MB	method or procedural blank
MDL	method detection limit
MLLW	mean lower low water
MS	matrix spike or mass spectrometry
MSD	matrix spike duplicate
MSL	Marine Sciences Laboratory (PNNL)
NBK	Naval Base Kitsap
NNN	nitrate + nitrite as nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPOC	non-purgeable organic carbons
OF	outfall

PNNL	Pacific Northwest National Laboratory
PSNS	Puget Sound Naval Shipyard
PSNS & IMF	Puget Sound Naval Shipyard & Intermediate Maintenance Facility
PSU	practical salinity unit
QAP	quality assurance plan
QC	quality control
OF	outfall
RPD	relative percent difference
SRM	standard reference material
TKN	total Kjeldahl nitrogen
TOC	total organic carbon
TP	total phosphorous
TRM	total recoverable metals
TSS	total suspended solids
WWBF	wet weather base flow
WWSE	wet weather storm event

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1.0 Introduction

The Puget Sound Naval Shipyard & Intermediate Maintenance Facility (PSNS & IMF), a tenant command operating within Naval Base Kitsap (NBK), is located on Sinclair Inlet in Bremerton, Washington. The PSNS is committed to a culture of continuous process improvement for all aspects of operations, including reducing the releases of hazardous materials and waste in discharges. In 2000, the Project ENVVEST (ENVironmental inVESTment) Final Project Agreement was signed as a cooperative program among PSNS & IMF, the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology (Ecology), and local stakeholders to leverage and extend efforts to help improve environmental quality and assist in meeting water quality goals for Sinclair and Dyes Inlets and their surrounding watersheds (EPA 2000).

Sinclair and Dyes Inlets in Puget Sound receive pollution from a variety of sources including shipyard operations, marina and vessel traffic, storm event runoff, discharges from wastewater treatment plants, industrial outfalls, and surface streams, as well as legacy sources such as contaminated sediments, that are being addressed by cleanup and restoration activities (URS 2008; Paulson and Keys 2009; Paulson et al. 2010; US Navy 2012). PSNS is the largest industrial facility on Sinclair Inlet and has been in operation since 1896; it functions to repair, refuel, and decommission naval ships (Crecelius et al. 2003). Currently, discharges from the PSNS are regulated by the EPA under the National Pollution Discharge and Elimination System (NPDES) Industrial Permit (Permit No.: WA-000206-2, issued April 1, 1994 and administratively extended since 1999) that covers all of NBK-Bremerton and authorizes the discharge of dry-dock drainage, non-contact cooling water, treated steam-plant wastewater, stormwater runoff, demineralized water, steam condensate, saltwater from the supply system, and potable water from the facility.

In May 2008, the EPA issued a Working Draft NPDES Permit (EPA 2008a) for the PSNS & IMFs' consideration, review, and preparation. In response, additional improvements to best management practices (BMPs) were made to meet All Known, Available, and Reasonable Methods of Treatment (AKART) for preventing, controlling, or abating the pollutants discharged from the PSNS (NAVFAC NW and PSNS & IMF 2012). Implementation of AKART has been shown to be insufficient to meet lowered benchmarks (Jabloner et al. 2009; Brandenberger et al. 2018), necessitating the need for development of a mixing zone (WAC 2006). The work described herein, specifically assists the development of the mixing zone for the Sinclair Inlet areas adjacent to PSNS effluent pipes and continuously monitors the Sinclair and Dyes Inlets surface water system to allow for response to process improvement needs by providing temporal and spatial data on runoff and loading to the watershed from all sources.

To further improve NPDES compliance, EPA Region 10 and PSNS & IMF signed a Federal Facility Compliance Agreement (FFCA, EPA Docket No. CWA-10-2013-0045) on March 23, 2013. The agreement requires the PSNS to implement measures to help achieve compliance. The compliance measures implemented under the FFCA included completing Military Construction projects needed to upgrade the dry-dock process water control system and increase the capacity of the oil waste treatment systems. ENVVEST provides defensible data and guidance for management of these upgrades.

Summarily, data from the Ambient Monitoring Program support modeling of contaminant loading into the inlets (Johnston and Wang 2004; Johnston et al. 2009b; Wang et al. 2009), assessment of the long-term impact of stormwater discharge on sediment and water quality of the inlets (Katz et al. 2004; Katz and Blake 2004; Paulson et al. 2012; Huffman et al. 2012; Paulson et al. 2013), and demonstration of the protection of beneficial uses required under the Clean Water Act (Johnston et al. 2017).

This report is provided by the Pacific Northwest National Laboratory's (PNNL's) Marine Sciences Laboratory (MSL). MSL has been instrumental in designing the field sampling programs for biota, sediments, stormwater, and marine water for Project ENVVEST, and has provided chemical analyses of metals and organics at the required low levels of detection to meet Project goals. Provided, is an in-progress summary of the Ambient Monitoring Program data collected under the supporting Sampling and Analysis Plan for Ambient Monitoring and Toxicity Testing for Sinclair and Dyes Inlets, Puget Sound, Washington: Water Year 2018 Update (referred to as the Quality Assurance Plan [QAP]) (Johnston et al. 2017). The QAP dictates ambient monitoring and toxicity testing sampling and analysis for monitoring the major effluent sources, as well as the receiving waters of Sinclair and Dyes Inlets. This report summarizes the water quality measurements for permit-specific trace metals (Hg, Cu, Pb, and Zn), ancillary parameters (total suspended solids [TSS], total organic carbon [TOC], dissolved organic carbon [DOC], salinity, ammonia as nitrogen [AN], nitrate + nitrite as nitrogen [NNN], total Kjeldahl nitrogen [TKN], total phosphorous [TP], and oil/grease [HEM]), and supporting metals (Al, Ag, As, Cd, Cr, and Ni), which provide source identification support.

2.0 Objectives

The ENVVEST Ambient Monitoring Program objectives are as follows:

1. Extend the baseline for assessing continuous process improvement of the PSNS operations and other sources of contamination into Sinclair and Dyes Inlets.
2. Provide data for validation of proposed mixing zones and model verification; ambient data are needed to inform the development of discharge limits, verify and validate discharge models, and assess total loading of all contaminants into the inlets.
3. Obtain data and information about the toxicity of effluents and receiving waters for NPDES permit requirements for the PSNS. Specific toxicity tests of effluents and ambient waters are needed to inform the permit process.
4. Develop the procedures needed to meet ambient monitoring requirements for water, sediment, and biota in support of adaptive management actions.

The data obtained from this sampling effort are used to assess the impact of all sources of pollution on environmental quality of the two inlets, support further development of the integrated watershed and receiving water models developed for the Sinclair and Dyes Inlet watershed (Wang et al. 2005; Skahill and LaHatte 2006, 2007; Johnston et al. 2009b; Wang et al. 2009), and provide the basis for calculating total maximum daily loads for key environmental contaminants within the watershed (Brandenberger et al. 2008; Lawrence et al. 2012). A key aspect of this work is to quantify trace metal concentrations in saltwater at levels well below marine water quality standards. Data from the network of ambient monitoring stations are evaluated to assess the impact of contaminants discharged into Sinclair and Dyes Inlets, characterize the status and trend of ecological resources, and determine whether discharges from all sources are protective of beneficial uses including aquatic life. The data also provide a basis for determining the need for improvement, assessing the effectiveness of corrective actions, and informing adaptive management actions needed to improve environmental quality and protect aquatic resources.

3.0 Sampling Design

This section addresses the technical approach taken, stations at which samples were taken, and quality objectives and criteria for the measurement data.

3.1 Technical Approach

Marine water sampling was initiated by Project ENVVEST in August 2009, and proceeding collections have captured wet and dry periods (i.e., summer/fall [dry] and winter/spring [wet]) (Noble et al. 2013) for a total of 24 campaigns over 8 years (Figure 1). Stations are grouped into five main types based on local activities: 1) NPDES-regulated PSNS outfalls; 2) nearshore along the industrialized waterfront of PSNS and within 30 m of a monitored outfall; 3) along the floating security barrier of PSNS; 4) nearshore in Sinclair Inlet along the Bremerton and Port Orchard waterfront, the mouth of the Port Washington Narrows, and reference locations in Dyes Inlet, Port Orchard Passage, and Rich Passage; and 5) central marine waters in Sinclair and Dyes Inlets and the passages to central Puget Sound (Table 1). This design allows for spatial analysis moving away from the shorelines to determine the dilution gradient within the water body, and temporal analysis (which captures BMP effectiveness and allows for early indication of new source inputs).

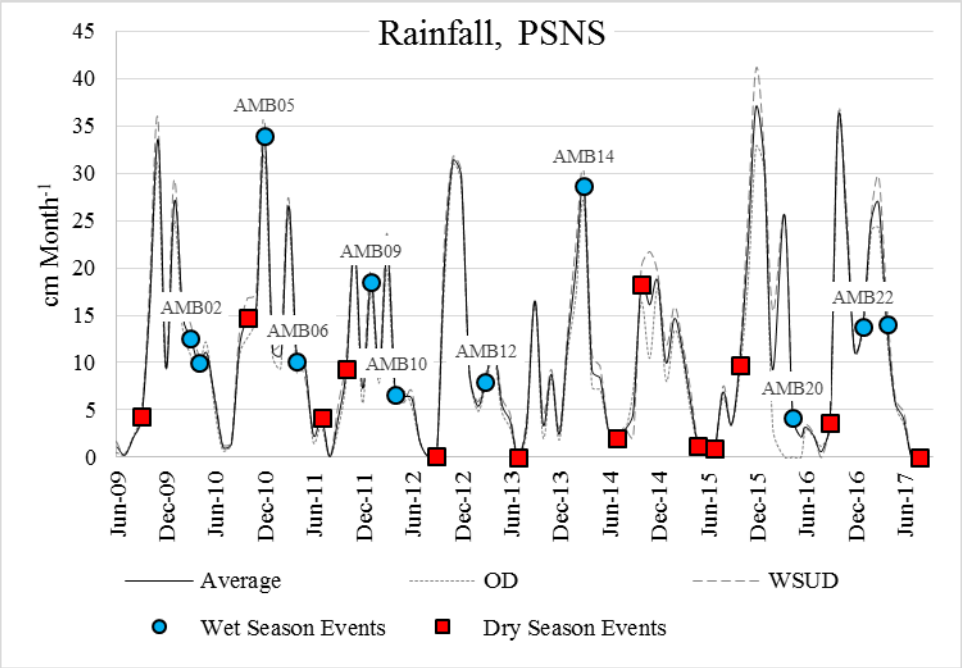


Figure 1. Monthly rainfall in PSNS, with sampling events overlaid. Average rainfall is calculated from Kitsap Public Utility District (KPUD) stations Olympus Drive (OD) and West Sound Utility District (WSUD). These tipping buckets are located 4 miles north and south of PSNS, respectively. Wet season is operationally defined as the months of November through April, and dry season as May through October.

Table 1. Marine water monitoring stations listed by zone designations 2–5.

Station ID	Zone	Latitude	Longitude	Land-Use Runoff Regime	Jurisdiction
PS01	2	47.55401	-122.65725	Urban/ Industrial Nearshore	NBK-BREM
PS02	2	47.55456	-122.65452	Urban/ Industrial Nearshore	NBK-BREM
PS03	2	47.55592	-122.65182	Urban/ Industrial Nearshore	NBK-BREM
PS04	2	47.55458	-122.64752	Urban/ Industrial Nearshore	NBK-BREM
PS05	2	47.55606	-122.64491	Urban/ Industrial Nearshore	PSNS & IMF
PS06	2	47.55310	-122.64225	Urban/ Industrial Nearshore	PSNS & IMF
PS07	2	47.55598	-122.64134	Urban/ Industrial Nearshore	PSNS & IMF
PS08	2	47.55784	-122.63880	Urban/ Industrial Nearshore	PSNS & IMF
PS09	2	47.55996	-122.63626	Urban/ Industrial Nearshore	PSNS & IMF
PS10	2	47.56046	-122.63322	Urban/ Industrial Nearshore	PSNS & IMF
PS10.1	2	47.56123	-122.63132	Urban/ Industrial Nearshore	PSNS & IMF
PS11	2	47.56048	-122.62986	Urban/ Industrial Nearshore	PSNS & IMF
PS12	2	47.56052	-122.62836	Urban/ Industrial Nearshore	NBK-BREM
PS13	3	47.55199	-122.65407	Urban/ Industrial Marine/Nearshore	PSNS & IMF
PS14	3	47.55241	-122.64371	Urban/ Industrial Marine/Nearshore	PSNS & IMF
PS15	3	47.55562	-122.63658	Urban/| Industrial Marine/Nearshore	PSNS & IMF
PS16	3	47.55872	-122.62844	Urban/ Industrial Marine/Nearshore	PSNS & IMF
ANCOVE	4	47.57929	-122.64624	Urban/ High Residential Nearshore	City of Bremerton
BJEST	4	47.54360	-122.62754	Urban/ |High Residential Estuarine	City of Port Orchard
CLMBAY	4	47.57133	-122.54950	Rural/Industrial Estuarine	EPA/DOE/NOAA/Navy
DY07	4	47.58081	-122.66123	Urban/ High Residential Nearshore	City of Bremerton/ Kitsap County
DYOTS	4	47.64193	-122.69395	Urban/ Commercial Nearshore	Port of Silverdale/ Kitsap County
HRPT	4	47.56555	-122.61383	Urban/ High Residential Nearshore	City of Bremerton

Station ID	Zone	Latitude	Longitude	Land-Use Runoff Regime	Jurisdiction
POPIPD	4	47.61295	-122.59480	Rural/ Residential Nearshore	Port of Illahee
ILSP	4	47.60046	-122.59414	Rural/ Forested Nearshore	WA State Parks
PWNLP	4	47.58426	-122.64405	Urban/ Commercial Nearshore	City of Bremerton
SN03	4	47.54658	-122.67124	Urban/ Commercial Nearshore	City of Bremerton/ Kitsap County
SN05	4	47.53143	-122.68687	Urban/ Commercial Nearshore	City of Bremerton
SN08	4	47.54008	-122.66242	Rural/ Forested Nearshore	City of Port Orchard
SN10	4	47.54095	-122.64264	Urban/ Commercial Nearshore	City of Port Orchard
SN11	4	47.54338	-122.63549	Urban/ Commercial Nearshore	Port of Bremerton
WP	4	47.58397	-122.57182	Rural/ Residential Nearshore	Sinclair Inlet
M1	5	47.63276	-122.58203	Marine	Port Orchard Passage
M2	5	47.57424	-122.53654	Marine	Rich Passage
M3.1	5	47.55978	-122.61121	Marine	Sinclair Inlet
M3.3	5	47.54958	-122.64303	Marine	Sinclair Inlet
M4	5	47.54487	-122.66686	Marine	Sinclair Inlet
M5	5	47.61044	-122.66637	Marine	Rocky Point
M6	5	47.59767	-122.68472	Marine	Ostrich Bay
M7	5	47.62447	-122.69194	Marine	Dyes Inlet
M8	5	47.57256	-122.67512	Marine	Oyster Bay

Surface marine water grabs and 24-hour composites of outfall effluents are analyzed with a focus on current and draft NPDES contaminants of concern Hg, Cu, Pb, and Zn. Ancillary parameters monitored include TSS, TOC, DOC, salinity, AN, NNN, TKN, TP, and HEM. Supporting metals (Al, Ag, As, Cd, Cr, and Ni) are analyzed during selected events and are included in the appended data.

3.2 Sampling Stations

Sinclair and Dyes Inlets are located along the west side of central Puget Sound, and include the cities of Bremerton, Silverdale, and Port Orchard, along their shorelines. These inlets are connected by the Port Washington Narrows and joined to the main basin by Port Orchard and Rich Passages. The watershed drains 252.3 km^2, of which 80% is routed through streams, and 20% drains directly into marine waters (Figure 2) (May and Culinan 2005). Major streams draining to Sinclair Inlet include Blackjack and Gorst Creeks. The maximum depth of both inlets is ~42 m. (See station maps in Sections 3.2.1 and 3.2.2.)

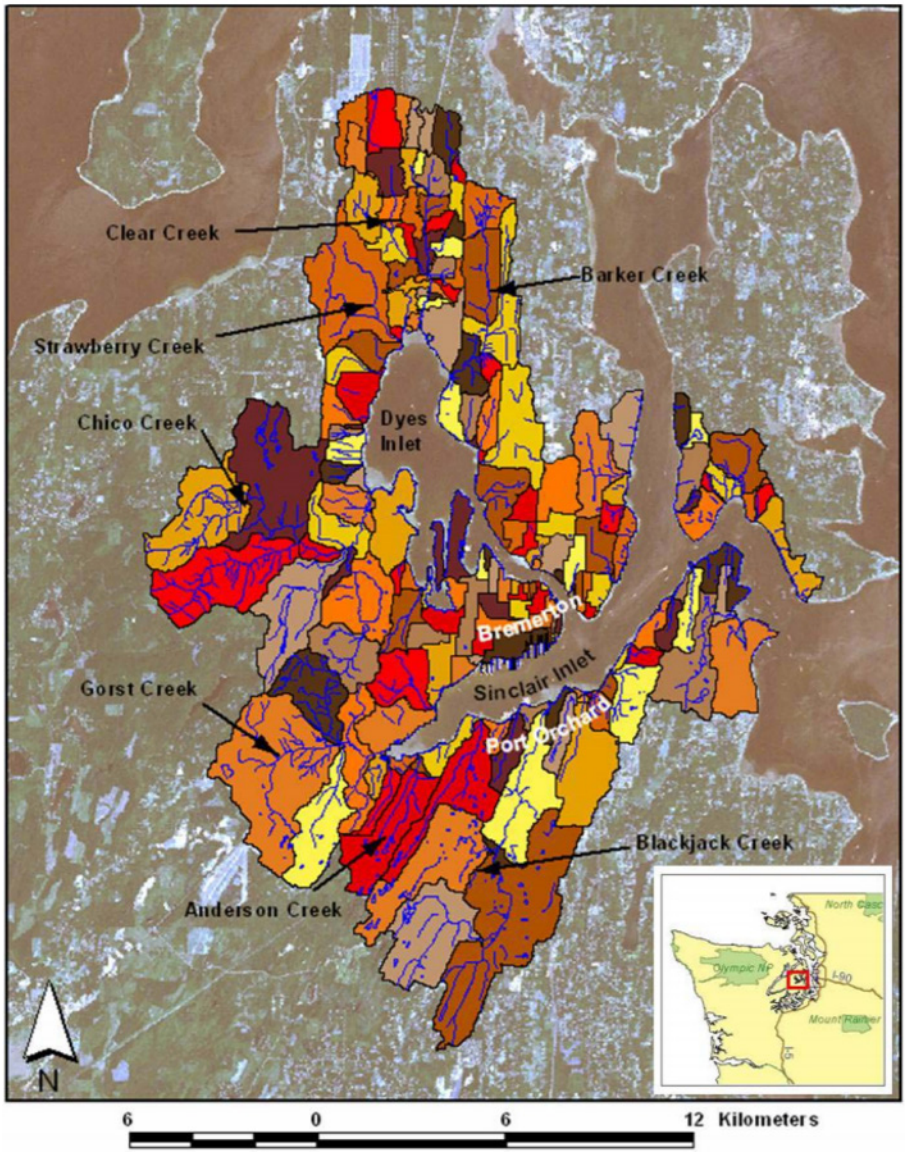


Figure 2. Sinclair-Dyes Inlet Watershed (Reprinted from May and Cullinan 2005); sub-watersheds are delineated as historical Project ENVVEST land-use and land-cover stream, sub-stream, and monitoring point boundaries.

3.2.1 PSNS Outfalls

The four major industrial outfalls (OFs; OF018, OF019, OF021, and OF096 [Figure 3]) at PSNS are included in the seasonal sampling plan. OF018 is partitioned into OF018A and OF018B, both of which discharge the effluents collected from PSNS Dry Docks (DDs) 01 through 05 (total area drained is 57,292 m^2); this is a redundant system (one outfall is operational at a time). The character of the discharge does not change with alternation of the pump-wells; therefore, the data refer to OF018 for either discharge location. Both outfalls discharge just west of DD04 at PSNS Nearshore sampling station PS09. Discharges cycle ~1 hr on:3hr off, and are triggered by the well level. At the discharge points, OF018A discharges below mean lower low water (MLLW) at a height of 5.79 m above the bottom while OF018B discharges above MLLW at 6.52 m. OF096, located east of Pier 5, is also used for direct discharge from DDs 01–05, and empties at PSNS Nearshore sampling station PS10.1. OF019 discharges water from

DD06 at the end of Pier 9, at PSNS Nearshore sampling station PS06. OF019 discharges cycle ~7.5 min on:50 min off. Outfall 19 discharges below MLLW at a discharge height of 7.28 m above the bottom. Water from the DD OFs is composed of hydrostatic relief water (seepage from groundwater and inlet water), vessel cooling water, water from industrial operations, and stormwater during rainy conditions (the total area drained is 19,263 m^2).

OF021 discharges treated water from a steam plant at PSNS, north of Mooring E. The effluent consists of deionized water from regeneration of the plant's ion exchangers along with steam condensate and boiler blow-down water. The treated water is discharged through a 0.1 m pipe with a 12.1 m long diffuser starting 279.8 m from the shore at a depth of 10.67 m (near PSNS Barrier station PS13).

Figure 3. PSNS outfall, pump-well, and dry-dock locations. (Google [n.d.]. [Google Maps Puget Sound]. Retrieved November 1, 2017, from https://google/maps.)

3.2.2 Ambient Waters

As shown in Figure 4, nearshore stations within PSNS, those located within 30 m of a monitored outfall, include identifiers PS01–PS12 (west to east). Moving outward from the waterfront are four stations located near the PSNS security barrier (PS13–PS16). Nearshore stations within Sinclair Inlet, outside of the PSNS security barrier, are identified as SN##; Blackjack Estuary (station ID: BJEST) and Waterman Point (WP) are also sampled within Sinclair Inlet. Other stations included as non-PSNS nearshore (Category 4) include nearshore areas of adjoining passages (Port Orchard and Rich Passages) and Dyes Inlet (Table 1). To complete the gradient, stations centrally located in the inlets and passages are sampled, and identified as M#.

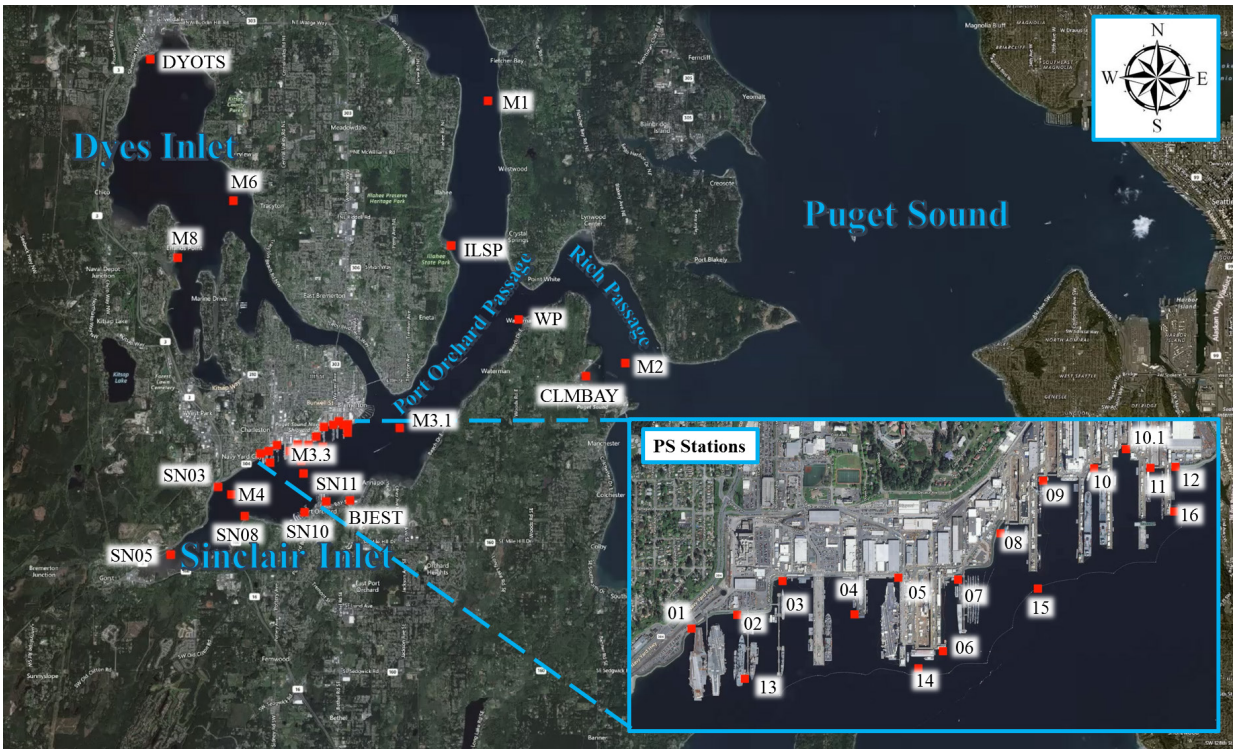


Figure 4. Marine grab sampling stations included in the spatial summary analysis. (Google [n.d.]. [Google Maps Puget Sound]. Retrieved November 1, 2017, from https://google/maps.)

3.3 Quality Objectives and Criteria for Measurement Data

3.3.1 Regulatory

The current PSNS NPDES permit was issued in September 1986, then reissued in April 1994 (#WA-003716-8 or WA00206-2), and covers DD discharges, steam-plant discharges, and stormwater from non-DD areas. This 1994 permit[1] is the current authoritative stormwater discharge guidance for the PSNS, and limits Cu (at all outfalls in this report) and Zn (OF021specific, and no longer in effect) effluent to daily maximums of 33 µg L^{-1} and 1,000 µg L^{-1} respectively; future limits covering Hg, Cu, Pb, and Zn are being drafted (EPA 2008a,b). Under this permit, Zn monitoring ceased prior to ENVVEST monitoring based on process modification. These limits are designated to maintain receiving water concentrations below the marine chronic toxic substance criteria defined in Table 2, which also provides human health criteria for seafood consumption.

[1] Current (1994) NPDES permit for the Shipyard
http://yosemite.epa.gov/R10/water.nsf/95537302e2c56cea8825688200708c9a/e0594922e7a282bc882568010055812a/$FILE/WA0002062_FP.pdf

Table 2. Toxics Substances Criteria[a]

Metal	Aquatic Life Criteria – Marine Waters (µg L^{-1})		Human Health Criteria for Consumption of Organisms[b,c]
	Acute[b]	Chronic	
Hg	1.8	0.025[d]	0.15
Cu	4.8	3.1[b]	1300
Pb	210	8.1[b]	[e]
Zn	90.0	81.0[b]	2900
Cd	42.0	9.3[b]	[e]
Cr (VI)	1100	50.0[b]	[e]
Ni	74.0	8.2[b]	190

(a) Summary reprint of data from WAC 173-201A-240 and 40 CFR 131.36.
(b) The ambient criteria in the table are for the dissolved fraction.
(c) The human health criteria in the table were calculated using a fish consumption rate of 175 g/day.
(d) These criteria are based on the total recoverable fraction of the metal.
(e) EPA is not promulgating human health criteria for this contaminant. However, permit authorities should address this contaminant in NPDES permit actions using the State's existing narrative criteria for toxics.

3.3.2 Analytical

Defensible data capable of distinguishing an overall improvement in water quality from the heterogeneity driven by seasonal variation in environmental systems are required to ascertain a true measure of process improvement. This program focuses on using specialized collection and analysis methods to ensure that the data are of the highest quality and defensibility. Detailed methods are provided in the QAP (Johnston et al. 2017) and summarized here. As an example of specialized analysis, matrix interferent elimination on total and dissolved measurements of trace metals in waters containing as little as 2 practical salinity units (PSUs) requires removal of Na^+, Cl^-, Mg^{2+}, and Ca^{2+} from the matrix prior to inductively coupled plasma mass spectrometry (ICP-MS) injection (Strivens et al. 2015). Without this interferent removal step, data can have significant biases. Project ENVVEST has consistently used leading-edge methodology for quantification of analytes of concern.

The following sections summarize the field quality control, laboratory quality control, and the overall usability of the data. Measurement quality objectives for the analyses conducted for this study are expressed in terms of accuracy, precision, and sensitivity goals. Accuracy and precision are monitored through the analysis of quality control samples (Appendix A, Table A.1) and are parameterized in Appendix A, Table A.2. Analytical parameters, holding times, and detection limits are provided in event Quality Control Narratives (Appendix C, which contains complete campaign reports as provided to PSNS by PNNL's MSL); holding times are defined in Table A.3. The data were found to have acceptable measures of each of these variables.

Accuracy is defined as the degree of agreement between an observed value and an accepted reference value. Accuracy is achieved through the use of laboratory control samples (LCSs), matrix spikes (MSs), matrix spike duplicates (MSDs), and standard reference materials (SRMs). The trace metals LCSs and MSs/MSDs results are summarized in Table B.1 and Table B.2 in Appendix B; recovery of OC, TSS, and nutrient reference material are summarized in Table B.3 and Table B.4 in Appendix B. The recovery of contaminants of concern, Hg, Cu, Pb, and Zn in SRMs are provided below to demonstrate the overall high quality of the data set. Figure 5 shows the results for National Institute of Standards and Technology

SRM 1641e Mercury in Water, and Figure 6, Figure 7, and Figure 8 illustrate the results from the seawater reference material CASS (coastal Atlantic seawater standard).[1] Ancillary metals are depicted in Appendix B (Figures B.1, B.2, and B.3).

Figures 6, 7, and 8 also illustrate a move to an online-preconcentration method for trace metals during AMB20, which minimized sample preparation and eliminated correction errors when accounting for trace impurities. The reproducibility of the online-preconcentration method described by Strivens et al. (2015), coupled with low blanks and detection limits, demonstrated an effective move to an automated procedure using ethylenediaminetriacetic and iminodiacetate acid chelation exchange resin and multi-analyte determination via ICP-MS for total and dissolved Ni, Cu, Zn, Cd, and Pb in marine water samples. Average CASS recoveries using the online-preconcentration method (n = 9) were 109 ± 7%, 104 ± 5%, 103 ± 7%, 101 ± 3%, and 86 ± 8%, respectively.

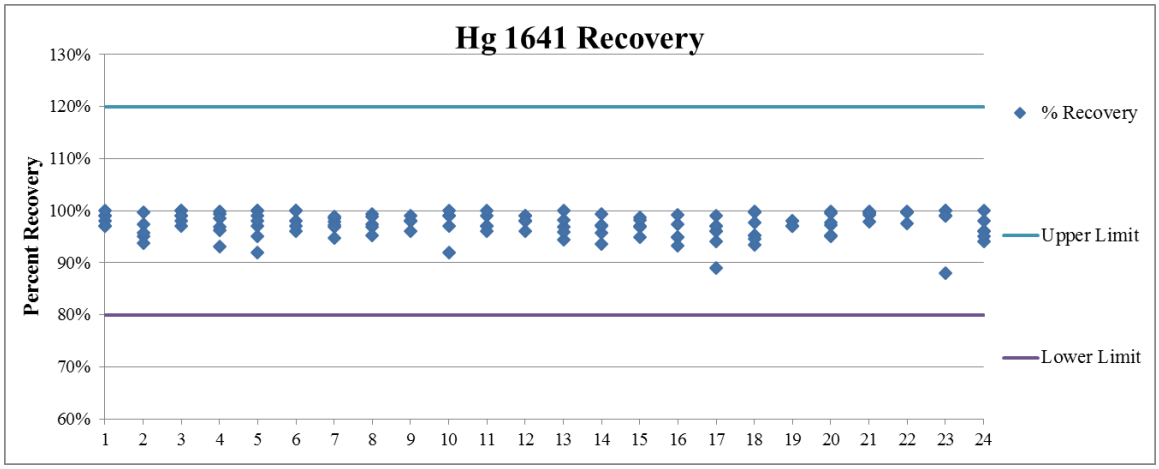


Figure 5. Analytical recovery of National Institute of Standards and Technology SRM 1641e for AMB events 1–24 Hg. Limits are defined by the ENVVEST quality plan as 80–120% recovery from the certified value.

[1] CASS-5 was obtained from the National Research Council of Canada (NRC, Ottawa, ON) and is intended for use during the analysis of nearshore seawater for trace metals; salinity 33.5PSU. This water was collected from Halifax Harbour; at a depth of 12 m. ENVVEST samples had a salinity range of 8.2-31.8 PSU.

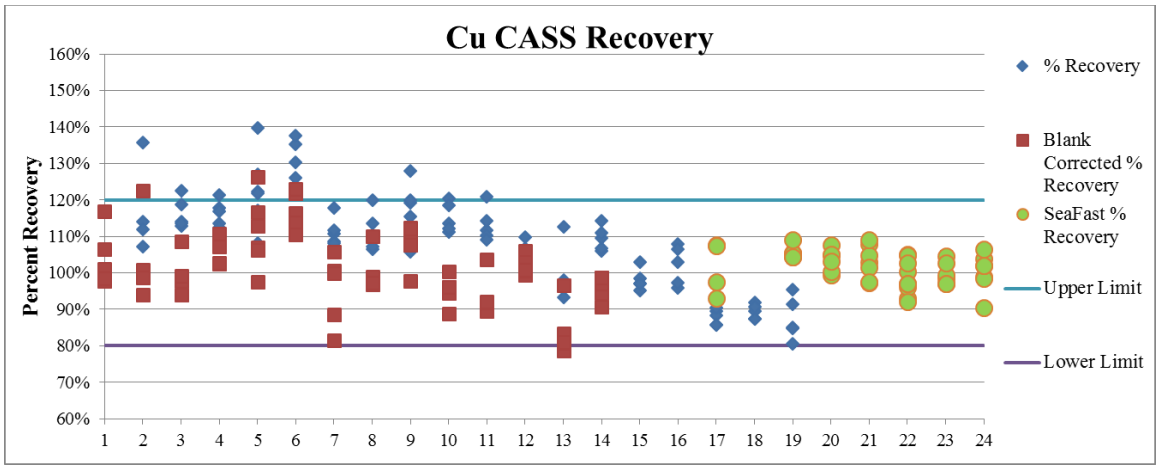


Figure 6. Analytical recovery of CRM CASS for AMB events 1–24 Cu. Events 1–14 were analyzed after Fe-Pd preconcentration, and blank corrected post-analysis; events 15–19 were analyzed after Fe-Pd preconcentration, and blank corrected via inclusion of reagents in the calibration curve; events 20–24 were analyzed via online preconcentration and did not require blank correction. Events 17 and 19 were used for the method comparison manuscript written by Strivens et al. (2015). Limits are defined by the ENVVEST QAP and may be greater or smaller than the certified ranges.

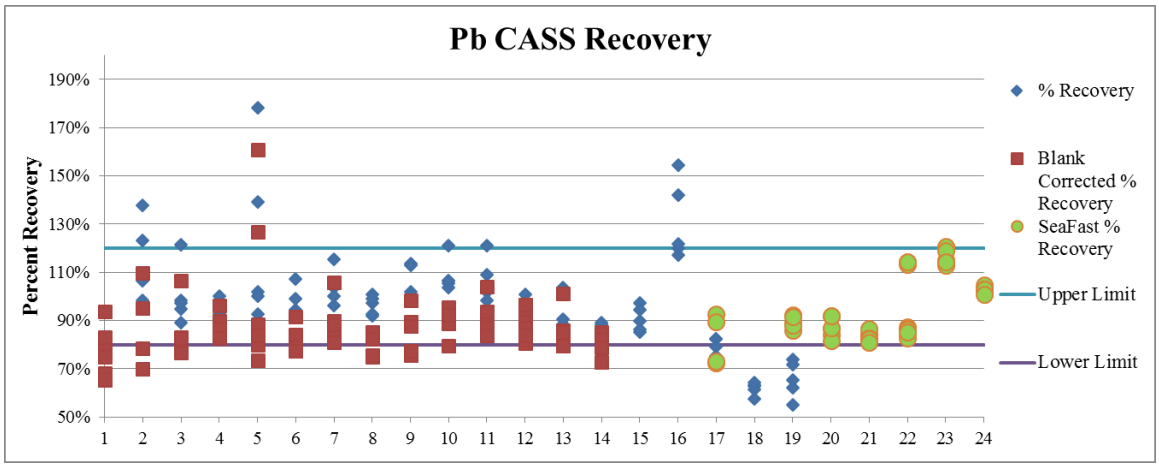


Figure 7. Analytical recovery of CRM CASS for AMB events 1–24 Pb. Events 1–14 were analyzed after Fe-Pd preconcentration, and blank corrected post-analysis; events 15–19 were analyzed after Fe-Pd preconcentration, and blank corrected via inclusion of reagents in the calibration curve; events 20–24 were analyzed via online preconcentration and did not require blank correction. Events 17 and 19 were used for the method comparison manuscript written by Strivens et al. (2015). Limits are defined by the ENVVEST QAP and may be greater or smaller than the certified ranges.

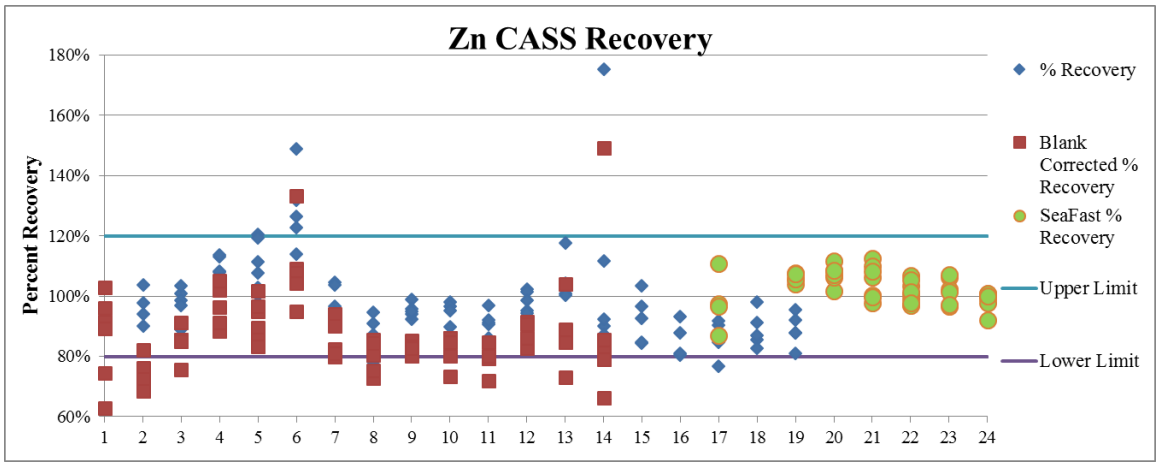


Figure 8. Analytical recovery of CRM CASS for AMB events 1–24 Zn. Events 1–14 were analyzed after Fe-Pd preconcentration, and blank corrected post-analysis; events 15–19 were analyzed after Fe-Pd preconcentration, and blank corrected via inclusion of reagents in the calibration curve; events 20–24 were analyzed via online preconcentration and did not require blank correction. Events 17 and 19 were used for the method comparison manuscript written by Strivens et al. (2015). Limits are defined by the ENVVEST QAP and may be greater or smaller than the certified ranges.

Precision is defined as the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. Precision is achieved through both field and laboratory replication to assess the field variability as well as the laboratory method precision (see Appendix B, Tables B.1 through B.5). The mean relative percent difference (RPD) for laboratory replication met the criteria given in the QAP (Table 12).

Sensitivity is the capability of a test method or instrument to discriminate between measurement responses representing different levels (e.g., concentrations) of a variable of interest. Sensitivity is addressed primarily through the selection of appropriate analytical methods, equipment, and instrumentation. The methods selected for the Sinclair and Dyes Inlet study were chosen to provide the sensitivity required for the end use of the data (Johnston et al 2009a; 2017). This is a quantitative assessment and is monitored through the instrument calibrations and calibration verification samples and the analysis of procedural blanks with every analytical batch (Appendix C).

Method detection limits (MDLs) for trace metals are determined annually according to 40 CFR Part 136 Appendix B for each method of interest by instrument, matrix, and compound of interest. Laboratory MDLs for seawater were reported from an Annually Verified Seawater MDL Study as determined by seven replicates of CASS or Sequim Bay Seawater. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using total recoverable metals (TRM) protocol. Reporting limits are determined as 3.18 times the laboratory achieved MDL. Campaign-specific MDLs are listed on data reports in Appendix C.

Data in Appendix C are evaluated and flagged with qualifiers as follows:

Table 3. Analytical Data Qualifiers

Flag	Definition
--	Not analyzed
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
J	Analyte detected above the MDL, but less than the RL
N	Spiked sample recovery outside QC criterion of 70-130%
NA	Not applicable/available
NC	Not Certified
NS	Sample not spiked for this analyte
U	Analyte not detected at or above the MDL, MDL reported
c#	Exceeds data quality objective but meets one of the following contingency criterion:
	1 SRM certified <10x MDL or
	2 Insufficient spiking level relative to native sample concentrations
	3 Sample concentration <10x MDL

4.0 Methods

4.1 Sample Collection Methods

A detailed description of the sampling methods is provided in the QAP (Johnston et al. 2009a, 2017). Briefly, sampling followed ultra-clean collection procedures recommended for trace metals at EPA water quality criteria levels in EPA Method 1669 (EPA 1996a). Sampling bottles were double bagged in a Class 100 clean room and shipped to the PSNS. All sample bottles were handled using clean gloved hands following the "dirty hands/clean hands" technique (EPA 1996a). Surface grab (~1 m depth) samples were collected directly into sample bottles by hand from a small boat using a pre-cleaned polyvinyl chloride sampling pole.

Originally, Sigma® automated samplers were used to collect industrial effluents discharged from all outfalls. Events after AMB18, and those selected for 24-hour temporal analysis used, in OF019, a Teledyne-Isco® 6700 series sampler with a custom back-pressure modulation chamber assembled by Cardno TEC (Charlottesville, Virginia) (Figure B.4); this required manual composition of data reported in this publication. Additionally, after AMB22, OF018A&B were equipped with in-line piston style Sentry ISOLOK SAB Automatic Fixed Volume Samplers.

The auto-samplers were programmed to collect water when discharge pumps were activated, such that a 10 L composite sample was collected over 24 hours. The composite effluent water was then subsampled for chemical analysis. Auto-samplers in pump-wells were subject to some collection variation; when an auto-sampler failed to collect a composite, grab sampling was implemented for a single pump-down phase; or a combination of grab samples was collected over multiple pump-downs.

Samples were held at <6°C during transit to MSL, and were delivered immediately after collection by MSL staff. Sample custody records associated with the physical possession and/or storage history of each

individual sample are documented in accordance with MSL-A-001 *Sample Login Procedures* and MSL-A-002 *Sample Chain-of-Custody* (Battelle 2016b, 2013) and are available upon request.

4.2 Laboratory Methods

4.2.1 Trace Metals

Immediately upon receipt, in the laboratory, each trace metals sample was shaken vigorously and approximately 500 mL was filtered through a pre-cleaned 0.45 µm polyvinylidene fluoride filter membrane inside a Class 100 clean bench. The dissolved and total fractions were then acidified to a pH of <2.0 using Optima™ grade nitric acid (Fisher, Pittsburgh, PA, USA).

For all events, samples were analyzed for total and dissolved Hg using Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle Standard Operating Procedure (SOP) MSL-I-013, *Total Mercury in Aqueous Samples by CVAF* (Battelle 2011), following EPA Method 1631 revision E (EPA 2002).

Freshwater samples identified as <5% seawater were prepared for metals analysis, other than Hg, following the preparation method for TRM described in EPA Method 1640 (EPA 1997).

Prior to analyses of marine water metals—Ag, Al, As, Cd, Cu, Ni, Pb, and Zn—samples were either preconcentrated in accordance with Battelle SOP MSL-I-025, *Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water* (AMB01–AMB19) (Battelle 2003), or using an online preconcentration via the seaFast™ chelation column method for Cd, Cu, Ni, Pb, and Zn (AMB20-24) (Strivens et al. 2015). After AMB19, marine samples were analyzed for Al using ICP-MS direct injection at 15x dilution; as was the case with Cr for all events.

Preconcentrated and diluted marine samples were analyzed by ICP-MS in accordance with Battelle SOP MSL-I-022, *Determination of Elements in Aqueous and Digestate Samples by ICP/MS* (Battelle 2016a); the base methods for this procedure are EPA Method 1638 and EPA Method 1640 (EPA 1996b. 1997). Samples were analyzed for As by flow-injection atomic spectroscopy (FIAS) in accordance with Battelle SOP MSL-I-030, *Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS)* (Battelle 2009); the base method for this procedure is EPA Method 270.3 (EPA 1986).

4.2.2 Ancillary Parameters

The TSS concentrations were determined by gravimetric analysis in accordance with Battelle SOP MSL-I-041 *Total Suspended Solids Measures* (Battelle 2012); the base method for this procedure is SM2540D (Eaton et al. 2005). A method modification was made beginning with AMB12: the use of polycarbonate filters replaced glass fiber filters to reduce the error of weighing very small amounts of particles on a much higher mass filter.

The salinity was measured using a YSI-30 S-C-T probe. Salinity is reported in ppt (parts per thousand) calculated from the instrument's conductivity and temperature values using algorithms found in Standard Methods for the Examination of Water and Wastewater.

For AMB01–AMB09, OC samples were analyzed by Persulfate-Ultraviolet or Heated-Persulfate Oxidation SM5310 C, by ALS Environmental, Kelso, WA (APHA 1998). Beginning with AMB10 TOC

and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method, in accordance with Battelle MSL-W-011 *Determination of Total and Dissolved Organic Carbon in Seawater by high Temperature Catalytic Oxidation* (Battelle 2014). The instrument is specially equipped with a high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Briefly, seawater samples are acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis, then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOCs) in samples are then converted to CO_2 by HTCO with a platinum catalyst. A nondispersive infrared detector then is used to detect the converted CO_2 for quantification of NPOC.

Analyses of AN, NNN, TKN, TP, and HEM were also conducted by ALS Environmental, following EPA Methods 350.1, 353.2, 351.4, 365.3, and 1664 (O'Dell 1993; 1993b; Schlueter 1977; EPA 1978, 1999), respectively.

4.3 Visual Presentation of Data Trends

Graphical representation of data uses the following log transformations for resolution of both data gradients and respective regulatory limits: (1) Hg and Pb are expressed as bases of 10; (2) Cu as base 2; and (3) Zn as base 5.

5.0 Results

Surface water results are subdivided into spatial (Section 5.1.1) and temporal (Section 5.1.2) analyses and outfall results are given in Section 5.2. A summary of all the data is provided in Appendix B. To provide the overall descriptive statistics for this interim report, the spatial data were reviewed and the following were removed from the data set for statistical analyses: 1) sites omitted from more than three events; 2) all samples labeled as duplicates or deep stations because the analysis was for surface water trends; and 3) multiple samples taken during the same AMB event and sampling location that were averaged as one sample (e.g., B, C, or D samples). The overall range of spatial data are displayed in box and whiskers plots where lower and upper hinges correspond to the first and third quartiles. Whiskers extend from the upper and lower hinges to the largest value no farther than 1.5x the inner quartile range. Data plotted beyond the whiskers are considered to be outliers. Temporal data are displayed as mean values and maxima of the total set.

5.1 Surface Water

Nearshore stations within PSNS, identified as PS01–PS12 are plotted from west to east, as are PSNS Barrier stations PS13–PS16 and nearshore stations within Sinclair Inlet. Dyes Inlet nearshore stations are given west to east, and adjoining passage nearshore stations are plotted south to north. To complete the gradient, stations centrally located in the inlets and passages are plotted in an "inner-to outer" fashion in relation to the PSNS (Sinclair, Dyes, passages).

5.1.1 Spatial Comparison

Spatial data set impact zones variance of metals regulated under WAC 173-201A-240 were compared using one-way analysis of variance (ANOVA) followed by post hoc Tukey when applicable. Statistical significance is indicated as yes or no in tables accompanying each spatial narrative; no meaning $p > 0.05$.

5.1.1.1 Mercury

The trends in Figure 9 and Figure 10 show Hg variation between the PSNS industrial areas and the receiving waters. For Hg_{diss}, there are statistically significant differences among impact zones [$F_{(3,800)} = 10.3$, $p = <0.0001$]. There is, however, no significant difference between the PSNS Barrier (average = 0.000296 ± 8.55E-05 µg L^{-1}) and the nearshore/marine stations of the inlets (averages = 0.000355 ± 0.000214 µg L^{-1} and 0.000295 ± 0.000181 µg L^{-1}, respectively) (Table 4); meaning greater levels within PSNS (average = 0.000635 ± 0.00126 µg L^{-1}) are not significant from the barrier downstream. Station PS03, the elevated point within the PSNS, is affected by the tidal flush through Hg containing backfill. For Hg_{tot}, there are statistically significant differences within the sum of impact zones, where $\alpha = 0.05$, [$F_{(3,800)} = 12.5$, $p = <0.0001$]. The significance mirrors the dissolved fraction when comparing PSNS Nearshore to Sinclair/Dyes Nearshore stations, with averages of 0.00162 ± 0.00268 and 0.00102 ± 0.000858 µg L^{-1}, respectively, but when comparing the Sinclair/Dyes Nearshore to Sinclair/Dyes marine stations (average = 0.000747 ± 0.000444 µg L^{-1}) there is a lack of gradient; however, non-PSNS point sources (e.g., Sinclair Inlet nearshore Station SN05, the greatest average Hg points outside of the PSNS, is impacted by the Bremerton Wastewater Treatment Plant outfall) do occur within the sampling area. In relation to toxic substances criteria, the marine chronic value was exceeded only at PS03 (AMB01 [08/31/2009] and AMB17 [04/07/2015]). The impact zone mean Hg levels fall within the expected ranges for Puget Sound waters with respect to total levels; dissolved levels are, on average, four times greater in the PSNS Nearshore impact zone and two times greater in the remaining zones in comparison to the Puget Sound review by Sedar (2009).

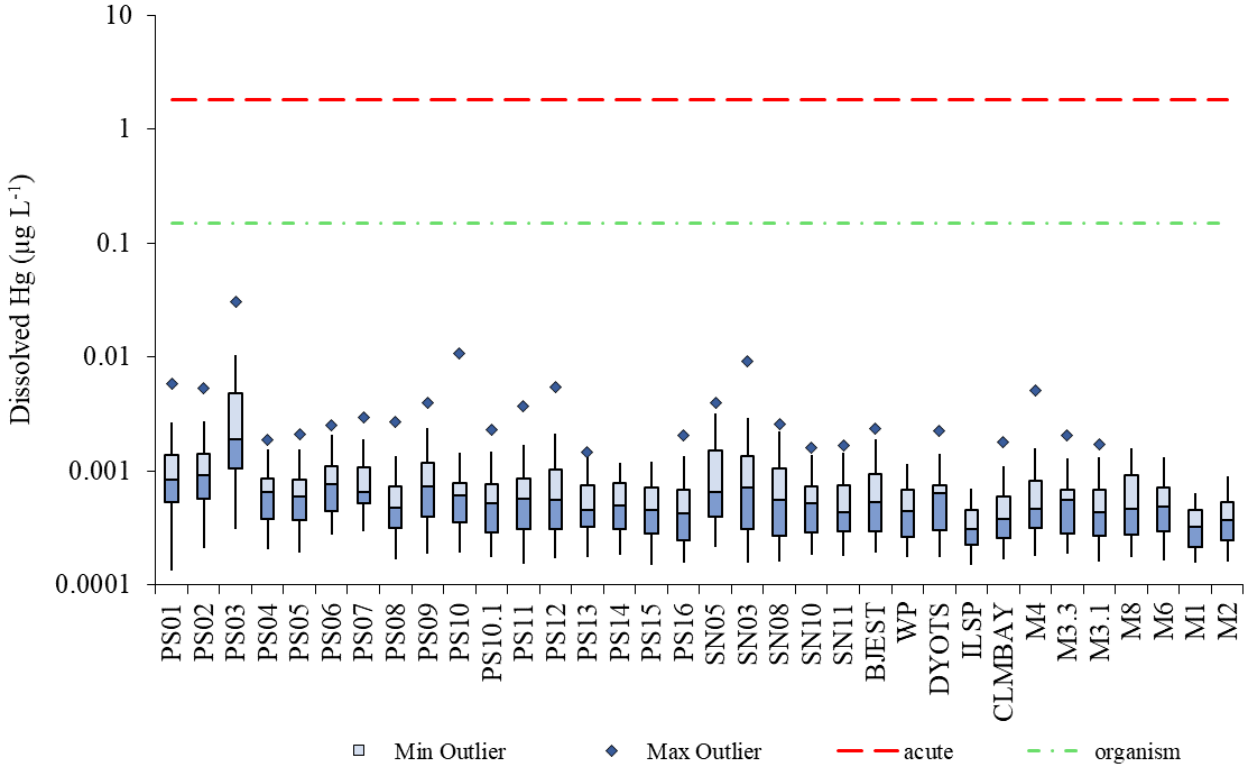


Figure 9. Hg_{diss} as the average of 24 sampling events over 8 years moving from the high to low impact zones of Sinclair and Dyes Inlets. Regulatory limits are those describe in WAC 173-201A-240 and 40 CFR 131.36 and provided in table 2 of the current report.

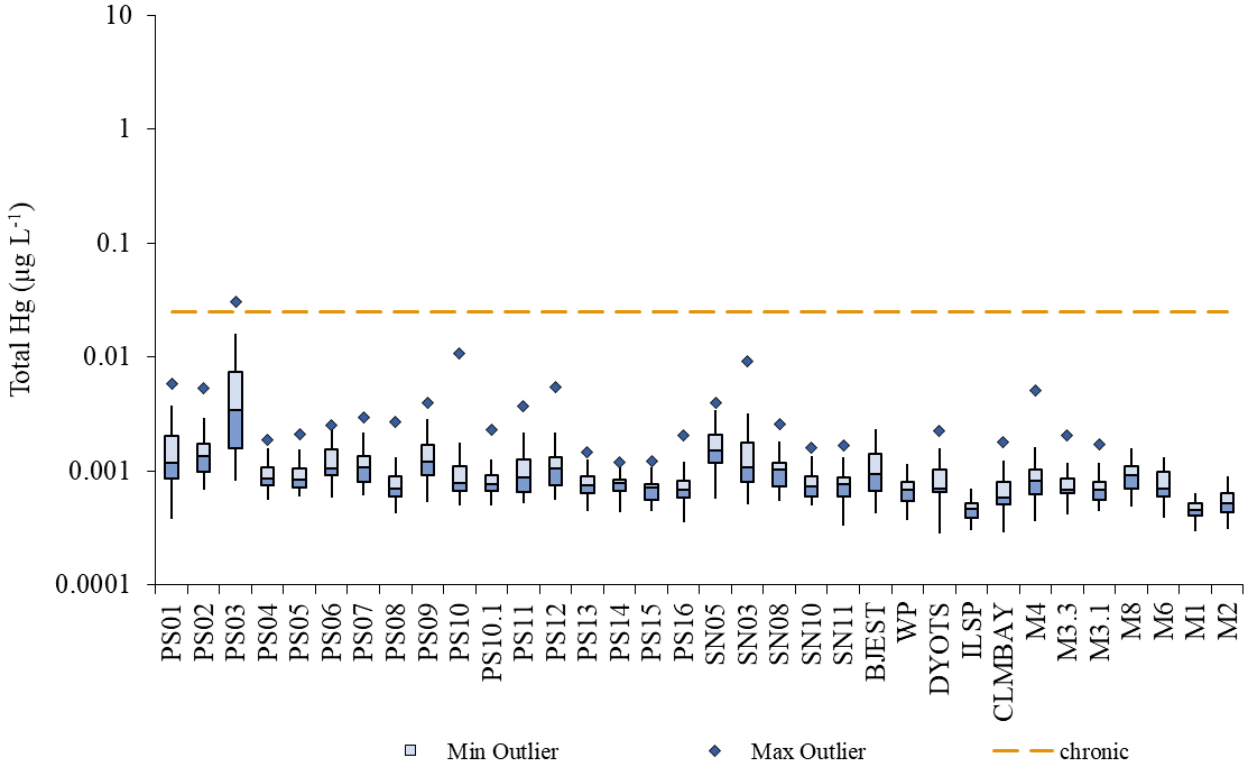


Figure 10. Hg_{tot} as the average of 24 sampling events over 8 years moving from the high to low impact zones of Sinclair and Dyes Inlets. Regulatory limits are those describe in WAC 173-201A-240 and 40 CFR 131.36 and provided in table 2 of the current report.

Table 4. Tukey Honest Significant Difference (HSD) analysis of the differences between impact zones for Hg_{diss}.

Contrast	Difference	Pr > Diff	Significant	Lower bound (95%)	Upper bound (95%)
PSNS Nearshore vs Sinclair/Dyes Marine	0.000341	< 0.0001	Yes	0.000141	0.000541
PSNS Nearshore vs PSNS Barrier	0.000339	0.0019	Yes	0.0000968	0.000582
PSNS Nearshore vs Sinclair/Dyes Nearshore	0.000300	0.0001	Yes	0.000120	0.000480
Sinclair/Dyes Nearshore vs Sinclair/Dyes Marine	0.0000407	0.961	No	-0.000172	0.000254
Sinclair/Dyes Nearshore vs PSNS Barrier	0.0000391	0.979	No	-0.000215	0.000293
PSNS Barrier vs Sinclair/Dyes Marine	0.00000162	1.000	No	-0.000266	0.000270

Table 5. Tukey HSD analysis of the differences between impact zones for Hg_{tot}.

Contrast	Difference	Pr > Diff	Significant	Lower bound (95%)	Upper bound (95%)
PSNS Nearshore vs Sinclair/Dyes Marine	0.000879	< 0.0001	Yes	0.000442	0.00132
PSNS Nearshore vs PSNS Barrier	0.000866	0.0002	Yes	0.000335	0.00140
PSNS Nearshore vs Sinclair/Dyes Nearshore	0.000608	0.0005	Yes	0.000214	0.00100
Sinclair/Dyes Nearshore vs Sinclair/Dyes Marine	0.000271	0.441	No	-0.000196	0.000738
Sinclair/Dyes Nearshore vs PSNS Barrier	0.000258	0.631	No	-0.000298	0.000813
PSNS Barrier vs Sinclair/Dyes Marine	0.0000134	1.00	No	-0.000573	0.000600

5.1.1.2 Copper

The trend in Figure 11 shows Cu variation between the PSNS industrial areas and the proximate waters. For Cu_{diss}, there are statistically significant differences determined as a one-way ANOVA among impact zones [$F_{(3,800)} = 218.0$, $p = <0.0001$]. Post hoc comparisons using the Tukey Honest Significant Difference (HSD) test indicated that the mean differences were significant for all impact zone comparisons sans Sinclair/Dyes Nearshore vs Sinclair/Dyes Marine (Table 6). Elevated stations within the PSNS are those intermediate DD discharges, but are also affected by sewage overflows; those outside of the PSNS, SN10 and SN11, are collected from the Port Orchard Sinclair Marina within the City of Port Orchard and the Port Orchard Marina foot-ferry terminal within the Port of Bremerton, respectively. In general, the data show few exceedances of the Toxic Substances Criteria (i.e., PS07–09); these exceedances occurred during AMB04 (09/08/2010), AMB05 (11/18/2010), AMB9 (12/06/2011), AMB12 (02/12/2013), and AMB13 (06/08/2013). In comparison to five other Puget Sound shipyard areas (Friday Harbor, Skyline, John Wayne, Des Moines, and Swantown Marinas), mean inner shipyards are 1.57 µg L^{-1} and PSNS is 1.53 µg L^{-1}; Puget Sound marine averages 0.323 µg L^{-1} Sinclair/Dyes Marine is 0.535 µg L^{-1} (Hobbs et al. 2018).

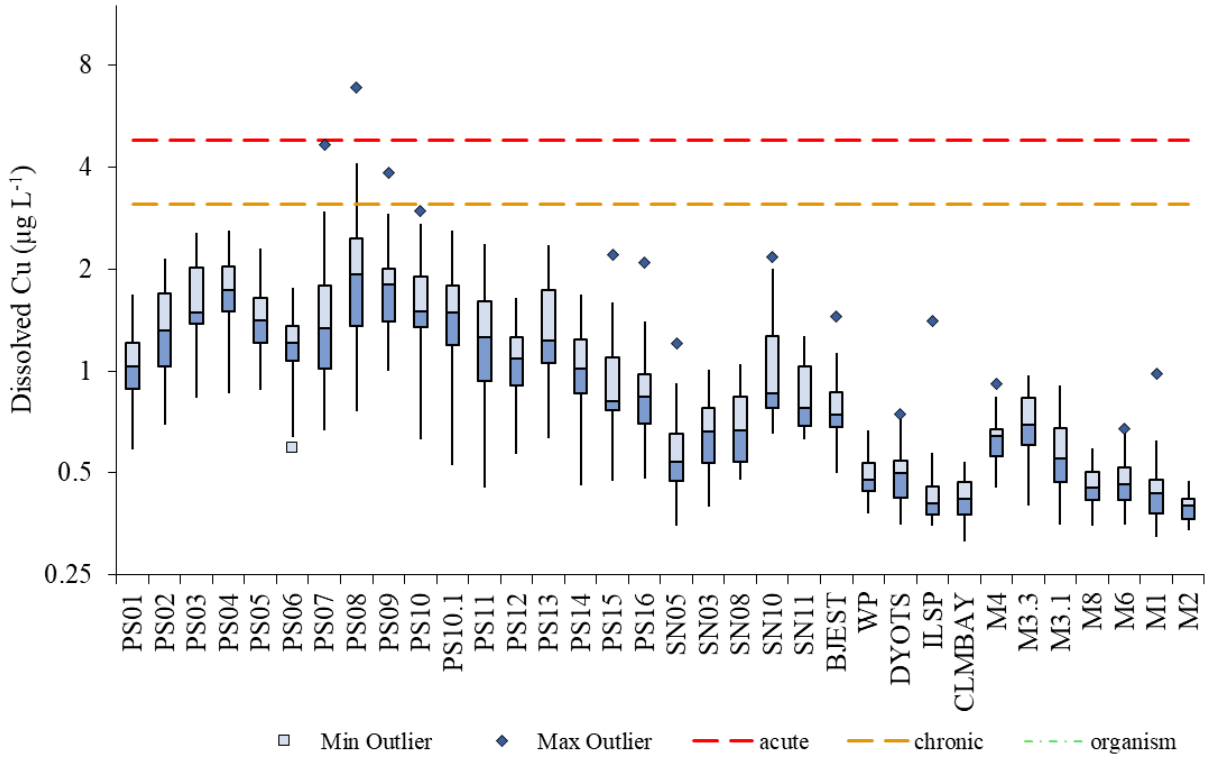


Figure 11. Cu_{diss} as the average of 24 sampling events over 8 years moving from the high to low impact zones of Sinclair and Dyes Inlets. Regulatory limits are those describe in WAC 173-201A-240 and 40 CFR 131.36 and provided in table 2 of the current report; human health criteria for consumption of organisms is greater than the data range.

Table 6. Tukey HSD analysis of the differences between impact zones for Cu_{diss}.

Contrast	Difference	Pr > Diff	Significant	Lower Bound (95%)	Upper Bound (95%)
PSNS Nearshore vs Sinclair/Dyes Marine	0.992	< 0.0001	Yes	0.873	1.11
PSNS Nearshore vs Sinclair/Dyes Nearshore	0.876	< 0.0001	Yes	0.769	0.984
PSNS Nearshore vs PSNS Barrier	0.480	< 0.0001	Yes	0.335	0.625
PSNS Barrier vs Sinclair/Dyes Marine	0.512	< 0.0001	Yes	0.352	0.672
PSNS Barrier vs Sinclair/Dyes Nearshore	0.396	< 0.0001	Yes	0.245	0.548
Sinclair/Dyes Nearshore vs Sinclair/Dyes Marine	0.116	0.090	No	-0.012	0.243

5.1.1.3 Lead

The trend in Figure 12 shows Pb variation between the PSNS industrial areas and the adjoining waters. For Pb_{diss}, there are statistically significant differences among impact zones within the waterbody, but samples have shown all areas to be an order of magnitude lower than the toxic substances criteria. There is no significant difference between the PSNS Barrier and the Sinclair/Dyes Nearshore impact zones (Table 7). In comparison to five other Puget Sound shipyard areas, mean inner shipyards are 0.0653 µg L^{-}

[1] and PSNS is 0.0228 µg L^{-1}; Puget Sound marine averages 0.0819 µg L^{-1} and Sinclair/Dyes Marine is 0.0162 µg L^{-1} (Hobbs et al. 2018).

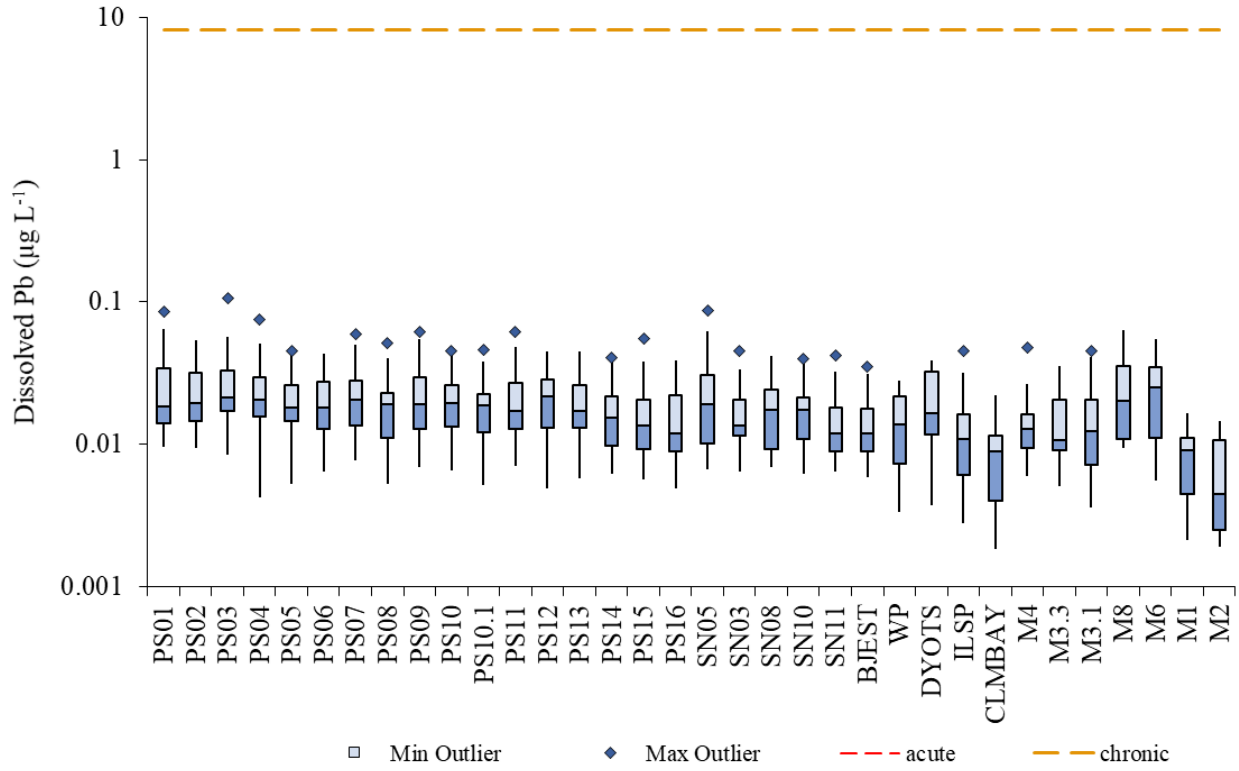


Figure 12. Pb_{diss} as the average of 24 sampling events over 8 years moving from the high to low impact zones of Sinclair and Dyes Inlets. Regulatory limits are those describe in WAC 173-201A-240 and 40 CFR 131.36 and provided in table 2 of the current report; the acute threshold exceeds the given scale.

Table 7. Tukey HSD analysis of the differences between impact zones for Pb_{diss} [$F_{(3,800)}$ = 15.4, p = <0.0001].

Contrast	Difference	Pr > Diff	Significant	Lower Bound (95%)	Upper Bound (95%)
PSNS Nearshore vs Sinclair/Dyes Marine	0.00666	< 0.0001	Yes	0.00351	0.00980
PSNS Nearshore vs Sinclair/Dyes Nearshore	0.00614	< 0.0001	Yes	0.00331	0.00898
PSNS Nearshore vs PSNS Barrier	0.00549	0.0013	Yes	0.00167	0.00931
PSNS Barrier vs Sinclair/Dyes Marine	0.00117	0.892	No	-0.00305	0.00538
PSNS Barrier vs Sinclair/Dyes Nearshore	0.000653	0.975	No	-0.00334	0.00465
Sinclair/Dyes Nearshore vs Sinclair/Dyes Marine	0.000513	0.979	No	-0.00284	0.00387

5.1.1.4 Zinc

The trend in Figure 13 shows Zn variation between the PSNS industrial areas and the receiving impact zones. For Zn_{diss}, there is a statistically significant difference among the four zones [$F_{(3,800)}$ = 86.6, p =

<0.0001]; and the averages display a gradient from PSNS Nearshore (averages = 5.52 ± 4.24 µg L^{-1}) to the PSNS Barrier (averages = 3.09 ± 2.17 µg L^{-1}) to the Sinclair/Dyes Nearshore (averages = 1.87 ± 3.10 µg L^{-1}) and the Sinclair/Dyes Marine (averages = 1.19 ± 0.900 µg L^{-1}); post hoc Tukey analysis shows the variation between Sinclair/Dyes Nearshore and Sinclair/Dyes Marine is not significant (Table 8). Elevated Stations within the PSNS display the same trend as Cu, and are those nearest to DD effluent pipes; those outside of the PSNS, SN10 and SN11, are collected from the Port Orchard Sinclair Marina within the City of Port Orchard and the Port Orchard Marina foot-ferry terminal within the Port of Bremerton, respectively. No data exceed the marine chronic criterion of 81.0 µg L^{-1}; the highest value within the PSNS was 54.8 µg L^{-1} (PS07 [East side of DD06], AMB01, 09/01/2009); the highest value outside of the PSNS was 39.1 µg L^{-1} (ILSP [Illahee State Park], AMB01, 09/01/2009). In comparison to five other Puget Sound shipyard areas, mean inner shipyards are 3.91 µg L^{-1} and PSNS is 5.52 µg L^{-1}; Puget Sound marine averages 0.812 µg L^{-1} and Sinclair/Dyes is 1.19 µg L^{-1} (Hobbs et al. 2018).

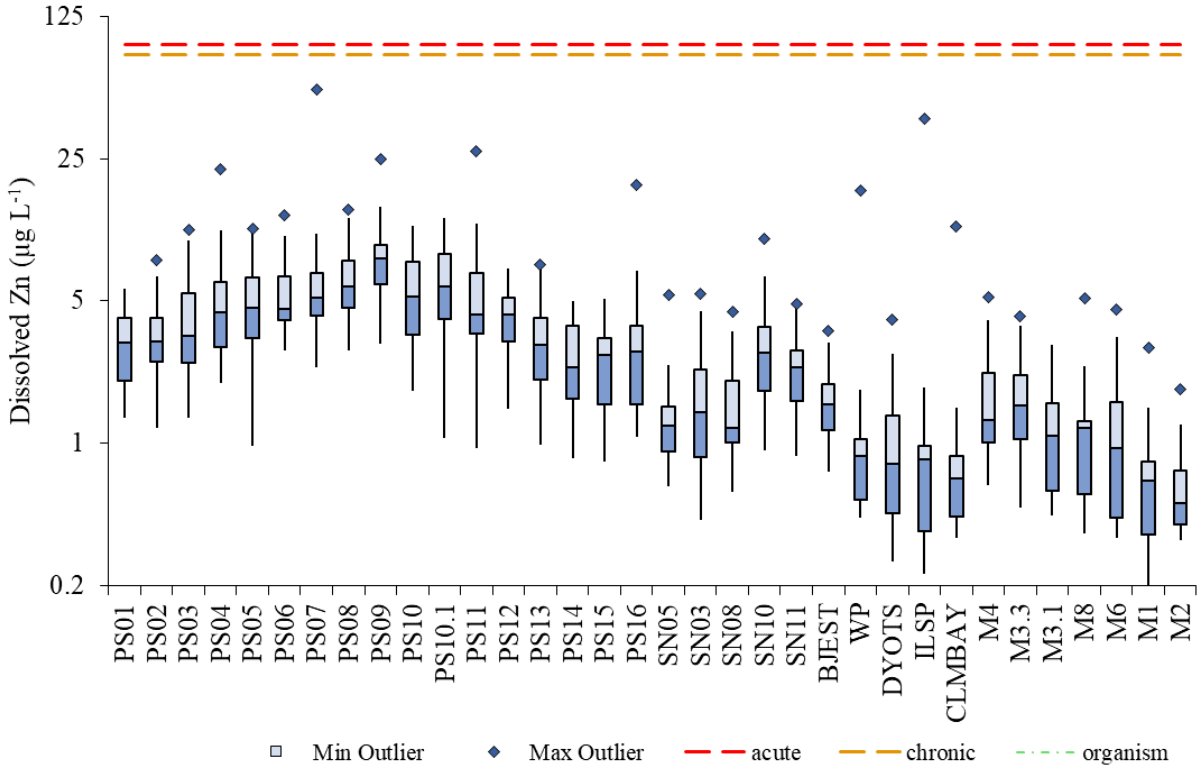


Figure 13. Zn_{diss} as the average of 24 sampling events over 8 years moving from the high to low impact zones of Sinclair and Dyes Inlets. Regulatory limits are those describe in WAC 173-201A-240 and 40 CFR 131.36 and provided in table 2 of the current report; human health criteria for consumption of organisms is greater than the data range.

Table 8. Tukey HSD analysis of the differences between impact zones for Zn_{diss}.

Contrast	Difference	Pr > Diff	Significant	Lower Bound (95%)	Upper Bound (95%)
PSNS Nearshore vs Sinclair/Dyes Marine	4.33	< 0.0001	Yes	3.52	5.13
PSNS Nearshore vs Sinclair/Dyes Nearshore	3.64	< 0.0001	Yes	2.91	4.36
PSNS Nearshore vs PSNS Barrier	2.43	< 0.0001	Yes	1.45	3.41

Contrast	Difference	Pr > Diff	Significant	Lower Bound (95%)	Upper Bound (95%)
PSNS Barrier vs Sinclair/Dyes Marine	1.90	< 0.0001	Yes	0.816	2.98
PSNS Barrier vs Sinclair/Dyes Nearshore	1.21	0.0132	Yes	0.183	2.23
Sinclair/Dyes Nearshore vs Sinclair/Dyes Marine	0.690	0.165	No	-0.170	1.55

5.1.1.5 Ancillary Parameters

Table 9 provides physicochemical parameter summary statistics for each of the four marine water impact zones. The purpose of these data is to aid in interpreting the chemical concentrations and are considered vital model input variables (complete data are given in Appendix C). There were no significant differences among impact zones for any ancillary parameter except TSS, where Sinclair/Dyes Nearshore stations had significantly higher levels than the PSNS Nearshore stations (mean difference of 2.47 mg L^{-1}: $p = 0.008$) likely due to the fact that many of these stations are in riparian flumes. Other parameters given here track primary productivity potential. Additional ancillary parameters, dissolved oxygen and turbidity, are recorded in PSNS monthly fecal coliform monitoring reports.

In brief,

- Salinity is a key component of marine habitat monitoring, because it transforms trace metal chemistry interactions with biota via stratification and circulation patterns.
- Knowledge of OC levels is integral to modeling bioavailability of metals due to protective effects provided by metal-OC complexes.
- Dissolved metals can attach to suspended particles, and thus an increase in TSS can often indicate potential pollution. Increased TSS is also indicative of the development of harmful algal blooms.
- All species of nitrogen are biochemically interconvertible components of the biological nitrogen cycle. The presence of ammonia nitrogen in surface water can be indicative of sewage pollution.
- Phytoplankton productivity in the marine waters can be limited by the availability of fixed inorganic nitrogen, nitrate being the principal form. Total inorganic nitrogen = NNN + AN.
- TKN has also been measured for select events when quantification of organic nitrogen was requested by PSNS (e.g., total organic nitrogen = TKN − AN)
- P, supplied naturally by continental weathering, is also monitored as a primary productivity-limiting nutrient due to the potential for introduction of excess levels by fertilizer runoff and sewage system leaks.
- HEM is monitored, primarily in outfall composites, due to a total petroleum hydrocarbon limit (15 mg L^{-1}) under the effectual NPDES regulations.

Table 9. Statistics of Ancillary Parameters by Impact Zone.

	Parameter	Salinity (PSU)	TOC (mg L^{-1})	DOC (mg L^{-1})	TSS (mg L^{-1})	AN (mg L^{-1})	NNN (mg L^{-1})	TKN (mg L^{-1})	TP (mg L^{-1})	HEM (mg L^{-1})
PSNS Nearshore	Mean	28.6	1.43	1.43	3.73	0.0664	0.217	1.19	0.0794	1.58
	Median	28.7	1.30	1.25	1.58	0.0580	0.148	1.09	0.0810	0.7
	Minimum	24.5	0.66	0.64	0.400	0.0030	0.009	0.057	0.0260	0.7
	Maximum	31.8	16.4	9.40	41.0	0.558	0.447	4.44	0.410	8.30
	1st Quartile	27.9	1.05	1.03	1.00	0.0400	0.074	0.770	0.0645	0.7
	3rd Quartile	29.3	1.60	1.64	3.91	0.0840	0.369	1.50	0.0900	1.70
	n	332	317	314	317	305	316	160	316	17
PSNS Barrier	Mean	29.0	1.51	1.51	4.46	0.0463	0.203	1.19	0.0740	1.77
	Median	29.1	1.33	1.25	1.66	0.0455	0.130	1.10	0.0780	2.20
	Minimum	26.9	0.70	0.80	0.300	0.0030	0.009	0.064	0.0280	0.7
	Maximum	31.6	7.70	5.40	78.0	0.0970	0.442	2.30	0.177	2.80
	1st Quartile	28.4	1.03	1.05	1.10	0.0303	0.051	0.755	0.0610	1.00
	3rd Quartile	29.5	1.70	1.66	3.49	0.0598	0.365	1.80	0.0860	2.35
	n	99	95	92	95	90.0	94	47	94	7
Non-PSNS Nearshore	Mean	28.0	2.13	1.79	6.20	0.0504	0.195	1.46	0.0864	1.75
	Median	28.8	1.41	1.32	2.81	0.0370	0.139	1.18	0.0750	1.75
	Minimum	8.20	0.50	0.70	0.385	0.0030	0.009	0.030	0.0190	0.7
	Maximum	31.7	66.3	50.0	133	0.588	0.675	12.1	1.50	2.80
	1st Quartile	27.7	1.14	1.08	1.42	0.0160	0.031	0.923	0.0600	1.23
	3rd Quartile	29.5	1.90	1.70	5.52	0.0618	0.361	1.68	0.0865	2.28
	n	226	222	221	221	217	222	107	222	2
Marine	Mean	28.9	1.63	1.48	4.79	0.0340	0.196	1.45	0.0759	1.08
	Median	29.0	1.30	1.29	1.87	0.0310	0.167	1.10	0.0720	0.7
	Minimum	23.0	0.70	0.60	0.371	0.0030	0.009	0.046	0.0180	0.7
	Maximum	31.6	16.3	7.62	43.0	0.130	0.439	8.95	0.450	2.20
	1st Quartile	28.4	1.02	1.01	1.20	0.0118	0.028	0.900	0.0600	0.7
	3rd Quartile	29.7	1.70	1.69	4.82	0.0490	0.363	1.60	0.0830	1.08
	n	170	163	162	163	156	163	82	163	4

TOC refers to total organic carbon; DOC refers to dissolved organic carbon; TSS refers to total suspended solids; AN refers to ammonia as nitrogen; NNN refers to nitrate+nitrite as nitrogen; TKN refers to total Kjeldahl nitrogen; TP refers to total phosphorous; HEM refers to oil and grease (hexane extractable material).

5.1.2 Temporal Comparison

Temporal analysis of receiving waters is provided as a means to illustrate the water quality trends of metals of concern in the four impact zones (PSNS Nearshore, PSNS Barrier, Sinclair/Dyes Nearshore, and Sinclair/Dyes Marine).

5.1.2.1 Linear Time

Mercury

Dissolved Hg surface water samples designated as PSNS Nearshore have averaged (0.000810 ± 0.00118 µg L^{-1} Hg_{diss}) over time; PSNS Barrier (0.000317 ± 0.0000552 µg L^{-1} Hg_{diss}); Sinclair/Dyes Nearshore (0.000353 ± 0.00151 µg L^{-1} Hg_{diss}); Sinclair/Dyes Marine (0.000317 ± 0.00103 µg L^{-1} Hg_{diss}) (Figure 14). Average Hg_{diss} has remained an order of magnitude below the toxics substances criteria for human health. The highest values within the PSNS, those values >0.00375 µg L^{-1}, are from Station PS03.

Total Hg surface water samples designated as PSNS Nearshore have averaged (0.00187 ± 0.00268 µg L^{-1} Hg_{tot}) over time; PSNS Barrier (0.000735 ± 0.0000155 µg L^{-1} Hg_{tot}); Sinclair/Dyes Nearshore (0.000958 ± 0.00602 µg L^{-1} Hg_{tot}); Sinclair/Dyes Marine (0.000719 ± 0.00264 µg L^{-1} Hg_{tot}) (Figure 15). Average Hg_{tot} has breached the toxics substances criteria for chronic toxicity twice. As with Hg_{diss}, these elevated instances are associated with Station PS03. Hg in general shows neither a positive or negative trend over time for the impact delineated areas.

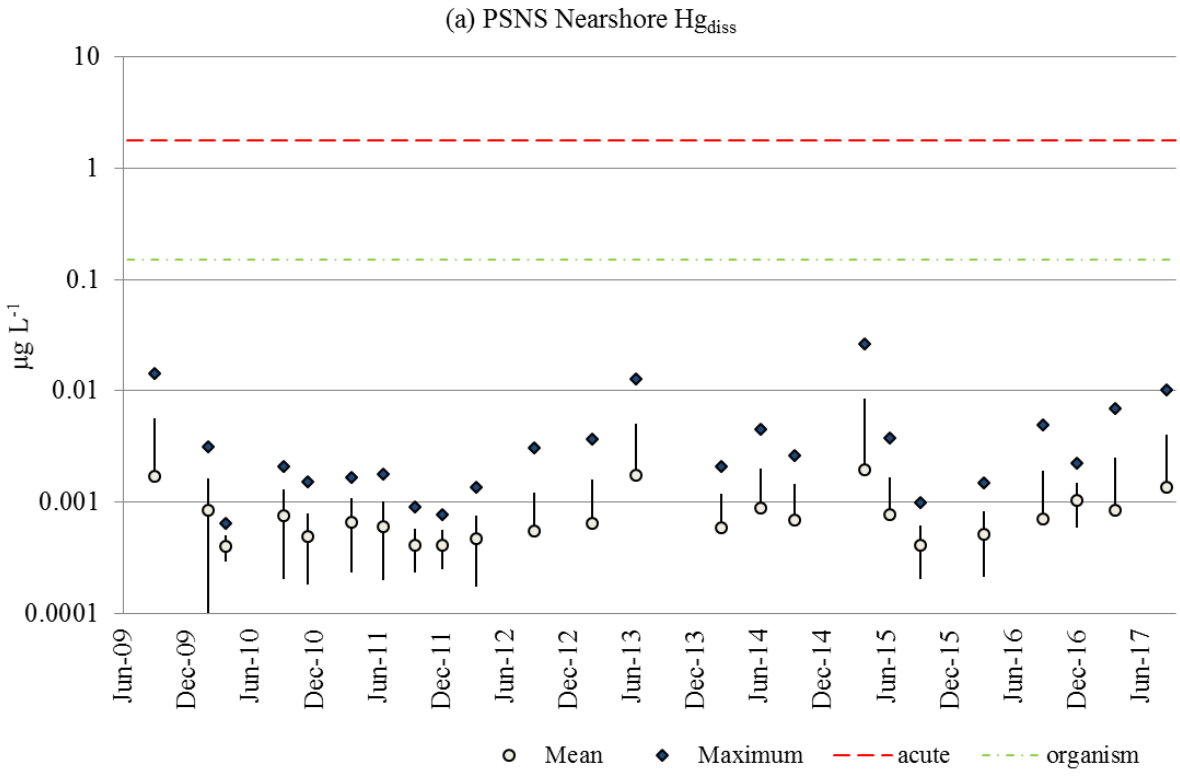


Figure 14a–d. Hg_{diss} trend over 8 years (24 sampling events) with stations divided in four areas: (a) PSNS Nearshore (n = 357), (b) the PSNS Barrier (n = 95), (c) the Sinclair/Dyes Nearshore (n = 250), and (d) the Sinclair/Dyes Marine (n = 179). Open circles are the mean values; diamonds are the maxima.

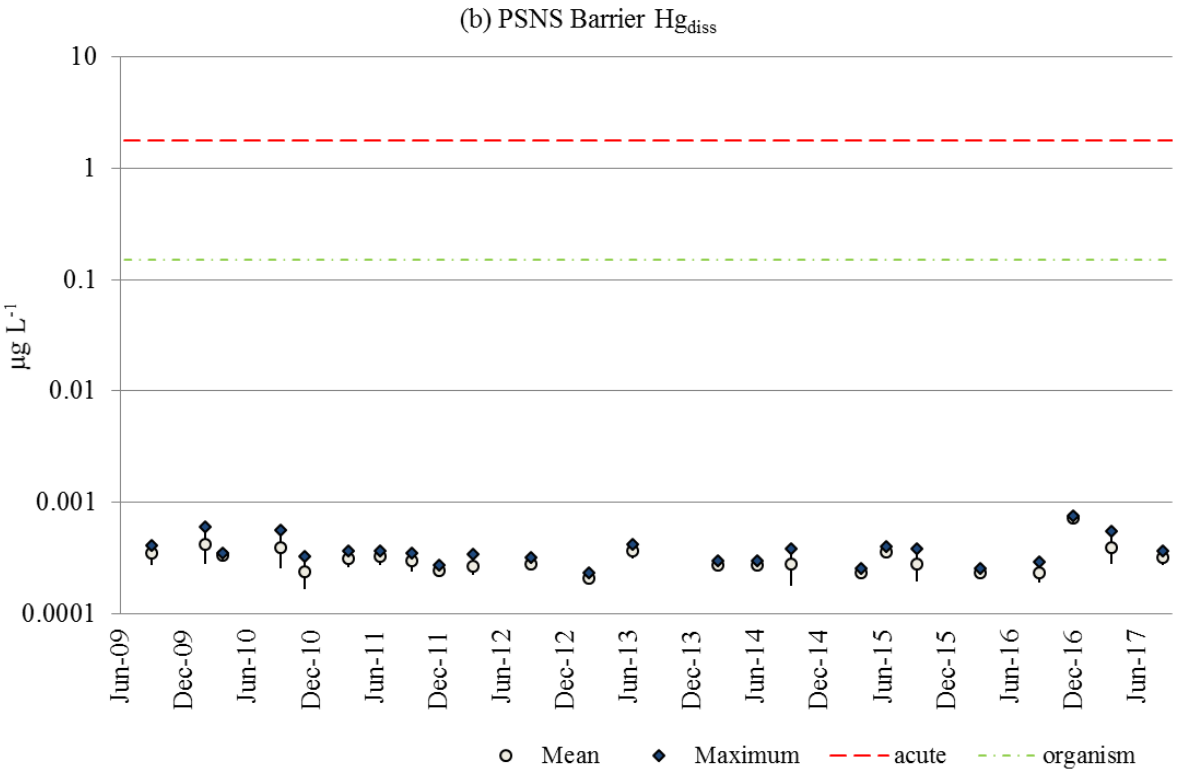


Figure 14. (contd)

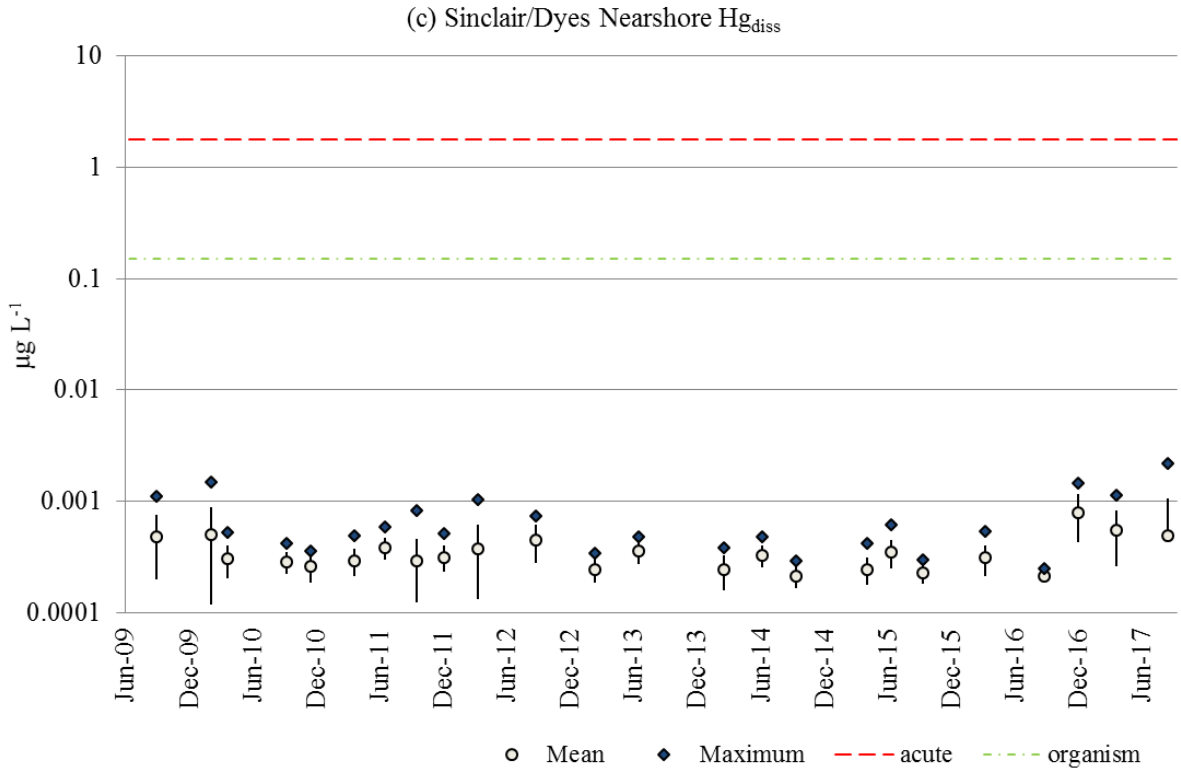
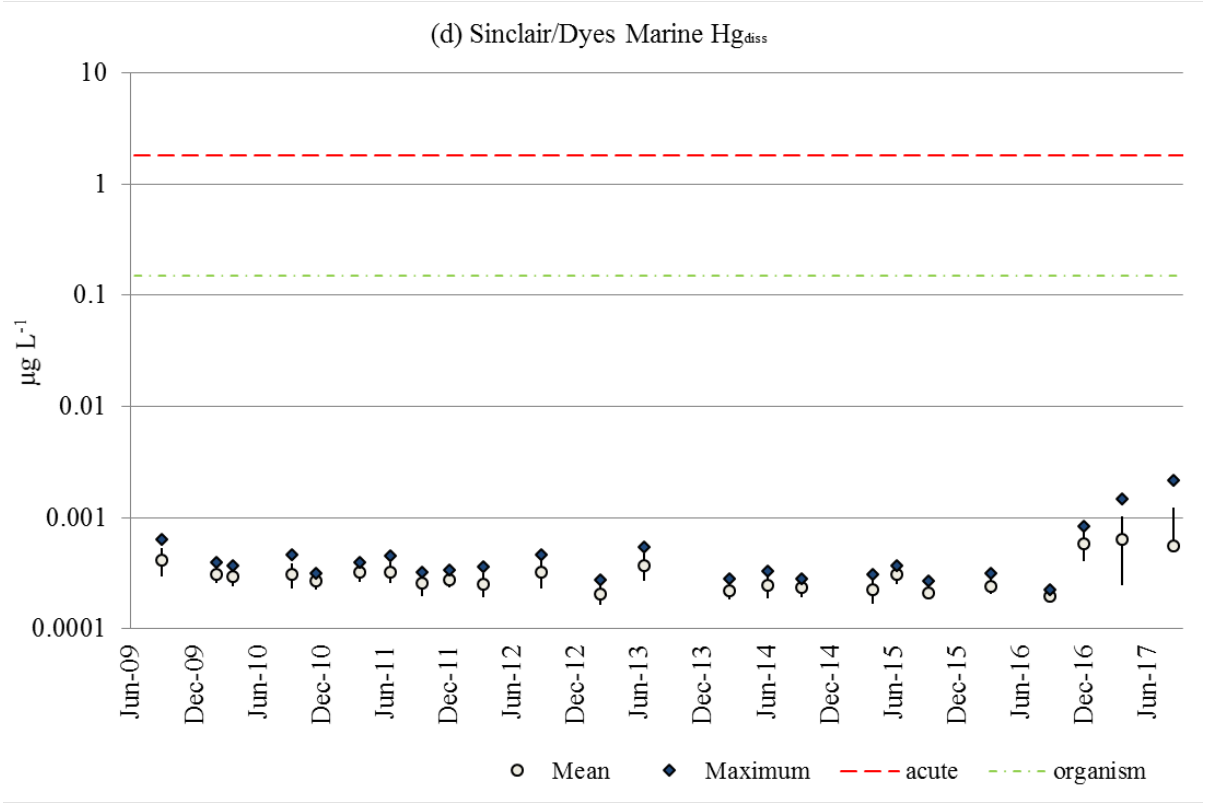


Figure 14. (contd)



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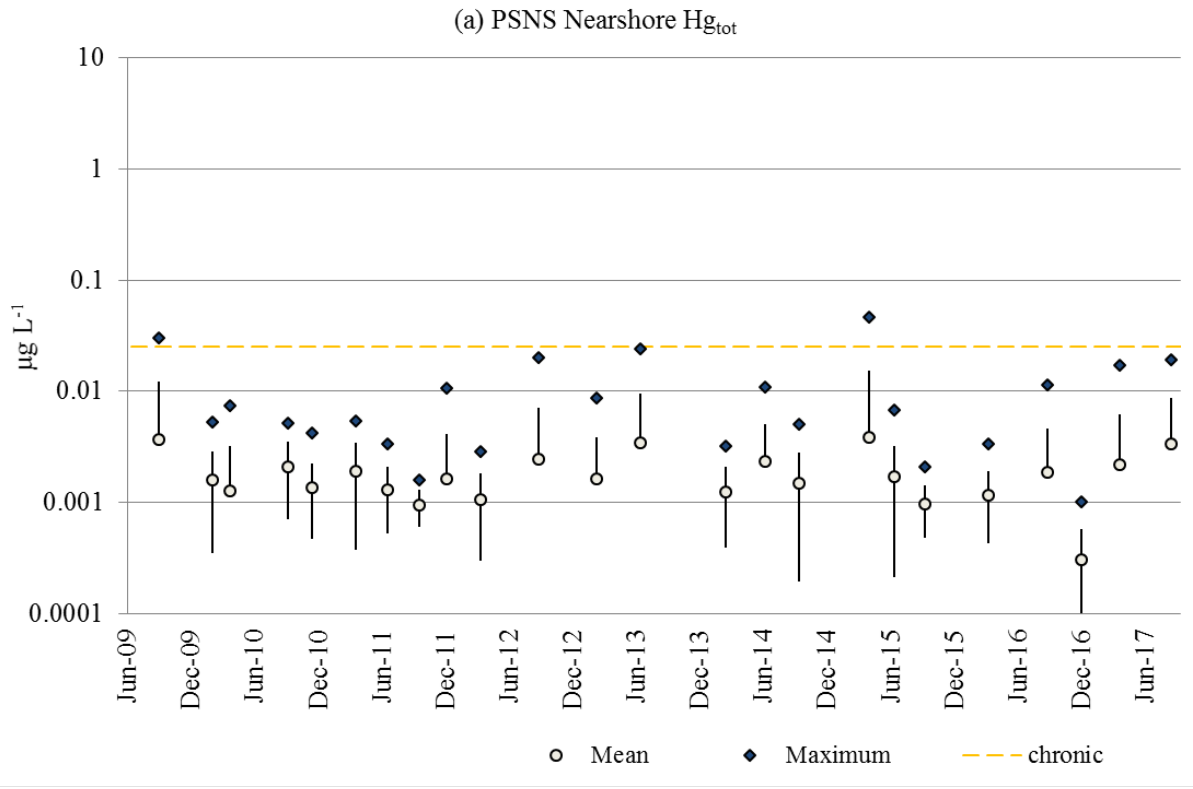


Figure 15. Hg_{tot} trend over 8 years (24 sampling events) with stations divided in four areas: (a) PSNS Nearshore (n = 357), (b) the PSNS Barrier (n = 95), (c) the Sinclair/Dyes Nearshore (n = 250), and (d) the Sinclair/Dyes Marine (n = 179). Open circles are the mean values; diamonds are the maxima.

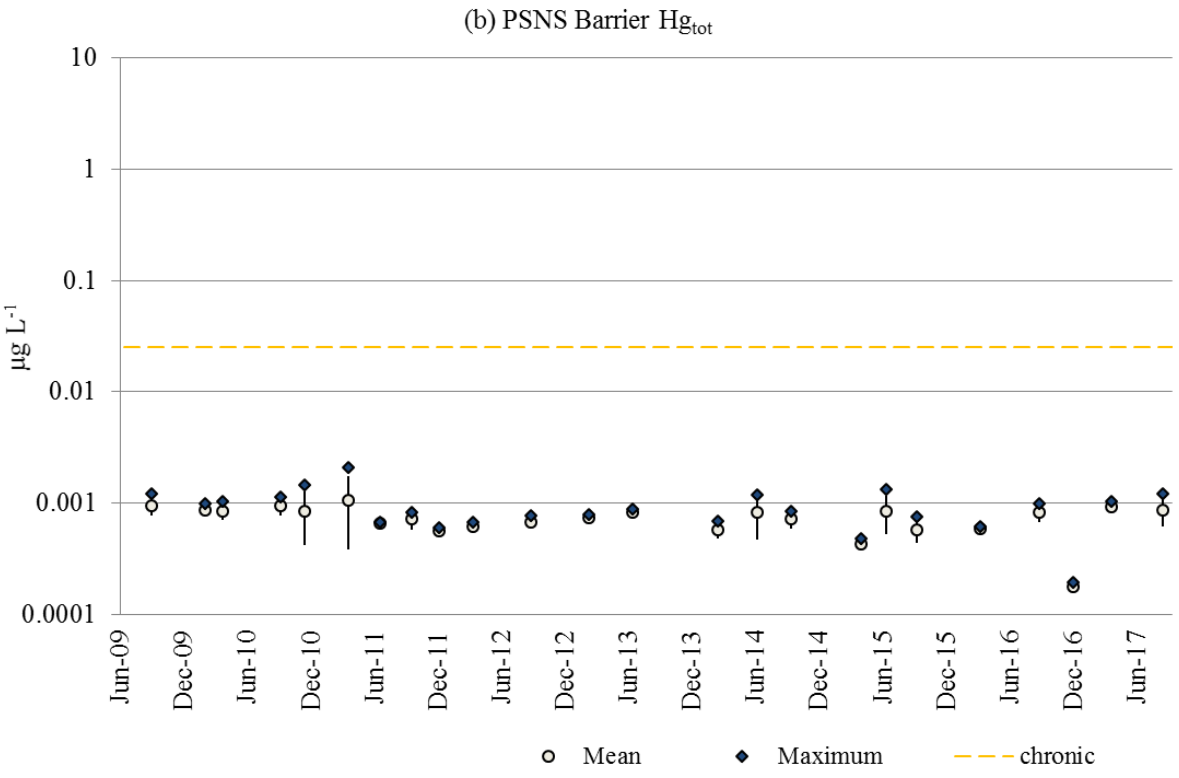


Figure 15. (contd)

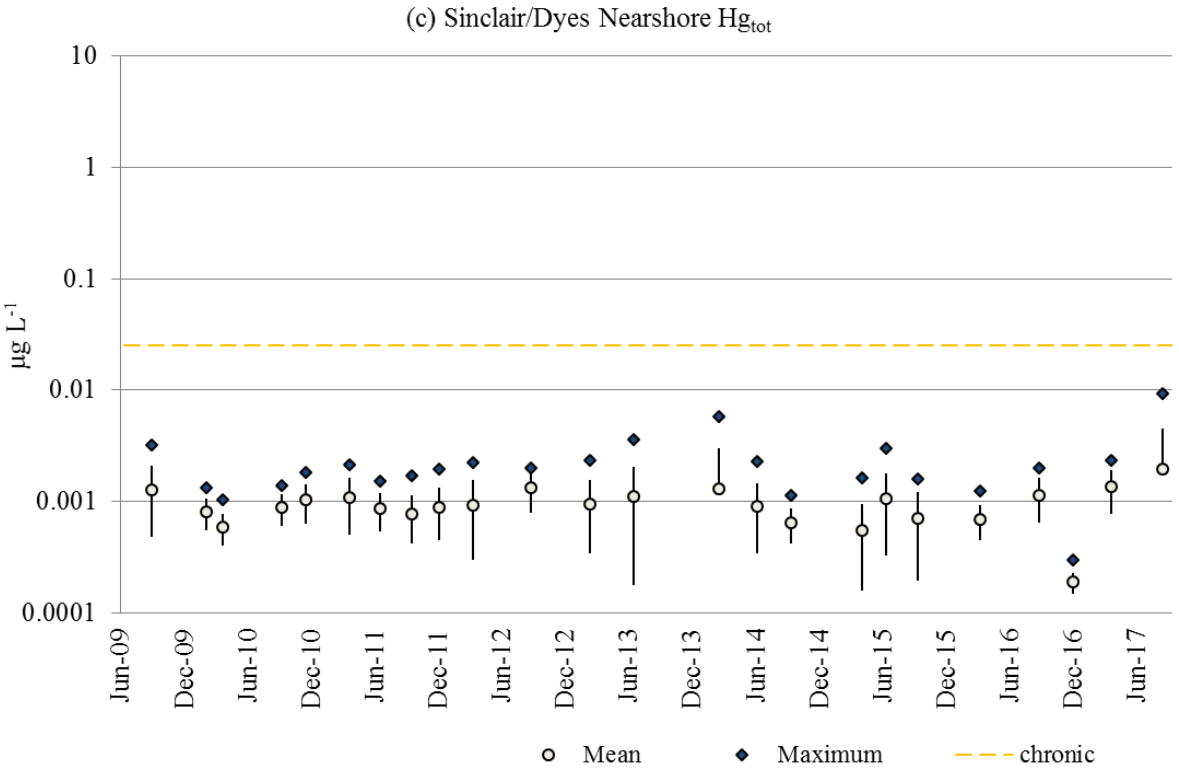


Figure 15. (contd)

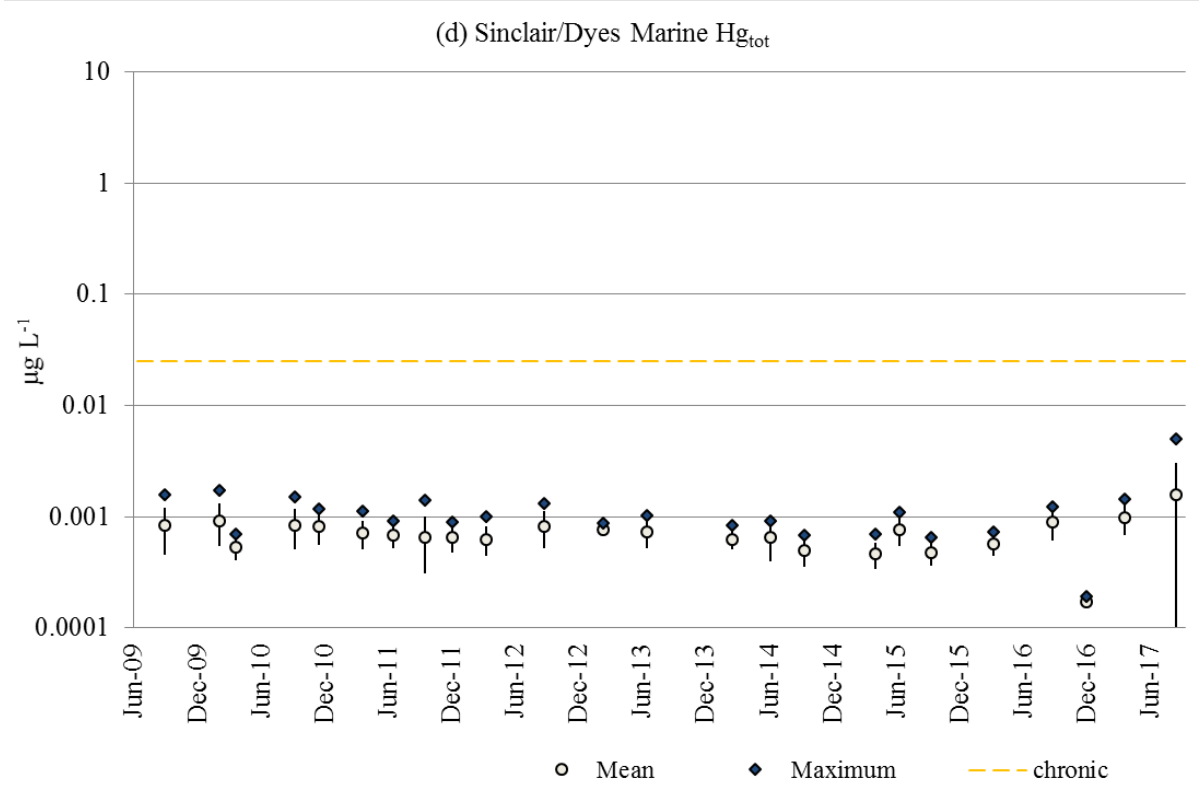


Figure 15. (contd)

Copper

Dissolved Cu surface water samples designated as PSNS Nearshore have averaged (1.53 ± 0.563 µg L^{-1} Cu_{diss}) over time; PSNS Barrier (1.05 ± 0.338 µg L^{-1} Cu_{diss}); Sinclair/Dyes Nearshore (0.642 ± 0.234 µg L^{-1} Cu_{diss}); and Sinclair/Dyes Marine (0.538 ± 0.138 µg L^{-1} Cu_{diss}) (Figure 16). Cu_{diss} has remained below the toxics substances criteria in areas outside of the PSNS. Samples within the PSNS breached marine chronic toxicity at Stations PS07, PS08, and PS09; and marine acute toxicity at Stations PS07 and PS08. In general these values are dropping; the last >acute value was collected on July 18, 2013.

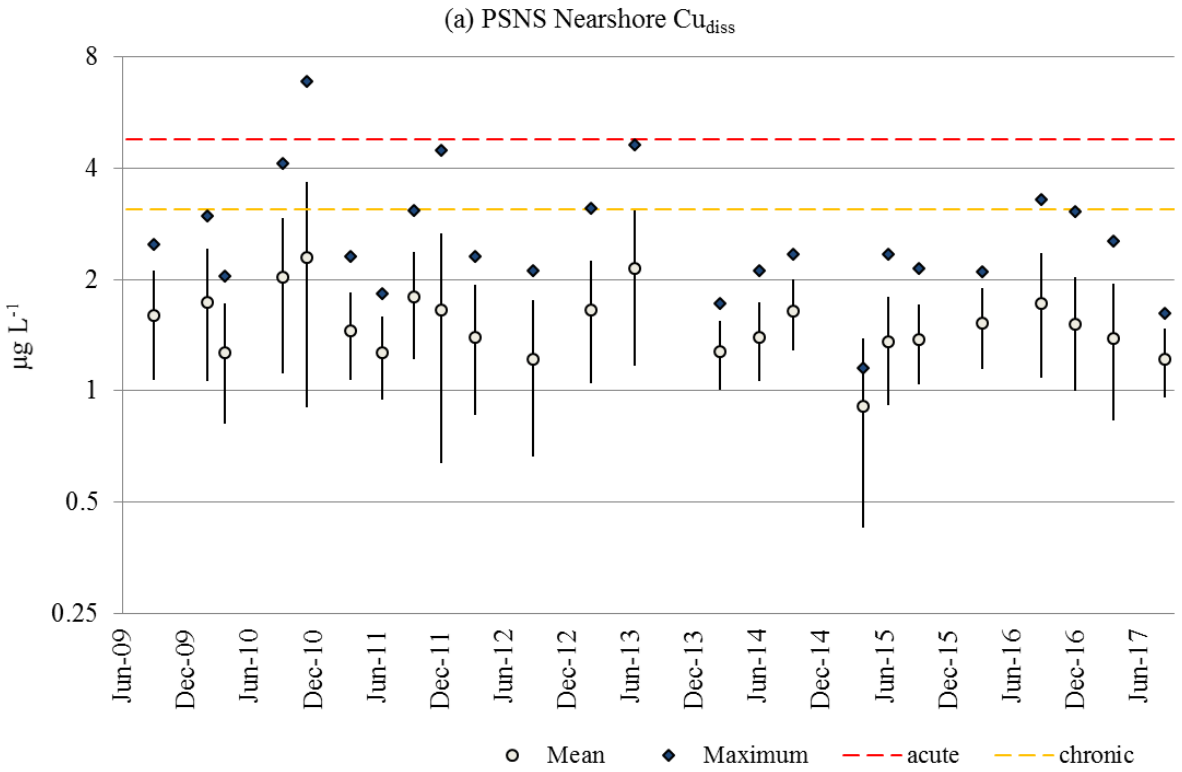


Figure 16. Cu_{diss} trend over 8 years (24 sampling events) with stations divided in four areas: (a) PSNS Nearshore (n = 357), (b) the PSNS Barrier (n = 95), (c) the Sinclair/Dyes Nearshore (n = 250), and (d) the Sinclair/Dyes Marine (n = 179). Open circles are the mean values; diamonds are the maxima.

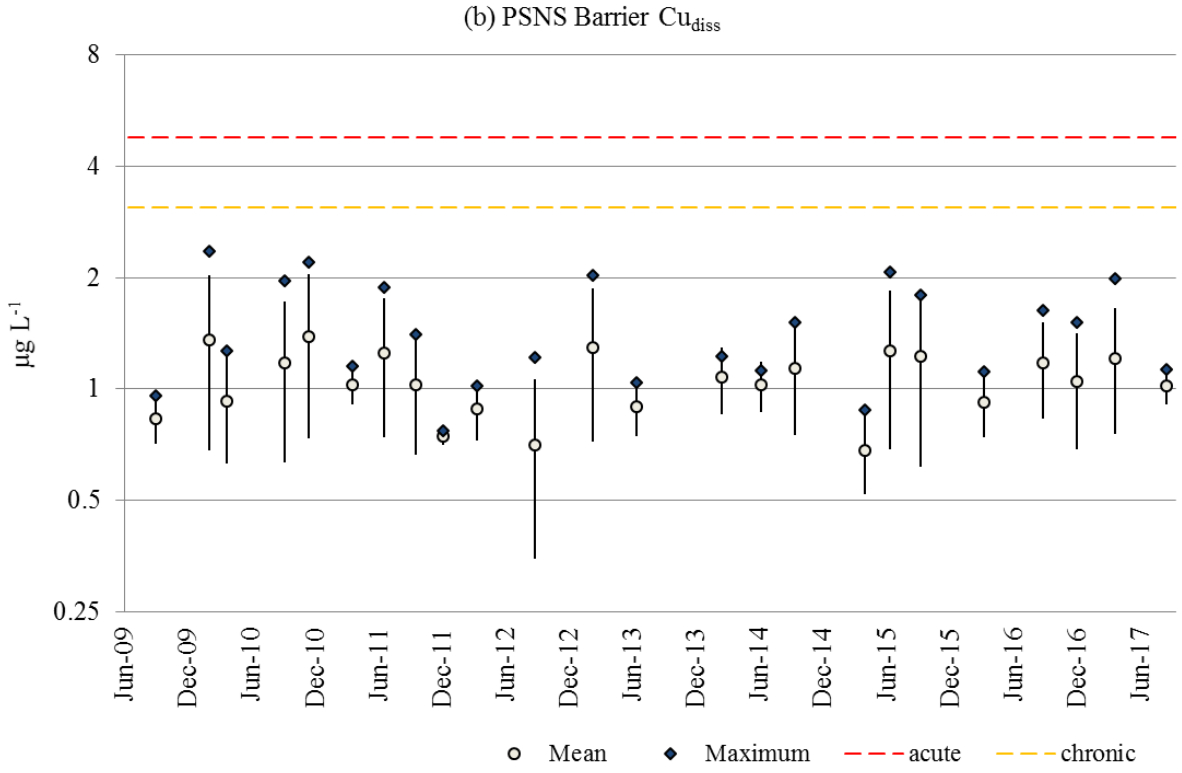
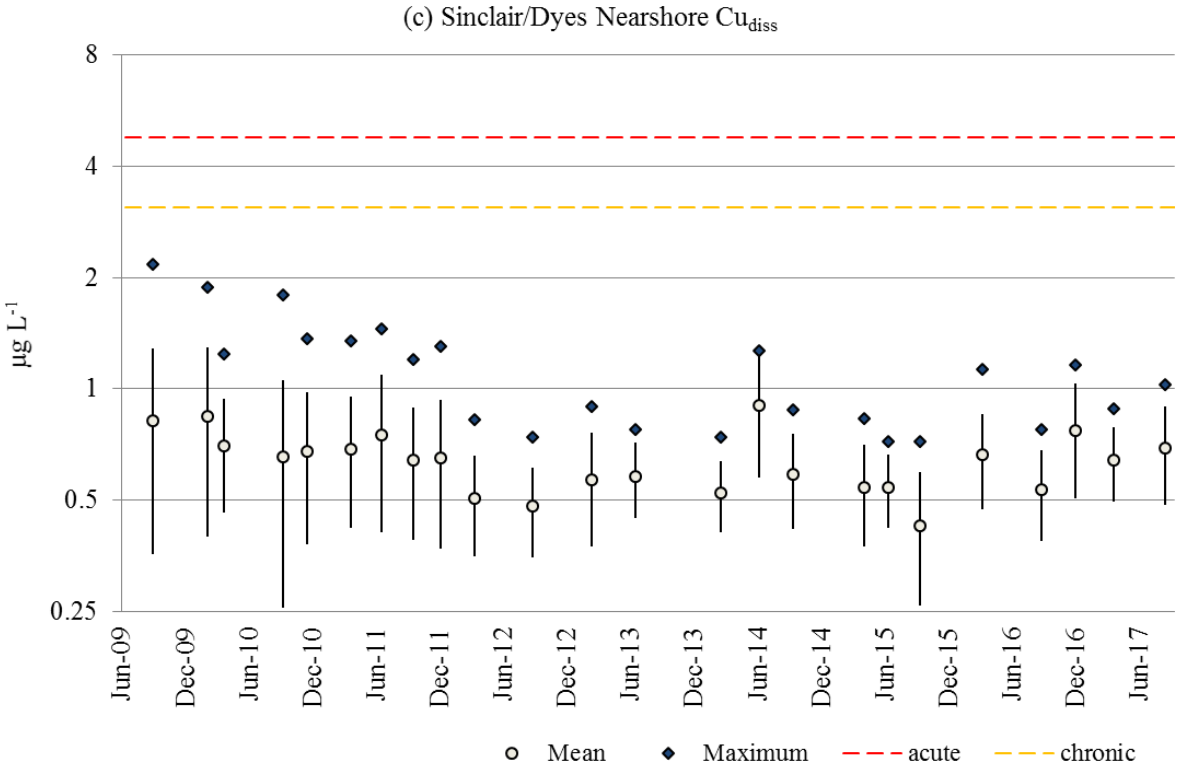


Figure 16. (contd)



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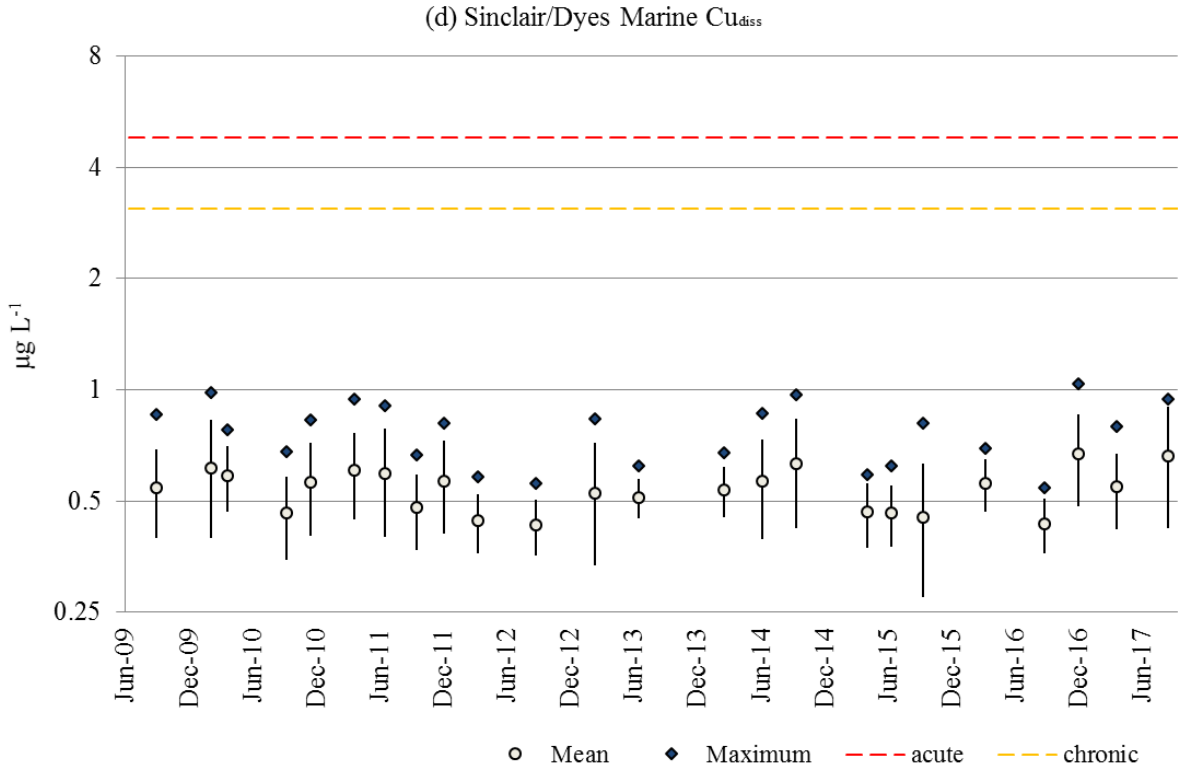


Figure 16. (contd)

Lead

Dissolved Pb surface water samples designated as PSNS Nearshore have averaged (0.0270 ± 0.0101 µg L^{-1} Pb_{diss}) over time; PSNS Barrier (0.0208 ± 0.00461µg L^{-1} Pb_{diss}); Sinclair/Dyes Nearshore (0.0270 ± 0.0101 µg L^{-1} Pb_{diss}); and Sinclair/Dyes Marine (0.0207 ± 0.00461 µg L^{-1} Pb_{diss}) (Figure 17). Pb_{diss} has remained an order of magnitude below the marine toxics substances criteria in all areas of Sinclair and Dyes Inlets, and is not an imminent concern.

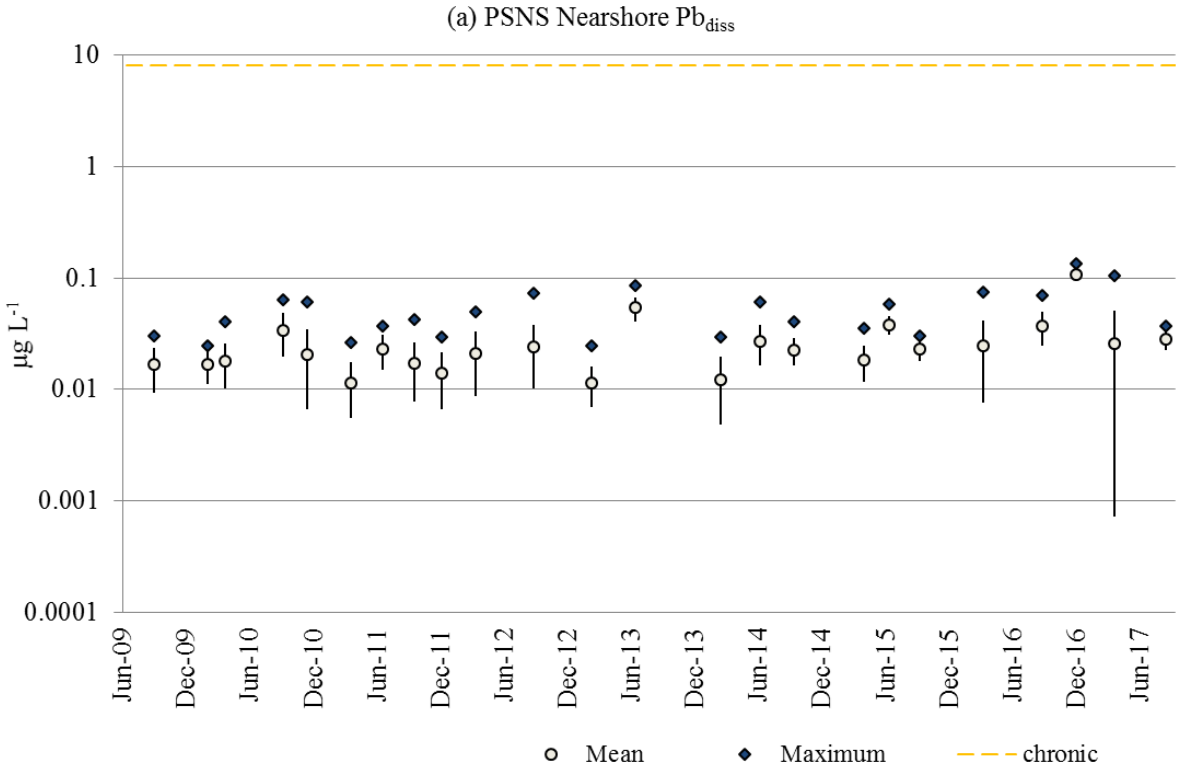


Figure 17. Pb_{diss} trend over 8 years (24 sampling events) with stations divided in four areas: (a) PSNS Nearshore (n = 357), (b) the PSNS Barrier (n = 95), (c) the Sinclair/Dyes Nearshore (n = 250), and (d) the Sinclair/Dyes Marine (n = 179). Open circles are the mean values; diamonds are the maxima.

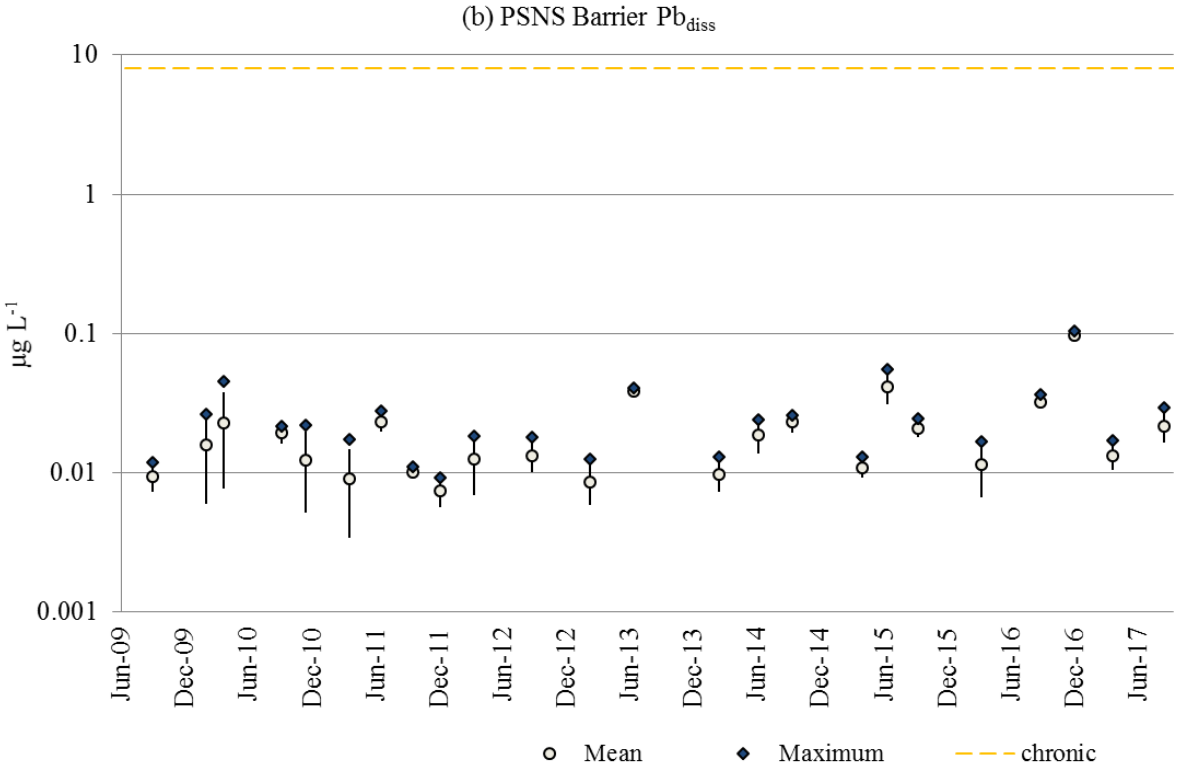
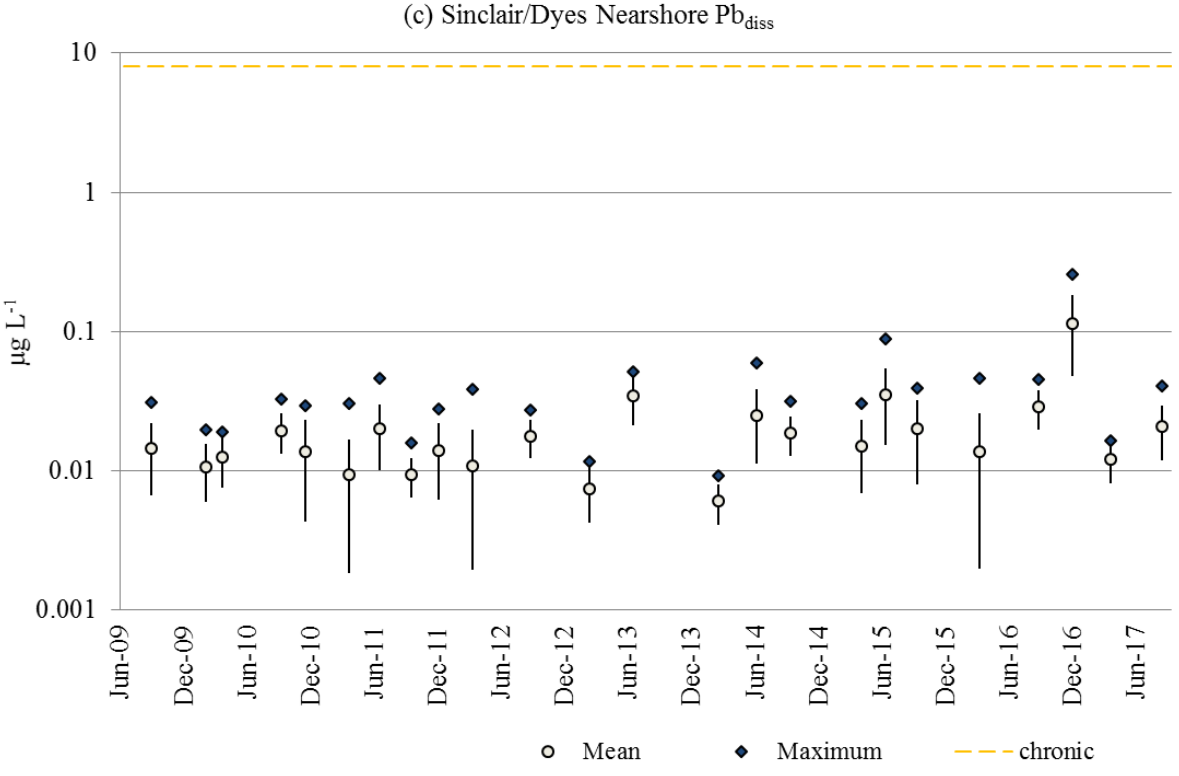


Figure 17. (contd)



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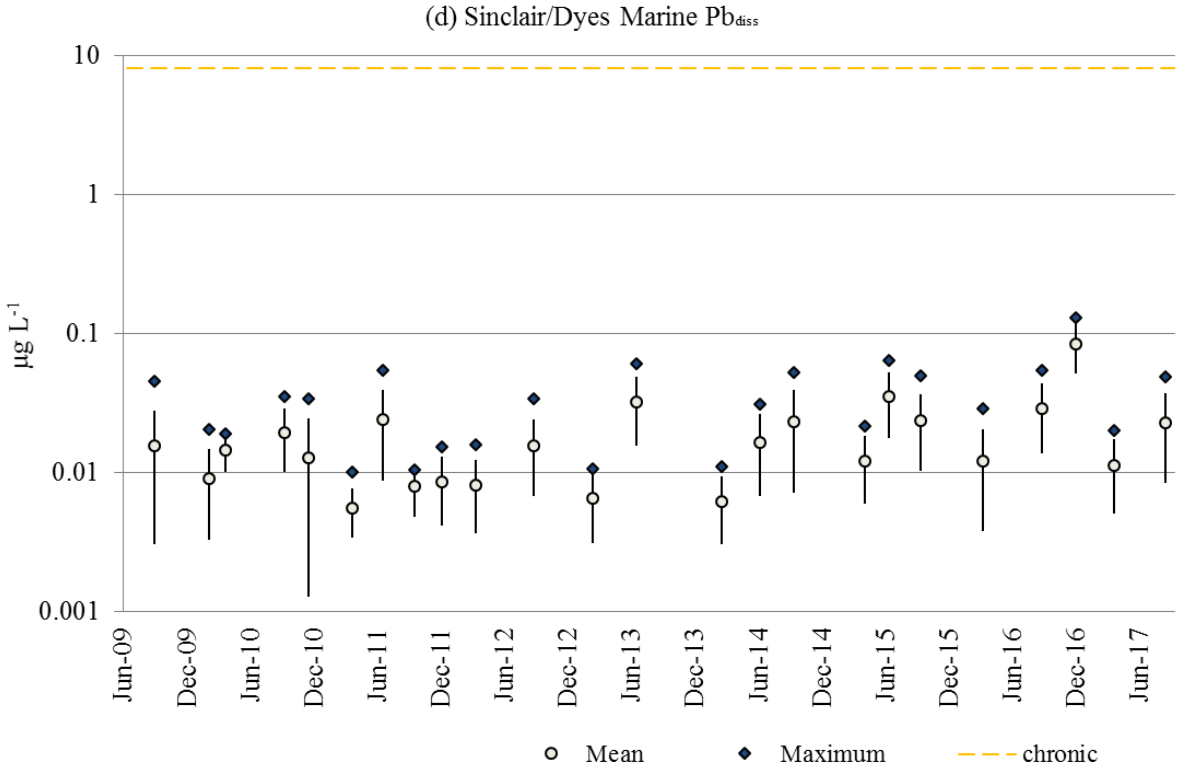

Figure 17. (contd)

Zinc

Dissolved Zn surface water samples designated as PSNS Nearshore have averaged (5.34 ± 2.61 µg L^{-1} Zn_{diss}) over time; PSNS Barrier (3.06 ± 1.31 µg L^{-1} Zn_{diss}); Sinclair/Dyes Nearshore (1.89 ± 1.34 µg L^{-1} Zn_{diss}); and Sinclair/Dyes Marine (1.17 ± 0.553 µg L^{-1} Zn_{diss}) (Figure 18). Average Zn_{diss} has remained well below the marine toxics substances criteria in all areas of Sinclair and Dyes Inlets, and is not an imminent concern. The stations with the greatest load were ILSP (39.1, 10/8/2009), PS11 (27.0, 7/16/2015), PS09 (24.7, 3/5/2013), PS16 (22.9, 1/12/2012), and PS04 (22.3, 3/27/2012).

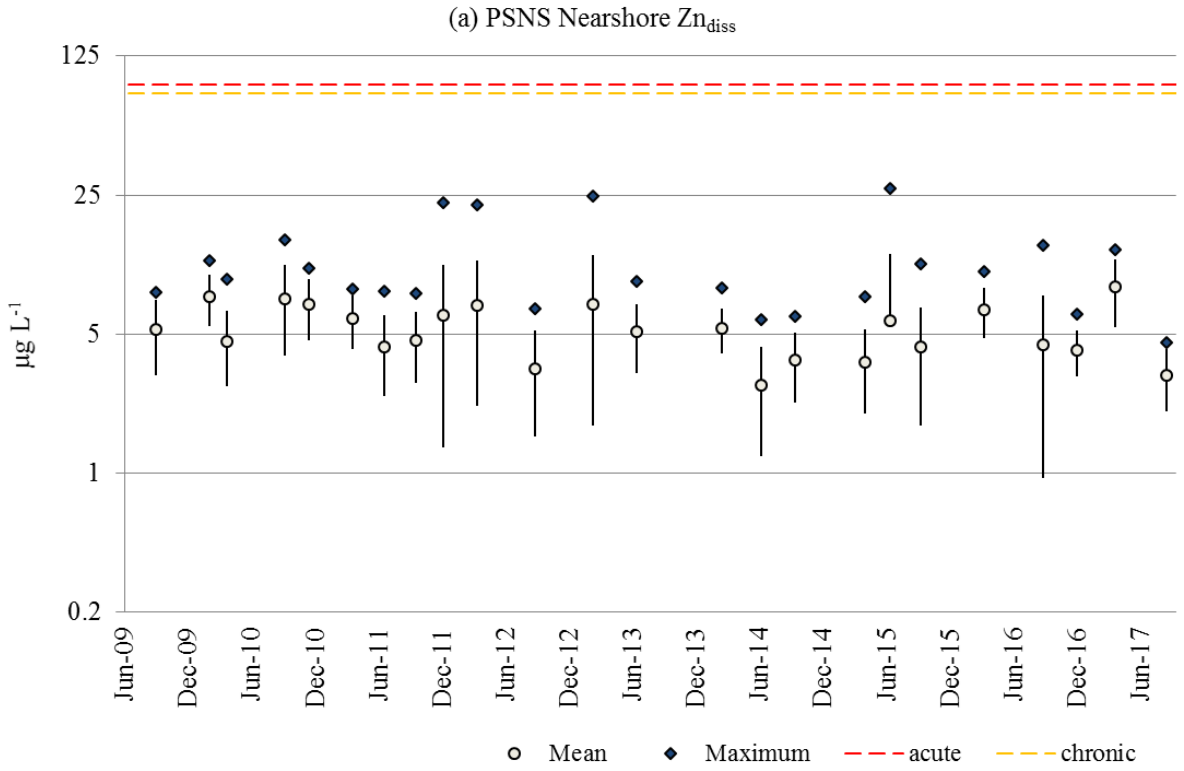

Figure 18. Zn_{diss} trend over 8 years (24 sampling events) with stations divided in four areas: (a) PSNS Nearshore (n = 357), (b) the PSNS Barrier (n = 95), (c) the Sinclair/Dyes Nearshore (n = 250), and (d) the Sinclair/Dyes Marine (n = 179). Open circles are the mean values; diamonds are the maxima.

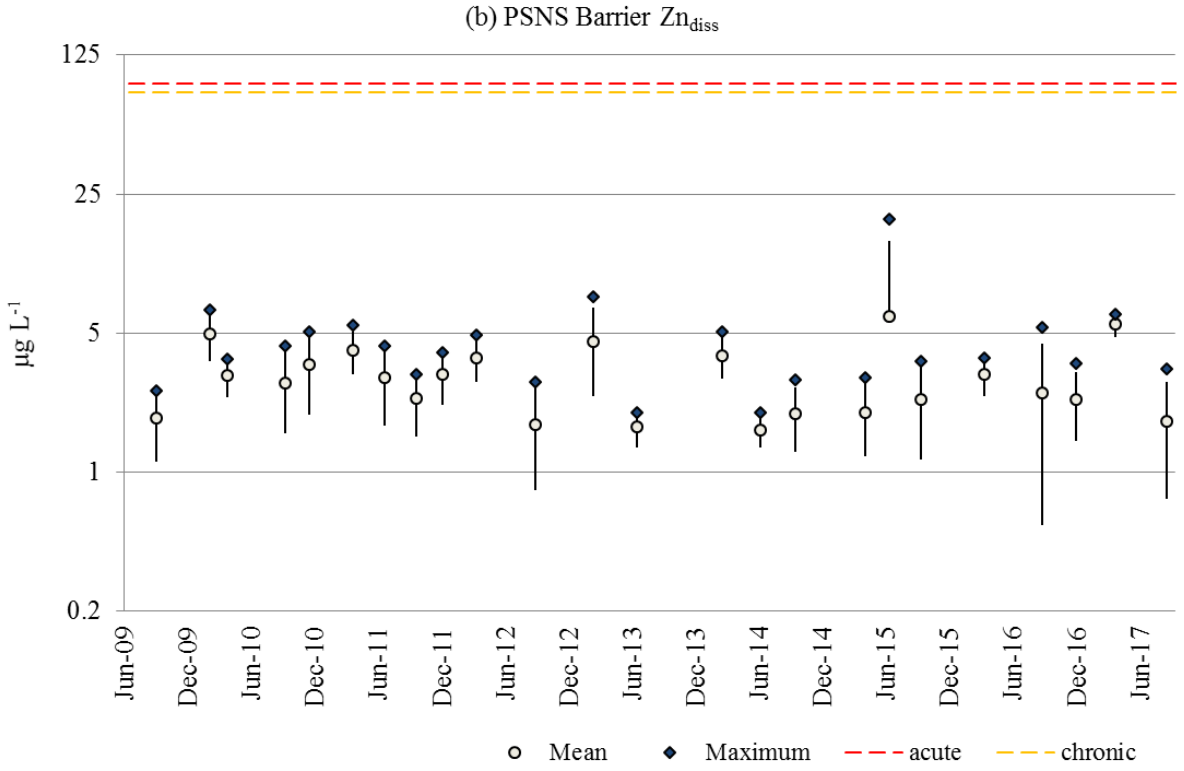

Figure 18. (contd)

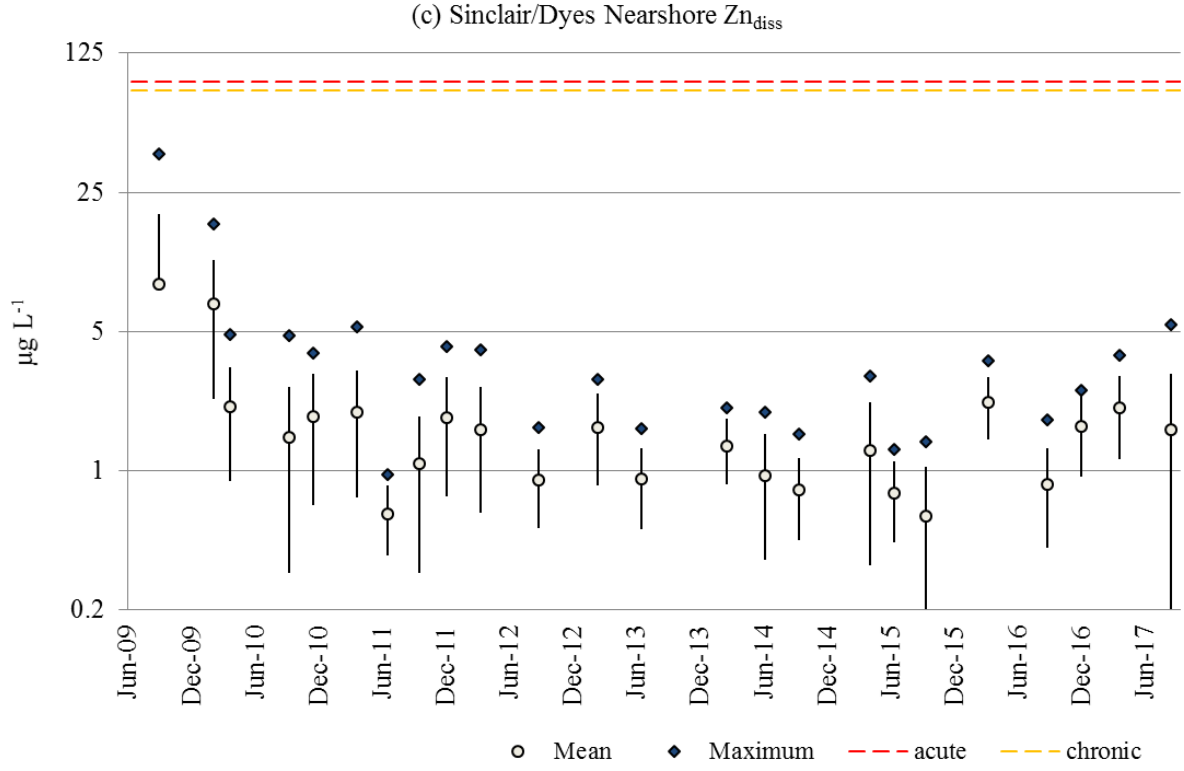

Figure 18. (contd)

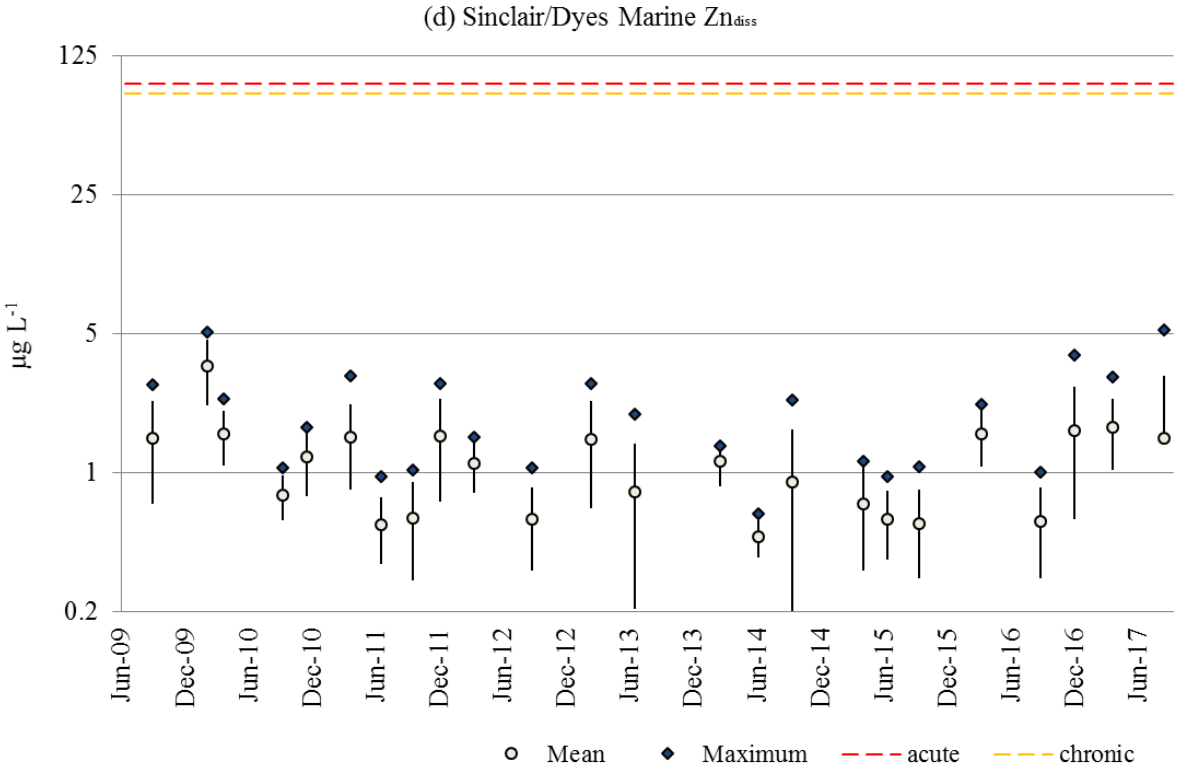

Figure 18. (contd)

5.1.2.2 Seasonal

Marine water samples were categorized by preceding precipitation to elucidate observable effects. Each event was classified as a wet (November–April) or dry (May–October) period, and further codified as 1) wet weather base flow (WWBF): >72 hours after measurable precipitation >0.25 in./24hr; 2) wet weather storm event (WWSE): >0.25 in. of rain within a 24-hour period, following a discernable period of no rainfall; 3) dry weather event (DWE): <0.25 in. of rain in the previous 72 hours; or 4) a dry weather storm event (DSWE): >0.25 in. of rain in the previous 72 hours. Rainfall had no statistically significant effects on concentrations within water affected by industrial outfalls (PSNS Nearshore zone) [$F_{(3,20)} = 4.84$, $p = 0.011$], with the exception of Zn (Table 10); meaning effluent and ambient trace metal levels of Hg, Cu, and Pb are mainly tied to concurrent industrial activities, biological processes, or dissolved organic matter/particulate binding potential.

Rain classifications were determined as relevant to capture precipitation impact significance to in-pipe quality parameters such as TSS due to cumulative antecedent precipitation in previous work by Project ENVVEST (Brandenberger et al. 2017).

Table 10. Post hoc Tukey of Zn_{diss} as PSNS Nearshore average concentrations over 24 sampling events categorized by antecedent rainfall designation.

Contrast	Difference	Pr > Diff	Significant	Lower Bound (95%)	Upper Bound (95%)
WWSE vs DWE	2.68	0.013	Yes	0.500	4.85
WWSE vs WWBF	1.10	0.536	No	-1.16	3.35
WWSE vs DWSE	0.799	0.895	No	-2.39	3.99
DWSE vs DWE	1.88	0.283	No	-0.972	4.73
DWSE vs WWBF	0.297	0.992	No	-2.61	3.21
WWBF vs DWE	1.58	0.084	No	-0.165	3.32

5.2 Outfall Water

Temporal variance of metals regulated under the NPDES are plotted as total values, and supplemented with dissolved values. WA00206-2 limitations are depicted for Cu. Summary trace metals and physicochemical parameters of composite samples are provided in Appendix B Table B.6.

Supporting plots are provided depicting boxplot statistics of OF019 discrete samples for characterization of variation over 6 selected 24-hour periods during which wedge bottle series were collected in lieu of a single composite; OF019 is the discharge of DD06, and the sampling period was designed to capture numerous pump-down cycles associated with ship movements.

5.2.1 Mercury

OF018 Hg_{tot} averaged 0.0116 ± 0.00837 µg L^{-1} and Hg_{diss} averaged 0.00297 ± 0.00126 µg L^{-1} over the 8 years captured in Figure 19. OF019 Hg_{tot} averaged 0.007599 ± 0.00518 µg L^{-1} post removal of an outlier during AMB11 (85 ng L^{-1}); this outlier was associated with particulates collected as a result of manual override of the pump, which resulted in lower than normal water levels in the pump-well as supported by the dissolved concentration. Dissolved Hg averaged 0.00240 ± 0.00139 µg L^{-1}. The OF021, post AMB07, Hg_{tot} averaged 0.00288 ± 0.000602 µg L^{-1} and Hg_{diss} averaged 0.00203 ± 0.000578 µg L^{-1} (n = 17). Pre AMB07, Hg_{tot} averaged 0.0505 ± 0.0490 µg L^{-1} and Hg_{diss} averaged 0.0103 ± 0.0155 µg L^{-1} (n = 7). This shift reflects PSNS-implemented BMPs at the steam-plant facility (moving to a reverse osmosis method). No NPDES limits are currently in place for this analyte.

The variance among 24-hour composites seen in Figure 20 is significant [$F_{(5,106)} = 4.48$, $p = <0.001$], and shows that shifts in effluent Hg_{tot} ranging from means of 0.00778 µg L^{-1} to 0.0192 µg L^{-1} are to be expected during ship dockings.

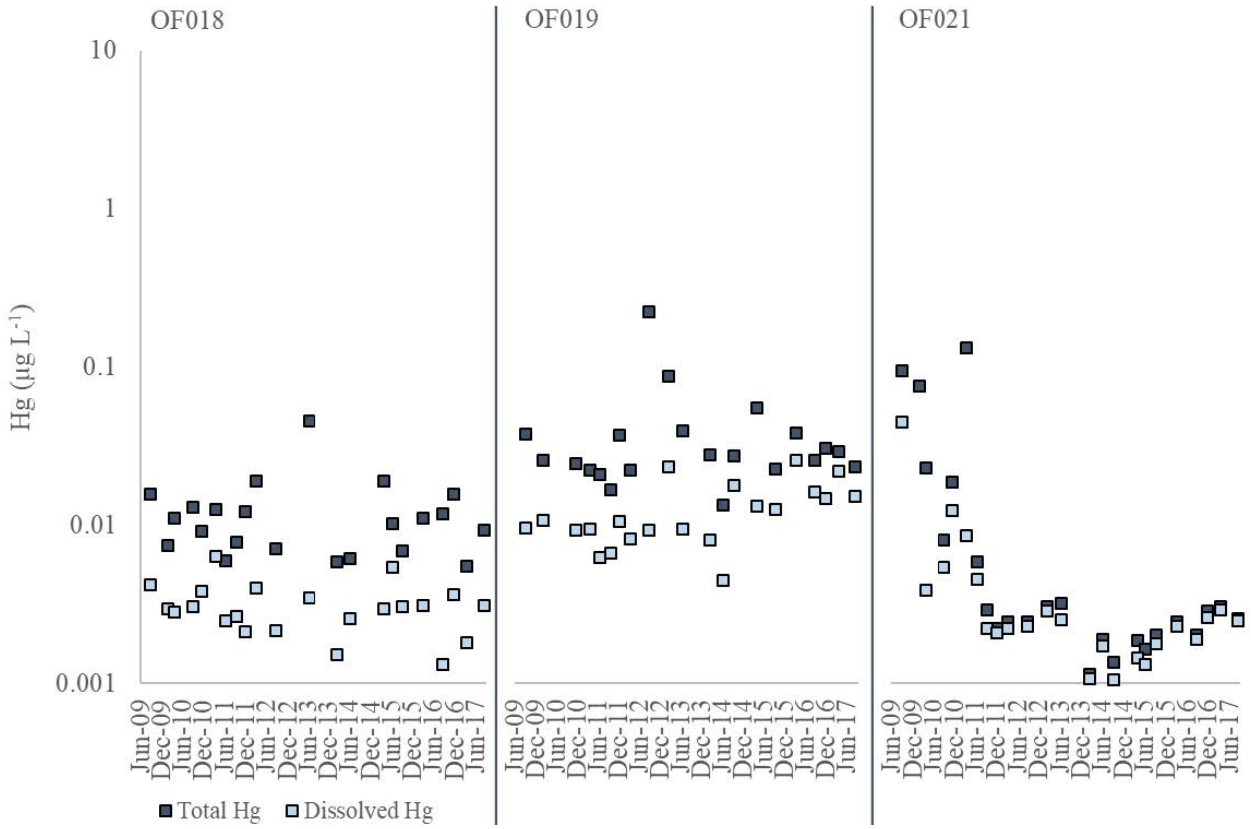

Figure 19. Hg_{diss} and Hg_{tot} at ENVVEST monitored outfalls over the course of 24 events spanning 8 years (n = 23, 21, and 24, respectively).

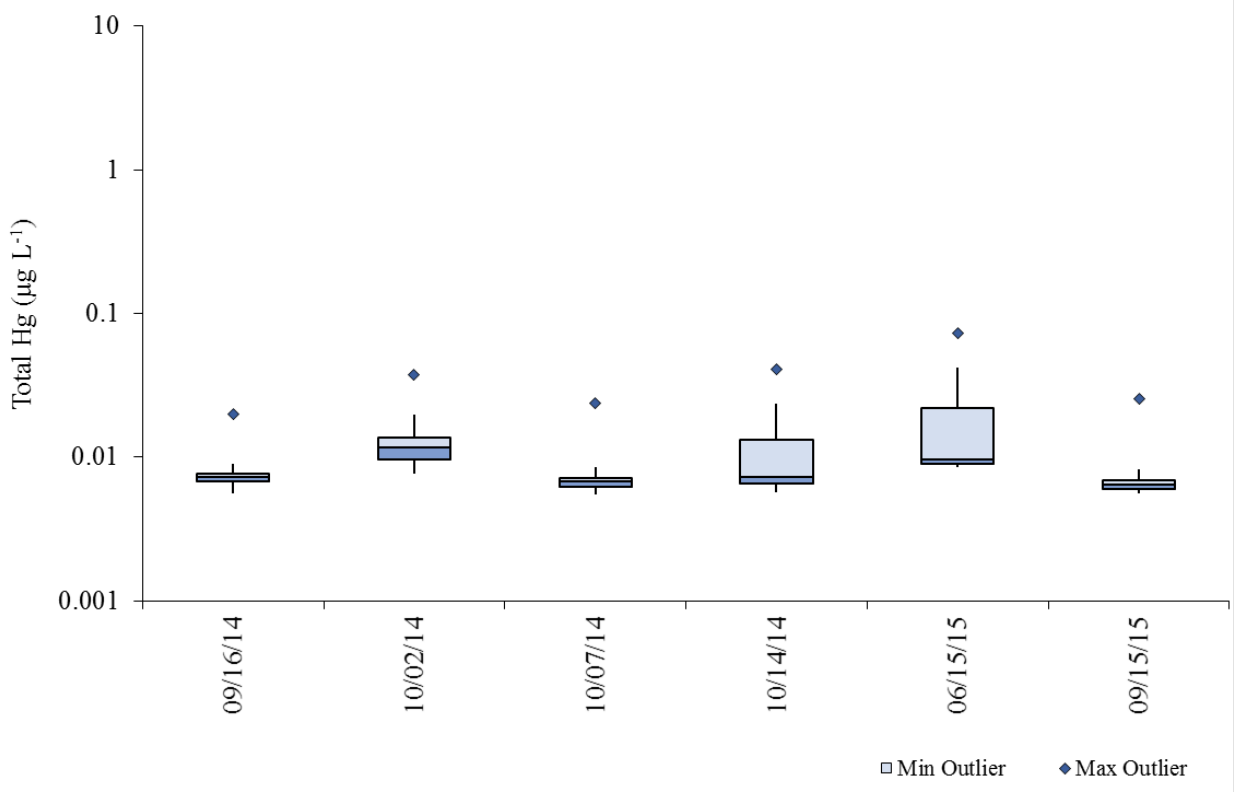

Figure 20. Hg_{tot} in selected events for 24-hour temporal analysis of OF019 discharge (n = 20, 24, 19, 20, 18, and 14, respectively).

5.2.2 Copper

OF018 Cu_{tot} averaged 7.46 ± 6.07 µg L^{-1} and Cu_{diss} averaged 3.37 ± 1.58 µg L^{-1} over the 8 years captured in Figure 21. OF019 Cu_{tot} averaged 5.04 ± 5.29 µg L^{-1} post removal of an outlier during AMB11 (200 µg L^{-1}); this outlier was associated with particulates collected as a result of manual override of the pump, which resulted in lower than normal water levels in the pump-well as supported by the dissolved concentration. Dissolved Cu averaged 2.02 ± 1.59 µg L^{-1}. The OF021, post AMB07, Cu_{tot} averaged 1.15 ± 0.480 µg L^{-1} and Cu_{diss} averaged 1.04 ± 0.424 µg L^{-1} (n = 17). Pre AMB07, Cu_{tot} averaged 9.15 ± 3.89 µg L^{-1} and Cu_{diss} averaged 1.99 ± 2.35 µg L^{-1} (n = 7). This shift reflects PSNS -implemented BMPs at the steam-plant facility. AMB11 OF019 (08/28/12) was the only Cu exceedance of NPDES limits.

The variance among 24-hour composites seen in Figure 22 is significant [$F_{(5,106)}$ = 11.0, p = <0.0001], and shows that shifts in effluent Cu_{tot} ranging from means of 1.88 µg L^{-1} to 4.43 µg L^{-1}, with a maximum of 9.18 µg L^{-1} are to be expected during docking events.

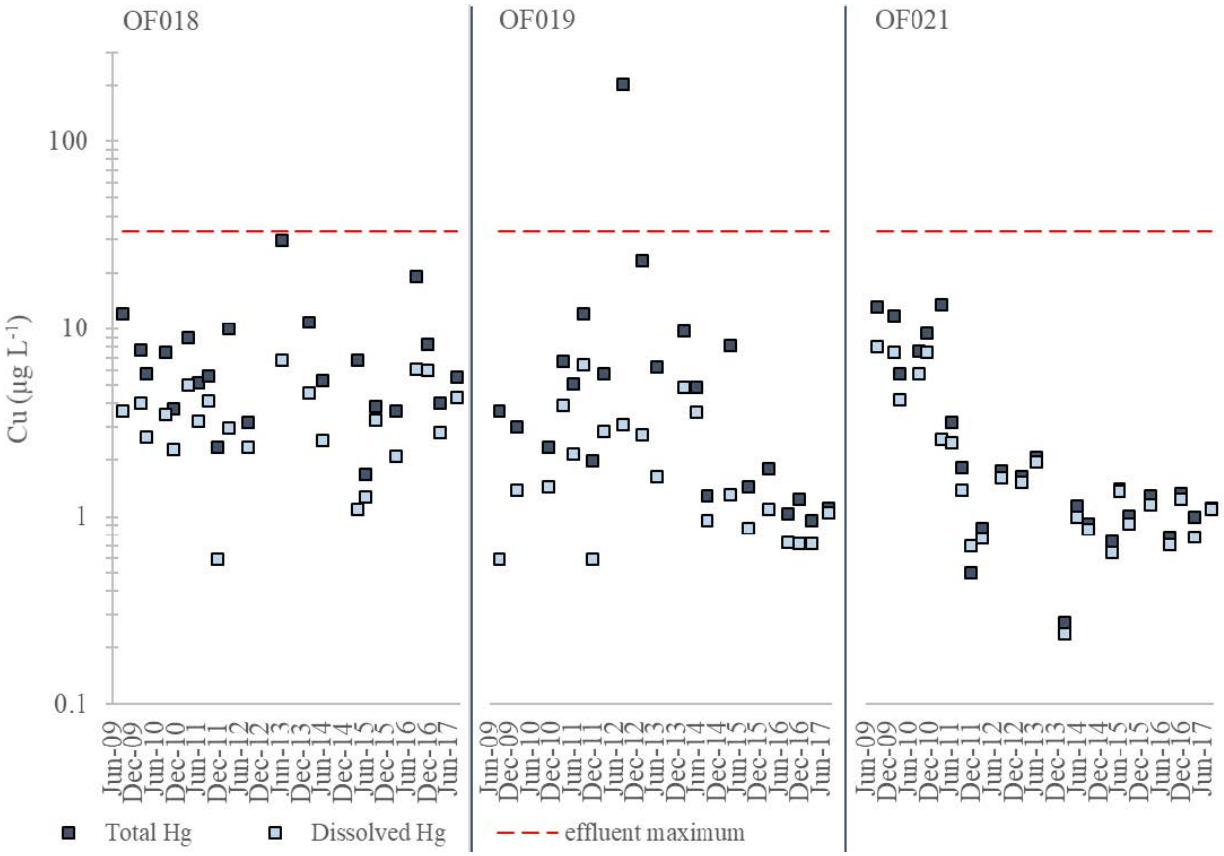

Figure 21. Cu_{diss} and Cu_{tot} at ENVVEST monitored outfalls over the course of 24 events spanning 8 years.

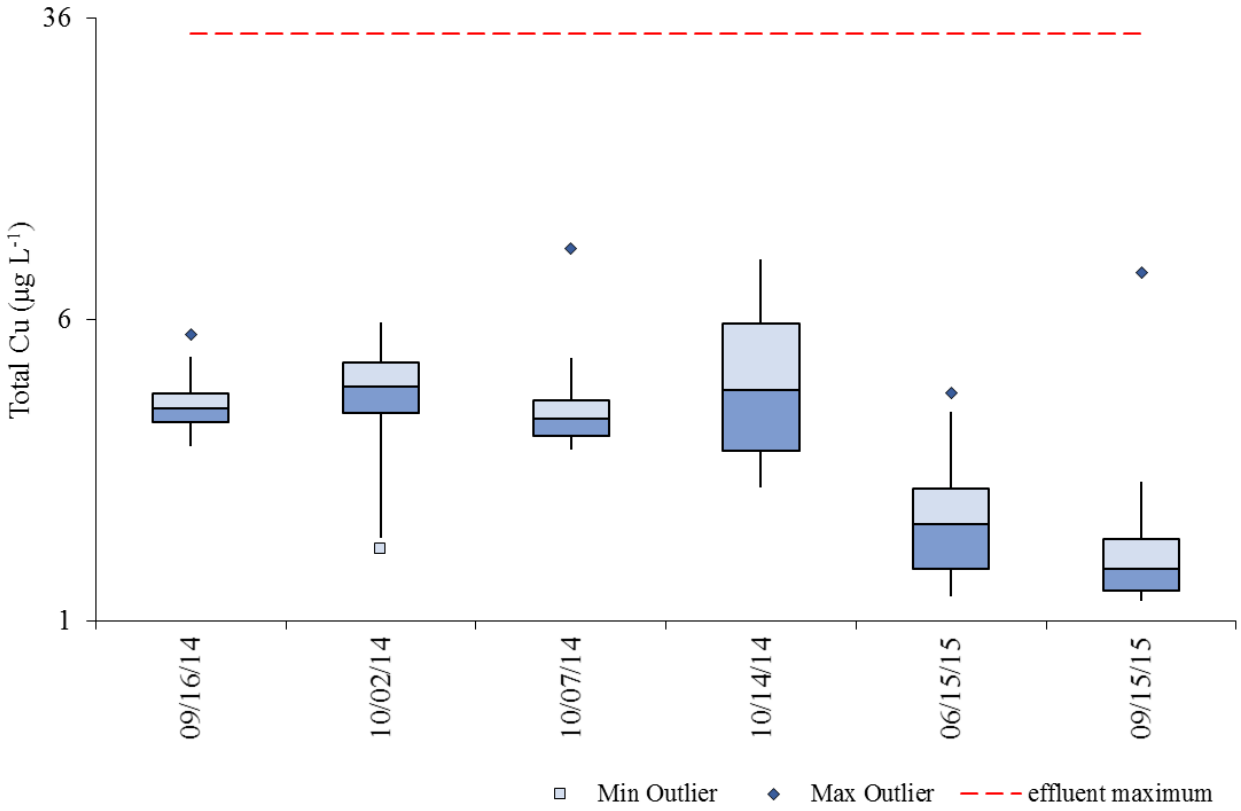

Figure 22. Cu_{tot} in selected events for 24-hour temporal analysis of OF019 discharge (n = 20, 24, 19, 20, 18, and 14, respectively).

5.2.3 Lead

OF018 Pb_{tot} averaged 0.458 ± 0.590 µg L^{-1} and Pb_{diss} averaged 0.0173 ± 0.0117 µg L^{-1} over the 8 years captured in Figure 23. OF019 Pb_{tot} averaged 0.286 ± 0.375 µg L^{-1} after removal of an outlier during AMB11 (9.06 ug L^{-1}); this outlier was associated with particulates collected as a result of manual override of the pump, which resulted in lower than normal water levels in the pump-well as supported by the dissolved concentration. Dissolved Pb averaged 0.00393 ± 0.0130 µg L^{-1}. The OF021, post AMB07, Pb_{tot} averaged 0.0118 ± 0.00832 µg L^{-1} and Pb_{diss} averaged 0.0799 ± 0.0983 µg L^{-1} (n = 17). Pre AMB07, Pb_{tot} averaged 0.600 ± 0.373 µg L^{-1} and Pb_{diss} averaged 0.00551 ± 0.00314 µg L^{-1} (n = 7). This shift reflects PSNS-implemented BMPs at the steam-plant facility. No NPDES limits are currently in place for this analyte.

The variance among 24 hour composites seen in Figure 24 is significant [$F_{(5,106)} = 4.08$, $p = 0.002$], and shows that shifts in effluent Pb_{tot} ranging from means of 0.0410 µg L^{-1} to 0.199 µg L^{-1}, with a maximum of 1.13 µg L^{-1} are to be expected during docking events.

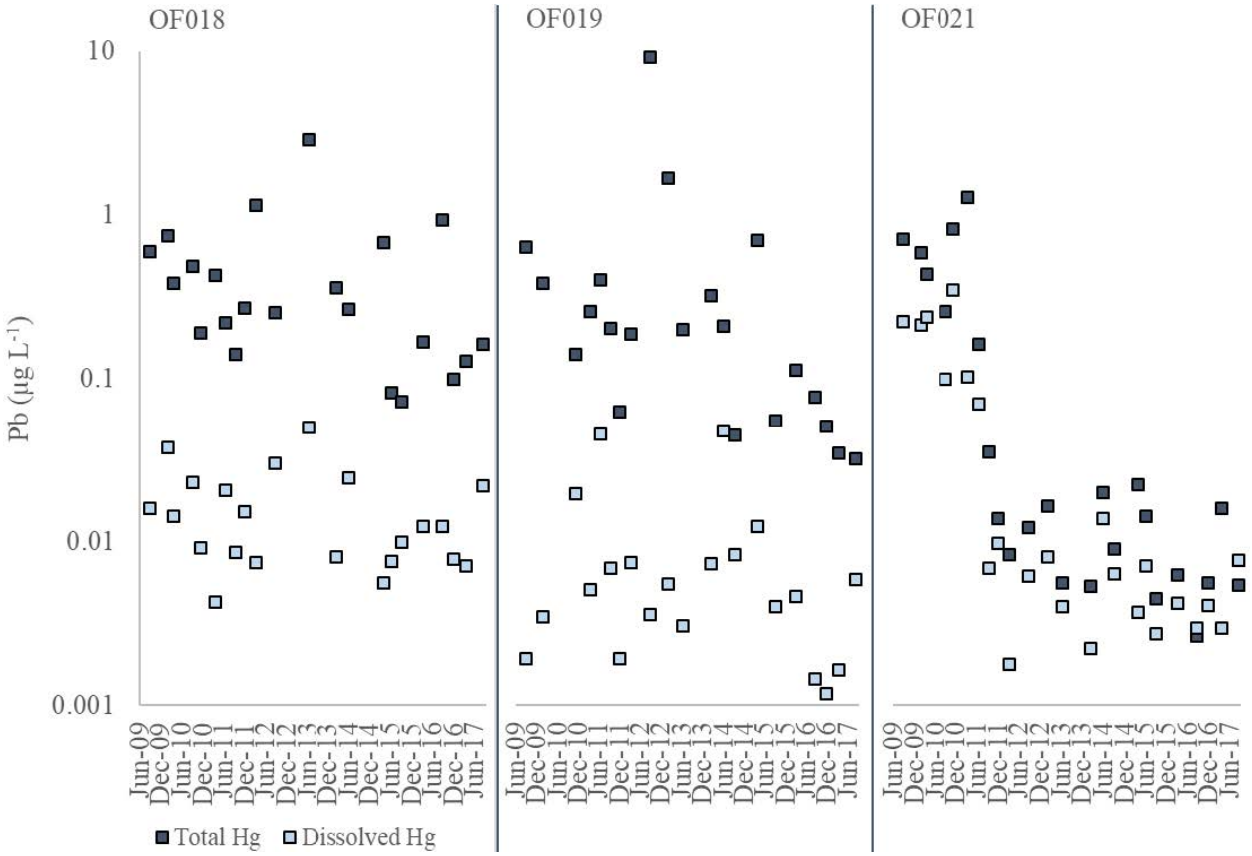

Figure 23. Pb_{diss} and Pb_{tot} at ENVVEST monitored outfalls over the course of 24 events spanning 8 years.

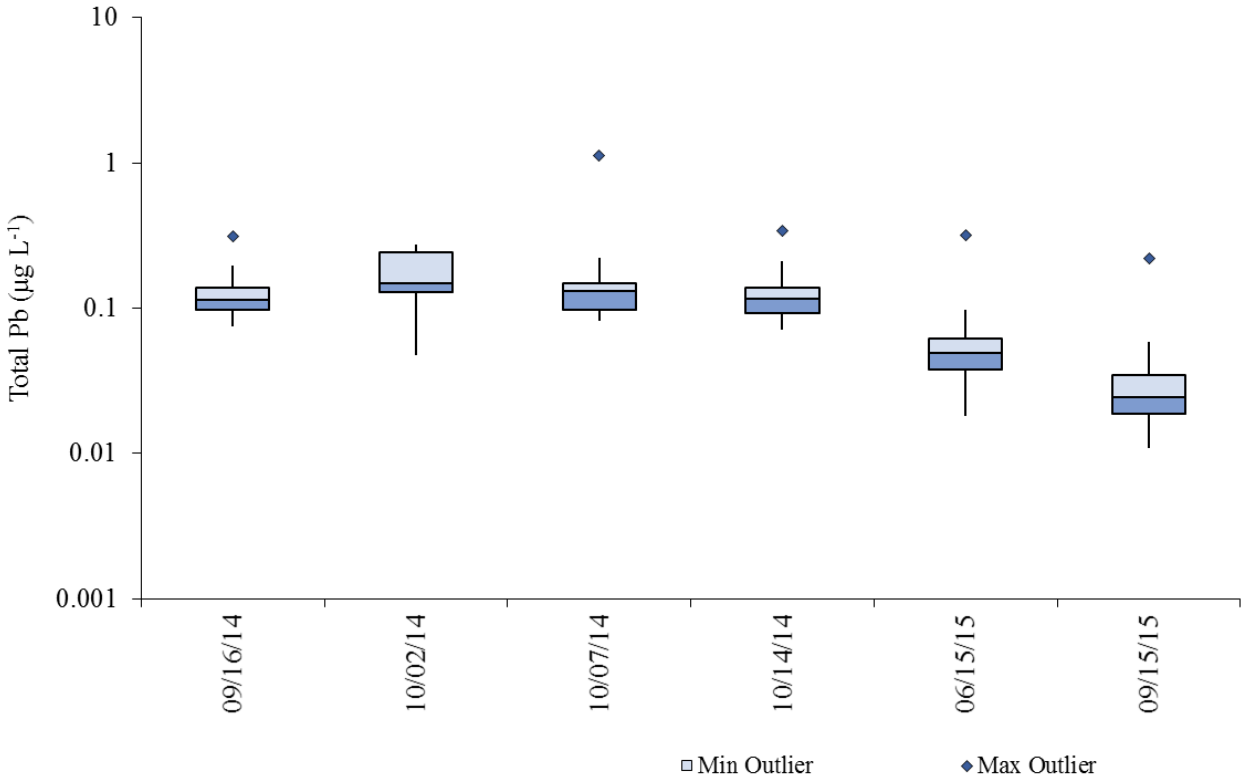

Figure 24. Pb_{tot} in selected events for 24-hour temporal analysis of OF019 discharge (n = 20, 24, 19, 20, 18, and 14, respectively).

5.2.4 Zinc

OF018 Zn_{tot} averaged 35.8 ± 14.0 µg L^{-1} and Zn_{diss} averaged 29.1 ± 8.55 µg L^{-1} over the 8 years captured in Figure 25. OF019 Zn_{tot} averaged 23.5 ± 16.9 µg L^{-1} after removal of an outlier during AMB11 (365 ug L^{-1}); this outlier was associated with particulates collected as a result of manual override of the pump which resulted in lower than normal water levels in the pump-well as supported by the dissolved concentration. Dissolved Zn averaged 16.0 ± 6.25 µg L^{-1}. The OF021, post AMB07, Zn_{tot} averaged 0.743 ± 0.462 µg L^{-1} and Zn_{diss} averaged 0.730 ± 0.396 µg L^{-1} (n = 17). Pre AMB07, Zn_{tot} averaged 7.48 ± 3.35 µg L^{-1} and Zn_{diss} averaged 1.91 ± 2.52 µg L^{-1} (n = 7). This shift reflects PSNS-implemented BMPs at the steam-plant facility. No NPDES exceedances were observed for this analyte under the Ambient Monitoring Program's quarterly sampling.

The variance among 24-hour composites seen in Figure 26 is significant [$F_{(5,106)} = 23.5$, $p = <0.0001$], and shows that shifts in effluent Zn_{tot} ranging from means of 10.3 µg L^{-1} to 37.4 µg L^{-1}, with a maximum of 99.9 µg L^{-1} are to be expected during docking events.

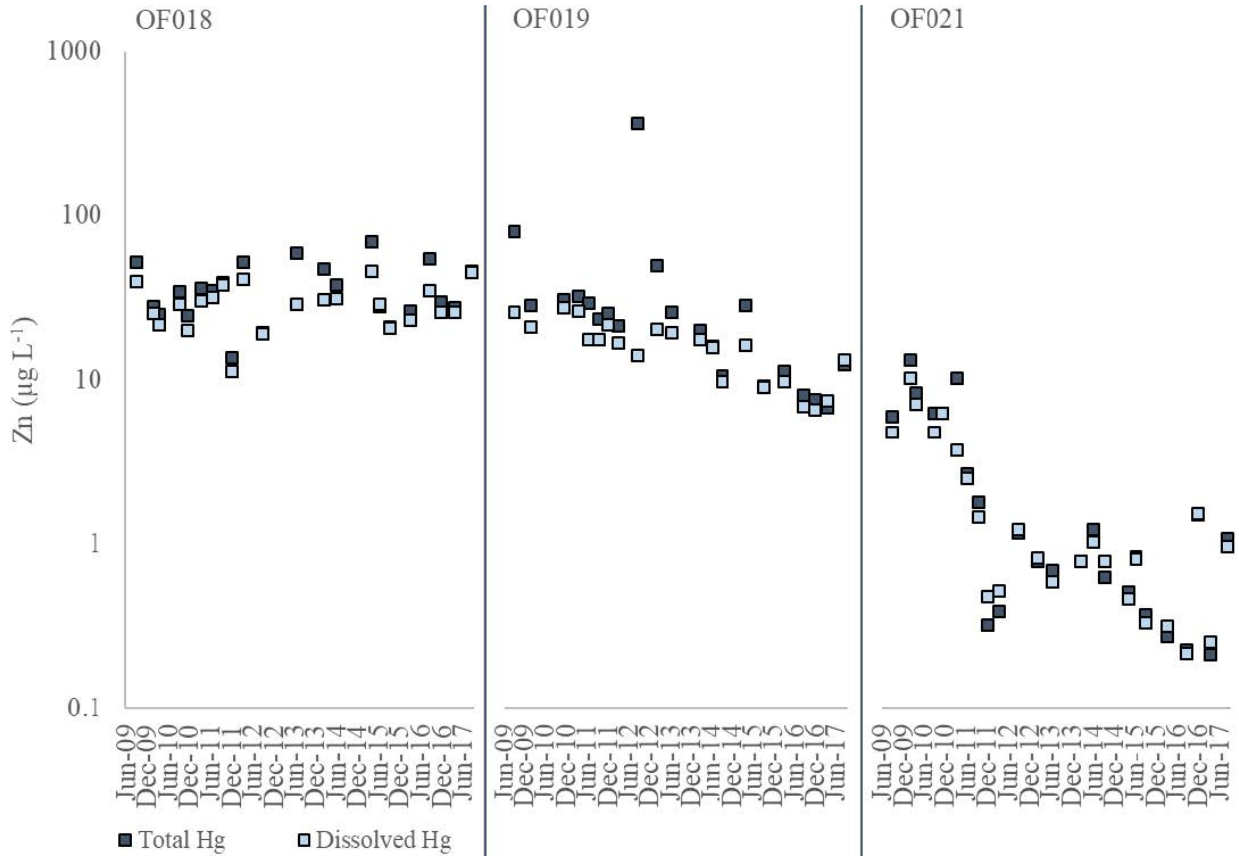

Figure 25. Zn_{diss} and Zn_{tot} at ENVVEST monitored outfalls over the course of 24 events spanning 8 years.

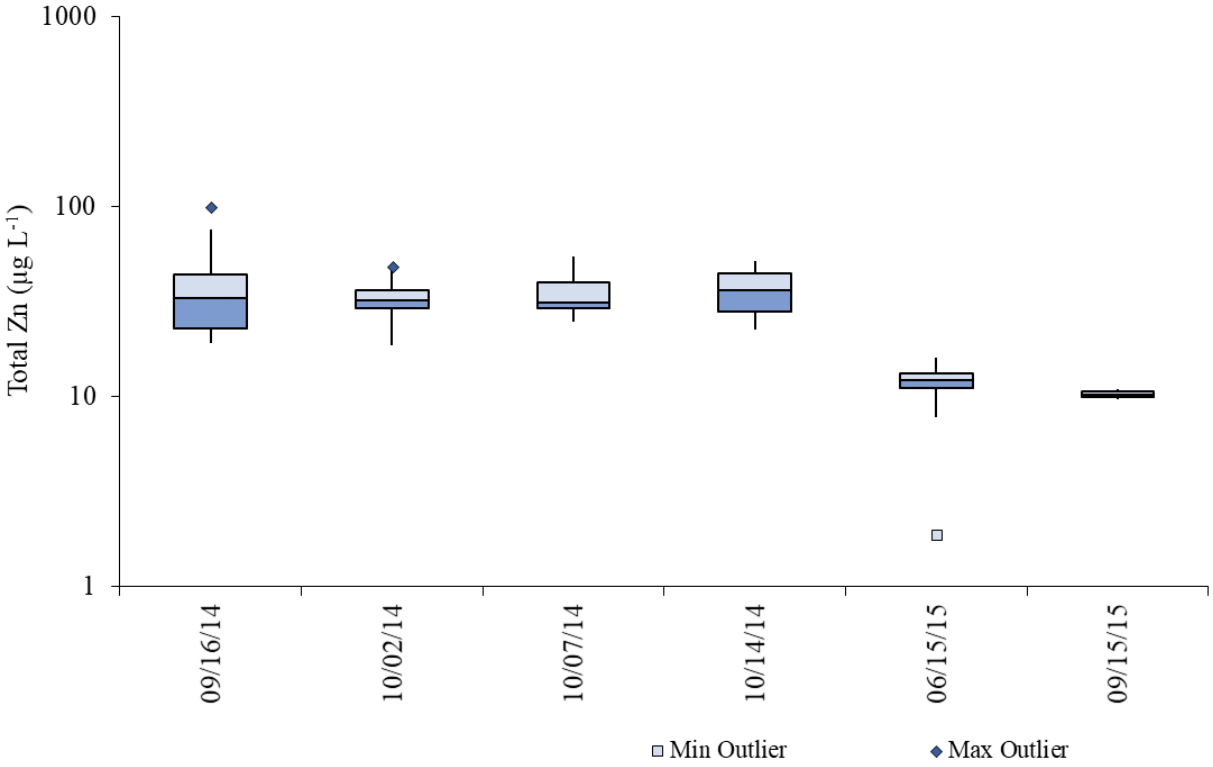

Figure 26. Zn_{tot} in selected events for 24-hour temporal analysis of OF019 discharge (n = 20, 24, 19, 20, 18, and 14, respectively).

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Appendix A – Ambient Monitoring QAP Summary

Table A.1. Definitions, requirements, and frequency for typical quality control (QC) samples.

QC Sample	Definition	Frequency
Method or Procedural Blank (MB)	A combination of solvents, surrogates, and all reagents used during sample processing, processed concurrently with the field samples. Monitors purity of reagents and laboratory contamination.	1/sample batch of 20 A processing batch MB must be analyzed with each sequence.
Standard Reference Material (SRM)	An external reference sample that contains a certified level of target analytes; serves as a monitor of accuracy. Extracted and analyzed with samples of a like matrix (not available for all analytes).	1/batch of 20
Matrix Spike (MS)	A field sample spiked with the analytes of interest is processed concurrently with the field samples; monitors effectiveness of method on sample matrix; performed in duplicate.	1/sample batch of 20
Duplicate Sample	Second aliquot of a field sample processed and analyzed to monitor precision; each sample set should contain a duplicate.	1/sample batch of 20
Recovery Internal Standards (RIS)	All field and QC samples are spiked with recovery internal standards just prior to analysis; used to quantify surrogates to monitor extraction efficiency on a per sample basis.	Each sample analyzed for organic compounds

Table A.2. Measurement quality criteria.

QC Parameter	Acceptance Criteria	Corrective Action
Method Blank (MB)	MB<RL If MB>RL; sample values ≤10X MB, then perform corrective action	Perform corrective action re-process (extract, digest) sample batch. If batch cannot be re-processed, notify client and flag data.
Standard Reference Material (SRM)	Determined vs certified range. Analyte concentration must be 10xMDL to be used for DQO. Metals: ≤20% PD Method criteria for all other parameters	Review data to assess impact of matrix. Reanalyze sample and/or document corrective action. If other QC data are acceptable then flag associated data if sample is not reanalyzed.
Matrix Spike (MS)/MS Duplicate (MSD)	Metals: 70–130% recovery Method criteria for all other parameters	Review data to assess impact of matrix. If other QC data are acceptable and no spiking error occurred, then flag associated data. If QC data are not affected by matrix failure or spiking errors occurred, then re-process MS. If not possible, then notify client and flag associated data.
Laboratory Control Sample (LCS)	Metals: <30% RPD Method criteria for all other parameters	Perform corrective action. Reanalyze and/or re-process sample batch. If batch cannot be re-processed: notify client, flag data, discuss impact in report narrative.
Laboratory Duplicates (R2)	Metals: <30% RPD Method criteria for all other parameters	Review data to assess impact of matrix. If other QC data are acceptable, then flag associated data. If QC data are not affected by matrix failure, then re-process the duplicate. If not possible, then notify client and flag associated data.

Table A.3. Sample containers, sample size, preservative requirements, and holding times for analytical samples.

Parameter	Method	Sample Preservation	Holding Time
Total Suspended Solids (TSS)	MSL-I-041	4ºC	7 days
Total Organic Carbon (TOC)	MSL-W-011	-20°C, or HCl to pH <2	28 days or 7 days
Dissolved Organic Carbon (DOC)	MSL-W-011	-20°C, or HCl to pH <2	28 days or 7 days
Total/Dissolved Hg	MSL-I-013	HNO_3 pH<2.0	90 days
Total/Dissolved Al	MSl-I-022	HNO_3 pH<2.0	6 months
Total/Dissolved As	MSl-I-030	HNO_3 pH<2.0	6 months
Total/Dissolved Cd	MSl-I-022	HNO_3 pH<2.0	6 months
Total/Dissolved Cr	MSl-I-022	HNO_3 pH<2.0	6 months
Total//Dissolved Cu	MSl-I-022	HNO_3 pH<2.0	6 months
Total/Dissolved Pb	MSl-I-022	HNO_3 pH<2.0	6 months
Total/Dissolved Ag	MSl-I-022	HNO_3 pH<2.0	6 months
Total/Dissolved Zn	MSl-I-022	HNO_3 pH<2.0	6 months

Appendix B – Supporting Data

Table B.1. Summary statistics of analytical accuracy and precision for analytes of interest.

	Cu	Pb	Zn	Hg
LCS Percent Recovery (%)				
n	161	159	156	254
Mean	95%	99%	94%	101%
Minimum	78%	85%	72%	88%
Maximum	113%	111%	128%	119%
STD	8%	5%	10%	4%
MS Percent Recovery (%)[(a)]				
n	318	318	303	497
Mean	94%	98%	93%	103%
Minimum	62%	41%	15%	75%
Maximum	115%	112%	122%	129%
STD	8%	7%	13%	5%
Laboratory Duplicates Relative Percent Difference (%)				
n	162	162	159	132
Mean	3%	4%	5%	6%
Minimum	0%	0%	0%	0%
Maximum	14%	76%	139%	46%
STD	3%	7%	12%	7%

(a) The appropriate fortification level to represent potential matrix interferences is 2–5x the native sample concentration. To assess matrix interference, the target fortification levels should be no greater than 10 times the native concentrations. When MS did not fall between 2–10x the native concentration data were not included in statistics.

Table B.2. Summary statistics of analytical accuracy and precision for ancillary trace metals.

	Ag	Al	As	Cd	Cr	Ni
LCS Percent Recovery (%)						
n	81	125	35	152	148	126
Mean	92%	103%	98%	97%	96%	98%
Minimum	80%	40%	90%	83%	81%	76%
Maximum	102%	272%	103%	114%	109%	119%
STD	5%	27%	3%	7%	5%	10%
MS Percent Recovery (%)[(a)]						
n	156	225	59	294	296	260
Mean	91%	99%	98%	96%	95%	95%
Minimum	80%	-32%	89%	35%	2%	61%
Maximum	102%	156%	106%	114%	115%	117%
STD	5%	17%	4%	8%	11%	8%
Laboratory Duplicates Relative Percent Difference (%)						

	Ag	Al	As	Cd	Cr	Ni
n	10	133	36	145	147	127
Mean	12%	4%	2%	4%	6%	4%
Minimum	1%	0%	0%	0%	0%	0%
Maximum	30%	32%	11%	93%	44%	108%
STD	8%	5%	2%	8%	6%	10%

(a) The appropriate fortification level to represent potential matrix interferences is 2–5x the native sample concentration. To assess matrix interference, the target fortification levels should be no greater than 10 times the native concentrations. When MS did not fall between 2–10x the native concentration data were not included in statistics.

Table B.3. Summary statistics of analytical accuracy and precision for organic carbon and suspended solids.

	Salinity	TOC/DOC Method 1[(a)]	TOC/DOC Method 2[(b)]	TSS
Reference Material Percent Recovery (%)[(c, d, e)]				
n	148	69	272	147
Mean	99%	98%	95%	97%
Minimum	94%	92%	80%	82%
Maximum	100%	105%	100%	116%
STD	1%	3%	4%	5%
MS Percent Recovery (%)				
n	NA	55	NA	NA
Mean	NA	93%	NA	NA
Minimum	NA	62%	NA	NA
Maximum	NA	102%	NA	NA
STD	NA	8%	NA	NA
Laboratory Duplicates Relative Percent Difference (%)				
n	29	246	150	50
Mean	0%	8%	2%	14%
Minimum	0%	1%	0%	0%
Maximum	1%	62%	10%	128%
STD	0%	8%	2%	20%

(a) Persulfate-Ultraviolet or Heated-Persulfate Oxidation SM 5310 C
(b) MSL-W-011 Determination of Total and Dissolved Organic Carbon in Seawater by High Temperature Catalytic Oxidation
(c) Copenhagen standard
(d) MSL-W-011 Ref is DSR purchased from RSMAS Hansell Laboratory (http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html)
(e) Celite Standard, Aqua Solutions, Deer Park, TX.

Table B.4. Summary statistics of analytical accuracy and precision for nutrients.

	AN	NNN	TKN	TP	HEM
LCS Percent Recovery (%)					
n	82	88	37	85	48
Mean	97%	99%	103%	102%	91%
Minimum	87%	94%	86%	90%	79%
Maximum	110%	107%	120%	110%	100%
STD	5%	2%	7%	5%	5%
MS Percent Recovery (%)					
n	110	170	55	143	NA
Mean	101%	101%	103%	77%	NA
Minimum	85%	92%	61%	54%	NA
Maximum	112%	110%	161%	129%	NA
STD	5%	4%	17%	13%	NA
Laboratory Duplicates Relative Percent Difference (%)					
n	62	83	21	69	NA
Mean	9%	2%	7%	5%	NA
Minimum	1%	1%	1%	1%	NA
Maximum	75%	18%	17%	74%	NA
STD	13%	3%	5%	10%	NA

Table B.5. Replication of field duplicate samples as relative percent difference.

		Ag	Al	As	Cd	Cr	Cu	Hg	Ni	Pb	Zn
Trace Metals	Mean	4%	15%	4%	7%	19%	13%	17%	20%	22%	18%
	Median	0%	8%	2%	3%	12%	7%	11%	10%	13%	11%
	Min	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Max	77%	89%	29%	65%	110%	114%	110%	120%	164%	169%
	1st Quartile	0%	1%	1%	1%	6%	3%	5%	5%	6%	6%
	3rd Quartile	0%	22%	4%	7%	28%	16%	23%	30%	26%	25%
	n	84	143	36	160	160	166	166	134	166	166
		SAL	**TOC**	**DOC**	**TSS**	**AN**	**NNN**	**TKN**	**PT**		
Ancillary Parameters	Mean	1%	4%	8%	17%	22%	4%	30%	5%		
	Median	0%	2%	3%	13%	13%	1%	33%	3%		
	Min	0%	0%	0%	0%	0%	0%	0%	0%		
	Max	22%	24%	79%	94%	124%	55%	69%	70%		
	1st Quartile	0%	1%	1%	6%	4%	0%	17%	1%		
	3rd Quartile	1%	6%	8%	23%	24%	3%	40%	6%		
	n	54	56	55	57	53	56	17	56		

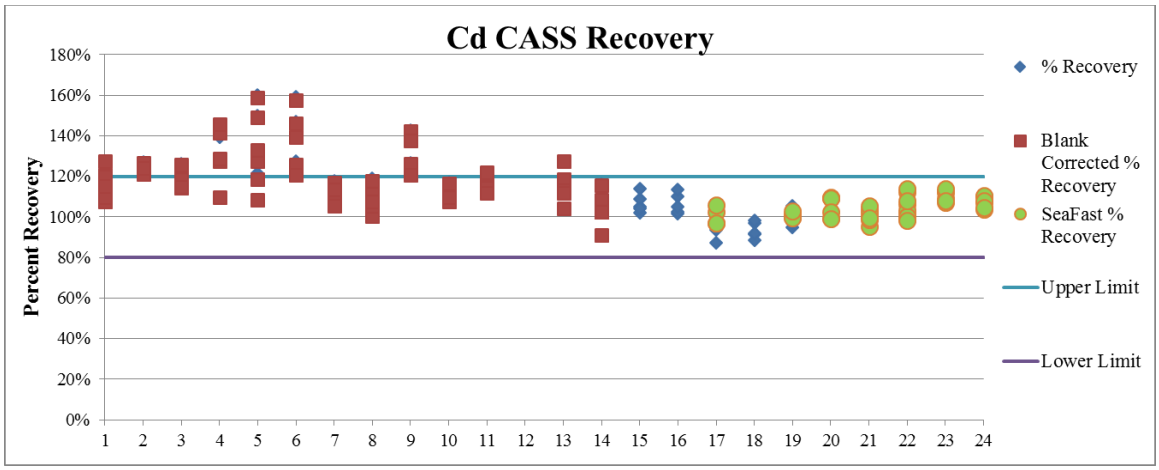

Figure B.1. Analytical recovery of CRM CASS for AMB events 1–24 Cd. Events 1–14 were analyzed after Fe-Pd preconcentration, and blank corrected post-analysis; events 15–19 were analyzed after Fe-Pd preconcentration, and blank corrected via inclusion of reagents in the calibration curve; events 20–24 were analyzed via online preconcentration and did not require blank correction. Events 17 and 19 were used for the method comparison manuscript written by Strivens et al. (2015). Limits are defined by the ENVVEST QAP and may be greater or smaller than the certified ranges.

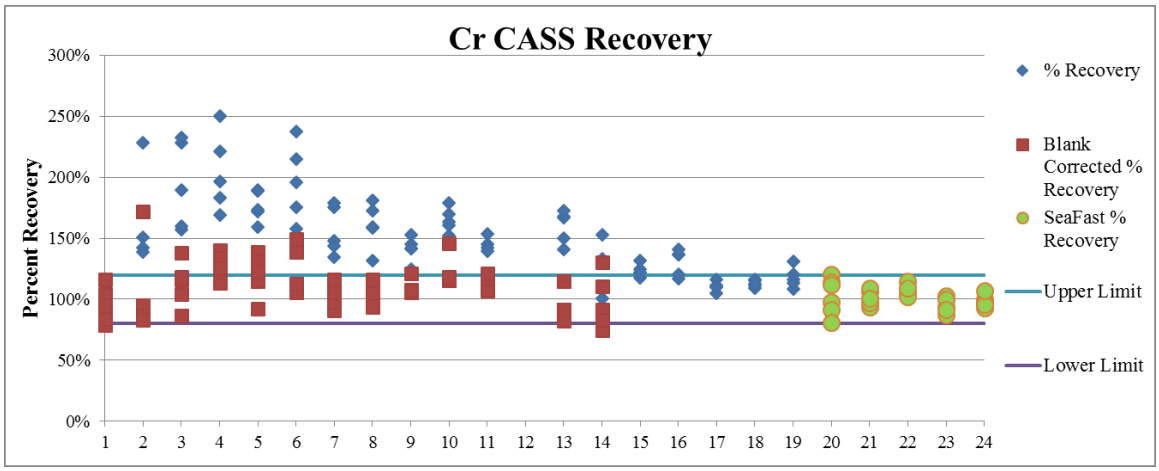

Figure B.2. Analytical recovery of CRM CASS for AMB events 1–24 Cr. Events 1–14 were analyzed after Fe-Pd preconcentration, and blank corrected post-analysis; events 15–19 were analyzed after Fe-Pd preconcentration, and blank corrected via inclusion of reagents in the calibration curve; events 20–24 were analyzed via online preconcentration and did not require blank correction. Events 17 and 19 were used for the method comparison manuscript written by Strivens et al. (2015). Limits are defined by the ENVVEST QAP and may be greater or smaller than the certified ranges.

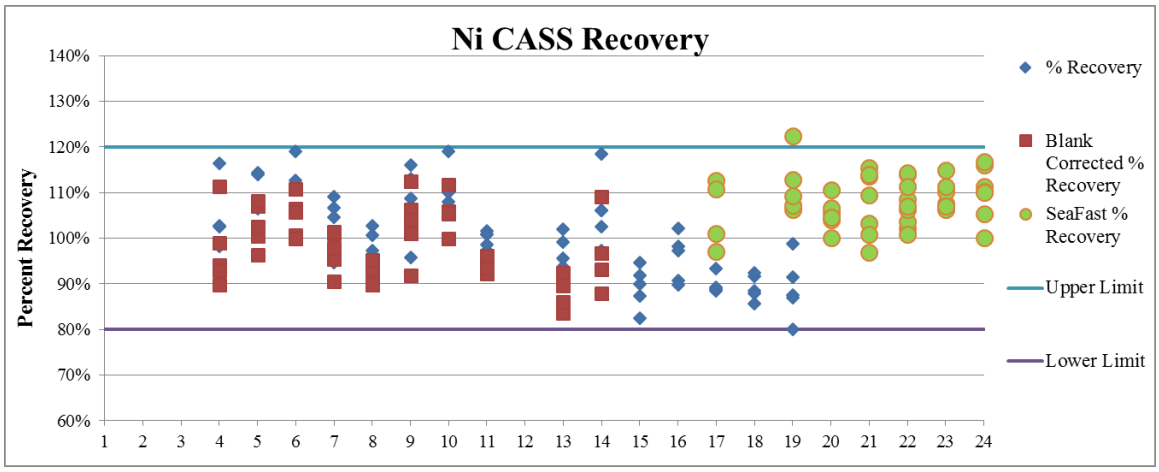

Figure B.3. Analytical recovery of CRM CASS for AMB events 1–24 Ni. Events 1–14 were analyzed after Fe-Pd preconcentration, and blank corrected post-analysis; events 15–19 were analyzed after Fe-Pd preconcentration, and blank corrected via inclusion of reagents in the calibration curve; events 20–24 were analyzed via online preconcentration and did not require blank correction. Events 17 and 19 were used for the method comparison manuscript written by Strivens et al. (2015). Limits are defined by the ENVVEST QAP and may be greater or smaller than the certified ranges.

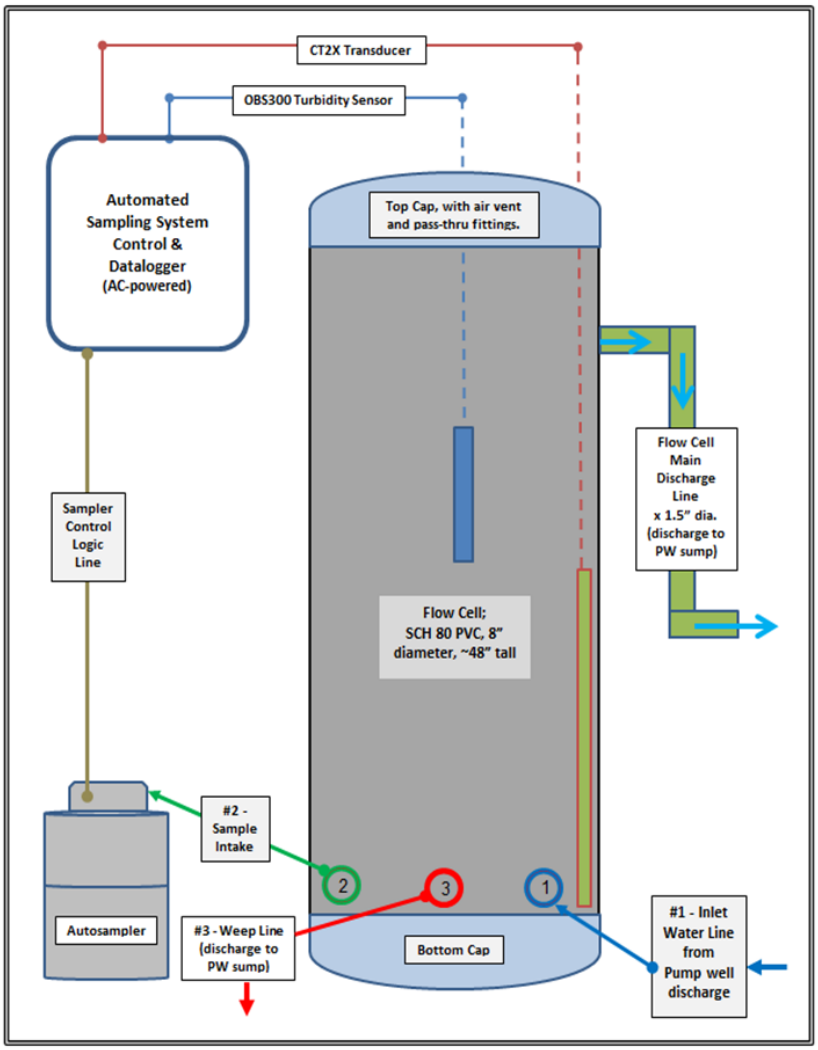

Figure B.4. Auto-sampler flow cell OF019.

Table B.6. Station statistics.

Site Code	Latitude[*](W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[†] (µg/L)	Al (µg/L)	As[‡] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[§] (mg/L)	TP (mg/L)	TS[¶] (mg/L)	TSS (mg/L)	HEM[#] (mg/L)
BJEST	47.5436	-122.62754	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	21	24	12	24	5	23	2
				Average	27.1	1.75	0.0039	74.8	1.19	0.0656	0.347	1.03	1.122	0.761	0.138	2.40	0.0308	0.184	1.33	0.0775	31560	5.76	1.75
				Median	27.9	1.63	0.0042	31.3	1.20	0.0619	0.228	1.00	0.950	0.613	0.115	2.39	0.0240	0.123	1.30	0.0765	31300	3.13	1.75
				1st Quartile	27.3	1.40	0.0042	16.5	1.16	0.0511	0.192	0.887	0.665	0.488	0.0623	1.71	0.0118	0.0200	1.00	0.0725	31100	1.77	1.23
				3rd Quartile	29.0	2.12	0.0042	51.5	1.26	0.0815	0.304	1.15	1.41	0.866	0.177	2.98	0.0525	0.351	1.71	0.0878	32800	6.50	2.28
				Maximum	30.7	2.84	0.0042	472	1.31	0.0953	1.38	1.51	2.34	2.14	0.496	3.895	0.0760	0.410	1.90	0.0950	33700	32.0	2.80
				Minimum	16.0	0.900	0.0020	2.22	1.01	0.0348	0.113	0.725	0.427	0.434	0.0102	1.23	0.00400	0.009	0.770	0.0490	28900	0.580	0.700
			Dissolved	***n***		23	13	18	1	23	23	24	24	18	24	24							
				Average		1.56	0.0039	2.07	1.02	0.0594	0.167	0.784	0.332	0.527	0.0152	1.71							
				Median		1.47	0.0042	2.14	1.02	0.0529	0.150	0.743	0.293	0.459	0.0120	1.56							
				1st Quartile		1.16	0.0042	1.12	1.02	0.0484	0.118	0.685	0.268	0.414	0.00895	1.17							
				3rd Quartile		1.76	0.0042	2.54	1.02	0.0749	0.164	0.863	0.358	0.530	0.0180	1.95							
				Maximum		2.90	0.0042	4.60	1.02	0.0928	0.503	1.45	0.822	1.11	0.0353	3.56							
				Minimum		0.900	0.0020	0.352	1.02	0.0254	0.0638	0.499	0.192	0.317	0.00592	0.726							
BM01	47.56478	-122.62037	*Total*	***n***	8	8	8	8	8	8	8	8	8	6	8	8	7	8	8	8	3	8	0
				Average	29.4	1.34	0.0042	17.2	1.19	0.0729	0.149	0.667	0.712	0.491	0.0779	2.76	0.0296	0.200	1.03	0.0778	33033	6.54	
				Median	29.6	1.36	0.0042	13.6	1.20	0.0707	0.148	0.648	0.772	0.484	0.0867	1.12	0.0280	0.163	0.900	0.0795	32500	3.22	
				1st Quartile	28.9	0.978	0.0042	10.6	1.12	0.0664	0.143	0.607	0.555	0.411	0.0562	1.06	0.0150	0.102	0.785	0.0745	32300	2.20	
				3rd Quartile	29.8	1.73	0.0042	18.8	1.24	0.0806	0.166	0.726	0.826	0.505	0.0902	1.70	0.0430	0.330	1.26	0.0840	33500	6.75	
				Maximum	30.8	2.00	0.0042	39.2	1.35	0.0866	0.190	0.810	0.893	0.704	0.118	12.9	0.0600	0.366	1.60	0.0880	34500	27.0	
				Minimum	28.1	0.600	0.0042	8.45	1.10	0.0595	0.0950	0.521	0.506	0.374	0.0438	0.888	0.003	0.0310	0.640	0.0630	32100	0.620	
			Dissolved	***n***		7	8	6	1	8	8	8	8	6	8	8							
				Average		1.40	0.0042	2.14	1.18	0.0680	0.105	0.519	0.268	0.381	0.0145	2.74							
				Median		1.40	0.0042	2.14	1.18	0.0661	0.113	0.481	0.249	0.383	0.0163	0.963							
				1st Quartile		1.21	0.0042	2.14	1.18	0.0596	0.0934	0.449	0.230	0.369	0.00760	0.813							
				3rd Quartile		1.65	0.0042	2.14	1.18	0.0761	0.116	0.547	0.307	0.403	0.0198	1.52							
				Maximum		1.80	0.0042	2.14	1.18	0.0859	0.126	0.744	0.362	0.409	0.0236	13.8							
				Minimum		0.884	0.0042	2.14	1.18	0.0527	0.0770	0.413	0.210	0.337	0.00454	0.763							
CLMBAY	47.57133	-122.5495	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	21	24	12	24	5	24	0
				Average	29.0	1.25	0.0039	39.0	1.24	0.0737	0.955	0.595	0.726	0.707	0.0731	1.93	0.0290	0.241	1.095	0.0724	32600	6.46	
				Median	29.3	1.23	0.0042	25.8	1.25	0.0724	0.189	0.566	0.588	0.508	0.0621	0.770	0.0270	0.188	1.11	0.0755	33300	2.64	
				1st Quartile	28.7	1.13	0.0042	15.1	1.21	0.0694	0.146	0.484	0.512	0.481	0.0455	0.625	0.0110	0.135	0.913	0.0623	32000	1.33	
				3rd Quartile	29.9	1.32	0.0042	40.9	1.30	0.0782	0.245	0.630	0.802	0.714	0.0821	1.04	0.0380	0.368	1.33	0.0795	33600	4.22	
				Maximum	31.7	2.00	0.0042	241	1.35	0.0887	17.3	1.19	1.81	1.91	0.209	17.7	0.0800	0.465	1.90	0.0930	33600	45.0	
				Minimum	23.2	0.800	0.0020	9.12	1.07	0.0627	0.101	0.378	0.287	0.397	0.0281	0.401	0.00500	0.0490	0.0750	0.0520	30500	0.648	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.26	0.0039	2.43	1.28	0.0708	0.130	0.425	0.282	0.454	0.00891	1.19							
				Median		1.13	0.0042	2.14	1.28	0.0684	0.117	0.421	0.261	0.422	0.00903	0.672							
				1st Quartile		1.01	0.0042	1.16	1.28	0.0661	0.101	0.378	0.217	0.387	0.00405	0.439							
				3rd Quartile		1.45	0.0042	2.47	1.28	0.0780	0.140	0.469	0.335	0.492	0.0116	0.866							
				Maximum		1.90	0.0042	7.48	1.28	0.0822	0.319	0.539	0.576	0.690	0.0221	11.6							
				Minimum		0.800	0.0020	0.200	1.28	0.0602	0.0817	0.313	0.167	0.358	0.00187	0.346							
DYOTS	47.64193	-122.69395	*Total*	***n***	20	20	10	19	8	19	19	20	20	17	20	20	19	20	9	20	2	20	0
				Average	27.3	2.09	0.0038	35.3	1.1162	0.0666	0.262	0.663	0.911	0.691	0.116	1.51	0.0445	0.162	1.28	0.0704	32950	4.75	
				Median	28.6	1.55	0.0042	25.7	1.1483	0.0642	0.179	0.613	0.708	0.552	0.0823	1.18	0.0430	0.0485	1.10	0.0675	32950	1.98	
				1st Quartile	27.7	1.33	0.0042	11.6	0.9983	0.0535	0.163	0.576	0.658	0.437	0.0640	0.596	0.0245	0.0178	0.810	0.0535	32925	1.53	
				3rd Quartile	29.3	1.87	0.0042	39.1	1.23	0.0719	0.209	0.700	1.03	0.612	0.119	1.63	0.0580	0.327	1.90	0.0790	32975	3.82	
				Maximum	30.9	12.1	0.0042	154	1.27	0.138	0.964	1.17	2.23	1.78	0.490	5.72	0.118	0.420	2.40	0.192	33000	34.5	
				Minimum	14.7	0.904	0.0020	3.62	0.91	0.0448	0.146	0.413	0.286	0.396	0.0264	0.420	0.003	0.009	0.0810	0.0190	32900	0.688	
			Dissolved	***n***		20	10	16	0	19	19	20	20	17	20	20							
				Average		1.66	0.0038	3.57		0.0556	0.146	0.499	0.405	0.501	0.0205	1.12							
				Median		1.43	0.0042	2.14		0.0555	0.124	0.500	0.312	0.483	0.0165	0.797							
				1st Quartile		1.25	0.0042	1.20		0.0439	0.107	0.424	0.241	0.416	0.0117	0.455							
				3rd Quartile		1.86	0.0042	2.30		0.0668	0.145	0.542	0.554	0.573	0.0325	1.38							

Site Code	Latitude[+](W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[‡] (µg/L)	Al (µg/L)	As[+] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[+] (mg/L)	TP (mg/L)	TS[§] (mg/L)	TSS (mg/L)	HEM[¶] (mg/L)
DYOTS cont.				**Maximum**		4.18	0.0042	16.4		0.0817	0.445	0.747	1.04	0.734	0.0389	4.06							
				Minimum		0.968	0.0020	0.454		0.0189	0.0889	0.351	0.177	0.367	0.00377	0.263							
ILSP	47.60046	-122.59414	*Total*	***n***	22	22	12	21	10	21	21	22	22	17	22	22	21	22	11	22	4	22	0
				Average	29.3	1.41	0.0038	12.8	1.19	0.0725	0.158	0.530	0.466	0.539	0.0450	2.88	0.0251	0.196	1.44	0.0677	31725	4.65	
				Median	29.3	1.15	0.0042	11.4	1.21	0.0731	0.139	0.522	0.457	0.488	0.0452	0.829	0.0210	0.139	1.30	0.0735	31600	1.42	
				1st Quartile	28.9	1.03	0.0042	7.20	1.13	0.0614	0.126	0.473	0.379	0.441	0.0355	0.498	0.010	0.0430	0.980	0.0565	30175	1.15	
				3rd Quartile	29.9	1.62	0.0042	18.3	1.24	0.0815	0.171	0.583	0.505	0.622	0.0527	1.07	0.0310	0.363	1.69	0.0795	33150	3.98	
				Maximum	31.5	3.57	0.0042	26.5	1.38	0.0948	0.328	0.659	0.696	0.806	0.0705	38.8	0.0720	0.423	3.39	0.0950	33900	32.5	
				Minimum	26.3	0.500	0.0020	4.14	1.01	0.0497	0.106	0.435	0.304	0.377	0.0193	0.395	0.003	0.009	0.0740	0.0370	29800	0.700	
			Dissolved	***n***		22	12	17	1	21	21	22	22	17	22	22							
				Average		1.27	0.0038	1.49	1.22	0.0682	0.181	0.457	0.231	0.629	0.0142	2.87							
				Median		1.11	0.0042	2.14	1.22	0.0707	0.113	0.402	0.225	0.428	0.0113	0.816							
				1st Quartile		1.03	0.0042	0.457	1.22	0.056	0.0972	0.377	0.197	0.368	0.0067	0.369							
				3rd Quartile		1.42	0.0042	2.14	1.22	0.0799	0.131	0.454	0.261	0.462	0.0167	0.990							
				Maximum		2.40	0.0042	3.66	1.22	0.0883	1.34	1.40	0.341	3.92	0.0458	39.1							
				Minimum		0.771	0.0020	0.200	1.22	0.0456	0.0642	0.349	0.163	0.336	0.00281	0.229							
M1	47.63276	-122.58203	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	29.1	1.59	0.0039	12.2	1.17	0.0703	0.177	0.536	0.449	0.571	0.0409	0.962	0.0265	0.180	1.26	0.0660	31520	4.20	
				Median	29.1	1.37	0.0042	10.4	1.17	0.0718	0.149	0.522	0.456	0.550	0.0362	0.820	0.0200	0.102	1.22	0.0680	32300	2.02	
				1st Quartile	28.6	1.05	0.0042	6.32	1.13	0.0614	0.124	0.491	0.406	0.438	0.0294	0.580	0.00600	0.017	0.808	0.0540	30200	1.13	
				3rd Quartile	29.8	1.75	0.0042	18.1	1.24	0.0811	0.183	0.563	0.525	0.584	0.0478	1.06	0.0450	0.350	1.52	0.0788	32600	4.47	
				Maximum	31.5	3.48	0.0042	26.9	1.32	0.0884	0.461	0.719	0.633	1.21	0.100	3.45	0.0740	0.429	2.90	0.105	33700	32.5	
				Minimum	26.5	0.700	0.0020	3.45	0.981	0.0455	0.0963	0.427	0.298	0.390	0.0217	0.382	0.003	0.009	0.0460	0.0300	28800	0.600	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.31	0.0039	1.48	1.09	0.0653	0.166	0.451	0.227	0.459	0.00872	0.708							
				Median		1.19	0.0042	2.14	1.09	0.0661	0.114	0.434	0.215	0.401	0.00915	0.656							
				1st Quartile		1.03	0.0042	0.439	1.09	0.0520	0.0921	0.381	0.179	0.377	0.00448	0.356							
				3rd Quartile		1.47	0.0042	2.14	1.09	0.0782	0.125	0.478	0.257	0.431	0.0111	0.813							
				Maximum		3.00	0.0042	2.41	1.09	0.0870	1.24	0.983	0.339	1.08	0.0167	2.96							
				Minimum		0.600	0.0020	0.200	1.09	0.0434	0.0781	0.323	0.157	0.342	0.00213	0.202							
M1 DEEP[¶]	47.63276	-122.58203	*Total*	***n***	23	23	12	22	10	22	22	23	23	18	23	23	22	23	11	23	4	23	0
				Average	29.3	1.25	0.0038	12.5	1.21	0.0735	0.160	0.545	0.547	0.616	0.0462	0.841	0.0322	0.214	0.966	0.0728	32900	2.67	
				Median	29.3	1.23	0.0042	11.1	1.20	0.0727	0.155	0.534	0.506	0.505	0.0455	0.816	0.0255	0.159	1.00	0.0760	32800	1.18	
				1st Quartile	28.8	0.946	0.0042	7.48	1.18	0.0637	0.133	0.490	0.438	0.449	0.0365	0.621	0.0123	0.115	0.865	0.0620	32425	0.841	
				3rd Quartile	29.9	1.50	0.0042	16.0	1.25	0.0810	0.181	0.577	0.582	0.590	0.0502	1.03	0.0513	0.354	1.10	0.0825	33275	2.84	
				Maximum	31.5	2.00	0.0042	34.1	1.36	0.0963	0.274	0.733	1.43	1.50	0.0886	1.34	0.0800	0.432	1.76	0.0910	34400	10.5	
				Minimum	27.2	0.600	0.0020	2.76	1.08	0.0596	0.0980	0.391	0.321	0.389	0.0245	0.431	0.003	0.0440	0.0860	0.0520	31600	0.540	
			Dissolved	***n***		23	12	17	1	22	22	23	23	18	23	23							
				Average		1.27	0.0038	1.43	1.23	0.0672	0.122	0.436	0.243	0.493	0.0109	0.768							
				Median		1.17	0.0042	2.14	1.23	0.0641	0.114	0.450	0.216	0.439	0.00899	0.672							
				1st Quartile		1.00	0.0042	0.641	1.23	0.0605	0.092	0.373	0.189	0.384	0.00628	0.483							
				3rd Quartile		1.60	0.0042	2.14	1.23	0.0762	0.126	0.480	0.265	0.518	0.0136	0.900							
				Maximum		2.00	0.0042	2.14	1.23	0.0856	0.318	0.764	0.493	1.25	0.0316	2.42							
				Minimum		0.800	0.0020	0.200	1.23	0.0493	0.0771	0.316	0.169	0.357	0.00249	0.311							
M2	47.57424	-122.53654	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	29.4	1.12	0.0039	18.7	1.27	0.0766	0.190	0.549	0.550	0.571	0.0503	0.749	0.0250	0.264	1.24	0.0731	32620	3.23	
				Median	29.4	1.08	0.0042	19.8	1.25	0.0733	0.166	0.527	0.522	0.484	0.0460	0.647	0.0150	0.248	1.01	0.0750	32900	1.71	
				1st Quartile	28.8	0.900	0.0042	10.3	1.22	0.0697	0.150	0.471	0.433	0.432	0.0414	0.619	0.00700	0.168	0.938	0.0628	31200	1.03	
				3rd Quartile	29.9	1.26	0.0042	23.0	1.29	0.0836	0.181	0.558	0.643	0.572	0.0620	0.824	0.0420	0.370	1.45	0.0803	34000	3.30	
				Maximum	31.6	1.70	0.0042	35.6	1.41	0.102	0.679	1.19	0.906	1.52	0.0951	1.70	0.0750	0.439	3.55	0.104	34200	15.0	
				Minimum	26.6	0.700	0.0020	3.46	1.14	0.0660	0.0866	0.371	0.311	0.384	0.0250	0.409	0.003	0.064	0.0670	0.0530	30800	0.520	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.21	0.0039	1.61	1.32	0.0716	0.147	0.400	0.269	0.418	0.00644	0.664							
				Median		1.07	0.0042	2.14	1.32	0.0706	0.110	0.400	0.247	0.408	0.00449	0.509							

Site Code	Latitude[+](W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[!] (µg/L)	Al (µg/L)	As[+] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[+] (mg/L)	TP (mg/L)	TS[$] (mg/L)	TSS (mg/L)	HEM[#] (mg/L)
M2 cont.				**1st Quartile**		0.925	0.0042	0.648	1.32	0.0655	0.0949	0.366	0.198	0.371	0.00250	0.404							
				3rd Quartile		1.50	0.0042	2.14	1.32	0.0771	0.126	0.419	0.305	0.435	0.0107	0.740							
				Maximum		1.90	0.0042	4.32	1.32	0.0861	0.884	0.475	0.776	0.663	0.0146	1.84							
				Minimum		0.748	0.0020	0.200	1.32	0.0585	0.0791	0.340	0.161	0.343	0.00190	0.335							
M2 DEEP[¶]	47.57424	-122.53654	*Total*	***n***	22	22	11	21	9	21	21	22	22	17	22	22	21	22	10	22	4	22	0
				Average	29.5	1.11	0.0038	18.9	1.28	0.0751	0.189	0.546	0.512	0.649	0.0499	0.774	0.0272	0.268	1.01	0.0711	32475	3.93	
				Median	29.5	1.11	0.0042	18.4	1.27	0.0749	0.162	0.541	0.512	0.565	0.0504	0.710	0.0180	0.255	1.02	0.0740	32550	1.44	
				1st Quartile	28.9	0.949	0.0042	11.9	1.21	0.0685	0.133	0.501	0.407	0.478	0.0373	0.545	0.00900	0.177	0.713	0.0590	31925	1.07	
				3rd Quartile	29.9	1.21	0.0042	22.2	1.31	0.0804	0.202	0.584	0.585	0.760	0.0620	0.840	0.0440	0.374	1.25	0.0808	33100	2.51	
				Maximum	31.6	1.80	0.0042	37.1	1.45	0.0900	0.539	0.783	0.822	1.65	0.0787	1.74	0.0790	0.435	1.82	0.101	33400	38.0	
				Minimum	27.3	0.500	0.0020	7.38	1.15	0.0628	0.117	0.394	0.262	0.397	0.0241	0.399	0.003	0.0650	0.0720	0.0510	31400	0.491	
			Dissolved	***n***		22	11	17	0	21	21	22	22	17	22	22							
				Average		1.22	0.0038	1.66		0.0705	0.167	0.418	0.259	0.544	0.00864	0.757							
				Median		1.06	0.0042	2.14		0.0700	0.115	0.389	0.244	0.430	0.00664	0.622							
				1st Quartile		0.947	0.0042	0.547		0.0632	0.098	0.368	0.201	0.378	0.00334	0.437							
				3rd Quartile		1.38	0.0042	2.14		0.0760	0.150	0.448	0.276	0.588	0.0128	0.809							
				Maximum		2.70	0.0042	6.51		0.0857	0.754	0.643	0.503	1.28	0.0220	2.41							
				Minimum		0.800	0.0020	0.200		0.0596	0.0720	0.272	0.145	0.348	0.00153	0.285							
M3.1	47.55978	-122.61121	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	1
				Average	29.0	1.27	0.0039	19.2	1.21	0.0693	0.607	0.736	0.736	0.653	0.0778	1.71	0.0308	0.212	1.24	0.0699	32260	4.75	0.700
				Median	29.1	1.25	0.0042	18.4	1.20	0.0652	0.161	0.687	0.689	0.533	0.0762	1.36	0.0280	0.145	1.10	0.0705	32100	1.71	0.700
				1st Quartile	28.4	0.993	0.0042	9.28	1.15	0.0606	0.146	0.619	0.553	0.439	0.0576	0.844	0.0200	0.0845	0.848	0.0600	31600	1.32	0.700
				3rd Quartile	29.5	1.46	0.0042	28.0	1.24	0.0815	0.250	0.813	0.802	0.588	0.0882	1.97	0.0400	0.370	1.66	0.0845	32200	2.88	0.700
				Maximum	31.5	1.96	0.0042	34.8	1.39	0.0929	9.80	1.16	1.73	2.04	0.161	7.46	0.0640	0.431	2.70	0.0960	34600	36.0	0.700
				Minimum	27.2	0.800	0.0020	2.14	1.03	0.0447	0.0488	0.438	0.447	0.385	0.0379	0.504	0.003	0.009	0.0520	0.0360	30800	0.610	0.700
			Dissolved	***n***		23	13	18	1	23	23	24	24	18	24	24							
				Average		1.47	0.0039	1.67	1.01	0.0653	0.121	0.580	0.273	0.526	0.0161	1.25							
				Median		1.35	0.0042	2.14	1.01	0.0645	0.115	0.552	0.267	0.438	0.0124	1.09							
				1st Quartile		1.01	0.0042	0.671	1.01	0.0550	0.098	0.472	0.236	0.394	0.00719	0.583							
				3rd Quartile		1.75	0.0042	2.14	1.01	0.0772	0.131	0.679	0.299	0.489	0.0208	1.57							
				Maximum		3.30	0.0042	3.45	1.01	0.0867	0.263	0.907	0.426	1.92	0.0456	3.05							
				Minimum		0.800	0.0020	0.375	1.01	0.0385	0.0389	0.351	0.160	0.323	0.00364	0.443							
M3.1 DEEP[¶]	47.55978	-122.61121	*Total*	***n***	18	18	10	17	9	17	17	18	18	13	18	18	16	17	10	17	4	18	1
				Average	29.3	1.37	0.0040	16.9	1.24	0.0713	0.165	0.736	0.712	0.523	0.0749	1.22	0.0346	0.201	1.10	0.0689	32450	4.07	1.40
				Median	29.1	1.30	0.0042	15.4	1.22	0.0727	0.163	0.635	0.653	0.488	0.0712	1.22	0.0325	0.121	1.13	0.0700	32250	1.94	1.40
				1st Quartile	28.6	1.07	0.0042	10.7	1.17	0.0639	0.143	0.568	0.600	0.449	0.0579	0.907	0.0238	0.110	0.850	0.0600	32050	1.45	1.40
				3rd Quartile	29.7	1.47	0.0042	21.0	1.31	0.0776	0.189	0.762	0.738	0.570	0.0898	1.56	0.0515	0.352	1.55	0.0780	32650	3.02	1.40
				Maximum	31.5	3.40	0.0042	36.5	1.38	0.0872	0.242	2.27	1.58	0.770	0.151	1.81	0.0610	0.439	1.70	0.0920	33700	29.0	1.40
				Minimum	27.7	0.896	0.0020	8.13	1.11	0.0574	0.110	0.398	0.462	0.397	0.0383	0.620	0.003	0.0370	0.0570	0.0420	31600	0.490	1.40
			Dissolved	***n***		17	10	14	1	17	17	18	18	13	18	18							
				Average		1.36	0.0040	1.46	1.29	0.0654	0.122	0.488	0.270	0.415	0.0151	1.03							
				Median		1.23	0.0042	2.14	1.29	0.0632	0.125	0.492	0.226	0.405	0.0128	0.924							
				1st Quartile		1.10	0.0042	0.463	1.29	0.0608	0.108	0.429	0.213	0.385	0.00810	0.647							
				3rd Quartile		1.63	0.0042	2.14	1.29	0.0698	0.132	0.553	0.315	0.421	0.0183	1.36							
				Maximum		2.30	0.0042	2.14	1.29	0.0916	0.170	0.661	0.523	0.598	0.0337	1.79							
				Minimum		0.865	0.0020	0.200	1.29	0.0528	0.0852	0.340	0.176	0.349	0.00522	0.546							
M3.3	47.54958	-122.64303	*Total*	***n***	23	23	12	22	10	22	22	23	23	18	23	23	22	22	11	23	4	23	0
				Average	28.6	1.58	0.0038	16.3	1.13	0.0712	0.190	0.887	0.786	0.635	0.0820	1.94	0.0335	0.176	1.16	0.0668	32050	4.14	
				Median	28.5	1.36	0.0042	13.5	1.15	0.0656	0.166	0.853	0.684	0.538	0.0846	1.72	0.0365	0.0785	1.10	0.0700	31400	1.66	
				1st Quartile	28.2	1.03	0.0042	9.63	1.08	0.0556	0.140	0.717	0.638	0.471	0.0710	1.28	0.0113	0.0200	0.800	0.0500	30625	1.10	
				3rd Quartile	29.4	1.94	0.0042	23.0	1.19	0.0805	0.211	1.035	0.857	0.599	0.0925	2.45	0.0458	0.355	1.25	0.0790	32825	4.46	
				Maximum	31.3	4.00	0.0042	31.5	1.31	0.198	0.520	1.28	2.06	1.74	0.134	3.94	0.0820	0.429	3.24	0.103	35000	33.0	
				Minimum	23.0	0.701	0.0020	2.83	0.967	0.0414	0.0992	0.544	0.412	0.366	0.0316	0.786	0.003	0.009	0.0980	0.0220	30400	0.520	
			Dissolved	***n***		23	12	17	1	22	22	23	23	18	23	23							

Site Code	Latitude[*] (W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[†] (µg/L)	Al (µg/L)	As[‡] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[+] (mg/L)	TP (mg/L)	TS[§] (mg/L)	TSS (mg/L)	HEM[#] (mg/L)
M3.3 cont.				**Average**		1.36	0.0038	1.80	0.999	0.0630	0.176	0.717	0.315	0.511	0.0148	1.69							
				Median		1.27	0.0042	2.14	0.999	0.0607	0.118	0.696	0.284	0.453	0.0107	1.54							
				1st Quartile		1.00	0.0042	1.08	0.999	0.0513	0.0967	0.605	0.225	0.421	0.00913	1.06							
				3rd Quartile		1.45	0.0042	2.14	0.999	0.0765	0.141	0.834	0.351	0.477	0.0208	2.16							
				Maximum		3.70	0.0042	5.48	0.999	0.0911	1.19	0.971	0.641	1.10	0.0353	4.19							
				Minimum		0.719	0.0020	0.200	0.999	0.0372	0.0868	0.401	0.188	0.380	0.00512	0.487							
M3.3 DEEP[¶]	47.54958	-122.64303	*Total*	***n***	5	5	1	5	0	5	5	5	5	5	5	5	5	5	0	5	0	5	0
				Average	28.9	1.66	0.0020	21.9		0.0719	0.187	0.841	0.772	0.661	0.0935	1.66	0.0296	0.221		0.0792		2.40	
				Median	29.2	0.980	0.0020	23.5		0.0731	0.139	0.752	0.815	0.496	0.0967	1.61	0.0300	0.272		0.0840		2.01	
				1st Quartile	28.7	0.962	0.0020	20.7		0.0626	0.133	0.734	0.690	0.488	0.0882	1.50	0.0110	0.025		0.0690		0.776	
				3rd Quartile	29.5	2.54	0.0020	25.2		0.0790	0.141	0.868	0.845	0.518	0.107	1.67	0.0490	0.365		0.0850		3.79	
				Maximum	29.7	2.89	0.0020	25.4		0.0842	0.401	1.12	0.926	1.32	0.117	2.20	0.0550	0.432		0.0930		4.63	
				Minimum	27.3	0.939	0.0020	14.7		0.0608	0.122	0.731	0.582	0.485	0.0587	1.32	0.003	0.009		0.0650		0.770	
			Dissolved	***n***		5	1	2	0	5	5	5	5	5	5	5							
				Average		1.06	0.0020	1.05		0.0644	0.0944	0.597	0.215	0.508	0.0153	1.47							
				Median		1.04	0.0020	1.05		0.0683	0.0877	0.569	0.187	0.460	0.0128	1.45							
				1st Quartile		1.00	0.0020	0.869		0.0485	0.0858	0.568	0.181	0.456	0.0126	0.983							
				3rd Quartile		1.12	0.0020	1.24		0.0783	0.0924	0.640	0.194	0.463	0.0205	1.60							
				Maximum		1.18	0.0020	1.42		0.0845	0.124	0.692	0.346	0.736	0.0242	2.59							
				Minimum		0.937	0.0020	0.685		0.0424	0.0817	0.517	0.164	0.426	0.00616	0.738							
M4	47.54487	-122.66686	*Total*	***n***	25	25	14	24	12	24	24	25	25	18	25	25	24	24	13	25	6	25	3
				Average	28.7	2.65	0.0039	22.3	1.20	0.0904	0.195	0.875	0.996	0.558	0.0960	2.18	0.0480	0.181	1.79	0.111	32067	5.05	1.20
				Median	28.9	1.50	0.0042	21.9	1.18	0.0733	0.194	0.853	0.816	0.514	0.0943	1.90	0.0475	0.090	1.28	0.0830	32300	2.63	0.700
				1st Quartile	28.0	1.10	0.0042	13.3	1.16	0.0577	0.141	0.745	0.625	0.470	0.0699	1.37	0.0255	0.031	1.10	0.0740	31275	1.60	0.700
				3rd Quartile	29.3	2.60	0.0042	31.9	1.25	0.0846	0.240	0.963	1.02	0.567	0.116	2.29	0.0645	0.359	1.94	0.0920	33025	5.00	1.45
				Maximum	31.3	16.3	0.0042	44.6	1.34	0.493	0.302	1.47	5.04	1.21	0.182	8.16	0.101	0.420	5.95	0.450	33900	26.5	2.20
				Minimum	25.4	0.939	0.0020	3.67	1.07	0.0479	0.110	0.602	0.360	0.417	0.0360	0.998	0.003	0.009	0.084	0.0300	29700	0.371	0.700
			Dissolved	***n***		25	14	19	1	24	24	25	25	18	25	25							
				Average		1.94	0.0039	2.14	1.10	0.0708	0.136	0.648	0.379	0.427	0.0157	1.71							
				Median		1.40	0.0042	2.14	1.10	0.0708	0.114	0.641	0.316	0.421	0.0129	1.30							
				1st Quartile		1.09	0.0042	1.03	1.10	0.0482	0.109	0.560	0.234	0.393	0.0095	1.01							
				3rd Quartile		2.50	0.0042	2.14	1.10	0.0817	0.135	0.672	0.373	0.468	0.0164	2.21							
				Maximum		7.62	0.0042	10.2	1.10	0.206	0.441	0.918	2.19	0.525	0.0476	5.22							
				Minimum		0.800	0.0020	0.284	1.10	0.0430	0.0831	0.452	0.180	0.347	0.00606	0.621							
M5	47.61044	-122.66637	*Total*	***n***	5	5	3	5	3	5	5	5	5	3	5	5	5	5	3	5	2	5	0
				Average	28.7	1.84	0.0042	19.6	1.17	0.0854	0.170	0.629	0.822	0.563	0.0793	1.47	0.0320	0.222	2.10	0.0818	31600	5.96	
				Median	28.9	1.26	0.0042	16.2	1.17	0.0855	0.149	0.618	0.789	0.555	0.0809	1.47	0.0320	0.334	2.05	0.0780	31600	2.83	
				1st Quartile	28.4	1.10	0.0042	8.14	1.15	0.0797	0.145	0.605	0.767	0.495	0.0756	1.37	0.0160	0.022	1.91	0.0680	31200	2.38	
				3rd Quartile	29.0	1.56	0.0042	23.1	1.19	0.0866	0.194	0.631	0.818	0.627	0.0909	1.79	0.0530	0.369	2.28	0.0940	32000	8.50	
				Maximum	29.8	4.60	0.0042	48.5	1.21	0.115	0.225	0.685	1.43	0.700	0.117	2.06	0.0560	0.374	2.50	0.107	32400	15.0	
				Minimum	27.4	0.700	0.0042	2.14	1.13	0.0600	0.138	0.604	0.313	0.435	0.0318	0.675	0.003	0.009	1.76	0.0620	30800	1.08	
			Dissolved	***n***		5	3	2	1	5	5	5	5	3	5	5							
				Average		1.81	0.0057	1.30	1.07	0.0717	0.124	0.504	0.534	0.459	0.0163	1.10							
				Median		1.26	0.0042	1.30	1.07	0.0778	0.108	0.495	0.327	0.449	0.0150	1.27							
				1st Quartile		1.20	0.0042	0.873	1.07	0.0567	0.103	0.475	0.275	0.441	0.0141	0.793							
				3rd Quartile		2.30	0.0065	1.72	1.07	0.0818	0.120	0.518	0.342	0.472	0.0153	1.41							
				Maximum		3.50	0.0087	2.14	1.07	0.0867	0.195	0.593	1.49	0.496	0.0230	1.49							
				Minimum		0.800	0.0042	0.450	1.07	0.0557	0.092	0.438	0.237	0.432	0.0139	0.514							
M6	47.59767	-122.68472	*Total*	***n***	22	22	12	21	10	21	21	22	22	16	22	22	21	22	11	22	5	22	0
				Average	28.9	1.46	0.0038	22.0	1.16	0.0665	0.177	0.600	0.792	0.586	0.0961	1.16	0.0366	0.176	1.84	0.0657	33000	5.35	
				Median	29.3	1.40	0.0042	22.5	1.14	0.0624	0.156	0.595	0.705	0.523	0.0801	1.11	0.0310	0.0580	1.10	0.0670	33100	1.75	
				1st Quartile	28.3	1.08	0.0042	11.2	1.12	0.0538	0.136	0.563	0.600	0.475	0.0575	0.643	0.0130	0.0293	0.915	0.0535	31800	1.34	
				3rd Quartile	29.6	1.60	0.0042	31.8	1.16	0.0810	0.186	0.647	0.992	0.568	0.120	1.47	0.0420	0.333	1.30	0.0780	33100	3.78	
				Maximum	31.5	3.10	0.0042	41.9	1.29	0.0917	0.381	0.807	1.32	1.38	0.219	2.36	0.130	0.415	8.95	0.0970	36200	33.0	

Site Code	Latitude*(W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag† (µg/L)	Al (µg/L)	As‡ (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN+ (mg/L)	TP (mg/L)	TS§ (mg/L)	TSS (mg/L)	HEM# (mg/L)
M6 cont.				**Minimum**	25.5	0.963	0.0020	3.52	1.03	0.0420	0.0926	0.404	0.387	0.393	0.0453	0.431	0.003	0.009	0.092	0.0210	30800	0.620	
			Dissolved	***n***		22	12	16	1	21	21	22	22	16	22	22							
				Average		1.47	0.0038	1.93	1.12	0.0613	0.249	0.475	0.316	0.456	0.0264	1.14							
				Median		1.31	0.0042	2.14	1.12	0.0530	0.113	0.464	0.293	0.431	0.0254	0.947							
				1st Quartile		1.15	0.0042	1.06	1.12	0.0458	0.096	0.418	0.251	0.390	0.0112	0.431							
				3rd Quartile		1.65	0.0042	2.14	1.12	0.0783	0.127	0.518	0.335	0.511	0.0350	1.60							
				Maximum		3.30	0.0042	6.07	1.12	0.0922	2.969	0.675	0.803	0.745	0.0545	4.54							
				Minimum		0.893	0.0020	0.200	1.12	0.0301	0.0705	0.351	0.164	0.325	0.00555	0.346							
M7	47.62447	-122.69194	*Total*	***n***	11	11	10	11	10	10	10	11	11	7	11	11	11	11	10	11	4	11	0
				Average	28.6	1.68	0.0042	15.9	1.13	0.0725	0.330	0.724	0.650	0.547	0.0665	1.59	0.0256	0.201	1.43	0.0704	31900	6.75	
				Median	28.8	1.61	0.0042	10.2	1.14	0.0803	0.147	0.561	0.645	0.560	0.0532	1.32	0.0160	0.218	1.36	0.0710	32000	2.44	
				1st Quartile	28.2	1.16	0.0042	8.47	1.07	0.0587	0.132	0.549	0.581	0.450	0.0444	1.21	0.00600	0.0415	1.00	0.0580	31150	1.51	
				3rd Quartile	29.5	1.95	0.0042	18.9	1.18	0.0822	0.199	0.660	0.689	0.606	0.0771	1.72	0.0290	0.367	1.76	0.0825	32750	9.50	
				Maximum	30.2	3.86	0.0042	50.3	1.30	0.0967	1.783	2.13	1.01	0.765	0.146	4.42	0.111	0.411	2.40	0.0940	34100	26.0	
				Minimum	25.3	0.700	0.0042	2.19	1.01	0.0474	0.113	0.520	0.391	0.392	0.0331	0.448	0.003	0.009	0.660	0.0460	29500	0.980	
			Dissolved	***n***		11	10	9	1	10	10	11	11	7	11	11							
				Average		1.59	0.0042	2.48	1.06	0.0751	0.214	0.492	0.345	0.448	0.0110	1.32							
				Median		1.50	0.0042	2.14	1.06	0.0804	0.126	0.485	0.310	0.452	0.00956	1.23							
				1st Quartile		1.24	0.0042	2.14	1.06	0.0600	0.117	0.459	0.264	0.418	0.00552	0.607							
				3rd Quartile		1.85	0.0042	2.14	1.06	0.0859	0.164	0.507	0.411	0.497	0.0147	1.45							
				Maximum		2.60	0.0042	4.65	1.06	0.114	0.986	0.680	0.643	0.507	0.0230	4.12							
				Minimum		0.700	0.0042	2.12	1.06	0.0444	0.0823	0.364	0.172	0.345	0.00422	0.351							
M8	47.57256	-122.67512	*Total*	***n***	20	20	11	19	9	19	19	20	20	15	20	20	19	20	10	20	4	20	0
				Average	28.5	1.74	0.0038	26.1	1.15	0.0750	0.197	0.642	0.932	0.637	0.128	1.32	0.0377	0.190	1.50	0.0754	32125	6.92	
				Median	28.7	1.49	0.0042	24.4	1.15	0.0749	0.167	0.656	0.909	0.544	0.126	1.48	0.0360	0.185	1.12	0.0675	32450	1.83	
				1st Quartile	27.9	1.08	0.0042	19.5	1.12	0.0569	0.151	0.584	0.691	0.492	0.0906	0.848	0.0100	0.0180	0.925	0.0608	31700	1.40	
				3rd Quartile	29.2	1.87	0.0042	33.6	1.18	0.0883	0.220	0.729	1.05	0.719	0.150	1.57	0.0520	0.369	1.65	0.0833	32875	5.05	
				Maximum	31.2	5.40	0.0042	44.7	1.29	0.140	0.426	0.829	1.59	1.15	0.255	2.23	0.119	0.405	5.10	0.165	34000	43.0	
				Minimum	25.3	0.800	0.0020	12.0	1.06	0.0402	0.118	0.411	0.482	0.411	0.0600	0.518	0.003	0.009	0.092	0.0180	29600	0.938	
			Dissolved	***n***		20	11	14	1	19	19	20	20	15	20	20							
				Average		1.57	0.0038	1.61	1.07	0.0623	0.118	0.466	0.282	0.457	0.0281	0.965							
				Median		1.41	0.0042	2.14	1.07	0.0614	0.118	0.453	0.280	0.456	0.0204	1.20							
				1st Quartile		0.98	0.0042	1.20	1.07	0.0464	0.102	0.415	0.220	0.384	0.0146	0.543							
				3rd Quartile		1.83	0.0042	2.14	1.07	0.0787	0.131	0.513	0.341	0.542	0.0372	1.29							
				Maximum		4.00	0.0042	2.14	1.07	0.0879	0.183	0.593	0.444	0.636	0.0639	1.69							
				Minimum		0.800	0.0020	0.200	1.07	0.0357	0.0693	0.349	0.174	0.321	0.0100	0.361							
OF018	47.560071	-122.636556	*Total*	***n***	17	20	13	21	11	22	22	22	22	17	22	22	11	11	8	11	4	22	17
				Average	22.0	1.54	0.0282	35.1	1.76	0.105	1.02	7.75	12.2	3.55	0.486	36.5	0.191	0.624	1.14	0.151	21425	3.83	1.69
				Median	22.7	1.14	0.0218	16.7	1.85	0.0987	0.699	5.67	10.7	2.83	0.268	34.7	0.164	0.593	0.935	0.158	21100	1.89	0.700
				1st Quartile	21.6	1.03	0.0173	13.6	1.49	0.0917	0.466	3.87	7.16	2.12	0.164	26.5	0.151	0.492	0.778	0.129	19900	0.898	0.700
				3rd Quartile	23.4	1.34	0.0347	27.4	1.99	0.115	1.05	8.73	12.9	3.72	0.570	46.8	0.235	0.641	1.07	0.178	22625	6.12	1.50
				Maximum	25.5	7.03	0.0618	207	2.20	0.143	5.67	29.6	45.5	10.5	2.89	68.7	0.286	1.52	3.03	0.310	23600	14.2	9.40
				Minimum	16.7	0.730	0.0135	1.99	1.35	0.0762	0.323	1.69	5.53	1.37	0.0724	13.7	0.106	0.327	0.550	0.0040	19900	0.420	0.700
			Dissolved	***n***		20	13	16	1	22	22	22	22	17	22	22							
				Average		1.67	0.0131	2.05	1.80	0.0972	0.334	3.41	3.12	2.66	0.0161	29.4							
				Median		1.09	0.0107	2.14	1.80	0.0963	0.324	3.23	3.00	2.18	0.0124	28.9							
				1st Quartile		0.98	0.0082	0.892	1.80	0.0857	0.271	2.40	2.50	1.63	0.00792	23.6							
				3rd Quartile		2.20	0.0151	2.14	1.80	0.112	0.376	4.28	3.62	2.49	0.0215	34.2							
				Maximum		6.32	0.0339	7.85	1.80	0.135	0.530	6.82	6.34	8.50	0.0503	45.5							
				Minimum		0.500	0.0042	0.200	1.80	0.0619	0.208	0.586	1.31	0.882	0.00424	11.3							
OF019	47.553212	-122.642148	*Total*	***n***	16	20	11	20	9	20	20	21	21	16	21	21	14	14	8	14	3	21	16
				Average	21.2	1.32	0.0235	69.7	2.10	0.0973	6.23	14.3	11.3	10.5	0.704	39.8	0.234	0.335	1.01	0.191	25667	8.63	0.875
				Median	19.8	1.02	0.0187	15.2	1.51	0.0870	3.79	3.64	6.21	6.43	0.199	23.3	0.208	0.313	0.840	0.157	26200	1.69	0.700
				1st Quartile	18.5	0.938	0.0139	6.05	1.40	0.0781	0.669	1.43	4.92	1.81	0.062	11.1	0.187	0.195	0.730	0.137	24650	0.570	0.700

Site Code	Latitude*(W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[1] (µg/L)	Al (µg/L)	As[1] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[1] (mg/L)	TP (mg/L)	TS[2] (mg/L)	TSS (mg/L)	HEM[3] (mg/L)
OF019 cont.				**3rd Quartile**	24.2	1.26	0.0280	55.6	1.61	0.0989	7.10	6.63	9.20	13.3	0.380	28.8	0.264	0.380	1.26	0.212	26950	5.00	0.700
				Maximum	29.5	3.29	0.0651	844	6.78	0.273	31.8	200	85.0	61.6	9.06	365	0.558	0.691	1.66	0.509	27700	108.0	3.30
				Minimum	16.3	0.696	0.0090	2.69	1.29	0.0702	0.208	0.949	2.52	1.35	0.0320	6.675	0.0470	0.0950	0.610	0.0740	23100	0.265	0.700
			Dissolved	***n***		20	11	16	1	20	20	21	21	16	21	21							
				Average		1.35	0.0065	1.88	1.05	0.0814	0.531	2.02	2.40	5.09	0.00939	16.0							
				Median		1.05	0.0072	2.14	1.05	0.0821	0.233	1.38	1.90	4.80	0.00504	16.7							
				1st Quartile		0.891	0.0047	0.449	1.05	0.0728	0.175	0.855	1.59	1.48	0.00304	9.71							
				3rd Quartile		1.41	0.0077	2.14	1.05	0.0865	0.990	2.81	3.00	7.89	0.00741	20.2							
				Maximum		3.60	0.0126	9.00	1.05	0.101	1.30	6.40	5.69	12.7	0.0477	27.0							
				Minimum		0.644	0.0022	0.360	1.05	0.0702	0.0312	0.581	0.645	1.16	0.00116	6.50							
OF021	47.552083	-122.653844	*Total*	***n***	17	18	13	23	11	23	23	24	24	18	24	24	13	13	8	13	2	20	15
				Average	0.2	2.64	0.0048	14.1	1.15	0.00907	1.68	3.48	16.4	1.32	0.183	2.71	0.0160	0.509	1.05	0.309	743	1.09	0.840
				Median	0.2	2.59	0.0032	9.20	1.05	0.00400	1.24	1.36	2.69	1.06	0.0150	0.941	0.0200	0.488	0.730	0.288	743	0.490	0.700
				1st Quartile	0.1	1.93	0.0032	7.08	0.586	0.00330	0.905	0.964	2.01	0.651	0.00604	0.477	0.0030	0.224	0.595	0.0910	696	0.420	0.700
				3rd Quartile	0.3	3.65	0.0053	17.5	1.54	0.0102	1.72	3.79	6.36	1.52	0.184	3.44	0.0260	0.612	1.28	0.434	789	0.661	0.700
				Maximum	0.6	4.55	0.0110	49.5	2.62	0.0522	8.11	13.4	130	3.18	1.26	13.0	0.0330	1.51	2.64	0.843	835	5.00	2.00
				Minimum	0.1	0.320	0.0020	3.03	0.117	0.00060	0.262	0.269	1.13	0.465	0.00262	0.209	0.003	0.176	0.440	0.0330	650	0.118	0.700
			Dissolved	***n***		19	13	20	1	23	23	24	23	18	24	24							
				Average		2.73	0.0032	9.94	0.357	0.00755	1.60	2.31	4.92	1.15	0.0572	2.14							
				Median		2.47	0.0032	7.52	0.357	0.00400	1.31	1.29	2.29	0.886	0.00695	0.881							
				1st Quartile		1.70	0.0032	6.15	0.357	0.00330	0.974	0.831	1.82	0.560	0.00388	0.504							
				3rd Quartile		4.15	0.0032	9.18	0.357	0.00928	1.67	2.48	3.36	1.32	0.0765	2.77							
				Maximum		5.37	0.0042	48.3	0.357	0.0502	5.89	7.94	44.1	3.07	0.345	10.1							
				Minimum		0.300	0.0020	4.70	0.357	0.00060	0.261	0.234	1.04	0.323	0.00176	0.214							
OF096	47.560715	-122.632414	*Total*	***n***	2	2	0	1	0	2	2	2	2	1	2	2	1	1	0	1	0	2	2
				Average	28.6	1.06		7.11		0.0688	0.237	4.22	4.69	1.12	0.157	27.7	0.234	0.274		0.122		1.01	0.700
				Median	28.6	1.06		7.11		0.0688	0.237	4.22	4.69	1.12	0.157	27.7	0.234	0.274		0.122		1.01	0.700
				1st Quartile	28.1	1.04		7.11		0.0671	0.236	3.47	4.51	1.12	0.155	24.3	0.234	0.274		0.122		0.785	0.700
				3rd Quartile	29.0	1.08		7.11		0.0704	0.239	4.97	4.87	1.12	0.158	31.0	0.234	0.274		0.122		1.24	0.700
				Maximum	29.5	1.10		7.11		0.0721	0.240	5.72	5.05	1.12	0.159	34.4	0.234	0.274		0.122		1.47	0.700
				Minimum	27.6	1.02		7.11		0.0654	0.234	2.72	4.33	1.12	0.154	20.9	0.234	0.274		0.122		0.557	0.700
			Dissolved	***n***		2	0	1	0	2	2	2	2	1	2	2							
				Average		1.00		0.457		0.0673	0.136	2.92	1.35	1.05	0.0305	26.3							
				Median		1.00		0.457		0.0673	0.136	2.92	1.35	1.05	0.0305	26.3							
				1st Quartile		0.98		0.457		0.0668	0.124	2.34	1.29	1.05	0.0292	23.3							
				3rd Quartile		1.03		0.457		0.0679	0.147	3.49	1.41	1.05	0.0319	29.2							
				Maximum		1.06		0.457		0.0684	0.158	4.07	1.47	1.05	0.0332	32.2							
				Minimum		0.949		0.457		0.0662	0.113	1.76	1.23	1.05	0.0278	20.3							
POPIPD	47.61295	-122.5948	*Total*	***n***	6	6	1	6	1	6	6	6	6	5	6	6	6	6	1	6	1	6	0
				Average	28.6	1.36	0.0042	38.9	1.38	0.0690	0.220	0.594	0.646	0.692	0.0739	0.999	0.0347	0.208	0.970	0.0592	33400	3.14	
				Median	29.2	1.31	0.0042	24.7	1.38	0.0724	0.173	0.597	0.595	0.593	0.0720	1.04	0.0265	0.208	0.970	0.0490	33400	2.47	
				1st Quartile	27.2	1.05	0.0042	22.5	1.38	0.0653	0.147	0.536	0.494	0.527	0.0610	0.762	0.0118	0.159	0.970	0.0468	33400	1.86	
				3rd Quartile	30.0	1.55	0.0042	31.7	1.38	0.0755	0.229	0.655	0.730	0.788	0.0833	1.26	0.0555	0.297	0.970	0.0730	33400	4.44	
				Maximum	30.6	2.05	0.0042	111	1.38	0.0798	0.448	0.683	0.997	1.08	0.107	1.40	0.0800	0.351	0.970	0.0890	33400	5.63	
				Minimum	25.7	0.900	0.0042	17.3	1.38	0.0501	0.141	0.494	0.456	0.474	0.0478	0.507	0.003	0.009	0.970	0.0410	33400	1.50	
			Dissolved	***n***		6	1	2	0	6	6	6	6	5	6	6							
				Average		1.21	0.0042	1.35		0.0658	0.107	0.431	0.265	0.490	0.0120	0.928							
				Median		1.17	0.0042	1.35		0.0691	0.109	0.451	0.202	0.489	0.0122	0.873							
				1st Quartile		1.11	0.0042	0.951		0.0591	0.092	0.396	0.174	0.439	0.00594	0.474							
				3rd Quartile		1.30	0.0042	1.74		0.0750	0.120	0.478	0.333	0.544	0.0161	1.36							
				Maximum		1.51	0.0042	2.14		0.0798	0.139	0.498	0.498	0.605	0.0224	1.63							
				Minimum		0.952	0.0042	0.555		0.0443	0.0792	0.321	0.150	0.372	0.00405	0.329							
PS01	47.55401	-122.65725	*Total*	***n***	25	25	14	24	12	24	24	25	25	18	25	25	24	25	13	25	6	25	4
				Average	28.3	2.02	0.0065	28.9	1.36	0.0747	0.261	1.52	1.77	0.640	0.195	3.76	0.0724	0.232	1.43	0.0944	31050	4.02	2.93

Site Code	Latitude[*] (W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[†] (µg/L)	Al (µg/L)	As[‡] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[+] (mg/L)	TP (mg/L)	TS[§] (mg/L)	TSS (mg/L)	HEM[¶] (mg/L)
PS01 cont.				**Median**	28.2	1.39	0.0042	16.5	1.36	0.0763	0.207	1.37	1.17	0.590	0.100	3.52	0.0740	0.160	1.03	0.0840	30550	2.19	1.35
				1st Quartile	27.6	1.10	0.0042	12.8	1.22	0.0634	0.157	1.09	0.860	0.528	0.085	2.28	0.0568	0.125	0.880	0.0710	30100	1.19	0.700
				3rd Quartile	28.9	1.64	0.0062	27.5	1.38	0.0837	0.363	1.77	2.01	0.737	0.145	4.75	0.0870	0.368	1.84	0.0930	32275	4.99	3.58
				Maximum	30.8	16.4	0.0191	112	1.96	0.105	0.618	3.04	5.83	1.09	0.697	8.47	0.164	0.444	4.44	0.410	33200	25.0	8.30
				Minimum	26.1	0.700	0.0020	2.14	1.07	0.0423	0.127	0.690	0.376	0.434	0.0407	1.55	0.0140	0.009	0.123	0.0430	29200	0.490	0.700
			Dissolved	***n***		24	14	19	1	24	24	25	25	18	25	25							
				Average		1.79	0.0044	2.48	1.03	0.0694	0.273	1.07	0.703	0.597	0.0273	3.16							
				Median		1.35	0.0042	2.14	1.03	0.0709	0.188	1.03	0.555	0.548	0.0185	3.14							
				1st Quartile		1.09	0.0042	2.14	1.03	0.0578	0.130	0.887	0.436	0.480	0.0141	2.03							
				3rd Quartile		1.89	0.0042	2.71	1.03	0.0833	0.230	1.21	0.812	0.616	0.0342	4.14							
				Maximum		9.40	0.0081	7.76	1.03	0.0920	2.28	1.68	2.10	1.32	0.0860	5.75							
				Minimum		0.866	0.0020	0.462	1.03	0.0376	0.0989	0.588	0.134	0.397	0.0097	1.33							
PS02	47.55456	-122.65452	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	28.2	1.39	0.0039	17.5	1.32	0.0716	0.222	1.86	1.66	0.601	0.126	4.00	0.0556	0.222	1.06	0.0763	30440	4.42	
				Median	28.3	1.33	0.0042	13.0	1.30	0.0741	0.196	1.77	1.36	0.569	0.103	3.61	0.0490	0.140	1.02	0.0815	30900	1.73	
				1st Quartile	27.5	1.05	0.0042	9.44	1.26	0.0611	0.162	1.44	0.979	0.528	0.0777	2.96	0.0420	0.0748	0.835	0.0635	29300	1.13	
				3rd Quartile	29.0	1.65	0.0042	20.5	1.38	0.0830	0.260	2.19	1.75	0.655	0.113	5.03	0.0650	0.383	1.22	0.0873	31900	4.31	
				Maximum	31.2	2.77	0.0044	83.2	1.60	0.103	0.500	2.96	5.35	0.854	0.583	7.43	0.148	0.447	2.10	0.103	31900	31.0	
				Minimum	24.5	0.800	0.0020	5.12	1.12	0.0366	0.129	0.969	0.678	0.440	0.0513	1.87	0.0100	0.009	0.148	0.0380	28200	0.700	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.55	0.0039	1.86	1.29	0.0677	0.176	1.39	0.733	0.621	0.0235	3.52							
				Median		1.35	0.0042	2.14	1.29	0.0658	0.157	1.32	0.574	0.504	0.0196	3.17							
				1st Quartile		1.04	0.0042	1.17	1.29	0.0580	0.133	1.04	0.426	0.441	0.0146	2.51							
				3rd Quartile		1.70	0.0042	2.14	1.29	0.0809	0.182	1.70	0.809	0.573	0.0317	4.16							
				Maximum		5.90	0.0042	4.69	1.29	0.101	0.450	2.15	3.16	2.08	0.0540	7.91							
				Minimum		0.800	0.0020	0.422	1.29	0.0343	0.0832	0.695	0.211	0.389	0.00939	1.19							
PS03	47.55592	-122.65182	*Total*	***n***	43	43	23	42	17	41	41	43	43	36	43	43	40	41	18	41	5	42	4
				Average	28.3	1.62	0.0046	18.2	1.24	0.0700	0.214	2.12	6.90	0.605	0.177	4.53	0.0760	0.199	1.42	0.0714	31120	2.78	1.38
				Median	28.6	1.47	0.0042	12.2	1.23	0.0689	0.197	1.85	3.35	0.545	0.105	4.13	0.0610	0.133	1.25	0.0740	31400	1.53	1.05
				1st Quartile	27.5	1.18	0.0042	7.308	1.18	0.0573	0.163	1.61	1.61	0.466	0.0819	2.81	0.0405	0.0510	0.858	0.0570	31000	0.783	0.700
				3rd Quartile	29.2	1.93	0.0042	18.7	1.26	0.0814	0.239	2.58	8.03	0.663	0.154	5.79	0.0750	0.378	1.90	0.0890	31500	2.98	1.73
				Maximum	31.0	3.30	0.0187	158	1.43	0.111	0.696	4.48	46.6	1.12	1.88	13.0	0.558	0.454	4.00	0.114	32300	15.0	2.70
				Minimum	25.6	0.700	0.0020	2.640	1.15	0.0384	0.132	1.06	0.641	0.402	0.0310	1.85	0.0170	0.009	0.137	0.0200	29400	0.453	0.700
			Dissolved	***n***		43	23	37	1	41	41	43	43	36	43	43							
				Average		1.37	0.0037	1.945	1.17	0.0651	0.166	1.61	3.08	0.571	0.0296	3.91							
				Median		1.26	0.0042	2.140	1.17	0.0639	0.153	1.49	1.51	0.507	0.0245	3.73							
				1st Quartile		1.04	0.0039	0.748	1.17	0.0538	0.129	1.27	0.695	0.445	0.0173	2.35							
				3rd Quartile		1.52	0.0042	2.14	1.17	0.0785	0.173	1.95	2.83	0.602	0.0331	5.35							
				Maximum		2.60	0.0042	13.6	1.17	0.100	0.539	2.55	26.4	1.87	0.106	11.1							
				Minimum		0.700	0.0020	0.379	1.17	0.0376	0.0692	0.792	0.307	0.374	0.00730	1.11							
PS04	47.55458	-122.64752	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	28.8	1.41	0.0039	10.7	1.24	0.0676	0.175	2.07	0.962	0.523	0.0877	5.81	0.0578	0.203	1.31	0.0730	31900	2.90	
				Median	28.9	1.39	0.0042	10.2	1.22	0.0686	0.137	2.12	0.859	0.537	0.0753	4.58	0.0520	0.128	1.04	0.0785	32300	1.48	
				1st Quartile	28.3	1.08	0.0042	6.02	1.19	0.0551	0.121	1.72	0.742	0.459	0.0647	3.27	0.0425	0.0450	0.720	0.0590	31200	0.836	
				3rd Quartile	29.4	1.70	0.0042	15.6	1.30	0.0812	0.184	2.42	1.09	0.558	0.105	7.04	0.0615	0.369	1.51	0.0860	32400	2.63	
				Maximum	31.1	2.21	0.0042	20.7	1.34	0.0990	0.717	3.06	1.87	0.757	0.176	23.1	0.143	0.432	3.30	0.0970	32400	15.0	
				Minimum	26.9	0.965	0.0020	2.14	1.12	0.0441	0.0707	1.03	0.559	0.388	0.0286	1.78	0.0240	0.009	0.0570	0.0320	31200	0.400	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.40	0.0041	1.77	1.09	0.0665	0.136	1.74	0.405	0.460	0.0241	5.39							
				Median		1.30	0.0042	2.14	1.09	0.0668	0.125	1.73	0.383	0.448	0.0207	4.41							
				1st Quartile		1.04	0.0042	0.912	1.09	0.0553	0.113	1.50	0.302	0.412	0.0157	2.97							
				3rd Quartile		1.67	0.0042	2.14	1.09	0.0770	0.146	2.03	0.459	0.512	0.0299	6.20							
				Maximum		2.30	0.0068	3.98	1.09	0.0958	0.352	2.59	0.669	0.596	0.0757	22.3							
				Minimum		0.904	0.0020	0.325	1.09	0.0409	0.0838	0.858	0.206	0.362	0.00424	1.98							

Site Code	Latitude[*] (W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[!] (µg/L)	Al (µg/L)	As[+] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[+] (mg/L)	TP (mg/L)	TS[@] (mg/L)	TSS (mg/L)	HEM[#] (mg/L)
PS05	47.55606	-122.64491	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	28.8	1.41	0.0039	13.4	1.23	0.0693	0.167	1.90	0.934	0.545	0.103	5.46	0.0548	0.204	1.08	0.0730	31940	2.64	
				Median	29.0	1.35	0.0042	13.1	1.22	0.0701	0.146	1.79	0.841	0.518	0.0809	4.71	0.0540	0.127	1.08	0.0740	32000	1.33	
				1st Quartile	28.2	1.10	0.0042	7.17	1.17	0.0555	0.132	1.55	0.722	0.474	0.0687	3.62	0.0355	0.0578	0.813	0.0573	30400	0.788	
				3rd Quartile	29.6	1.60	0.0042	17.7	1.31	0.0810	0.183	2.11	1.05	0.581	0.104	6.84	0.0620	0.371	1.45	0.0843	32900	3.84	
				Maximum	30.8	2.86	0.0042	31.8	1.38	0.102	0.383	3.43	2.12	0.782	0.263	13.5	0.137	0.435	1.70	0.114	34600	11.0	
				Minimum	26.5	0.906	0.0020	2.56	1.07	0.0366	0.0983	1.06	0.596	0.434	0.0539	1.46	0.003	0.009	0.0620	0.0360	29800	0.420	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.36	0.0039	1.71	1.13	0.0675	0.141	1.48	0.366	0.451	0.0207	5.08							
				Median		1.30	0.0042	2.14	1.13	0.0655	0.115	1.41	0.368	0.457	0.0182	4.62							
				1st Quartile		1.06	0.0042	0.737	1.13	0.0550	0.102	1.21	0.278	0.414	0.0147	3.28							
				3rd Quartile		1.52	0.0042	2.14	1.13	0.0804	0.139	1.65	0.419	0.488	0.0260	6.49							
				Maximum		2.20	0.0042	3.68	1.13	0.0949	0.647	2.29	0.611	0.519	0.0454	11.3							
				Minimum		0.800	0.0020	0.295	1.13	0.0344	0.0772	0.879	0.191	0.370	0.00533	0.974							
PS06	47.5531	-122.64225	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	1
				Average	28.1	1.24	0.0039	16.0	1.26	0.0711	0.191	1.68	1.28	0.625	0.102	5.87	0.0896	0.221	1.20	0.0848	30780	2.55	0.700
				Median	28.3	1.21	0.0042	14.3	1.26	0.0718	0.149	1.57	1.05	0.590	0.0966	4.90	0.0860	0.153	1.27	0.0865	30400	1.41	0.700
				1st Quartile	27.2	0.983	0.0042	10.9	1.21	0.0605	0.137	1.41	0.915	0.546	0.0676	4.31	0.0625	0.0945	0.870	0.0765	29900	1.08	0.700
				3rd Quartile	29.0	1.41	0.0042	18.5	1.32	0.0795	0.202	1.88	1.55	0.677	0.116	6.52	0.107	0.368	1.65	0.0935	31500	2.69	0.700
				Maximum	31.1	2.10	0.0046	42.2	1.38	0.0964	0.552	3.49	2.55	0.892	0.257	14.6	0.189	0.425	1.90	0.106	32900	9.50	0.700
				Minimum	25.1	0.866	0.0020	5.23	1.16	0.0554	0.102	0.824	0.590	0.482	0.0535	3.02	0.0140	0.0380	0.132	0.0630	29200	0.500	0.700
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.49	0.0039	1.73	1.32	0.0697	0.118	1.22	0.536	0.539	0.0200	5.47							
				Median		1.20	0.0042	2.14	1.32	0.0677	0.111	1.21	0.448	0.507	0.0180	4.60							
				1st Quartile		1.00	0.0042	0.734	1.32	0.0594	0.103	1.07	0.341	0.474	0.0129	4.04							
				3rd Quartile		1.85	0.0042	2.14	1.32	0.0808	0.130	1.36	0.678	0.556	0.0274	6.59							
				Maximum		4.20	0.0042	5.50	1.32	0.0947	0.170	1.76	1.26	0.824	0.0432	13.2							
				Minimum		0.800	0.0020	0.336	1.32	0.0513	0.0773	0.593	0.276	0.419	0.00648	2.86							
PS07	47.55598	-122.64134	*Total*	***n***	45	44	18	42	16	44	44	45	45	35	45	45	41	44	18	44	8	44	0
				Average	28.5	1.45	0.0041	13.7	1.26	0.0738	0.230	1.90	1.19	0.676	0.107	6.92	0.0825	0.218	0.945	0.0815	30900	3.62	
				Median	28.8	1.28	0.0042	12.5	1.23	0.0746	0.152	1.48	1.00	0.623	0.0948	5.19	0.0790	0.146	0.925	0.0835	31550	1.40	
				1st Quartile	27.9	1.00	0.0042	7.94	1.20	0.0663	0.134	1.28	0.800	0.569	0.0664	4.29	0.0540	0.096	0.783	0.0738	31075	0.923	
				3rd Quartile	29.3	1.53	0.0042	16.9	1.32	0.0797	0.187	2.15	1.26	0.673	0.124	6.92	0.103	0.364	1.28	0.0890	31925	2.50	
				Maximum	31.3	3.92	0.0075	34.1	1.41	0.0949	2.81	5.47	6.82	1.50	0.295	56.5	0.188	0.422	1.63	0.131	33600	40.0	
				Minimum	24.5	0.800	0.0020	2.14	1.11	0.0498	0.109	0.748	0.524	0.447	0.0435	1.65	0.003	0.009	0.0970	0.0500	24700	0.490	
			Dissolved	***n***		45	18	29	2	44	44	45	45	35	45	45							
				Average		1.41	0.0040	1.72	1.17	0.0713	0.120	1.50	0.543	0.581	0.0251	6.47							
				Median		1.20	0.0042	2.14	1.17	0.0711	0.106	1.21	0.476	0.555	0.0203	4.89							
				1st Quartile		1.03	0.0042	0.799	1.16	0.0622	0.0977	0.973	0.374	0.504	0.0143	3.99							
				3rd Quartile		1.60	0.0042	2.14	1.18	0.0772	0.143	1.67	0.582	0.601	0.0297	6.65							
				Maximum		4.04	0.0042	5.96	1.19	0.0993	0.271	4.64	3.75	0.897	0.0700	54.8							
				Minimum		0.842	0.0020	0.327	1.15	0.0508	0.0770	0.546	0.171	0.403	0.00773	1.11							
PS08	47.55784	-122.6388	*Total*	***n***	25	25	14	24	12	24	24	25	25	18	25	25	24	25	13	25	6	25	4
				Average	28.8	1.36	0.0041	15.5	1.25	0.0722	0.170	2.57	0.857	0.597	0.107	6.66	0.0600	0.219	1.22	0.0766	30800	3.12	1.43
				Median	28.9	1.40	0.0042	11.6	1.27	0.0729	0.153	2.37	0.706	0.556	0.0679	6.33	0.0540	0.141	1.10	0.0810	31750	1.71	1.20
				1st Quartile	27.9	1.00	0.0042	6.87	1.22	0.0612	0.136	1.85	0.596	0.503	0.0592	5.01	0.0365	0.0790	0.890	0.0620	29700	1.10	0.700
				3rd Quartile	29.3	1.68	0.0042	15.8	1.30	0.0800	0.177	3.16	0.892	0.672	0.109	8.08	0.0733	0.366	1.50	0.0870	32225	4.29	1.93
				Maximum	31.3	1.98	0.0068	70.7	1.37	0.0947	0.358	6.60	2.69	0.868	0.497	15.9	0.136	0.429	2.61	0.100	32700	14.0	2.60
				Minimum	26.2	0.855	0.0020	2.14	1.11	0.0507	0.0551	1.07	0.424	0.457	0.0468	3.15	0.0130	0.009	0.0930	0.0460	27200	0.500	0.700
			Dissolved	***n***		24	14	19	1	24	24	25	25	18	25	25							
				Average		1.35	0.0044	1.84	1.12	0.0713	0.136	2.18	0.319	0.593	0.0200	6.31							
				Median		1.29	0.0042	2.14	1.12	0.0696	0.126	1.92	0.315	0.573	0.0191	5.92							
				1st Quartile		1.08	0.0042	0.835	1.12	0.0581	0.102	1.36	0.234	0.460	0.0111	4.63							
				3rd Quartile		1.60	0.0042	2.14	1.12	0.0833	0.160	2.46	0.363	0.702	0.0229	7.87							

Site Code	Latitude[+](W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[!] (µg/L)	Al (µg/L)	As[+] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[+] (mg/L)	TP (mg/L)	TS[#] (mg/L)	TSS (mg/L)	HEM[#] (mg/L)
PS08 cont.				**Maximum**		2.20	0.0119	6.81	1.12	0.0964	0.304	6.86	0.740	0.886	0.0516	14.0							
				Minimum		0.856	0.0020	0.339	1.12	0.0392	0.0681	0.762	0.169	0.399	0.00532	2.85							
PS09	47.55996	-122.63626	*Total*	***n***	26	26	14	25	12	25	25	26	26	19	26	26	24	25	13	25	6	26	4
				Average	27.9	1.35	0.0041	14.7	1.29	0.0726	0.191	2.40	1.35	0.734	0.120	9.01	0.0782	0.243	1.20	0.0826	30033	3.85	0.825
				Median	28.3	1.20	0.0042	12.9	1.31	0.0738	0.161	2.25	1.21	0.705	0.0980	8.82	0.0760	0.237	1.00	0.0810	29800	1.57	0.700
				1st Quartile	27.0	1.01	0.0042	7.75	1.19	0.0609	0.143	1.72	0.911	0.556	0.0765	6.35	0.0470	0.115	0.800	0.0660	29525	0.899	0.700
				3rd Quartile	28.8	1.42	0.0042	18.6	1.38	0.0829	0.219	2.92	1.68	0.768	0.139	10.05	0.0993	0.379	1.40	0.0960	30000	2.99	0.825
				Maximum	30.0	3.60	0.0055	37.8	1.43	0.0909	0.466	5.10	3.99	1.64	0.418	25.9	0.181	0.437	3.00	0.112	31700	30.5	1.20
				Minimum	25.4	0.656	0.0020	3.02	1.14	0.0553	0.121	1.35	0.536	0.458	0.0480	4.20	0.0260	0.009	0.121	0.0510	29400	0.410	0.700
			Dissolved	***n***		26	14	19	1	25	25	26	26	19	26	26							
				Average		1.33	0.0039	1.70	1.09	0.0704	0.166	1.84	0.456	0.621	0.0227	8.43							
				Median		1.18	0.0042	2.14	1.09	0.0708	0.139	1.80	0.393	0.567	0.0191	8.10							
				1st Quartile		1.00	0.0042	0.668	1.09	0.0592	0.109	1.40	0.304	0.497	0.0128	6.04							
				3rd Quartile		1.39	0.0042	2.14	1.09	0.0805	0.151	2.00	0.537	0.674	0.0298	9.42							
				Maximum		2.70	0.0046	5.24	1.09	0.0891	0.968	3.85	0.976	1.09	0.0614	24.7							
				Minimum		0.644	0.0020	0.245	1.09	0.0505	0.0797	1.00	0.189	0.396	0.00695	3.08							
PS10	47.56046	-122.63322	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	28.7	1.34	0.0056	14.4	1.24	0.0725	0.188	2.33	1.32	0.690	0.123	6.46	0.0665	0.221	1.27	0.0794	30700	4.01	
				Median	28.8	1.28	0.0042	9.66	1.23	0.0694	0.159	1.96	0.781	0.532	0.0836	5.49	0.0490	0.141	1.11	0.0795	31300	1.53	
				1st Quartile	28.1	1.08	0.0042	6.71	1.20	0.0608	0.129	1.66	0.673	0.449	0.0707	4.18	0.0350	0.084	0.578	0.0658	29300	1.00	
				3rd Quartile	29.1	1.55	0.0042	18.1	1.31	0.0845	0.175	2.47	1.11	0.619	0.102	8.69	0.0835	0.377	1.90	0.0900	31500	3.26	
				Maximum	31.2	2.25	0.0272	50.3	1.47	0.102	0.601	7.25	10.7	1.89	0.839	14.5	0.287	0.443	2.93	0.123	32100	37.0	
				Minimum	27.3	0.800	0.0020	4.40	0.996	0.0467	0.101	0.816	0.504	0.399	0.0462	2.59	0.0110	0.009	0.0700	0.0450	29300	0.490	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.30	0.0039	1.70	0.940	0.0696	0.196	1.64	0.394	0.520	0.0213	5.82							
				Median		1.21	0.0042	2.14	0.940	0.0694	0.118	1.50	0.346	0.451	0.0195	5.25							
				1st Quartile		1.07	0.0042	0.916	0.940	0.0585	0.0968	1.35	0.283	0.424	0.0134	3.41							
				3rd Quartile		1.38	0.0042	2.14	0.940	0.0820	0.150	1.90	0.408	0.545	0.0260	7.75							
				Maximum		2.40	0.0042	3.52	0.940	0.0968	1.80	2.97	1.35	1.27	0.0454	11.7							
				Minimum		0.700	0.0020	0.353	0.940	0.0451	0.0671	0.630	0.190	0.379	0.00653	1.81							
PS10.1	47.56123	-122.63132	*Total*	***n***	21	21	10	20	8	20	20	21	21	18	21	21	20	21	9	21	2	21	0
				Average	28.9	1.34	0.0038	12.6	1.22	0.0689	0.157	1.97	0.900	0.544	0.0896	7.13	0.0526	0.202	0.895	0.0777	32400	3.64	
				Median	28.9	1.23	0.0042	10.8	1.22	0.0684	0.151	1.88	0.769	0.539	0.0839	6.17	0.0500	0.109	0.890	0.0780	32400	1.69	
				1st Quartile	28.3	1.00	0.0042	7.72	1.16	0.0586	0.139	1.60	0.676	0.479	0.0688	5.01	0.0313	0.0860	0.570	0.0620	32250	0.969	
				3rd Quartile	29.3	1.57	0.0042	17.9	1.29	0.0811	0.174	2.35	0.916	0.602	0.0976	8.67	0.0628	0.365	1.16	0.0820	32550	2.42	
				Maximum	31.3	2.30	0.0042	22.8	1.39	0.0929	0.270	3.86	2.32	0.706	0.198	12.9	0.143	0.440	1.50	0.137	32700	38.5	
				Minimum	27.4	0.900	0.0020	4.23	1.10	0.0487	0.104	0.692	0.504	0.399	0.0505	1.27	0.0130	0.009	0.121	0.0500	32100	0.490	
			Dissolved	***n***		20	10	17	0	20	20	21	21	18	21	21							
				Average		1.25	0.0040	1.77		0.0656	0.124	1.50	0.310	0.517	0.0193	6.57							
				Median		1.16	0.0042	2.14		0.0635	0.119	1.49	0.285	0.486	0.0188	5.86							
				1st Quartile		0.977	0.0042	1.09		0.0578	0.102	1.19	0.257	0.438	0.0123	4.06							
				3rd Quartile		1.31	0.0042	2.14		0.0777	0.145	1.78	0.360	0.536	0.0226	8.56							
				Maximum		2.40	0.0045	3.25		0.0877	0.188	2.59	0.549	0.912	0.0463	12.8							
				Minimum		0.700	0.0020	0.480		0.0434	0.0757	0.528	0.175	0.351	0.00524	1.06							
PS11	47.56048	-122.62986	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	29.1	1.38	0.0039	15.5	1.21	0.0724	0.165	1.73	1.14	0.558	0.121	6.93	0.0509	0.215	0.984	0.0763	32100	4.58	
				Median	29.1	1.27	0.0042	11.7	1.21	0.0739	0.150	1.70	0.876	0.526	0.107	5.12	0.0460	0.145	0.850	0.0810	32200	1.50	
				1st Quartile	28.4	1.09	0.0042	9.67	1.15	0.0627	0.122	1.33	0.652	0.442	0.0622	3.92	0.0305	0.0760	0.660	0.0638	32000	1.10	
				3rd Quartile	29.3	1.67	0.0042	21.0	1.30	0.0837	0.177	2.00	1.27	0.597	0.135	8.03	0.0670	0.370	1.24	0.0883	32200	3.57	
				Maximum	31.8	2.60	0.0042	44.4	1.32	0.0945	0.331	3.15	3.72	1.04	0.371	26.9	0.134	0.427	2.30	0.0980	33500	41.0	
				Minimum	27.3	0.800	0.0020	4.86	1.07	0.0516	0.0821	0.591	0.519	0.403	0.0514	1.14	0.003	0.009	0.110	0.0480	30600	0.506	
			Dissolved	***n***		23	13	18	1	23	23	24	24	18	24	24							
				Average		1.31	0.0039	1.76	1.04	0.0693	0.130	1.33	0.327	0.542	0.0219	6.16							
				Median		1.16	0.0042	2.14	1.04	0.0711	0.111	1.26	0.301	0.486	0.0173	4.30							

Site Code	Latitude (W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[1] (µg/L)	Al (µg/L)	As[1] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[2] (mg/L)	TP (mg/L)	TS[9] (mg/L)	TSS (mg/L)	HEM[8] (mg/L)
PS11 cont.				**1st Quartile**		1.02	0.0042	0.636	1.04	0.0591	0.0941	0.935	0.236	0.425	0.0128	3.44							
				3rd Quartile		1.33	0.0042	2.14	1.04	0.0787	0.139	1.61	0.377	0.582	0.0272	6.85							
				Maximum		2.60	0.0042	6.24	1.04	0.0956	0.354	2.36	0.713	0.971	0.0618	27.0							
				Minimum		0.848	0.0020	0.344	1.04	0.0448	0.0611	0.454	0.154	0.347	0.00708	0.95							
PS12	47.56052	-122.62836	*Total*	***n***	24	23	13	23	12	23	23	24	24	17	24	24	23	23	12	23	6	23	0
				Average	29.1	1.29	0.0042	22.7	1.24	0.0744	0.276	1.57	1.25	0.649	0.165	5.07	0.0536	0.219	1.27	0.0773	32483	4.17	
				Median	29.0	1.25	0.0042	15.7	1.21	0.0742	0.176	1.41	1.05	0.568	0.114	4.75	0.0490	0.166	1.27	0.0790	32300	1.96	
				1st Quartile	28.6	1.04	0.0042	9.78	1.20	0.0659	0.157	1.23	0.754	0.547	0.0901	3.95	0.0305	0.0775	1.08	0.0630	32050	1.27	
				3rd Quartile	29.6	1.53	0.0042	19.9	1.32	0.0840	0.214	1.71	1.33	0.640	0.145	5.81	0.0650	0.364	1.53	0.0895	32475	5.00	
				Maximum	31.3	1.80	0.0059	153	1.35	0.103	2.09	3.15	5.44	1.39	0.950	10.1	0.120	0.420	1.82	0.105	34100	23.0	
				Minimum	27.4	0.800	0.0020	5.98	1.12	0.0538	0.108	0.964	0.559	0.394	0.0472	1.89	0.004	0.009	0.600	0.0510	31700	0.620	
			Dissolved	***n***		23	13	18	1	23	23	24	24	17	24	24							
				Average		1.44	0.0040	1.72	1.20	0.0676	0.160	1.08	0.330	0.496	0.0222	4.25							
				Median		1.23	0.0042	2.14	1.20	0.0670	0.119	1.09	0.307	0.491	0.0218	4.31							
				1st Quartile		1.09	0.0042	0.672	1.20	0.0584	0.110	0.907	0.273	0.409	0.0130	3.15							
				3rd Quartile		1.65	0.0042	2.14	1.20	0.0803	0.127	1.26	0.355	0.529	0.0284	5.20							
				Maximum		3.40	0.0042	4.26	1.20	0.0912	1.07	1.64	0.794	0.792	0.0453	7.26							
				Minimum		0.800	0.0020	0.200	1.20	0.0342	0.0813	0.571	0.172	0.323	0.00491	1.48							
PS13	47.55199	-122.65407	*Total*	***n***	22	22	12	21	10	21	21	22	22	16	22	22	21	22	11	22	5	22	1
				Average	28.8	1.60	0.0039	12.4	1.16	0.0697	0.170	1.68	0.799	0.553	0.0848	3.74	0.0540	0.198	1.200	0.0769	31560	5.25	2.40
				Median	28.8	1.50	0.0042	11.1	1.22	0.0688	0.151	1.61	0.756	0.516	0.0823	3.39	0.0550	0.118	1.200	0.0800	31500	1.72	2.40
				1st Quartile	28.1	1.10	0.0042	8.58	1.14	0.0575	0.125	1.32	0.644	0.440	0.0636	2.32	0.0410	0.0478	0.960	0.0650	31300	1.12	2.40
				3rd Quartile	29.4	1.72	0.0042	14.6	1.24	0.0831	0.176	1.93	0.891	0.572	0.0917	4.46	0.0720	0.359	1.60	0.0930	32000	4.68	2.40
				Maximum	31.0	4.90	0.0049	28.6	1.33	0.100	0.439	2.94	1.45	1.38	0.208	7.56	0.0950	0.442	1.90	0.105	32200	42.5	2.40
				Minimum	26.9	0.959	0.0020	3.93	0.648	0.0367	0.109	0.873	0.444	0.402	0.0373	1.71	0.004	0.009	0.0900	0.0350	30800	0.520	2.40
			Dissolved	***n***		22	12	16	1	21	21	22	22	16	22	22							
				Average		1.66	0.0043	1.84	0.620	0.0647	0.140	1.35	0.317	0.529	0.0200	3.41							
				Median		1.27	0.0042	2.14	0.620	0.0625	0.114	1.23	0.324	0.448	0.0171	3.04							
				1st Quartile		1.07	0.0042	1.04	0.620	0.0504	0.100	1.06	0.257	0.418	0.0130	2.06							
				3rd Quartile		1.83	0.0042	2.14	0.620	0.0806	0.131	1.73	0.375	0.486	0.0260	4.13							
				Maximum		4.80	0.0093	4.21	0.620	0.0888	0.499	2.36	0.468	1.63	0.0448	7.58							
				Minimum		0.900	0.0020	0.421	0.620	0.0325	0.0812	0.632	0.174	0.383	0.00580	0.986							
PS14	47.55241	-122.64371	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	3
				Average	28.9	1.43	0.0039	13.6	1.22	0.0672	0.161	1.32	0.760	0.638	0.0746	3.04	0.0457	0.200	1.14	0.0703	31360	2.98	1.40
				Median	29.1	1.32	0.0042	11.1	1.24	0.0668	0.137	1.27	0.777	0.506	0.0714	2.90	0.0460	0.133	1.14	0.0790	31500	1.40	1.30
				1st Quartile	28.4	1.09	0.0042	8.34	1.18	0.0562	0.119	1.11	0.664	0.470	0.0610	2.28	0.0295	0.0525	0.743	0.0568	31000	0.848	1.00
				3rd Quartile	29.4	1.73	0.0042	19.2	1.31	0.0771	0.204	1.48	0.833	0.542	0.0913	3.81	0.0610	0.364	1.45	0.0833	31800	3.59	1.75
				Maximum	31.1	2.60	0.0050	26.5	1.36	0.0943	0.338	2.02	1.19	2.30	0.109	5.15	0.0970	0.426	2.30	0.0960	32900	16.0	2.20
				Minimum	27.0	0.878	0.0020	5.03	0.930	0.0384	0.106	0.576	0.438	0.406	0.0372	0.890	0.003	0.009	0.0900	0.0280	29600	0.300	0.700
			Dissolved	***n***		23	13	18	1	23	23	24	24	18	24	24							
				Average		1.39	0.0039	1.63	0.885	0.0646	0.120	1.07	0.315	0.503	0.0170	2.76							
				Median		1.27	0.0042	2.14	0.885	0.0629	0.115	1.02	0.310	0.490	0.0153	2.37							
				1st Quartile		1.07	0.0042	0.639	0.885	0.0537	0.0976	0.860	0.273	0.451	0.0098	1.65							
				3rd Quartile		1.67	0.0042	2.14	0.885	0.0751	0.144	1.24	0.348	0.535	0.0217	3.78							
				Maximum		2.80	0.0042	2.80	0.885	0.0966	0.193	1.68	0.561	0.748	0.0404	4.97							
				Minimum		0.800	0.0020	0.312	0.885	0.0347	0.0718	0.460	0.182	0.373	0.00624	0.849							
PS15	47.55562	-122.63658	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	3
				Average	28.9	1.62	0.0039	13.0	1.21	0.0732	0.169	1.17	0.707	0.619	0.0724	2.93	0.0440	0.203	1.19	0.0757	31060	6.45	1.93
				Median	29.0	1.33	0.0042	12.0	1.22	0.0687	0.146	1.08	0.716	0.510	0.0695	3.02	0.0390	0.124	1.12	0.0765	31300	1.68	2.30
				1st Quartile	28.6	1.00	0.0042	8.52	1.17	0.0573	0.132	0.939	0.558	0.450	0.0613	1.85	0.0310	0.051	0.663	0.0608	30500	0.996	1.50
				3rd Quartile	29.3	1.60	0.0042	17.2	1.31	0.0806	0.189	1.24	0.767	0.558	0.0818	3.65	0.0540	0.366	1.82	0.0870	31500	3.37	2.55
				Maximum	31.3	7.70	0.0053	23.9	1.35	0.213	0.412	2.76	1.22	1.82	0.111	5.29	0.0940	0.432	2.10	0.177	32200	78.0	2.80
				Minimum	27.1	0.873	0.0020	2.14	0.850	0.0365	0.0771	0.724	0.445	0.395	0.0334	1.28	0.003	0.009	0.0640	0.0340	29800	0.500	0.700
			Dissolved	***n***		23	13	18	1	23	23	24	24	18	24	24							

Site Code	Latitude (W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[1] (µg/L)	Al (µg/L)	As[2] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[4] (mg/L)	TP (mg/L)	TS[5] (mg/L)	TSS (mg/L)	HEM[6] (mg/L)
PS15 cont.				**Average**		1.46	0.0039	1.83	0.833	0.0676	0.230	0.929	0.289	0.523	0.0167	2.67							
				Median		1.24	0.0042	2.14	0.833	0.0661	0.109	0.814	0.280	0.488	0.0137	2.71							
				1st Quartile		1.01	0.0042	1.23	0.833	0.0552	0.0951	0.764	0.227	0.402	0.00931	1.56							
				3rd Quartile		1.53	0.0042	2.14	0.833	0.0798	0.124	1.10	0.330	0.572	0.0208	3.29							
				Maximum		5.40	0.0042	5.23	0.833	0.119	2.82	2.20	0.602	0.833	0.0553	5.14							
				Minimum		0.800	0.0020	0.271	0.833	0.0326	0.0581	0.474	0.150	0.314	0.00569	0.815							
PS16	47.55872	-122.62844	*Total*	***n***	25	25	13	24	11	24	24	25	25	19	25	25	23	24	12	24	5	25	0
				Average	29.1	1.42	0.0039	16.2	1.21	0.0722	0.195	1.14	0.780	0.622	0.0857	3.84	0.0423	0.211	1.22	0.0732	31900	3.28	
				Median	29.2	1.30	0.0042	13.7	1.22	0.0728	0.150	1.02	0.687	0.541	0.0804	2.96	0.0420	0.128	0.955	0.0775	32100	1.70	
				1st Quartile	28.7	0.970	0.0042	8.58	1.17	0.0615	0.131	0.918	0.580	0.455	0.0596	1.92	0.0255	0.0785	0.738	0.0640	31100	1.20	
				3rd Quartile	29.5	1.70	0.0042	19.8	1.25	0.0818	0.181	1.25	0.828	0.647	0.0887	3.96	0.0570	0.368	1.85	0.0843	32500	3.47	
				Maximum	31.6	2.90	0.0042	64.4	1.38	0.0910	1.16	2.77	2.08	1.69	0.332	19.3	0.0930	0.428	2.22	0.0940	32800	13.0	
				Minimum	26.9	0.700	0.0020	2.29	1.01	0.0545	0.0868	0.610	0.358	0.383	0.0296	1.37	0.003	0.009	0.0920	0.0360	31000	0.900	
			Dissolved	***n***		24	13	18	1	24	24	25	25	19	25	25							
				Average		1.54	0.0039	1.63	0.979	0.0680	0.128	0.877	0.267	0.502	0.0160	3.52							
				Median		1.27	0.0042	2.14	0.979	0.0668	0.111	0.840	0.245	0.444	0.0119	2.82							
				1st Quartile		1.04	0.0042	0.859	0.979	0.0583	0.100	0.699	0.224	0.397	0.00889	1.55							
				3rd Quartile		1.83	0.0042	2.14	0.979	0.0798	0.143	0.979	0.292	0.522	0.0223	3.76							
				Maximum		4.10	0.0042	3.11	0.979	0.0892	0.406	2.08	0.554	1.21	0.0386	18.6							
				Minimum		0.865	0.0020	0.305	0.979	0.0436	0.0540	0.479	0.156	0.354	0.00489	1.08							
PWNLP	47.58426	-122.64405	*Total*	***n***	7	7	7	7	7	7	7	7	7	4	7	7	7	7	7	7	4	7	0
				Average	29.5	1.43	0.0042	20.2	1.20	0.0752	0.237	0.654	0.717	0.673	0.0825	1.78	0.0336	0.255	1.16	0.0791	31900	5.27	
				Median	29.1	1.40	0.0042	18.1	1.21	0.0776	0.199	0.694	0.656	0.617	0.0723	1.17	0.0280	0.313	1.11	0.0760	31750	6.00	
				1st Quartile	29.0	1.25	0.0042	15.6	1.16	0.0657	0.137	0.554	0.584	0.415	0.0647	0.761	0.0190	0.123	0.905	0.0715	31025	2.37	
				3rd Quartile	30.1	1.70	0.0042	22.3	1.25	0.0821	0.231	0.716	0.858	0.874	0.0967	1.74	0.0485	0.358	1.35	0.0860	32625	7.75	
				Maximum	30.6	1.90	0.0042	38.6	1.34	0.0918	0.599	0.810	0.918	1.07	0.146	5.66	0.0610	0.410	1.98	0.100	33900	10.0	
				Minimum	28.9	0.800	0.0042	9.13	1.06	0.0616	0.126	0.534	0.559	0.387	0.0369	0.603	0.0110	0.0990	0.520	0.0630	30200	0.620	
			Dissolved	***n***		7	7	6	0	7	7	7	7	4	7	7							
				Average		1.50	0.0042	2.43		0.0713	0.935	0.467	0.334	0.394	0.0125	2.13							
				Median		1.60	0.0042	2.14		0.0725	0.109	0.468	0.277	0.394	0.0101	0.923							
				1st Quartile		1.30	0.0042	2.14		0.0631	0.100	0.433	0.223	0.366	0.00823	0.628							
				3rd Quartile		1.70	0.0042	2.14		0.0782	0.112	0.485	0.355	0.422	0.0145	1.41							
				Maximum		2.00	0.0042	3.90		0.0864	5.93	0.553	0.698	0.439	0.0250	9.50							
				Minimum		0.918	0.0042	2.14		0.0577	0.0840	0.413	0.208	0.350	0.00692	0.435							
SN03	47.54658	-122.67124	*Total*	***n***	23	23	13	23	11	22	22	23	23	18	23	23	23	23	11	23	5	23	0
				Average	28.0	5.59	0.0039	24.6	1.13	0.147	0.224	0.967	1.80	0.689	0.114	3.02	0.157	0.216	2.29	0.186	30640	9.81	
				Median	28.6	1.59	0.0042	21.7	1.18	0.0711	0.194	0.886	1.07	0.589	0.0982	1.88	0.120	0.155	1.20	0.0950	30300	2.37	
				1st Quartile	27.8	1.13	0.0042	13.0	1.14	0.0600	0.159	0.816	0.811	0.481	0.0721	1.33	0.0550	0.0750	1.06	0.0685	30100	1.25	
				3rd Quartile	29.4	1.81	0.0042	37.0	1.23	0.0814	0.255	1.00	1.78	0.682	0.146	2.42	0.217	0.365	1.59	0.120	32000	5.56	
				Maximum	30.0	66.3	0.0042	49.3	1.34	1.380	0.517	2.07	9.24	1.69	0.248	19.8	0.588	0.451	12.1	1.50	33000	133	
				Minimum	18.3	1.00	0.0020	4.83	0.446	0.0486	0.135	0.602	0.508	0.423	0.0426	1.03	0.0260	0.009	0.780	0.0320	27800	0.620	
			Dissolved	***n***		23	13	18	1	22	22	23	23	18	23	23							
				Average		4.058	0.0039	2.01	0.470	0.0781	0.160	0.678	0.496	0.525	0.0173	1.83							
				Median		1.280	0.0042	6.63	1.20	0.0711	0.150	1.22	0.668	0.540	0.0468	3.52							
				1st Quartile		1.020	0.0042	0.895	0.470	0.0527	0.116	0.534	0.242	0.433	0.0114	0.859							
				3rd Quartile		1.700	0.0042	2.14	0.470	0.0785	0.169	0.780	0.422	0.550	0.0205	2.30							
				Maximum		50.000	0.0042	6.44	0.470	0.2730	0.556	1.01	2.19	1.08	0.0453	5.42							
				Minimum		0.800	0.0020	0.200	0.470	0.0452	0.0756	0.399	0.157	0.358	0.00646	0.424							
SN05	47.53143	-122.68687	*Total*	***n***	23	23	13	23	11	22	22	23	23	18	23	23	23	23	11	23	5	23	0
				Average	25.5	1.77	0.0043	96.9	1.01	0.0679	0.464	0.955	1.77	0.728	0.229	2.09	0.0575	0.212	1.90	0.0840	28680	8.04	
				Median	28.0	1.60	0.0042	87.2	0.993	0.0671	0.405	0.937	1.53	0.691	0.208	1.91	0.0550	0.132	1.20	0.0780	30000	5.33	
				1st Quartile	24.6	1.28	0.0042	33.0	0.882	0.0491	0.294	0.782	1.19	0.541	0.123	1.49	0.0265	0.0410	1.05	0.0665	25900	3.31	
				3rd Quartile	28.3	1.96	0.0042	143	1.15	0.0748	0.574	1.16	2.08	0.849	0.281	2.34	0.0825	0.367	2.49	0.0965	32900	7.51	
				Maximum	30.1	4.20	0.0056	259	1.25	0.152	1.15	1.38	3.94	1.44	0.517	4.99	0.126	0.675	5.80	0.172	33500	35.0	

Site Code	Latitude[*] (W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[1] (µg/L)	Al (µg/L)	As[2] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[4] (mg/L)	TP (mg/L)	TS[5] (mg/L)	TSS (mg/L)	HEM[6] (mg/L)
SN05 cont.				**Minimum**	8.2	1.05	0.0020	17.8	0.777	0.0420	0.141	0.642	0.565	0.427	0.0586	1.20	0.003	0.009	0.700	0.0500	21100	1.01	
			Dissolved	***n***		23	13	18	1	22	22	23	23	18	23	23							
				Average		1.54	0.0039	3.03	1.08	0.0604	0.226	0.576	0.403	0.461	0.0251	1.47							
				Median		1.38	0.0042	2.14	1.08	0.0615	0.161	0.539	0.396	0.464	0.0192	1.23							
				1st Quartile		1.16	0.0042	2.10	1.08	0.0452	0.120	0.473	0.299	0.407	0.0101	0.913							
				3rd Quartile		1.75	0.0042	3.37	1.08	0.0717	0.203	0.652	0.472	0.506	0.0309	1.52							
				Maximum		3.00	0.0042	8.99	1.08	0.116	0.845	1.21	0.820	0.562	0.0876	5.34							
				Minimum		0.973	0.0020	0.545	1.08	0.0328	0.0861	0.350	0.215	0.393	0.00676	0.617							
SN08	47.54008	-122.66242	*Total*	***n***	22	22	13	22	11	21	21	22	22	17	22	22	22	22	11	22	5	22	0
				Average	27.9	2.47	0.0039	32.0	1.15	0.0735	0.250	0.941	1.07	0.585	0.125	2.15	0.0411	0.177	1.68	0.0930	31760	7.61	
				Median	28.2	1.53	0.0042	30.3	1.17	0.0655	0.232	0.909	1.03	0.550	0.123	1.89	0.0365	0.0705	1.36	0.0765	31700	2.51	
				1st Quartile	26.9	1.19	0.0042	20.7	1.13	0.0542	0.202	0.751	0.739	0.484	0.083	1.41	0.0178	0.0313	1.00	0.0600	30400	1.63	
				3rd Quartile	29.3	2.43	0.0042	39.8	1.22	0.0820	0.253	1.10	1.18	0.640	0.152	2.51	0.0620	0.346	2.15	0.100	32800	6.61	
				Maximum	30.0	14.8	0.0048	74.2	1.30	0.219	0.443	1.40	2.60	0.857	0.208	5.93	0.0890	0.428	3.75	0.420	33500	69.0	
				Minimum	24.6	0.900	0.0020	13.4	0.922	0.0387	0.155	0.634	0.540	0.449	0.0560	0.970	0.003	0.009	0.660	0.0340	30400	0.620	
			Dissolved	***n***		22	13	18	1	21	21	22	22	17	22	22							
				Average		2.10	0.0039	2.06	0.894	0.0610	0.164	0.686	0.330	0.447	0.0185	1.51							
				Median		1.36	0.0042	2.14	0.894	0.0577	0.132	0.669	0.272	0.425	0.0176	1.19							
				1st Quartile		1.05	0.0042	1.42	0.894	0.0440	0.105	0.540	0.225	0.387	0.00936	1.01							
				3rd Quartile		1.60	0.0042	2.14	0.894	0.0761	0.176	0.838	0.356	0.497	0.0243	2.03							
				Maximum		9.70	0.0042	6.82	0.894	0.0875	0.515	1.05	1.12	0.579	0.0421	4.44							
				Minimum		0.700	0.0020	0.309	0.894	0.0350	0.0674	0.478	0.159	0.346	0.00692	0.578							
SN10	47.54095	-122.64264	*Total*	***n***	23	23	13	23	11	22	22	23	23	18	23	23	23	23	11	23	5	23	0
				Average	28.4	1.89	0.0039	20.5	1.12	0.0754	0.209	1.41	0.835	0.617	0.103	3.85	0.0449	0.176	1.42	0.0753	31440	5.13	
				Median	28.5	1.46	0.0042	17.2	1.12	0.0765	0.180	1.23	0.737	0.522	0.0970	2.99	0.0430	0.0800	1.00	0.0790	32400	3.08	
				1st Quartile	27.6	1.05	0.0042	14.3	1.06	0.0616	0.155	1.05	0.602	0.451	0.0762	2.36	0.0135	0.0155	0.915	0.0745	29800	1.57	
				3rd Quartile	29.3	2.26	0.0042	22.3	1.18	0.0851	0.248	1.56	0.899	0.595	0.108	4.22	0.0665	0.354	1.64	0.0875	33000	5.76	
				Maximum	30.0	4.98	0.0042	77.4	1.32	0.127	0.448	2.93	1.62	1.61	0.282	14.1	0.117	0.437	3.56	0.101	33100	40.0	
				Minimum	26.3	0.600	0.0020	2.14	0.923	0.0467	0.114	0.873	0.504	0.420	0.0476	1.47	0.003	0.009	0.660	0.0290	28900	0.385	
			Dissolved	***n***		23	13	18	1	22	22	23	23	18	23	23							
				Average		1.54	0.0039	1.86	0.932	0.0663	0.145	1.06	0.305	0.442	0.0188	3.19							
				Median		1.32	0.0042	2.14	0.932	0.0668	0.118	0.857	0.290	0.425	0.0174	2.79							
				1st Quartile		1.14	0.0042	0.915	0.932	0.0527	0.103	0.776	0.238	0.408	0.0110	1.81							
				3rd Quartile		1.61	0.0042	2.14	0.932	0.0795	0.168	1.27	0.341	0.490	0.0213	3.74							
				Maximum		3.10	0.0042	4.22	0.932	0.0896	0.429	2.17	0.673	0.544	0.0400	10.1							
				Minimum		0.800	0.0020	0.200	0.932	0.0449	0.0827	0.654	0.185	0.362	0.00622	0.93							
SN11	47.54338	-122.63549	*Total*	***n***	21	21	12	21	11	20	20	21	21	16	21	21	21	21	11	21	5	21	0
				Average	27.4	1.86	0.0040	19.87	1.16	0.0653	0.242	1.13	0.783	0.749	0.0866	2.71	0.0370	0.162	1.24	0.0704	31420	4.39	
				Median	28.7	1.87	0.0042	14.70	1.14	0.0639	0.196	1.03	0.764	0.555	0.0788	2.51	0.0300	0.0710	1.10	0.0670	32200	2.89	
				1st Quartile	27.1	1.30	0.0042	9.38	1.09	0.0516	0.140	0.937	0.603	0.495	0.0653	1.89	0.0080	0.009	0.955	0.0600	31600	1.46	
				3rd Quartile	29.4	2.30	0.0042	25.30	1.21	0.0835	0.296	1.28	0.889	0.725	0.0965	3.02	0.0550	0.357	1.48	0.0790	32500	5.00	
				Maximum	30.3	4.00	0.0042	51.50	1.35	0.0946	0.699	1.52	1.68	3.09	0.248	5.23	0.0950	0.433	2.00	0.122	34200	25.0	
				Minimum	20.0	0.900	0.0020	2.14	1.03	0.0260	0.102	0.843	0.328	0.377	0.0253	1.08	0.003	0.009	0.520	0.0280	26600	0.552	
			Dissolved	***n***		21	12	17	1	20	20	21	21	16	21	21							
				Average		1.59	0.0040	2.74	0.987	0.0612	0.187	0.859	0.295	0.456	0.0152	2.44							
				Median		1.50	0.0042	2.14	0.987	0.0604	0.146	0.777	0.286	0.463	0.0119	2.36							
				1st Quartile		1.24	0.0042	0.637	0.987	0.0481	0.102	0.690	0.237	0.399	0.00888	1.62							
				3rd Quartile		2.00	0.0042	3.44	0.987	0.0758	0.206	1.03	0.337	0.509	0.0183	2.86							
				Maximum		2.60	0.0042	9.25	0.987	0.0881	0.593	1.27	0.470	0.574	0.0426	4.86							
				Minimum		0.841	0.0020	0.200	0.987	0.0379	0.0740	0.630	0.181	0.350	0.00648	0.874							
WP	47.58397	-122.57182	*Total*	***n***	24	24	13	23	11	23	23	24	24	18	24	24	23	24	12	24	5	24	0
				Average	29.2	1.28	0.0039	21.73	1.22	0.0716	0.200	0.634	0.688	0.632	0.0775	1.34	0.0327	0.215	1.10	0.0726	32320	5.16	
				Median	29.2	1.23	0.0042	21.50	1.20	0.0678	0.164	0.614	0.693	0.547	0.0727	0.986	0.0250	0.152	1.05	0.0750	32100	1.98	
				1st Quartile	28.7	1.03	0.0042	15.70	1.19	0.0639	0.144	0.576	0.547	0.479	0.0552	0.815	0.0150	0.0870	0.988	0.0603	32000	1.15	
				3rd Quartile	29.7	1.42	0.0042	25.64	1.23	0.0782	0.196	0.675	0.805	0.700	0.0932	1.18	0.0490	0.366	1.32	0.0810	32500	2.92	
				Maximum	31.2	2.02	0.0042	36.00	1.37	0.0914	0.716	0.938	1.16	1.66	0.157	7.74	0.0750	0.426	2.10	0.117	34100	35.0	

Site Code	Latitude[*](W)	Longitude (N)	Fraction	Statistic	Salinity (ppt)	TOC/DOC (mg/L)	Ag[†] (µg/L)	Al (µg/L)	As[‡] (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (ng/L)	Ni (µg/L)	Pb (µg/L)	Zn (µg/L)	AN (mg/L)	NNN (mg/L)	TKN[¶] (mg/L)	TP (mg/L)	TS[§] (mg/L)	TSS (mg/L)	HEM[‖] (mg/L)
WP cont.				**Minimum**	27.3	0.700	0.0020	7.91	1.08	0.0574	0.118	0.428	0.368	0.376	0.0287	0.548	0.003	0.009	0.078	0.0430	30900	0.620	
			Dissolved	***n***		24	13	18	1	23	23	24	24	18	24	24							
				Average		1.32	0.0039	1.67	1.13	0.0679	0.740	0.493	0.288	0.660	0.0147	1.53							
				Median		1.16	0.0042	2.14	1.13	0.0649	0.120	0.479	0.260	0.424	0.0138	0.869							
				1st Quartile		1.01	0.0042	0.630	1.13	0.0599	0.0932	0.442	0.230	0.405	0.00731	0.528							
				3rd Quartile		1.60	0.0042	2.14	1.13	0.0792	0.138	0.534	0.317	0.474	0.0218	1.05							
				Maximum		2.78	0.0042	4.79	1.13	0.0859	13.9	0.670	0.608	2.59	0.0279	17.4							
				Minimum		0.700	0.0020	0.200	1.13	0.0458	0.0690	0.381	0.175	0.333	0.00334	0.434							

* Coordinates are listed as target locations
† Analyte not sampled post-AMB14; determined to be non-concern
‡ Analyte not sampled post-AMB11; determined to be non-concern
§ Parameter not sampled post-AMB05; determined to be non-concern
‖ Parameter not sampled post-AMB22; determined to be non-concern
¶ Collected below seasonal thermocline
☞ Non-detects are included as method detection limits

Appendix C – Analytical Chemistry Data Packages

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring August 2009
(Final 052010)

Battelle Project No. 54220
CF No. 3060

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
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BATTELLE MARINE SCIENCE LABORATORIES
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Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB01
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr	Cu
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0042**	**2.14**	**0.0267**	**0.00110**	**0.0293**	**0.0351**
Seawater Reporting Limit (MDL* 3.18)							**0.013**	**6.8**	**0.085**	**0.0035**	**0.093**	**0.11**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0032	--	--	0.0033	0.051	0.0053
Freshwater Reporting Limit (MDL* 3.18)						--	0.010	--	--	0.0105	0.161	0.017
KP2009-001	K-I-01	**TME**	Seawater	**3060-1**	08/06/09	**--**	**0.0042** Ub	**14.5** b	**--**	**0.0541** b	**0.199** b	**1.02** b
KP2009-002	K-I-02	**TME**	Seawater	**3060-2**	08/06/09	**--**	**0.0042** Ub	**10.8** b	**--**	**0.0631** b	**0.159** b	**0.945** b
KP2009-003	K-I-03	**TME**	Seawater	**3060-3**	08/06/09	**--**	**0.0042** Ub	**8.11** b	**--**	**0.0548** b	**0.172** b	**0.952** b
AMB01DD-001	NPDES-18	**TME**	Seawater	**3060-15**	08/31/09	21.690	**0.0511** b	**25.7** b	**2.09**	**0.143** b	**0.703** b	**12.2** b
AMB01DD-001	NPDES-18	DME	Seawater	3060-16	08/31/09	**--**	0.0207 b	--	1.80	0.135 b	0.319 b	3.64 b
AMB01DD-002	NPDES-19	**TME**	Seawater	**3060-17**	08/31/09	**--**	**0.0256** b	**2.69** b	**1.91**	**0.112** b	**6.61** b	**3.64** b
AMB01DD-002	NPDES-19	DME	Seawater	3060-18	08/31/09	--	0.0042 Ub	--	1.05	0.0841 b	0.0312 Jb	0.581 b
AMB01DD-003	NPDES-21	**TME**	Seawater	**3060-19**	08/31/09	**--**	**0.00844** Jb	**17.2** b	**0.403**	**0.0522** b	**0.262** b	**13.1** b
AMB01DD-003	NPDES-21	DME	Seawater	3060-20	08/31/09	--	0.0042 Ub	--	0.357	0.0502 b	0.261 b	7.94 b
AMB01-090	PS-01	**TME**	Seawater	**3060-21**	08/31/09	29.219	**0.0042** Ub	**2.14** Ub	**1.07**	**0.105** b	**0.163** b	**1.37** b
AMB01-090	PS-01	DME	Seawater	3060-22	08/31/09	--	0.0042 Ub	--	1.03	0.0711 b	0.122 b	1.03 b
AMB01-085	PS-02	**TME**	Seawater	**3060-23**	08/31/09	28.878	**0.00442** Jb	**5.36** Jb	**1.30**	**0.0687** b	**0.197** b	**2.14** b
AMB01-085	PS-02	DME	Seawater	3060-24	08/31/09	--	0.0042 Ub	--	1.29	0.0608 b	0.164 b	1.68 b
AMB01-023	PS-03	**TME**	Seawater	**3060-25**	08/31/09	29.339	**0.00525** Jb	**2.64** Jb	**1.19**	**0.111** b	**0.205** b	**2.90** b
AMB01-023	PS-03	DME	Seawater	3060-26	08/31/09	--	0.0042 Ub	--	1.17	0.0836 b	0.153 b	2.17 b
AMB01-029	PS-03 DUP	**TME**	Seawater	**3060-27**	08/31/09	29.299	**0.0042** Ub	**2.14** Ub	**1.23**	**0.0565** b	**0.0876** Jb	**3.22** b
AMB01-029	PS-03 DUP	DME	Seawater	3060-28	08/31/09	--	0.0042 Ub	--	1.20	0.0851 b	0.235 b	2.03 b
AMB01-013	PS-04	**TME**	Seawater	**3060-29**	08/31/09	29.454	**0.0042** Ub	**2.14** Ub	**1.13**	**0.0464** b	**0.0707** Jb	**1.82** b
AMB01-013	PS-04	DME	Seawater	3060-30	08/31/09	--	0.0042 Ub	--	1.09	0.0592 b	0.0838 Jb	1.32 b
AMB01-018	PS-05	**TME**	Seawater	**3060-31**	08/31/09	29.678	**0.0042** Ub	**4.02** Jb	**1.15**	**0.0652** b	**0.0983** b	**1.98** b
AMB01-018	PS-05	DME	Seawater	3060-32	08/31/09	--	0.0042 Ub	--	1.13	0.0611 b	0.0793 Jb	1.69 b
AMB01-008	PS-06	**TME**	Seawater	**3060-33**	08/31/09	27.548	**0.0042** Ub	**8.76** b	**1.32**	**0.0732** b	**0.102** b	**1.96** b
AMB01-008	PS-06	DME	Seawater	3060-34	08/31/09	--	0.0042 Ub	--	1.32	0.0728 b	0.0846 Jb	1.33 b
AMB01-003	PS-07	**TME**	Seawater	**3060-35**	08/31/09	28.496	**0.0042** Ub	**2.14** Ub	**1.24**	**0.0690** b	**0.148** b	**1.74** b
AMB01-003	PS-07	DME	Seawater	3060-36	08/31/09	--	0.0042 Ub	--	1.19	0.0705 b	0.0867 Jb	1.40 b
AMB01-035	PS-08	**TME**	Seawater	**3060-37**	08/31/09	29.581	**0.0042** Ub	**2.14** Ub	**1.11**	**0.0733** b	**0.136** b	**3.18** b
AMB01-035	PS-08	DME	Seawater	3060-38	08/31/09	--	0.0042 Ub	--	1.12	0.0694 b	0.0716 Jb	2.46 b
AMB01-043	PS-09	**TME**	Seawater	**3060-39**	08/31/09	29.144	**0.0042** Ub	**3.02** Jb	**1.14**	**0.0708** b	**0.132** b	**2.93** b
AMB01-043	PS-09	DME	Seawater	3060-40	08/31/09	--	0.0042 Ub	--	1.09	0.0694 b	0.0815 Jb	2.50 b
AMB01-049	PS-10	**TME**	Seawater	**3060-41**	08/31/09	29.397	**0.0042** Ub	**6.89** b	**1.00**	**0.0662** b	**0.121** b	**1.92** b
AMB01-049	PS-10	DME	Seawater	3060-42	08/31/09	--	0.0042 Ub	--	0.940	0.0583 b	0.0748 Jb	1.47 b
AMB01-054	PS-11	**TME**	Seawater	**3060-43**	08/31/09	29.712	**0.0042** Ub	**9.62** b	**1.07**	**0.0844** b	**0.115** b	**1.57** b
AMB01-054	PS-11	DME	Seawater	3060-44	08/31/09	--	0.0042 Ub	--	1.04	0.0698 b	0.0931 b	1.17 b
AMB01-078	PS-13	**TME**	Seawater	**3060-45**	08/31/09	29.923	**0.00492** Jb	**8.49** b	**0.648**	**0.0680** b	**0.124** b	**1.09** b
AMB01-078	PS-13	DME	Seawater	3060-46	08/31/09	--	0.00927 Jb	--	0.620	0.0453 b	0.0841 Jb	0.887 b
AMB01-071	PS-14	**TME**	Seawater	**3060-47**	08/31/09	29.306	**0.00504** Jb	**6.70** Jb	**0.930**	**0.0933** b	**0.119** b	**1.27** b
AMB01-071	PS-14	DME	Seawater	3060-48	08/31/09	--	0.0042 Ub	--	0.885	0.0629 b	0.0759 Jb	0.960 b

BATTELLE MARINE SCIENCE LABORATORIES
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360/681-4564

Ambient Monitoring - AMB01
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr	Cu
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB01-064	PS-15	**TME**	Seawater	**3060-49**	08/31/09	29.587	**0.0042** Ub	**2.14** Ub	**0.850**	**0.213** b	**0.258** b	**1.18** b
AMB01-064	PS-15	DME	Seawater	3060-50	08/31/09	--	0.0042 Ub	--	0.833	0.119 b	0.0724 Jb	0.770 b
AMB01-059	PS-16	**TME**	Seawater	**3060-51**	08/31/09	29.773	**0.0042** Ub	**2.29** Jb	**1.01**	**0.0910** b	**0.0942** b	**0.895** b
AMB01-059	PS-16	DME	Seawater	3060-52	08/31/09	--	0.0042 Ub	--	0.979	0.0621 b	0.0635 Jb	0.699 b
AMB01-103	M3.1	**TME**	Seawater	**3060-53**	08/31/09	29.963	**0.0042** Ub	**2.14** Ub	**1.03**	**0.0447** b	**0.0488** Jb	**0.611** b
AMB01-103	M3.1	DME	Seawater	3060-54	08/31/09	--	0.0042 Ub	--	1.01	0.0437 b	0.0389 Jb	0.592 b
AMB01-110	M3.1 Deep	**TME**	Seawater	**3060-55**	08/31/09	30.094	**0.0042** Ub	**8.13** b	**1.31**	**0.0809** b	**0.122** b	**0.545** b
AMB01-110	M3.1 Deep	DME	Seawater	3060-56	08/31/09	--	0.0042 Ub	--	1.29	0.0636 b	0.108 b	0.449 b
AMB01-098	SN03	**TME**	Seawater	**3060-57**	08/31/09	28.721	**0.0042** Ub	**7.74** b	**0.446**	**0.453** b	**0.262** b	**1.72** b
AMB01-098	SN03	DME	Seawater	3060-58	08/31/09	--	0.0042 Ub	--	0.470	0.151 b	0.173 b	1.01 b
AMB01-217	SN10	**TME**	Seawater	**3060-59**	09/01/09	29.335	**0.0042** Ub	**2.14** Ub	**0.923**	**0.127** b	**0.255** b	**2.93** b
AMB01-217	SN10	DME	Seawater	3060-60	09/01/09	--	0.0042 Ub	--	0.932	0.0896 b	0.183 b	2.17 b
AMB01-222	M3.3	**TME**	Seawater	**3060-61**	09/01/09	29.478	**0.0042** Ub	**2.83** Jb	**1.02**	**0.0828** b	**0.204** b	**1.09** b
AMB01-222	M3.3	DME	Seawater	3060-62	09/01/09	--	0.0042 Ub	--	0.999	0.0603 b	0.113 b	0.857 b
AMB01-227	SN11	**TME**	Seawater	**3060-63**	09/01/09	29.485	**0.0042** Ub	**2.14** U	**1.030**	**0.0260** b	**0.102** b	**1.23** b
AMB01-227	SN11	DME	Seawater	3060-64	09/01/09	--	0.0042 Ub	--	0.987	0.0630 b	0.593 b	1.16 b
AMB01-202	SN05	**TME**	Seawater	**3060-65**	09/01/09	29.705	**0.00559** Jb	**28.3** b	**1.13**	**0.0855** b	**0.234** b	**1.01** b
AMB01-202	SN05	DME	Seawater	3060-66	09/01/09	--	0.0042 Ub	--	1.08	0.0721 b	0.115 b	0.683 b
AMB01-207	SN08	**TME**	Seawater	**3060-67**	09/01/09	29.398	**0.00476** Jb	**14.2** b	**0.922**	**0.219** b	**0.253** b	**1.40** b
AMB01-207	SN08	DME	Seawater	3060-68	09/01/09	--	0.0042 Ub	--	0.894	0.0829 b	0.107 b	0.957 b
AMB01-212	M4	**TME**	Seawater	**3060-69**	09/01/09	29.741	**0.0042** Ub	**3.67** Jb	**1.12**	**0.132** b	**0.138** b	**0.935** b
AMB01-212	M4	DME	Seawater	3060-70	09/01/09	--	0.0042 Ub	--	1.10	0.0877 b	0.111 b	0.672 b
AMB01-232	BJ-EST	**TME**	Seawater	**3060-71**	09/01/09	29.530	**0.0042** Ub	**2.22** Jb	**1.01**	**0.0953** b	**0.117** b	**0.731** b
AMB01-232	BJ-EST	DME	Seawater	3060-72	09/01/09	--	0.0042 Ub	--	1.02	0.0523 b	0.113 b	0.820 b
AMB01-237	PS-12	**TME**	Seawater	**3060-73**	09/01/09	29.923	**0.0042** Ub	**5.98** Jb	**1.20**	**0.0672** b	**0.146** b	**1.15** b
AMB01-237	PS-12	DME	Seawater	3060-74	09/01/09	--	0.0042 Ub	--	1.20	0.0342 b	0.115 b	0.940 b
AMB01-242	BM01	**TME**	Seawater	**3060-75**	09/01/09	29.994	**0.0042** Ub	**12.3** b	**1.23**	**0.0702** b	**0.166** b	**0.698** b
AMB01-242	BM01	DME	Seawater	3060-76	09/01/09	--	0.0042 Ub	--	1.18	0.0593 b	0.115 b	0.619 b
AMB01-247	HRPT	**TME**	Seawater	**3060-77**	09/01/09	30.000	**0.0042** Ub	**9.17** b	**1.20**	**0.0690** b	**0.151** b	**0.596** b
AMB01-247	HRPT	DME	Seawater	3060-78	09/01/09	--	0.0042 Ub	--	1.22	0.0593 b	0.116 b	0.762 b
AMB01-252	ANCOVE	**TME**	Seawater	**3060-79**	09/01/09	29.976	**0.0042** Ub	**15.5** b	**1.16**	**0.0790** b	**0.158** b	**0.694** b
AMB01-252	ANCOVE	DME	Seawater	3060-80	09/01/09	--	0.0042 Ub	--	1.20	0.0611 b	0.111 b	0.555 b
AMB01-257	DY07	**TME**	Seawater	**3060-81**	09/01/09	30.001	**0.0042** Ub	**11.9** b	**1.17**	**0.0746** b	**0.207** b	**0.662** b
AMB01-257	DY07	DME	Seawater	3060-82	09/01/09	--	0.0042 Ub	--	1.18	0.0628 b	0.112 b	0.487 b
AMB01-262	M8	**TME**	Seawater	**3060-83**	09/01/09	29.618	**0.0042** Ub	**13.3** b	**1.12**	**0.0928** b	**0.189** b	**0.729** b
AMB01-262	M8	DME	Seawater	3060-84	09/01/09	--	0.0042 Ub	--	1.07	0.0614 b	0.0989 b	0.489 b
AMB01-267	M6	**TME**	Seawater	**3060-85**	09/01/09	29.837	**0.0042** Ub	**3.52** Jb	**1.13**	**0.0761** b	**0.134** b	**0.572** b
AMB01-267	M6	DME	Seawater	3060-86	09/01/09	--	0.0042 Ub	--	1.12	0.0458 b	0.101 b	0.446 b
AMB01-272	M7	**TME**	Seawater	**3060-87**	09/01/09	29.762	**0.0042** Ub	**2.19** Jb	**1.07**	**0.0484** b	**0.131** b	**0.520** b
AMB01-272	M7	DME	Seawater	3060-88	09/01/09	--	0.0042 Ub	--	1.06	0.0444 b	0.120 b	0.505 b

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Ambient Monitoring - AMB01
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr	Cu
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB01-277	M5	**TME**	Seawater	**3060-89**	09/01/09	29.842	**0.0042** Ub	**2.14** Ub	**1.13**	**0.115** b	**0.138** b	**0.631** b
AMB01-277	M5	DME	Seawater	3060-90	09/01/09	--	0.00874 Jb	--	1.07	0.0567 b	0.103 b	0.495 b
AMB01-282	M1	**TME**	Seawater	**3060-91**	09/01/09	30.010	**0.0042** Ub	**3.79** Jb	**1.13**	**0.0743** b	**0.120** b	**0.504** b
AMB01-282	M1	DME	Seawater	3060-92	09/01/09	--	0.0042 Ub	--	1.09	0.0673 b	0.0976 b	0.430 b
AMB01-287	M1 DEEP	**TME**	Seawater	**3060-93**	09/01/09	30.119	**0.0042** Ub	**3.99** Jb	**1.27**	**0.0634** b	**0.149** b	**0.391** b
AMB01-287	M1 DEEP	DME	Seawater	3060-94	09/01/09	--	0.0042 Ub	--	1.23	0.0670 b	0.0842 Jb	0.764 b
AMB01-289D	M1 DEEP	**TME**	Seawater	**3060-95**	09/01/09	--	**0.0042** Ub	**2.92** Jb	**1.25**	**0.0725** b	**0.202** b	**0.475** b
AMB01-289D	M1 DEEP	DME	Seawater	3060-96	09/01/09	--	0.0042 Ub	--	1.30	0.0636 b	0.0949 b	0.412 b
AMB01-292	ILSP	**TME**	Seawater	**3060-97**	09/01/09	30.109	**0.0042** Ub	**4.14** Jb	**1.24**	**0.0815** b	**0.171** b	**0.608** b
AMB01-292	ILSP	DME	Seawater	3060-98	09/01/09	--	0.0042 Ub	--	1.22	0.0710 b	0.0968 b	0.430 b
AMB01-297	M2	**TME**	Seawater	**3060-99**	09/01/09	30.216	**0.0042** Ub	**3.46** Jb	**1.31**	**0.0844** b	**0.0866** Jb	**0.423** b
AMB01-297	M2	DME	Seawater	3060-100	09/01/09	--	0.0042 Ub	--	1.32	0.0803 b	0.0949 b	0.392 b
AMB01-302	CLAMBAY	**TME**	Seawater	**3060-101**	09/01/09	30.172	**0.0042** Ub	**9.12** b	**1.32**	**0.0811** b	**0.101** b	**0.522** b
AMB01-302	CLAMBAY	DME	Seawater	3060-102	09/01/09	--	0.0042 Ub	--	1.28	0.0806 b	0.319 b	0.434 b
AMB01-307	WP	**TME**	Seawater	**3060-103**	09/01/09	30.010	**0.0042** Ub	**33.5** b	**1.21**	**0.0914** b	**0.149** b	**0.723** b
AMB01-307	WP	DME	Seawater	3060-104	09/01/09	--	0.0042 Ub	--	1.13	0.0735 b	0.0690 Jb	0.598 b
AMB01-312	PS0791	**TME**	Seawater	**3060-105**	09/01/09	29.099	**0.0042** Ub	**2.92** Jb	**1.15**	**0.0900** b	**0.109** b	**1.48** b
AMB01-312	PS0791	DME	Seawater	3060-106	09/01/09	--	0.0042 Ub	--	1.15	0.0830 b	0.0770 Jb	1.04 b
EQUIPMENT BLANKS												
	EB TME R1	**TME**	**Freshwater**	**3060-107**	**09/01/09**	**--**	**0.0032 U**	**--**	**--**	**0.0033 U**	**0.0802 J**	**0.0053 U**
	EB DME R1	DME	Freshwater	3060-108	09/01/09	--	0.0032 U	--	--	0.0033 U	0.0642 J	0.0320
	EB TME R2	**TME**	**Freshwater**	**3060-109**	**09/01/09**	**--**	**0.0032 U**	**--**	**--**	**0.0033 U**	**0.0974 J**	**0.0115 J**
	EB DME R2	DME	Freshwater	3060-110	09/01/09	--	0.0032 U	--	--	0.0033 U	0.0589 J	0.0053 U

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Ambient Monitoring - AMB01
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Pb	Zn
				Instrument:	*CVAF*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.0001**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)					**0.00032**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)					0.0001	0.0022	0.014
Freshwater Reporting Limit (MDL* 3.18)					0.00032	0.0070	0.043
KP2009-001	K-I-01	**TME**	Seawater	**3060-1**	**0.000735**	**0.0966** b	**0.968** Bb
KP2009-002	K-I-02	**TME**	Seawater	**3060-2**	**0.000796**	**0.0786** b	**0.971** Bb
KP2009-003	K-I-03	**TME**	Seawater	**3060-3**	**0.000708**	**0.0730** b	**4.37** b
AMB01DD-001	NPDES-18	**TME**	Seawater	**3060-15**	**0.0157**	**0.599** b	**52.2** b
AMB01DD-001	NPDES-18	DME	Seawater	3060-16	0.00420	0.0161 b	39.8 b
AMB01DD-002	NPDES-19	**TME**	Seawater	**3060-17**	**0.00920**	**0.633** b	**79.0** b
AMB01DD-002	NPDES-19	DME	Seawater	3060-18	0.00166	0.0019 Ub	25.4 b
AMB01DD-003	NPDES-21	**TME**	Seawater	**3060-19**	**0.0940**	**0.701** b	**5.88** b
AMB01DD-003	NPDES-21	DME	Seawater	3060-20	0.0441	0.220 b	4.73 b
AMB01-090	PS-01	**TME**	Seawater	**3060-21**	**0.00128**	**0.0849** b	**3.67** b
AMB01-090	PS-01	DME	Seawater	3060-22	0.000488	0.00967 b	2.36 b
AMB01-085	PS-02	**TME**	Seawater	**3060-23**	**0.00192**	**0.0932** b	**4.71** b
AMB01-085	PS-02	DME	Seawater	3060-24	0.00103	0.0161 b	4.00 b
AMB01-023	PS-03	**TME**	Seawater	**3060-25**	**0.0305**	**0.136** b	**7.50** b
AMB01-023	PS-03	DME	Seawater	3060-26	0.0144	0.0173 b	5.68 b
AMB01-029	PS-03 DUP	**TME**	Seawater	**3060-27**	**0.0414**	**0.122** b	**1.01** Bb
AMB01-029	PS-03 DUP	DME	Seawater	3060-28	0.0167	0.0232 b	5.90 b
AMB01-013	PS-04	**TME**	Seawater	**3060-29**	**0.000950**	**0.176** b	**1.78** Bb
AMB01-013	PS-04	DME	Seawater	3060-30	0.000422	0.0126 b	3.48 b
AMB01-018	PS-05	**TME**	Seawater	**3060-31**	**0.000889**	**0.096** b	**8.94** b
AMB01-018	PS-05	DME	Seawater	3060-32	0.000383	0.0150 b	8.12 b
AMB01-008	PS-06	**TME**	Seawater	**3060-33**	**0.00209**	**0.126** b	**8.70** b
AMB01-008	PS-06	DME	Seawater	3060-34	0.00126	0.0302 b	8.00 b
AMB01-003	PS-07	**TME**	Seawater	**3060-35**	**0.00146**	**0.112** b	**4.86** b
AMB01-003	PS-07	DME	Seawater	3060-36	0.000747	0.0265 b	5.19 b
AMB01-035	PS-08	**TME**	Seawater	**3060-37**	**0.000967**	**0.106** b	**8.08** b
AMB01-035	PS-08	DME	Seawater	3060-38	0.000365	0.0229 b	7.82 b
AMB01-043	PS-09	**TME**	Seawater	**3060-39**	**0.000768**	**0.0950** b	**6.32** b
AMB01-043	PS-09	DME	Seawater	3060-40	0.000452	0.0188 b	6.45 b
AMB01-049	PS-10	**TME**	Seawater	**3060-41**	**0.000673**	**0.0655** b	**3.74** b
AMB01-049	PS-10	DME	Seawater	3060-42	0.000330	0.0104 b	3.10 b
AMB01-054	PS-11	**TME**	Seawater	**3060-43**	**0.00132**	**0.128** b	**7.89** b
AMB01-054	PS-11	DME	Seawater	3060-44	0.000415	0.0151 b	6.66 b
AMB01-078	PS-13	**TME**	Seawater	**3060-45**	**0.000893**	**0.0849** b	**2.07** Bb
AMB01-078	PS-13	DME	Seawater	3060-46	0.000349	0.00851 b	0.986 Bb
AMB01-071	PS-14	**TME**	Seawater	**3060-47**	**0.000920**	**0.0735** b	**3.31** b
AMB01-071	PS-14	DME	Seawater	3060-48	0.000414	0.00999 b	2.32 Bb

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UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	**Pb**	**Zn**
				Instrument:	*CVAF*	*ICP-MS*	*ICP-MS*
AMB01-064	PS-15	**TME**	Seawater	**3060-49**	**0.00122**	**0.0705** b	**4.60** b
AMB01-064	PS-15	DME	Seawater	3060-50	0.000389	0.00702 b	2.57 b
AMB01-059	PS-16	**TME**	Seawater	**3060-51**	**0.000795**	**0.0865** b	**1.92** Bb
AMB01-059	PS-16	DME	Seawater	3060-52	0.000239 J	0.0119 b	1.54 Bb
AMB01-103	M3.1	**TME**	Seawater	**3060-53**	**0.000706**	**0.0472** b	**0.592** Bb
AMB01-103	M3.1	DME	Seawater	3060-54	0.000276 J	0.0456 b	0.525 Bb
AMB01-110	M3.1 Deep	**TME**	Seawater	**3060-55**	**0.00065**	**0.0705** b	**0.989** Bb
AMB01-110	M3.1 Deep	DME	Seawater	3060-56	0.000295 J	0.0110 b	1.57 Bb
AMB01-098	SN03	**TME**	Seawater	**3060-57**	**0.00325**	**0.0928** b	**9.15** b
AMB01-098	SN03	DME	Seawater	3060-58	0.00107	0.00646 b	3.93 b
AMB01-217	SN10	**TME**	Seawater	**3060-59**	**0.00117**	**0.0492** b	**14.1** b
AMB01-217	SN10	DME	Seawater	3060-60	0.000458	0.00667 b	10.1 b
AMB01-222	M3.3	**TME**	Seawater	**3060-61**	**0.000889**	**0.0880** b	**3.38** b
AMB01-222	M3.3	DME	Seawater	3060-62	0.000451	0.00748 b	2.45 b
AMB01-227	SN11	**TME**	Seawater	**3060-63**	**0.000704**	**0.0253** b	**1.08** Bb
AMB01-227	SN11	DME	Seawater	3060-64	0.000337	0.00888 b	3.39 b
AMB01-202	SN05	**TME**	Seawater	**3060-65**	**0.00131**	**0.141** b	**3.82** b
AMB01-202	SN05	DME	Seawater	3060-66	0.000396	0.0108 b	3.26 b
AMB01-207	SN08	**TME**	Seawater	**3060-67**	**0.00260**	**0.126** b	**5.93** b
AMB01-207	SN08	DME	Seawater	3060-68	0.00112	0.00739 b	0.622 Bb
AMB01-212	M4	**TME**	Seawater	**3060-69**	**0.00116**	**0.0684** b	**4.11** b
AMB01-212	M4	DME	Seawater	3060-70	0.000424	0.00809 b	2.78 b
AMB01-232	BJ-EST	**TME**	Seawater	**3060-71**	**0.00135**	**0.0102** b	**2.98** b
AMB01-232	BJ-EST	DME	Seawater	3060-72	0.000394	0.0103 b	1.82 Bb
AMB01-237	PS-12	**TME**	Seawater	**3060-73**	**0.00112**	**0.0714** b	**8.13** b
AMB01-237	PS-12	DME	Seawater	3060-74	0.000328	0.00491 Jb	2.29 Bb
AMB01-242	BM01	**TME**	Seawater	**3060-75**	**0.000893**	**0.0870** b	**12.9** b
AMB01-242	BM01	DME	Seawater	3060-76	0.000325	0.0236 b	13.8 b
AMB01-247	HRPT	**TME**	Seawater	**3060-77**	**0.000654**	**0.0743** b	**3.60** b
AMB01-247	HRPT	DME	Seawater	3060-78	0.000357	0.0185 b	2.67 b
AMB01-252	ANCOVE	**TME**	Seawater	**3060-79**	**0.000842**	**0.0881** b	**3.16** b
AMB01-252	ANCOVE	DME	Seawater	3060-80	0.000321	0.0210 b	1.97 Bb
AMB01-257	DY07	**TME**	Seawater	**3060-81**	**0.00150**	**0.127** b	**20.2** b
AMB01-257	DY07	DME	Seawater	3060-82	0.000473	0.0310 b	18.6 b
AMB01-262	M8	**TME**	Seawater	**3060-83**	**0.00159**	**0.137** b	**2.23** Bb
AMB01-262	M8	DME	Seawater	3060-84	0.000444	0.0229 b	1.29 Bb
AMB01-267	M6	**TME**	Seawater	**3060-85**	**0.000961**	**0.0703** b	**2.27** Bb
AMB01-267	M6	DME	Seawater	3060-86	0.000533	0.0165 b	1.92 Bb
AMB01-272	M7	**TME**	Seawater	**3060-87**	**0.000391**	**0.0331** b	**2.11** Bb
AMB01-272	M7	DME	Seawater	3060-88	0.000643	0.0115 b	1.84 Bb

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Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	**Pb**	**Zn**
				Instrument:	*CVAF*	*ICP-MS*	*ICP-MS*
AMB01-277	M5	**TME**	Seawater	**3060-89**	**0.000818**	**0.0809** b	**1.79** Bb
AMB01-277	M5	DME	Seawater	3060-90	0.000327	0.0139 b	0.793 Bb
AMB01-282	M1	**TME**	Seawater	**3060-91**	**0.000529**	**0.0271** b	**0.946** Bb
AMB01-282	M1	DME	Seawater	3060-92	0.000339	0.00987 b	0.671 Bb
AMB01-287	M1 DEEP	**TME**	Seawater	**3060-93**	**0.000568**	**0.0262** b	**0.659** Bb
AMB01-287	M1 DEEP	DME	Seawater	3060-94	0.000353	0.00705 b	0.570 Bb
AMB01-289D	M1 DEEP	**TME**	Seawater	**3060-95**	**0.000413**	**0.0410** b	**0.768** Bb
AMB01-289D	M1 DEEP	DME	Seawater	3060-96	0.000281 J	0.00778 b	0.440 Bb
AMB01-292	ILSP	**TME**	Seawater	**3060-97**	**0.000696**	**0.0532** b	**38.8** b
AMB01-292	ILSP	DME	Seawater	3060-98	0.000301 J	0.0105 b	39.1 b
AMB01-297	M2	**TME**	Seawater	**3060-99**	**0.000434**	**0.0306** b	**1.08** Bb
AMB01-297	M2	DME	Seawater	3060-100	0.000304 J	0.00436 J	1.22 Bb
AMB01-302	CLAMBAY	**TME**	Seawater	**3060-101**	**0.000535**	**0.209** b	**10.2** b
AMB01-302	CLAMBAY	DME	Seawater	3060-102	0.000325	0.0110 b	11.6 b
AMB01-307	WP	**TME**	Seawater	**3060-103**	**0.00116**	**0.157** b	**1.60** Bb
AMB01-307	WP	DME	Seawater	3060-104	0.000319	0.0199 b	1.01 Bb
AMB01-312	PS0791	**TME**	Seawater	**3060-105**	**0.00135**	**0.106** b	**56.5** b
AMB01-312	PS0791	DME	Seawater	3060-106	0.000523	0.0210 b	54.8 b
EQUIPMENT BLANKS							
	EB TME R1	**TME**	**Freshwater**	**3060-107**	**0.0001 U**	**0.0022 U**	**0.0416 J**
	EB DME R1	DME	Freshwater	3060-108	0.000125 J	0.0140	0.0950
	EB TME R2	**TME**	**Freshwater**	**3060-109**	**0.0001 U**	**0.0376**	**0.107**
	EB DME R2	DME	Freshwater	3060-110	0.000116 J	0.0275	1.35

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Ambient Monitoring - AMB01
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Metals in Water
Analytical Batch IDs

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Re-run ICP-MS Batch ID	Re-run Metals	Sample ID - Salinity	Salinity Batch ID
				Instrument:							
Laboratory Achieved Detection Limits (Seawater)											
Seawater Reporting Limit (MDL* 3.18)											
Laboratory Achieved Detection Limits (Freshwater)											
Freshwater Reporting Limit (MDL* 3.18)											
KP2009-001	K-I-01	**TME**	Seawater	**3060-1**	090509HGA	F092009A	091609-6100			--	
KP2009-002	K-I-02	**TME**	Seawater	**3060-2**	090509HGA	F092009A	091609-6100			--	
KP2009-003	K-I-03	**TME**	Seawater	**3060-3**	090509HGA	F092009A	091609-6100			--	
AMB01DD-001	NPDES-18	**TME**	Seawater	**3060-15**	090509HGA	F092009A	091609-6100			AMB01DD-004	jillbs7
AMB01DD-001	NPDES-18	DME	Seawater	3060-16	090509HGA	F092009A	091609-6100				
AMB01DD-002	NPDES-19	**TME**	Seawater	**3060-17**	090509HGA	F092009A	091609-6100			--	
AMB01DD-002	NPDES-19	DME	Seawater	3060-18	090509HGA	F092009A	091609-6100				
AMB01DD-003	NPDES-21	**TME**	Seawater	**3060-19**	090509HGA	F092009A	091609-6100			--	
AMB01DD-003	NPDES-21	DME	Seawater	3060-20	090509HGA	F092009A	091609-6100				
AMB01-090	PS-01	**TME**	Seawater	**3060-21**	090509HGA	F092009A	091609-6100			AMB01-091	jillbs7
AMB01-090	PS-01	DME	Seawater	3060-22	090509HGA	F092009A	091609-6100				
AMB01-085	PS-02	**TME**	Seawater	**3060-23**	090509HGA	F092009A	091609-6100			AMB01-086	jillbs7
AMB01-085	PS-02	DME	Seawater	3060-24	090509HGA	F092009A	091609-6100				
AMB01-023	PS-03	**TME**	Seawater	**3060-25**	090509HGA	F092009A	091609-6100			AMB01-024	jillbs7
AMB01-023	PS-03	DME	Seawater	3060-26	090509HGA	F092009A	091609-6100				
AMB01-029	PS-03 DUP	**TME**	Seawater	**3060-27**	090509HGA	F092009A	091609-6100			AMB01-030	jillbs7
AMB01-029	PS-03 DUP	DME	Seawater	3060-28	090509HGA	F092009A	091609-6100				
AMB01-013	PS-04	**TME**	Seawater	**3060-29**	090509HGA	F092009A	091609-6100			AMB01-014	jillbs7
AMB01-013	PS-04	DME	Seawater	3060-30	090509HGA	F092009A	091609-6100				
AMB01-018	PS-05	**TME**	Seawater	**3060-31**	090809HGA	F092009A	091609-6100			AMB01-019	jillbs7
AMB01-018	PS-05	DME	Seawater	3060-32	090809HGA	F092009A	091609-6100				
AMB01-008	PS-06	**TME**	Seawater	**3060-33**	090809HGA	F092009A	091609-6100			AMB01-009	jillbs7
AMB01-008	PS-06	DME	Seawater	3060-34	090809HGA	F092009A	091609-6100				
AMB01-003	PS-07	**TME**	Seawater	**3060-35**	090809HGA	F092009A	091609-6100			AMB01-004	jillbs7
AMB01-003	PS-07	DME	Seawater	3060-36	090809HGA	F092009A	091609-6100				
AMB01-035	PS-08	**TME**	Seawater	**3060-37**	090809HGA	F092009A	091609-6100			AMB01-035	jillbs7
AMB01-035	PS-08	DME	Seawater	3060-38	090809HGA	F092009A	091609-6100				
AMB01-043	PS-09	**TME**	Seawater	**3060-39**	090809HGA	F092009A	091609-6100			AMB01-044	jillbs7
AMB01-043	PS-09	DME	Seawater	3060-40	090809HGA	F092009A	091609-6100				
AMB01-049	PS-10	**TME**	Seawater	**3060-41**	090809HGA	F092009A	091609-6100			AMB01-050	jillbs7
AMB01-049	PS-10	DME	Seawater	3060-42	090809HGA	F092009A	091609-6100				
AMB01-054	PS-11	**TME**	Seawater	**3060-43**	090809HGA	F092009A	091609-6100			AMB01-055	jillbs7
AMB01-054	PS-11	DME	Seawater	3060-44	090809HGA	F092009A	091609-6100				
AMB01-078	PS-13	**TME**	Seawater	**3060-45**	090809HGA	F092009A	091609-6100			AMB01-079	jillbs7
AMB01-078	PS-13	DME	Seawater	3060-46	090809HGA	F092009A	091609-6100				
AMB01-071	PS-14	**TME**	Seawater	**3060-47**	090809HGA	F092009A	091609-6100			AMB01-072	jillbs7
AMB01-071	PS-14	DME	Seawater	3060-48	090809HGA	F092009A	091609-6100				

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Analytical Batch IDs

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Re-run ICP-MS Batch ID	Re-run Metals	Sample ID - Salinity	Salinity Batch ID
				Instrument:							
AMB01-064	PS-15	**TME**	Seawater	**3060-49**	091009HGA	F092009A	091609-6100			AMB01-065	jillbs7
AMB01-064	PS-15	DME	Seawater	3060-50	091009HGA	F092009A	091609-6100				
AMB01-059	PS-16	**TME**	Seawater	**3060-51**	091009HGA	F092009A	091609-6100			AMB01-060	jillbs7
AMB01-059	PS-16	DME	Seawater	3060-52	091009HGA	F092009A	091609-6100				
AMB01-103	M3.1	**TME**	Seawater	**3060-53**	091009HGA	F092009A	091609-6100			AMB01-104	jillbs7
AMB01-103	M3.1	DME	Seawater	3060-54	091009HGA	F092009A	091609-6100				
AMB01-110	M3.1 Deep	**TME**	Seawater	**3060-55**	091009HGA	F092109A	092209-6100			AMB01-111	jillbs7
AMB01-110	M3.1 Deep	DME	Seawater	3060-56	091009HGA	F092109A	092209-6100				
AMB01-098	SN03	**TME**	Seawater	**3060-57**	091009HGA	F092109A	092209-6100			AMB01-099	jillbs7
AMB01-098	SN03	DME	Seawater	3060-58	091009HGA	F092109A	092209-6100				
AMB01-217	SN10	**TME**	Seawater	**3060-59**	091009HGA	F092109A	092209-6100			AMB01-218	jillbs7
AMB01-217	SN10	DME	Seawater	3060-60	091009HGA	F092109A	092209-6100				
AMB01-222	M3.3	**TME**	Seawater	**3060-61**	091009HGA	F092109A	092209-6100			AMB01-223	jillbs7
AMB01-222	M3.3	DME	Seawater	3060-62	091009HGA	F092109A	092209-6100				
AMB01-227	SN11	**TME**	Seawater	**3060-63**	091009HGA	F092109A	092209-6100			AMB01-228	jillbs7
AMB01-227	SN11	DME	Seawater	3060-64	091009HGA	F092109A	092209-6100	**092909-6100**	Cd, Zn		
AMB01-202	SN05	**TME**	Seawater	**3060-65**	091109HGA	F092109A	092209-6100			AMB01-203	jillbs7
AMB01-202	SN05	DME	Seawater	3060-66	091109HGA	F092109A	092209-6100				
AMB01-207	SN08	**TME**	Seawater	**3060-67**	091109HGA	F092109A	092209-6100			AMB01-208	jillbs7
AMB01-207	SN08	DME	Seawater	3060-68	091109HGA	F092109A	092209-6100				
AMB01-212	M4	**TME**	Seawater	**3060-69**	091109HGA	F092109A	092209-6100			AMB01-213	jillbs7
AMB01-212	M4	DME	Seawater	3060-70	091109HGA	F092109A	092209-6100	**092909-6100**	Ag		
AMB01-232	BJ-EST	**TME**	Seawater	**3060-71**	091109HGA	F092109A	092209-6100			AMB01-233	jillbs7
AMB01-232	BJ-EST	DME	Seawater	3060-72	091109HGA	F092109A	092209-6100				
AMB01-237	PS-12	**TME**	Seawater	**3060-73**	091109HGA	F092109A	092209-6100			AMB01-238	jillbs7
AMB01-237	PS-12	DME	Seawater	3060-74	091109HGA	F092109A	092209-6100				
AMB01-242	BM01	**TME**	Seawater	**3060-75**	091109HGA	F092109A	092209-6100			AMB01-243	jillbs7
AMB01-242	BM01	DME	Seawater	3060-76	091109HGA	F092109A	092209-6100				
AMB01-247	HRPT	**TME**	Seawater	**3060-77**	091109HGA	F092109A	092209-6100			AMB01-248	jillbs7
AMB01-247	HRPT	DME	Seawater	3060-78	091109HGA	F092109A	092209-6100				
AMB01-252	ANCOVE	**TME**	Seawater	**3060-79**	091109HGA	F092109A	100809-6100			AMB01-253	jillbs7
AMB01-252	ANCOVE	DME	Seawater	3060-80	091109HGA	F092109A	092209-6100				
AMB01-257	DY07	**TME**	Seawater	**3060-81**	091109HGA	F092109A	092209-6100			AMB01-258	jillbs7
AMB01-257	DY07	DME	Seawater	3060-82	091109HGA	F092109A	100809-6100				
AMB01-262	M8	**TME**	Seawater	**3060-83**	091409HGA	F092109A	092209-6100			AMB01-263	jillbs7
AMB01-262	M8	DME	Seawater	3060-84	091409HGA	F092109A	092209-6100				
AMB01-267	M6	**TME**	Seawater	**3060-85**	091409HGA	F092109A	092209-6100			AMB01-268	jillbs7
AMB01-267	M6	DME	Seawater	3060-86	091409HGA	F092109A	092209-6100				
AMB01-272	M7	**TME**	Seawater	**3060-87**	091409HGA	F092109A	092209-6100			AMB01-273	jillbs7
AMB01-272	M7	DME	Seawater	3060-88	091409HGA	F092109A	092209-6100				

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB01
ENVVEST 2009
Metals in Water
Analytical Batch IDs

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Re-run ICP-MS Batch ID	Re-run Metals	Sample ID - Salinity	Salinity Batch ID
				Instrument:							
AMB01-277	M5	**TME**	Seawater	**3060-89**	091409HGA	F092109A	092209-6100			AMB01-278	jillbs7
AMB01-277	M5	DME	Seawater	3060-90	091409HGA	F092109A	092209-6100				
AMB01-282	M1	**TME**	Seawater	**3060-91**	091409HGA	F092109A	092209-6100			AMB01-283	jillbs7
AMB01-282	M1	DME	Seawater	3060-92	091409HGA	F092109A	092209-6100				
AMB01-287	M1 DEEP	**TME**	Seawater	**3060-93**	091409HGA	F092109A	092209-6100			AMB01-288	jillbs7
AMB01-287	M1 DEEP	DME	Seawater	3060-94	091409HGA	F092109A	092209-6100	**092909-6100**	Cr, Cu, Zn		
AMB01-289D	M1 DEEP	**TME**	Seawater	**3060-95**	091409HGA	F092109A	092209-6100				
AMB01-289D	M1 DEEP	DME	Seawater	3060-96	091409HGA	F092109A	092209-6100				
AMB01-292	ILSP	**TME**	Seawater	**3060-97**	091409HGA	F092109A	100809-6100			AMB01-293	jillbs7
AMB01-292	ILSP	DME	Seawater	3060-98	091409HGA	F092109A	100809-6100				
AMB01-297	M2	**TME**	Seawater	**3060-99**	091409HGA	F092109A	092909-6100			AMB01-298	jillbs7
AMB01-297	M2	DME	Seawater	3060-100	091409HGA	F092109A	100809-6100				
AMB01-302	CLAMBAY	**TME**	Seawater	**3060-101**	091509HGA	F092109A	092909-6100			AMB01-303	jillbs7
AMB01-302	CLAMBAY	DME	Seawater	3060-102	091509HGA	F092109A	092909-6100				
AMB01-307	WP	**TME**	Seawater	**3060-103**	091509HGA	F092109A	092909-6100			AMB01-308	jillbs7
AMB01-307	WP	DME	Seawater	3060-104	091509HGA	F092109A	092909-6100				
AMB01-312	PS0791	**TME**	Seawater	**3060-105**	091509HGA	F092109A	092909-6100			AMB01-313	jillbs7
AMB01-312	PS0791	DME	Seawater	3060-106	091509HGA	F092109A	092909-6100				
EQUIPMENT BLANKS											
	EB TME R1	**TME**	**Freshwater**	**3060-107**	**091509HGA**		**092509-6100**				
	EB DME R1	DME	Freshwater	3060-108	091509HGA		092509-6100				
	EB TME R2	**TME**	**Freshwater**	**3060-109**	**091509HGA**		**092509-6100**				
	EB DME R2	DME	Freshwater	3060-110	091509HGA		092509-6100				

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	--	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	--	0.0105	0.161	0.02	0.0070	0.043	
METHOD BLANKS												
MB-1	TME	Water	DIBlk2_091609		**0.00667** J	**4.39** J	**0.000121** U	**0.0326** J	**0.0323** U	**0.00431** J	**0.258**	**091609-6100**
MB-2	TME	Water	DIBlk3_091609		**0.00637** J	**4.65** J	**0.00** U	**0.0426** J	**0.0365** J	**0.00434** J	**0.222**	**091609-6100**
MB-3	TME	Water	DIBlk4_091609		**0.00011** U	**4.87** J	**0.00** U	**0.0343** J	**0.0408** J	**0.00432** J	**0.166**	**091609-6100**
MB-4	TME	Water	DIBlk5_091609		**0.00042** U	**5.31** J	**0.00** U	**0.0511** J	**0.0367** J	**0.00385** J	**0.408**	**091609-6100**
MB-5	TME	Water	DIBlk6_091609		**0.00157** U	**5.07** J	**0.000684** U	**0.0210** U	**0.0371** J	**0.00473** J	**0.202**	**091609-6100**
MB-6	TME	Water	DIBlk7_091609		**0.00010** U	**4.63** J	**0.00** U	**0.0221** U	**0.0349** U	**0.00393** J	**0.194**	**091609-6100**
MB-7	TME	Water	DIBlk8_091609		**0.00** U	**3.86** J	**0.00** U	**0.0281** U	**0.0382** J	**0.00356** J	**0.278**	**091609-6100**
MB-8	TME	Water	DIBlk1_092209		**0.00027** U	**5.68** J	**0.000346** U	**0.0493** J	**0.0607** J	**0.00528** J	**0.216**	**092209-6100**
MB-9	TME	Water	DIBlk2_092209		**0.00** U	**5.93** J	**0.00** U	**0.0358** J	**0.0343** U	**0.00413** J	**0.197**	**092209-6100**
MB-10	TME	Water	DIBlk3_092209		**0.00** U	**6.73** J	**0.000278** U	**0.0401** J	**0.0237** U	**0.00393** J	**0.192**	**092209-6100**
MB-11	TME	Water	DIBlk4_092209		**0.00** U	**6.00** J	**0.000009** U	**0.0598** J	**0.0369** J	**0.00457** J	**0.230**	**092209-6100**
MB-12	TME	Water	DIBlk5_092209		**0.00** U	**6.38** J	**0.000166** U	**0.0514** J	**0.0223** U	**0.00397** J	**0.164**	**092209-6100**
MB-13	TME	Water	DIBlk6_092209		**0.00022** U	**6.74** J	**0.00** U	**0.0342** J	**0.0318** U	**0.00405** J	**0.186**	**092209-6100**
MB-14	TME	Water	DIBlk7_092209		**0.00044** U	**6.40** J	**0.000110** U	**0.0512** J	**0.0357** J	**0.00370** J	**0.329**	**092209-6100**
MB-15	TME	Water	DIBlk8_092209		**0.00018** U	**5.99** J	**0.00** U	**0.0530** J	**0.0430** J	**0.00384** J	**0.251**	**092209-6100**
MB-16	TME	Water	DIBlk9_092209		**0.00** U	**6.24** J	**0.00** U	**0.0436** J	**0.0336** U	**0.00805**	**0.230**	**092209-6100**
MB-17	TME	Water	DIBlk10_092209		**0.00** U	**5.93** J	**0.000201** U	**0.0554** J	**0.0673** J	**0.00447** J	**0.252**	**092209-6100**
MB-18	TME	Water	DIBlk11_092209		**0.00022** U	**5.48** J	**0.000025** U	**0.0545** J	**0.0649** J	**0.00362** J	**0.238**	**092209-6100**
MB-19	TME	Water	DIBlk2_092909		**0.00** U	**3.94** J	**0.000230** U	**0.416**	**0.0512** J	**0.00437** J	**0.233**	**092909-6100**
MB-20	TME	Water	DIBlk3_092909		**0.00** U	**3.05** J	**0.00108** U	**0.0267** U	**0.0362** J	**0.00392** J	**0.262**	**092909-6100**
MB-21	TME	Water	DIBlk4_092909		**0.00** U	**3.32** J	**0.00** U	**0.0341** J	**0.0408** J	**0.00456** J	**0.220**	**092909-6100**
MB-22	TME	Water	DIBlk2_100809		**0.00531** J	**8.61**	**0.000290** U	**0.0018** U	**0.0343** U	**0.00401** J	**0.187**	**100809-6100**
MB-23	TME	Water	DIBlk3_100809		**0.00** U	**7.17**	**0.000423** U	**0.0217** U	**0.0395** J	**0.00760**	**0.292**	**100809-6100**
MB-24	TME	Water	DIBlk4_100809		**0.00055** U	**7.00**	**0.000273** U	**0.0205** U	**0.0170** U	**0.00329** J	**0.182**	**100809-6100**
MEAN REAGENT BLANK	TME	Water	***BMRB_AMB01***		***0.000934 U***	***5.56 J***	***0.000176 U***	***0.0533 J***	***0.0387 J***	***0.00443 J***	***0.233***	
TRM_BLK1	TME	Freshwater	DIBlk2_092509		0.0032 U	--	0.0033 U	0.0577 J	0.0053 U	0.0022 U	0.0147 J	*092509-6100*

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)		TME	Seawater	SBBlkr1_091609	0.0042 Ub	2.14 Ub	0.0913 b	0.127 b	0.330 b	0.00913 b	0.528 b	**091609-6100**
LCS (1)		TME	Seawater	SBLCS-r1_091609	1.97 b	2.14 Ub	2.05 b	2.14 b	2.32 b	2.03 b	2.63 b	**091609-6100**
				Percent Recovery, LCS	**99%**	**NA**	**98%**	**101%**	**99%**	**101%**	**105%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (2)		TME	Seawater	SBBlkr2_091609	0.0042 Ub	2.14 Ub	0.0924 b	0.121 b	0.352 b	0.00365 Jb	0.473 b	**091609-6100**
LCS (2)		TME	Seawater	SBLCS-r2_091609	2.05 b	2.14 Ub	2.07 b	2.15 b	2.40 b	2.06 b	2.64 b	**091609-6100**
				Percent Recovery, LCS	**102%**	**NA**	**99%**	**101%**	**102%**	**103%**	**108%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)		TME	Seawater	**SBBlkr1_092209**	0.0042 Ub	2.14 Ub	0.0905 b	0.0887 Jb	0.199 b	0.0019 Ub	0.219 b	**092209-6100**
LCS (1)		TME	Seawater	**SBLCS-r1_092209**	1.88 b	2.14 Ub	1.95 b	1.91 b	2.05 b	1.98 b	2.05 b	**092209-6100**
				Percent Recovery, LCS	**94%**	**NA**	**93%**	**91%**	**92%**	**99%**	**92%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (2)		TME	Seawater	**SBBlkr2_092209**	0.0042 Ub	2.14 Ub	0.0895 b	0.135 b	0.217 b	0.00468 Jb	0.618 b	**092209-6100**
LCS (2)		TME	Seawater	**SBLCS-r2_092209**	1.78 b	2.14 Ub	1.83 b	2.13 b	2.12 b	1.90 b	2.17 b	**092209-6100**
				Percent Recovery, LCS	**89%**	**NA**	**87%**	**100%**	**95%**	**95%**	**78%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (3)		TME	Seawater	**SBBlkr3_092209**	0.00904 Jb	2.14 Ub	0.0924 b	0.144 b	0.227 b	0.00244 Jb	0.350 b	**092209-6100**
LCS (3)		TME	Seawater	**SBLCS-r3_092209**	1.88 b	2.14 Ub	1.93 b	2.24 b	2.25 b	2.06 b	2.38 b	**092209-6100**
				Percent Recovery, LCS	**93%**	**NA**	**92%**	**105%**	**101%**	**103%**	**101%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)		TME	Seawater	**SBBlkr1_092909**	0.0042 Ub	2.14 Ub	0.0934 b	0.0965 b	0.214 b	0.0019 Ub	0.261 b	**092909-6100**
LCS (1)		TME	Seawater	**SBLCS-r1_092909**	1.77 b	2.14 Ub	1.86 b	1.89 b	1.94 b	1.87 b	1.89 b	**092909-6100**
				Percent Recovery, LCS	**88%**	**NA**	**89%**	**90%**	**86%**	**94%**	**81%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)		TME	Seawater	**SBBlkr1_100809**	0.0042 Ub	2.14 Ub	0.0926 b	0.104 b	0.214 b	0.0019 Ub	0.228 b	**100809-6100**
LCS (1)		TME	Seawater	**SBLCS-r1_100809**	1.71 b	3.75 Jb	1.84 b	1.90 b	1.96 b	1.85 b	1.87 b	**100809-6100**
				Percent Recovery, LCS	**86%**	**NA**	**87%**	**90%**	**87%**	**93%**	**82%**	
Spiking Level					**2**	--	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	DIBlk2_092509	0.0032 U	--	0.0033 U	0.0577 J	0.0053 U	0.0022 U	0.0147 J	*092509-6100*
TRM_LCS1		TME	Freshwater	LCS_092509	2.01	--	1.99	2.10	2.02	2.00	2.02	*092509-6100*
				Percent Recovery, LCS	**100%**	--	**100%**	**102%**	**101%**	**100%**	**100%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
K-I-02	Inside Cost 2	TME	Seawater	3060-2	**0.0042** Ub	**10.8** b	**0.0631** b	**0.159** b	**0.945** b	**0.0786** b	**0.971** b	**092209-6100**
K-I-02	Inside Cost 2	TME	Seawater	3060-2 MS	4.79 b	--	4.76 b	4.69 b	5.59 b	5.21 b	5.59 b	**092209-6100**
K-I-02	Inside Cost 2	TME	Seawater	3060-2 MSD	4.99 b	--	4.82 b	4.94 b	5.80 b	5.21 b	5.72 b	**092209-6100**
				Spiking Level, MS	5	--	5	5	5	5	5	
				Spiking Level, MSD	5	--	5	5	5	5	5	
				Percent Recovery, MS	**96%**	--	**94%**	**91%**	**93%**	**103%**	**92%**	
				Percent Recovery, MSD	**100%**	--	**95%**	**96%**	**97%**	**103%**	**95%**	
				RPD	**4%**	--	**1%**	**5%**	**4%**	**0%**	**3%**	
AMB01-103	M3.1	TME	Seawater	3060-53	**0.0042** Ub	**2.14** Ub	**0.0447** b	**0.0488** Jb	**0.611** b	**0.0472** b	**0.592** b	**091609-6100**
AMB01-103	M3.1	TME	Seawater	3060-53 MS	4.73 b	**2.14** Ub	2.54 b	0.144 b	5.54 b	3.15 b	1.50 b	**091609-6100**
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**94%**	--	**50%** N	**2%** N	**99%**	**62%** N	**18%** N	
AMB01-103	M3.1	DME	Seawater	3060-54	0.0042 Ub	--	0.0437 b	0.0389 Jb	0.592 b	0.0456 b	0.525 b	**091609-6100**
AMB01-103	M3.1	DME	Seawater	3060-54 MS	4.78 b	--	4.99 b	4.96 b	5.32 b	4.87 b	5.54 b	**091609-6100**
				Spiking Level, MS	5	--	5	5	5	5	5	
				Percent Recovery, MS	96%	--	99%	98%	95%	97%	100%	
AMB01-103	M3.1	TME	Seawater	3060-53	**0.0042** Ub	**2.14** Ub	**0.0447** b	**0.0488** Jb	**0.611** b	**0.0472** b	**0.592** b	**092209-6100**
AMB01-103	M3.1	TME	Seawater	3060-53R MS	4.93 b	**2.14** Ub	1.77 b	0.226 b	5.88 b	2.09 b	1.43 b	**092209-6100**
AMB01-103	M3.1	TME	Seawater	3060-53R MSD	4.57 b	**2.14** Ub	1.81 b	0.182 b	5.47 b	2.08 b	1.34 b	**092209-6100**
				Spiking Level, MS	5	5	5	5	5	5	5	
				Spiking Level, MSD	5	5	5	5	5	5	5	
				Percent Recovery, MS	**98%**	--	**35%** N	**4%** N	**105%**	**41%** N	**17%** N	
				Percent Recovery, MSD	**91%**	--	**35%** N	**3%** N	**97%**	**41%** N	**15%** N	
				RPD	**8%**	--	**2%**	**29%**	**8%**	**1%**	**12%**	
AMB01-262	M8	TME	Seawater	3060-83	**0.0042** Ub	**13.3** b	**0.0928** b	**0.189** b	**0.729** b	**0.137** b	**2.23** b	**092209-6100**
AMB01-262	M8	TME	Seawater	3060-83 MS	4.76 b	15.1 b	4.67 b	5.56 b	5.85 b	5.24 b	7.29 b	**092209-6100**
AMB01-262	M8	TME	Seawater	3060-83 MSD	4.50 b	11.6 b	4.55 b	3.93 b	5.76 b	5.18 b	6.38 b	**092209-6100**
				Spiking Level, MS	5	5	5	5	5	5	5	
				Spiking Level, MSD	5	5	5	5	5	5	5	
				Percent Recovery, MS	**95%**	-- c	**92%**	**107%**	**102%**	**102%**	**101%**	
				Percent Recovery, MSD	**90%**	-- c	**89%**	**75%**	**101%**	**101%**	**83%**	
				RPD	**6%**	-- c	**3%**	**36%** *	**2%**	**1%**	**20%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS (cont.)												
AMB01-262	M8	DME	Seawater	3060-84	0.0042 Ub	--	0.0614 b	0.0989 b	0.489 b	0.0229 b	1.29 b	**092209-6100**
AMB01-262	M8	DME	Seawater	3060-84 MS	4.76 b	--	4.72 b	5.36 b	5.47 b	5.04 b	6.19 b	**092209-6100**
AMB01-262	M8	DME	Seawater	3060-84 MSD	4.53 b	--	4.38 b	5.14 b	5.26 b	4.83 b	6.13 b	**092209-6100**
				Spiking Level, MS	5	--	5	5	5	5	5	
				Spiking Level, MSD	5	--	5	5	5	5	5	
				Percent Recovery, MS	**95%**	--	**93%**	**105%**	**100%**	**100%**	**98%**	
				Percent Recovery, MSD	**91%**	--	**86%**	**101%**	**95%**	**96%**	**97%**	
				RPD	**5%**	--	**7%**	**4%**	**4%**	**4%**	**1%**	
AMB01-297	M2	DME	Seawater	3060-100	0.0042 Ub	--	0.0803 b	0.0949 b	0.392 b	0.00436 Jb	1.22 b	**100809-6100**
AMB01-297	M2	DME	Seawater	3060-100 MS	4.61 b	--	4.67 b	4.71 b	4.89 b	4.78 b	5.51 b	**092909-6100**
AMB01-297	M2	DME	Seawater	3060-100 MSD	4.72 b	--	4.76 b	4.72 b	5.02 b	4.97 b	5.85 b	**092909-6100**
				Spiking Level, MS	5	--	5	5	5	5	5	
				Spiking Level, MSD	5	--	5	5	5	5	5	
				Percent Recovery, MS	**92%**	--	**92%**	**92%**	**90%**	**96%**	**86%**	
				Percent Recovery, MSD	**94%**	--	**94%**	**93%**	**93%**	**99%**	**93%**	
				RPD	**2%**	--	**2%**	**0%**	**3%**	**4%**	**7%**	
REPLICATE PRECISION												
AMB01-090	PS-01	TME	Seawater	3060-21	**0.0042** Ub	**2.14** Ub	**0.105** b	**0.163** b	**1.37** b	**0.0849** b	**3.67** b	**091609-6100**
AMB01-090	PS-01	TME	Seawater	3060-21DUP	**0.0042** Ub	**4.97** Jb	**0.106** b	**0.170** b	**1.47** b	**0.0881** b	**3.65** b	**091609-6100**
				Mean	--	--	*0.105*	*0.166*	*1.42*	*0.0865*	*3.66*	
				RPD	--	--	**1%**	**4%**	**8%**	4%	**1%**	
AMB01-054	PS-11	TME	Seawater	3060-43	**0.0042** Ub	**9.62** b	**0.0844** b	**0.115** b	**1.57** b	**0.128** b	**7.89** b	**091609-6100**
AMB01-054	PS-11	TME	Seawater	3060-43DUP	**0.0042** Ub	**11.1** b	**0.0836** b	**0.126** b	**1.54** b	**0.130** b	**7.56** b	**091609-6100**
				Mean	--	*10.4*	*0.0840*	*0.121*	*1.55*	*0.129*	*7.73*	
				RPD	--	**14%**	**1%**	9%	**1%**	2%	**4%**	
AMB01-071	PS-14	TME	Seawater	3060-47	**0.00504** Jb	**6.70** Jb	**0.0933** b	**0.119** b	**1.27** b	**0.0735** b	**3.31** b	**091609-6100**
AMB01-071	PS-14	TME	Seawater	3060-47DUP	**0.0042** Ub	**2.14** U	**0.0927** b	**0.120** b	**1.25** b	**0.0703** b	**3.20** b	**091609-6100**
				Mean	--	--	*0.0930*	*0.120*	*1.26*	*0.0719*	*3.25*	
				RPD	--	--	**1%**	1%	**2%**	**4%**	**3%**	
AMB01-103	M3.1	TME	Seawater	3060-53	**0.0042** Ub	**2.14** Ub	**0.0447** b	**0.0488** Jb	**0.611** b	**0.0472** b	**0.592** Bb	**091609-6100**
AMB01-103	M3.1	TME	Seawater	3060-53DUP	**0.0042** Ub	**2.14** Ub	**0.0437** b	**0.0389** Jb	**0.592** b	**0.0456** b	**0.525** Bb	**091609-6100**
				Mean	--	--	*0.0442*	--	*0.601*	*0.0464*	*0.558*	
				RPD	--	--	**2%**	--	3%	**4%**	12%	

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Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION (cont.)												
AMB01-207	SN08	TME	Seawater	3060-67	**0.00476** Jb	**14.2** b	**0.219** b	**0.253** b	**1.40** b	**0.126** b	**5.93** b	**092209-6100**
AMB01-207	SN08	TME	Seawater	3060-67DUP	**0.0042** Ub	**12.6** b	**0.215** b	**0.257** b	**1.41** b	**0.124** b	**5.74** b	**092209-6100**
				Mean	--	*13.4*	*0.217*	*0.255*	*1.41*	*0.125*	*5.84*	
				RPD	--	12%	2%	2%	1%	2%	3%	
AMB01-257	DY07	TME	Seawater	3060-81	**0.0042** Ub	**11.9** b	**0.0746** b	**0.207** b	**0.662** b	**0.127** b	**20.2** b	**092209-6100**
AMB01-257	DY07	TME	Seawater	3060-81DUP	**0.0042** Ub	**14.1** b	**0.0748** b	**0.215** b	**0.681** b	**0.124** b	**19.6** b	**092209-6100**
				Mean	--	*13.0*	*0.0747*	*0.211*	*0.671*	*0.126*	*19.9*	
				RPD	--	17%	0%	4%	3%	3%	3%	
AMB01-257	DY07	DME	Seawater	3060-82	0.0042 Ub	--	0.0628 b	0.112 b	0.487 b	0.0310 b	18.6 b	**092209-6100**
AMB01-257	DY07	DME	Seawater	3060-82rerun	0.0042 Ub	--	0.0626 b	0.0766 Jb	0.423 b	0.0286 b	16.4 b	**092209-6100**
				Mean	--	--	*0.0627*	--	*0.455*	*0.0298*	*17.5*	
				RPD	--	--	0%	--	14%	8%	13%	
AMB01-282	M1	DME	Seawater	3060-92	0.0042 Ub	**3.79** Jb	0.0673 b	0.0976 b	0.430 b	0.00987 b	0.671 b	**092209-6100**
AMB01-282	M1	DME	Seawater	3060-92DUP	0.0042 Ub	--	0.0645 b	0.102 b	0.438 b	0.0104 b	0.723 b	**092209-6100**
				Mean	--	--	*0.0659*	*0.100*	*0.434*	*0.0102*	*0.697*	
				RPD	--	--	4%	4%	2%	6%	7%	
AMB01-292	ILSP	TME	Seawater	3060-97	**0.0042** Ub	**4.14** Jb	**0.0815** b	**0.171** b	**0.608** b	**0.0532** b	**38.8** b	**092209-6100**
AMB01-292	ILSP	TME	Seawater	**3060-97 rerun**	**0.0042** Ub	**2.96** Jb	**0.0786** b	**0.154** b	**0.554** b	**0.0499** b	**34.1** b	**100809-6100**
				Mean	--	--	*0.0800*	*0.163*	*0.581*	*0.0516*	*36.5*	
				RPD	--	--	4%	10%	9%	6%	13%	
AMB01-292	ILSP	DME	Seawater	3060-98	0.0042 Ub	--	0.0710 b	0.0968 b	0.430 b	0.0105 b	39.1 b	**092209-6100**
AMB01-292	ILSP	DME	Seawater	3060-98 rerun	0.0042 Ub	--	0.0705 b	0.0812 Jb	0.401 b	0.00929 b	38.2 b	**100809-6100**
				Mean	--	--	*0.0707*	*0.0890* J	*0.415*	*0.00988*	*38.7*	
				RPD	--	--	1%	18%	7%	12%	2%	
AMB01-297	M2	TME	Seawater	3060-99	**0.0042** Ub	**3.46** Jb	**0.0844** b	**0.0866** Jb	**0.423** b	**0.0306** b	**1.08** Bb	**092909-6100**
AMB01-297	M2	TME	Seawater	3060-99DUP	**0.0042** Ub	**6.88** b	**0.0892** b	**0.0948** b	**0.410** b	**0.0317** b	**1.05** Bb	**092909-6100**
				Mean	--	--	*0.0868*	*0.0907*	*0.417*	*0.0311*	*1.07*	
				RPD	--	--	6%	9%	3%	4%	3%	

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Sequim, Washington 98382-9099
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Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1_091609	0.00544 Jb	2.14 Ub	0.0314 b	0.167 b	0.631 b	0.00790 b	0.349 b	**091609-6100**
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2_091609	0.00586 Jb	2.14 Ub	0.0312 b	0.146 b	0.692 b	0.00733 b	0.392 b	**091609-6100**
SRM CASS-4 (3)		TME	Seawater	CASS-4 R1_092209	0.0042 Ub	2.14 Ub	0.0331 b	0.129 b	0.583 b	0.00917 b	0.759 b	**092209-6100**
SRM CASS-4 (4)		TME	Seawater	CASS-4 R2_092209	0.0042 Ub	2.14 Ub	0.0280 b	0.150 b	0.598 b	0.00667 b	0.284 b	**092209-6100**
SRM CASS-4 (5)		TME	Seawater	CASS-4 R3_092209	0.0042 Ub	2.14 Ub	0.0289 b	0.137 b	0.582 b	0.00641 b	0.340 b	**092209-6100**
SRM CASS-4 (6)		TME	Seawater	CASS-4 R1_092909	0.0042 Ub	2.14 Ub	0.0285 b	0.114 b	0.579 b	0.00815 b	0.366 b	**092909-6100**
SRM CASS-4 (7)		TME	Seawater	CASS-4 R1_100809	0.0042 Ub	2.30 b	0.0299 b	0.121 b	0.583 b	0.00643 b	0.239 b	**100809-6100**
				Certified Value	NC	NC	**0.026**	**0.144**	**0.592**	**0.0098**	**0.381**	
	SRM CASS-4 (1)			**PD**	--	--	**21%** &	**16%**	**7%**	**19%**	**8%**	
	SRM CASS-4 (2)			**PD**	--	--	**20%**	**1%**	**17%**	**25%** c	**3%**	
	SRM CASS-4 (3)			**PD**	--	--	**27%** &	**11%**	**2%**	**6%**	**99%** &	
	SRM CASS-4 (4)			**PD**	--	--	**8%**	**4%**	**1%**	**32%** c	**25%** &	
	SRM CASS-4 (5)			**PD**	--	--	**11%**	**5%**	**2%**	**35%** c	**11%**	
	SRM CASS-4 (6)			**PD**	--	--	**10%**	**21%** c	**2%**	**17%**	**4%**	
	SRM CASS-4 (7)			**PD**	--	--	**15%**	**16%**	**2%**	**34%** c	**37%** &	
SRM SLEW-3 (1)		TME	Seawater	SLEW-3 R1_091609	0.0042 Ub	2.14 Ub	0.0487 b	0.191 b	1.55 b	0.0127 b	0.126 b	**091609-6100**
SRM SLEW-3 (2)		TME	Seawater	SLEW-3 R2_091609	0.0042 Ub	2.14 Ub	0.0463 b	0.279 b	1.50 b	0.00857 b	0.0718 Jb	**091609-6100**
				Certified Value			0.048	0.183	1.55	0.009	0.201	
	SRM SLEW-3 (1)			**PD**	--	--	**2%**	**4%**	**0%**	**42%** c	**37%** c	
	SRM SLEW-3 (2)			**PD**	--	--	**4%**	**52%** c	**3%**	**5%**	**64%** c	
SRM SLEW-2 (1)		TME	Seawater	SLEW-2 R1_092209	0.0042 Ub	2.14 Ub	0.0219 b	0.201 b	1.54 b	0.0217 b	1.21 b	**092209-6100**
SRM SLEW-2 (2)		TME	Seawater	SLEW-2 R2_092209	0.0042 Ub	2.14 Ub	0.0192 b	0.179 b	1.62 b	0.0218 b	1.20 b	**092209-6100**
SRM SLEW-2 (3)		TME	Seawater	SLEW-2 R3_092209	0.0042 Ub	2.14 Ub	0.0220 b	0.190 b	1.73 b	0.0213 b	1.34 b	**092209-6100**
SRM SLEW-2 (4)		TME	Seawater	SLEW-2 R1_092909	0.0042 Ub	2.14 Ub	0.0219 b	0.156 b	1.71 b	0.0248 b	1.27 b	**092909-6100**
SRM SLEW-2 (5)		TME	Seawater	SLEW-2 R1_100809	0.0042 Ub	2.14 Ub	0.0238 b	0.154 b	1.61 b	0.0231 b	1.16 b	**100809-6100**
				Certified Value	NC	NC	0.019	0.169	1.62	0.027	1.1	
	SRM SLEW-2 (1)			**PD**	--	--	**15%**	**19%**	**5%**	**20%**	**10%**	
	SRM SLEW-2 (2)			**PD**	--	--	**1%**	**6%**	**0%**	**19%**	**9%**	
	SRM SLEW-2 (3)			**PD**	--	--	**16%**	**12%**	**6%**	**21%** &	**21%** &	
	SRM SLEW-2 (4)			**PD**	--	--	**15%**	**8%**	**6%**	**8%**	**15%**	
	SRM SLEW-2 (5)			**PD**	--	--	**25%** &	**9%**	**1%**	**14%**	**5%**	

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Ambient Monitoring - AMB01
QC Sample Results for ICP-MS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640 (1)		TME	Freshwater	**1640_091609**	7.74	51.6	23.3	38.9	89.8	28.2	56.7	**091609-6100**
SRM 1640 (2)		TME	Freshwater	**1640_092209**	7.65	43.6	23.7	37.6	88.0	28.8	54.4	**092209-6100**
SRM 1640 (3)		TME	Freshwater	**1640_092909**	7.16	53.3	23.4	38.4	88.8	28.7	55.9	**092909-6100**
SRM 1640 (4)		TME	Freshwater	**1640_100809**	7.13	50.6	23.5	37.1	90.2	29.3	55.2	**100809-6100**
SRM 1640 (5)		TME	Freshwater	**1640_092509TRM**	7.36	--	23.5	38.7	88.4	27.9	55.7	*092509-6100*
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.9**	**53.2**	
	SRM 1640 (1)			**PD**	**2%**	**1%**	**2%**	**1%**	**5%**	**1%**	**7%**	
	SRM 1640 (2)			**PD**	**0%**	**16%**	**4%**	**3%**	**3%**	**3%**	**2%**	
	SRM 1640 (3)			**PD**	**6%**	**2%**	**3%**	**1%**	**4%**	**3%**	**5%**	
	SRM 1640 (4)			**PD**	**6%**	**3%**	**3%**	**4%**	**6%**	**5%**	**4%**	
	SRM 1640 (5)			**PD**	**3%**	--	**3%**	**0%**	**4%**	**0%**	**5%**	

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Ambient Monitoring - AMB01
QC Sample Results for CVAF
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		CVAF Batch ID
				Instrument:	*CVAF*		
Laboratory Achieved Detection Limits					**0.0001**		
Reporting Limit (MDL* 3.18)					**0.00032**		
METHOD BLANKS							
MB-1	TME		Water	MB1_090409	0.0001	U	090509HGA
MB-2	TME		Water	MB2_090409	0.0001	U	090509HGA
MB-3	TME		Water	MB3_090409	0.0001	U	090509HGA
MB-4	TME		Water	MB1_090509	0.0001	U	090809HGA
MB-5	TME		Water	MB2_090509	0.0001	U	090809HGA
MB-6	TME		Water	MB3_090509	0.0001	U	090809HGA
MB-7	TME		Water	MB1_090909	0.0001	U	091009HGA
MB-8	TME		Water	MB2_090909	0.0001	U	091009HGA
MB-9	TME		Water	MB3_090909	0.0001	U	091009HGA
MB-10	TME		Water	MB1_091009	0.0001	U	091109HGA
MB-11	TME		Water	MB2_091009	0.0001	U	091109HGA
MB-12	TME		Water	MB3_091009	0.0001	U	091109HGA
MB-13	TME		Water	MB1_091109	0.0001	U	091409HGA
MB-14	TME		Water	MB2_091109	0.0001	U	091409HGA
MB-15	TME		Water	MB3_091109	0.0001	U	091409HGA
MB-16	TME		Water	MB1_091409	0.0001	U	091509HGA
MB-17	TME		Water	MB2_091409	0.0001	U	091509HGA
MB-18	TME		Water	MB3_091409	0.0001	U	091509HGA
Mean Method Blank					**0.0001**	U	
LABORATORY CONTROL SAMPLES							
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 090409r1	0.00544		090509HGA
LCS (2)	TME		Water	OPR 090409r2	0.00557		090509HGA
LCS Blank (1)	TME		Water	BLANK 090409	0.0001	U	090509HGA
				Percent Recovery, LCS 1	**110%**		
				Percent Recovery, LCS 2	**112%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 090509r1	0.00523		090809HGA
LCS (2)	TME		Water	OPR 090509r2	0.00522		090809HGA
LCS Blank (1)	TME		Water	BLANK 090509	0.000142	J	090809HGA
				Percent Recovery, LCS 1	**103%**		
				Percent Recovery, LCS 2	**102%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 090909r1	0.00521		091009HGA
LCS (2)	TME		Water	OPR 090909r2	0.00520		091009HGA
LCS Blank (1)	TME		Water	BLANK 090909	0.0001	U	091009HGA
				Percent Recovery, LCS 1	**105%**		
				Percent Recovery, LCS 2	**105%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 091009r1	0.00549		091109HGA
LCS (2)	TME		Water	OPR 091009r2	0.00547		091109HGA
LCS Blank (1)	TME		Water	BLANK 091009	0.000328	J	091109HGA
				Percent Recovery, LCS 1	**104%**		
				Percent Recovery, LCS 2	**104%**		

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB01
QC Sample Results for CVAF
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont.)						
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 091109r1	0.00530	091409HGA
LCS (2)		TME	Water	OPR 091109r2	0.00530	091409HGA
LCS Blank (1)		TME	Water	BLANK 091109	0.0001 U	091409HGA
				Percent Recovery, LCS 1	**107%**	
				Percent Recovery, LCS 2	**107%**	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 091409r1	0.00531	091509HGA
LCS (2)		TME	Water	OPR 091409r2	0.00552	091509HGA
LCS Blank (1)		TME	Water	BLANK 091409	0.000108 J	091509HGA
				Percent Recovery, LCS 1	**105%**	
				Percent Recovery, LCS 2	**109%**	
MATRIX SPIKE RESULTS						
AMB01-085	PS-02	TME	Seawater	3060-23	0.00192	090509HGA
AMB01-085	PS-02	TME	Seawater	3060-23 MS	0.0237	090509HGA
AMB01-085	PS-02	TME	Seawater	3060-23 MSD	0.0234	090509HGA
				Spiking Level, MS	0.0202	
				Spiking Level, MSD	0.0193	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**111%**	
				RPD	**3%**	
AMB01-013	PS-04	DME	Seawater	3060-30	0.000422	090509HGA
AMB01-013	PS-04	DME	Seawater	3060-30 MS	0.0112	090509HGA
AMB01-013	PS-04	DME	Seawater	3060-30 MSD	0.0116	090509HGA
				Spiking Level, MS	0.0102	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**107%**	
				RPD	**2%**	
AMB01-018	PS-05	TME	Seawater	3060-31	0.000889	090809HGA
AMB01-018	PS-05	TME	Seawater	3060-31 MS	0.0171	090809HGA
AMB01-018	PS-05	TME	Seawater	3060-31 MSD	0.0165	090809HGA
				Spiking Level, MS	0.0162	
				Spiking Level, MSD	0.0160	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**98%**	
				RPD	**2%**	
AMB01-003	PS-07	DME	Seawater	3060-36	0.000747	090809HGA
AMB01-003	PS-07	DME	Seawater	3060-36 MS	0.0107	090809HGA
AMB01-003	PS-07	DME	Seawater	3060-36 MSD	0.0105	090809HGA
				Spiking Level, MS	0.00944	
				Spiking Level, MSD	0.00950	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**103%**	
				RPD	**3%**	

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Ambient Monitoring - AMB01
QC Sample Results for CVAF
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB01-059	PS-16	TME	Seawater	3060-51	0.000795	091009HGA
AMB01-059	PS-16	TME	Seawater	3060-51 MS	0.0245	091009HGA
AMB01-059	PS-16	TME	Seawater	3060-51 MSD	0.0235	091009HGA
				Spiking Level, MS	0.0235	
				Spiking Level, MSD	0.0219	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**104%**	
				RPD	**2%**	
AMB01-217	SN10	DME	Seawater	3060-60	0.000458	091009HGA
AMB01-217	SN10	DME	Seawater	3060-60 MS	0.0151	091009HGA
AMB01-217	SN10	DME	Seawater	3060-60 MSD	0.0150	091009HGA
				Spiking Level, MS	0.0146	
				Spiking Level, MSD	0.0143	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**1%**	
AMB01-207	SN08	TME	Seawater	3060-67	0.00260	091109HGA
AMB01-207	SN08	TME	Seawater	3060-67 MS	0.0142	091109HGA
AMB01-207	SN08	TME	Seawater	3060-67 MSD	0.0154	091109HGA
				Spiking Level, MS	0.0112	
				Spiking Level, MSD	0.0121	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**106%**	
				RPD	**2%**	
AMB01-252	ANCOVE	DME	Seawater	3060-80	0.000321	091109HGA
AMB01-252	ANCOVE	DME	Seawater	3060-80 MS	0.0137	091109HGA
AMB01-252	ANCOVE	DME	Seawater	3060-80 MSD	0.0138	091109HGA
				Spiking Level, MS	0.0121	
				Spiking Level, MSD	0.0123	
				Percent Recovery, MS	**111%**	
				Percent Recovery, MSD	**110%**	
				RPD	**1%**	
AMB01-267	M6	TME	Seawater	3060-85	0.000961	091409HGA
AMB01-267	M6	TME	Seawater	3060-85 MS	0.0125	091409HGA
AMB01-267	M6	TME	Seawater	3060-85 MSD	0.0124	091409HGA
				Spiking Level, MS	0.0109	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**110%**	
				RPD	**4%**	
AMB01-292	ILSP	DME	Seawater	3060-98	0.000301 J	091409HGA
AMB01-292	ILSP	DME	Seawater	3060-98 MS	0.0128	091409HGA
AMB01-292	ILSP	DME	Seawater	3060-98 MSD	0.0127	091409HGA
				Spiking Level, MS	0.0117	
				Spiking Level, MSD	0.0116	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**107%**	
				RPD	**0%**	

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Ambient Monitoring - AMB01
QC Sample Results for CVAF
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB01-307	WP	TME	Seawater	3060-103	0.00116	091509HGA
AMB01-307	WP	TME	Seawater	3060-103 MS	0.0136	091509HGA
AMB01-307	WP	TME	Seawater	3060-103 MSD	0.0139	091509HGA
				Spiking Level, MS	0.0119	
				Spiking Level, MSD	0.0119	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**107%**	
				RPD	**2%**	
REPLICATE PRECISION						
AMB01-090	PS-01	TME	Seawater	3060-21	0.00128	090509HGA
AMB01-090	PS-01	TME	Seawater	3060-21DUP	0.00153	090509HGA
				Mean	*0.00140*	
				RPD	**18%**	
AMB01-054	PS-11	TME	Seawater	3060-43	0.00132	090809HGA
AMB01-054	PS-11	TME	Seawater	3060-43DUP	0.00161	090809HGA
				Mean	*0.00147*	
				RPD	**19%**	
AMB01-098	SN03	TME	Seawater	3060-57	0.00325	091009HGA
AMB01-098	SN03	TME	Seawater	3060-57DUP	0.00360	091009HGA
				Mean	*0.00343*	
				RPD	**10%**	
AMB01-242	BM01	TME	Seawater	3060-75	0.000893	091109HGA
AMB01-242	BM01	TME	Seawater	3060-75DUP	0.000836	091109HGA
				Mean	*0.000864*	
				RPD	**7%**	
AMB01-282	M1	TME	Seawater	3060-91	0.000529	091409HGA
AMB01-282	M1	TME	Seawater	3060-91DUP	0.000498	091409HGA
				Mean	*0.000514*	
				RPD	**6%**	
AMB01-302	CLAMBAY	TME	Seawater	3060-101	0.000535	091509HGA
AMB01-302	CLAMBAY	TME	Seawater	3060-101DUP	0.000610	091509HGA
				Mean	*0.000573*	
				RPD	**13%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 090409	1622	090509HGA
SRM 1641 (2)		TME	Freshwater	1641d 090509	1545	090809HGA
SRM 1641 (3)		TME	Freshwater	1641d 090909	1582	091009HGA
SRM 1641 (4)		TME	Freshwater	1641d 091009	1608	091109HGA
SRM 1641 (5)		TME	Freshwater	1641d 091109	1635	091409HGA
SRM 1641 (6)		TME	Freshwater	1641d 091409	1588	091509HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**2%**	
	SRM 1641 (2)			**PD**	**3%**	
	SRM 1641 (3)			**PD**	**1%**	
	SRM 1641 (4)			**PD**	**1%**	
	SRM 1641 (5)			**PD**	**3%**	
	SRM 1641 (6)			**PD**	**0%**	

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Ambient Monitoring - AMB01
QC Sample Results for FIAS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Water	BLANK R1	0.0267 U	F092009A
MB2		TME	Water	BLANK R2	0.0267 U	F092009A
MB3		TME	Water	BLANK R3	0.0267 U	F092109A
MB4		TME	Water	BLANK R4	0.0267 U	F092109A
MB5		TME	Water	BLANK R5	0.0267 U	F092109A
Mean Method Blank					0.0267 U	
Laboratory Control Samples						
Spiking Level					5	
LCS1		TME	Water	LCS R1	5.16	F092009A
MB1		TME	Water	BLANK R1	0.0267 U	F092009A
				Percent Recovery, LCS	**103%**	
Spiking Level					5	
LCS2		TME	Water	LCS R2	4.83	F092009A
MB2		TME	Water	BLANK R2	0.0267 U	F092009A
				Percent Recovery, LCS	**97%**	
Spiking Level					5	
LCS3		TME	Water	LCS R3	4.96	F092109A
MB3		TME	Water	BLANK R3	0.0267 U	F092109A
				Percent Recovery, LCS	**99%**	
Spiking Level					5	
LCS4		TME	Water	LCS R4	4.91	F092109A
MB4		TME	Water	BLANK R4	0.0267 U	F092109A
				Percent Recovery, LCS	**98%**	
Spiking Level					5	
LCS5		TME	Water	LCS R5	4.70	F092109A
MB5		TME	Water	BLANK R5	0.0267 U	F092109A
				Percent Recovery, LCS	**94%**	

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Ambient Monitoring - AMB01
QC Sample Results for FIAS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
MATRIX SPIKE RESULTS						
AMB01-085	PS-02	TME	Seawater	3106-23	1.30	F092009A
AMB01-085	PS-02	TME	Seawater	3106-23MS	6.24	F092009A
				Spiking Level, MS	5	
				Percent Recovery, MS	**99%**	
AMB01-008	PS-06	TME	Seawater	3106-33	1.19	F092009A
AMB01-008	PS-06	TME	Seawater	3106-33MS	5.81	F092009A
				Spiking Level, MS	5	
				Percent Recovery, MS	**92%**	
AMB01-217	SN10	DME	Seawater	3106-60	0.932	F092109A
AMB01-217	SN10	DME	Seawater	3106-60MS	5.85	F092109A
				Spiking Level, MS	5	
				Percent Recovery, MS	**98%**	
AMB01-252	ANCOVE	DME	Seawater	3106-80	1.20	F092109A
AMB01-252	ANCOVE	DME	Seawater	3106-80MS	6.16	F092109A
				Spiking Level, MS	5	
				Percent Recovery, MS	**99%**	
AMB01-292	ILSP	DME	Seawater	3106-98	1.22	F092109A
AMB01-292	ILSP	DME	Seawater	3106-98MS	5.95	F092109A
				Spiking Level, MS	5	
				Percent Recovery, MS	**95%**	

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Ambient Monitoring - AMB01
QC Sample Results for FIAS
ENVVEST 2009
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB01-090	PS-01	TME	Seawater	3060-21	1.07	F092009A
AMB01-090	PS-01	TME	Seawater	3060-21DUP	1.09	F092009A
				Mean	*1.08*	
				RPD	**1%**	
AMB01-054	PS-11	TME	Seawater	3060-43	1.07	F092009A
AMB01-054	PS-11	TME	Seawater	3060-43DUP	1.09	F092009A
				Mean	*1.08*	
				RPD	**2%**	
AMB01-098	SN03	TME	Seawater	3060-57	0.446	F092109A
AMB01-098	SN03	TME	Seawater	3060-57DUP	0.442	F092109A
				Mean	*0.444*	
				RPD	**1%**	
AMB01-242	BM01	TME	Seawater	3060-75	1.23	F092109A
AMB01-242	BM01	TME	Seawater	3060-75DUP	1.19	F092109A
				Mean	*1.21*	
				RPD	**4%**	
AMB01-302	CLAMBAY	TME	Seawater	3060-101	1.32	F092109A
AMB01-302	CLAMBAY	TME	Seawater	3060-101DUP	1.18	F092109A
				Mean	*1.25*	
				RPD	**11%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.11	F092009A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.07	F092009A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	1.18	F092109A
SRM CASS-4 (4)		TME	Seawater	CASS-4 R4	1.09	F092109A
SRM CASS-4 (5)		TME	Seawater	CASS-4 R5	1.12	F092109A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**0%**	
	SRM CASS-4 (2)			**PD**	**4%**	
	SRM CASS-4 (3)			**PD**	**6%**	
	SRM CASS-4 (4)			**PD**	**2%**	
	SRM CASS-4 (5)			**PD**	**1%**	

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ENVVEST 2009_AMB01
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

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Salinity Sample Analyses, Guildline Autosal Model 8400B

Customer:	Jill Brandenberger			Date:	16-Sep-09	
	31Aug/1Sep 09 Salts			Analyst:	aaronm	
Std. Batch No.:	P147	Salinity:	34.993	Bath Temp.	24	Filename
K_{15} value:	0.99982	Std. $2R_t$:	1.99964	Index No.:	6041	jillbs7

Sample ID	Avg. $2R_t$	Salinity	NOTES
Chk SW	1.99964	34.993	
ps01	1.70224	29.219	2
sn03	1.67621	28.721	2
ps13	1.70679	29.306	
ps04	1.71453	29.454	
ps06	1.61465	27.548	1
ps07	1.66440	28.496	
ps15	1.72145	29.587	1
ps14	1.72141	29.586	
ps16	1.73114	29.773	
ps03	1.70852	29.339	
ps03dup	1.70640	29.299	
ps02	1.68444	28.878	
ps05	1.72621	29.678	
ps09	1.69835	29.144	
ps10	1.71155	29.397	
ps11	1.72799	29.712	
m3.1	1.74102	29.963	
ps08	1.72113	29.581	
m3.1deep	1.74787	30.094	
m2	1.75421	30.216	
clbay	1.75188	30.172	
m1deep	1.74916	30.119	
ilsp	1.74861	30.109	
wp	1.74345	30.010	
ps0791	1.69599	29.099	
m4	1.72945	29.741	
ps12	1.73897	29.923	
hrpt	1.74297	30.000	
sn05	1.72758	29.705	
dy07	1.74303	30.001	
bm01	1.74265	29.994	
ancove	1.74172	29.976	
sn08	1.71158	29.398	2
m3.3	1.71574	29.478	
m1 1.74348		30.010	
sn11	1.71616	29.485	
m5	1.73476	29.842	

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Salinity Sample Analyses, Guildline Autosal Model 8400B

Customer:	Jill Brandenberger			Date:	16-Sep-09	
	31Aug/1Sep 09 Salts			Analyst:	aaronm	
Std. Batch No.:	P147	Salinity:	34.993	Bath Temp.	24	Filename
K_{15} value:	0.99982	Std. $2R_t$:	1.99964	Index No.:	6041	jillbs7

Sample ID	Avg. $2R_t$	Salinity	NOTES
bj-est	1.71850	29.530	
m6	1.73446	29.837	
sn10	1.70833	29.335	
m8	1.72306	29.618	
m7	1.73056	29.762	
npdes18	**1.30138**	**21.690**	**2. This was the final reading**
Chk SW	1.99965	34.993	**ran out of sample before**
Note			**I could get another**

1 Bottle overfilled
2 0.2uM filtered

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, August 2009

PARAMETER: Total and Dissolved Metals – Al (Total only), Ag, As, Cd, Cr, Cu, Pb, Zn and Hg

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet by MSL and the U.S. Navy on 08/31/09 and 09/01/09. Samples were also collected by MSL at Keyport Lagoon on 08/06/09. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3060) and were entered into Battelle's sample tracking system. Upon receipt at MSL, each sample was shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench. The dissolved and total fractions were both acidified to a pH of < 2.0 with double distilled nitric acid.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	08/06/09 Keyport Lagoon 08/31/09 and 09/01/09
Cooler temp. on arrival	4.0±2°C
Collection dates	08/06/09 Keyport Lagoon 08/31/09 and 09/01/09
CVAF analysis dates (Hg)	09/05/09, 09/08/09, 09/10/09, 09/11/09, 09/14/09, 09/15/09
Fe/Pd Preconcentration Dates for Seawater (Ag, Al, Cd, Cr, Cu, Pb, Zn)	09/13/09, 09/14/09, 09/28/09, 10/05/09
FIAS analysis dates (As)	09/20/09, 09/21/09
Equipment Blank TRM Prep and ICP-MS analysis date (Ag, Cd, Cr, Cu, Pb, Zn)	09/25/09
ICP-MS Seawater analysis dates (Ag, Al, As, Cd, Cr, Cu, Pb, Zn)	09/16/09, 09/22/09, 09/29/09, 10/08/09

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR EQUIPMENT BLANK SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.15	0.48
Arsenic	ICP-MS	70-130%	≤20%	≤30%	0.031	0.099
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.014	0.043
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for nine metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following two methods. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E.

Prior to analyses of all other metals, seawater samples were preconcentrated in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water*. Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. All samples were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

All results were reported in units of µg/L. Seawater data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and qualified with a b-flag. The required preconcentration procedure for low level seawater samples includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. All reagents have trace impurities of metals; therefore, the data are provided as blank corrected for these elements. Results were corrected using the BMRB_AMB01, or report batch mean reagent blank, noted on the QC table.

Equipment blank samples consist of deionized water collected in the Teflon sample bottles and filtered along with the AMB01 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed by Hg by CVAF as described above for the seawater. The freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for equipment blank is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

QA/QC NARRATIVE

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg and six months for all other metals.

DETECTION LIMITS: Laboratory method detection limits (MDLs) are reported from the 2009 Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the 2009 Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: For the seawater preparation and analyses, a minimum of three method blanks were analyzed by each instrument for each analytical batch. The average of all method blanks (n=24) was less than the RL for all metals except Zn. Sample concentrations were flagged with a "B" if the sample concentration was less than 10 times the detected blank. The required preconcentration procedure for low level seawater samples includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the samples. The current reagents available contain traces of the metals of interest; therefore the data are blank corrected and qualified with a "b" to indicate a reagent blank corrected value.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals.

MATRIX SPIKE ACCURACY: A minimum of one set of matrix spike/matrix spike duplicate (MS/MSD) samples was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for MS/MSD pairs were within the QC limits of 70% to 130%. However, sample 3060*53 (unfiltered sample from M3.1) was outside the QC limits for Cd, Cr, Pb, and Zn. The sample contained high quantities of phytoplankton that interfered with the matrix spikes for these metals. A second matrix spike was prepared for both the total and dissolved sample collected from M3.1. The interference was reproducible for the unfiltered (total) sample and within the QC criterion for the dissolved. Acceptable analytical accuracy was demonstrated in all other matrix spikes.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates and replicate spike samples (MS/MSD). The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL. Precision between the matrix spike pairs was reported as the

RPD between the pair of matrix spike recoveries. The RPD values were within the QC acceptance criterion of ±30% except one MS/MSD pair for Cr (36%).

STANDARD REFERENCE MATERIAL ACCURACY:

Standard reference materials were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the relative percent difference (PD) of the measured to certified concentration. The SRM for Hg was 1641d, a freshwater SRM as no seawater SRM was available. The percent differences were within the QC acceptance criterion of ≤20%.

One replicate of the freshwater SRM 1640 demonstrated analytical accuracy for each batch analyzed by ICP-MS. Percent differences were within the QC acceptance criterion of ± 20% for all metals.

Three seawater SRMs were prepared with each batch of preconcentrated samples prepared for analysis by ICP-MS. The SRMs were CASS-4, SLEW-3, and SLEW-2 and only metals certified greater than 10 times the MDL were used to evaluate data set accuracy. The percent differences for the seven replicates of CASS-4 were within the QC acceptance criterion with the exception of two replicates for Cd (21% and 27%) and three replicates for Zn (99%, 25%, and 37%). The percent differences for SLEW-3 were within the QC criterion for all metals certified greater than 10 times the MDL. The percent differences for SLEW-2 were within the QC criterion for all metals certified greater than 10 times the MDL except one replicate for Cd (25%), Pb (21%) and Zn (21%).

CONTINUING CALIBRATION VERIFICATION (CCV) ACCURACY:

The CCV samples were analyzed every 10 field samples. All CCVs were within the QC criterion of 85% to 115% recovery.

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/19/2009
Batch: 1
Login Designee: McGahan/CS
Project: **ENVVEST**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
K-I-01	Inside Cost 1	3060-1	Seawater	Prep Lab J-2-B	Metals	08/06/09
K-I-02	Inside Cost 2	3060-2	Seawater	Prep Lab J-2-B	Metals	08/06/09
K-I-03	Inside Cost 3	3060-3	Seawater	Prep Lab J-2-B	Metals	08/06/09

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/1/2009
Batch: 1
Login Designee: Mcgahan
Project: **ENVVEST 2009 Ambient Monitoring**

Marine Sciences Laboratory
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Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
NPDES-18 TME	24 hr Comp.	3060-15	raw water	Prep Lab I-2-B	Total Metals	08/31/09
NPDES-18 DME	24 hr Comp.	3060-16	filt. water	Prep Lab I-2-B	Dissolved Metals	08/31/09
NPDES-19 TME	24 hr Comp.	3060-17	raw water	Prep Lab I-2-B	Total Metals	08/31/09
NPDES-19 DME	24 hr Comp.	3060-18	filt. water	Prep Lab I-2-B	Dissolved Metals	08/31/09
NPDES-21 TME	24 hr Comp.	3060-19	raw water	Prep Lab I-2-B	Total Metals	08/31/09
NPDES-21 DME	24 hr Comp.	3060-20	filt. water	Prep Lab I-2-B	Dissolved Metals	08/31/09
PS-01 TME	PS-01	3060-21	raw water	Prep Lab I-2-B	Total Metals	08/31/09
PS-01 DME	PS-01	3060-22	filt. water	Prep Lab I-2-B	Dissolved Metals	08/31/09
PS-02 TME	PS-02	3060-23	raw water	Prep Lab I-2-B	Total Metals	08/31/09
PS-02 DME	PS-02	3060-24	filt. water	Prep Lab I-2-B	Dissolved Metals	08/31/09
PS-03 TME	PS-03	3060-25	raw water	Prep Lab I-2-C	Total Metals	08/31/09
PS-03 DME	PS-03	3060-26	filt. water	Prep Lab I-2-C	Dissolved Metals	08/31/09
PS-03 DUP TME	PS-03 DUP	3060-27	raw water	Prep Lab I-2-C	Total Metals	08/31/09
PS-03 DUP DME	PS-03 DUP	3060-28	filt. water	Prep Lab I-2-C	Dissolved Metals	08/31/09
PS-04 TME	PS-04	3060-29	raw water	Prep Lab I-2-C	Total Metals	08/31/09
PS-04 DME	PS-04	3060-30	filt. water	Prep Lab I-2-C	Dissolved Metals	08/31/09
PS-05 TME	PS-05	3060-31	raw water	Prep Lab I-2-C	Total Metals	08/31/09
PS-05 DME	PS-05	3060-32	filt. water	Prep Lab I-2-C	Dissolved Metals	08/31/09
PS-06 TME	PS-06	3060-33	raw water	Prep Lab I-2-C	Total Metals	08/31/09
PS-06 DME	PS-06	3060-34	filt. water	Prep Lab I-2-C	Dissolved Metals	08/31/09

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/1/2009
Batch: 1
Login Designee: Mcgahan
Project: **ENVVEST 2009 Ambient Monitoring**

Marine Sciences Laboratory
1529 West Sequim Bay Road
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Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
PS-07 TME	PS-07	3060-35	raw water	Prep Lab I-2-D	Total Metals	08/31/09
PS-07 DME	PS-07	3060-36	filt. water	Prep Lab I-2-D	Dissolved Metals	08/31/09
PS-08 TME	PS-08	3060-37	raw water	Prep Lab I-2-D	Total Metals	08/31/09
PS-08 DME	PS-08	3060-38	filt. water	Prep Lab I-2-D	Dissolved Metals	08/31/09
PS-09 TME	PS-09	3060-39	raw water	Prep Lab I-2-D	Total Metals	08/31/09
PS-09 DME	PS-09	3060-40	filt. water	Prep Lab I-2-D	Dissolved Metals	08/31/09
PS-10 TME	PS-10	3060-41	raw water	Prep Lab I-2-D	Total Metals	08/31/09
PS-10 DME	PS-10	3060-42	filt. water	Prep Lab I-2-D	Dissolved Metals	08/31/09
PS-11 TME	PS-11	3060-43	raw water	Prep Lab I-2-D	Total Metals	08/31/09
PS-11 DME	PS-11	3060-44	filt. water	Prep Lab I-2-D	Dissolved Metals	08/31/09
PS-13 TME	PS-13	3060-45	raw water	Prep Lab I-1-A	Total Metals	08/31/09
PS-13 DME	PS-13	3060-46	filt. water	Prep Lab I-1-A	Dissolved Metals	08/31/09
PS-14 TME	PS-14	3060-47	raw water	Prep Lab I-1-A	Total Metals	08/31/09
PS-14 DME	PS-14	3060-48	filt. water	Prep Lab I-1-A	Dissolved Metals	08/31/09
PS-15 TME	PS-15	3060-49	raw water	Prep Lab I-1-A	Total Metals	08/31/09
PS-15 DME	PS-15	3060-50	filt. water	Prep Lab I-1-A	Dissolved Metals	08/31/09
PS-16 TME	PS-16	3060-51	raw water	Prep Lab I-1-A	Total Metals	08/31/09
PS-16 DME	PS-16	3060-52	filt. water	Prep Lab I-1-A	Dissolved Metals	08/31/09
M3.1 TME	M3.1	3060-53	raw water	Prep Lab I-1-A	Total Metals	08/31/09
M3.1 DME	M3.1	3060-54	filt. water	Prep Lab I-1-A	Dissolved Metals	08/31/09

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/1/2009
Batch: 1
Login Designee: Mcgahan
Project: **ENVVEST 2009 Ambient Monitoring**

Marine Sciences Laboratory
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Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
M3.1 DEEP TME	M3.1 Deep	3060-55	raw water	Prep Lab I-1-A	Total Metals	08/31/09
M3.1 DEEP DME	M3.1 Deep	3060-56	filt. water	Prep Lab I-1-A	Dissolved Metals	08/31/09
SN03 TME	SN03	3060-57	raw water	Prep Lab I-1-B	Total Metals	08/31/09
SN03 DME	SN03	3060-58	filt. water	Prep Lab I-1-B	Dissolved Metals	08/31/09

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/2/2009
Batch: 3
Login Designee: Mcgahan

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Project: **ENVVEST 2009 Ambient Monitoring**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
SN10 TME	SN10	3060-59	raw water	Prep Lab I-1-B	Total Metals	09/01/09
SN10 DME	SN10	3060-60	filt. water	Prep Lab I-1-B	Dissolved Metals	09/01/09
M3.3 TME	M3.3	3060-61	raw water	Prep Lab I-1-B	Total Metals	09/01/09
M3.3 DME	M3.3	3060-62	filt. water	Prep Lab I-1-B	Dissolved Metals	09/01/09
SN11 TME	SN11	3060-63	raw water	Prep Lab I-1-B	Total Metals	09/01/09
SN11 DME	SN11	3060-64	filt. water	Prep Lab I-1-B	Dissolved Metals	09/01/09
SN05 TME	SN05	3060-65	raw water	Prep Lab I-1-C	Total Metals	09/01/09
SN05 DME	SN05	3060-66	filt. water	Prep Lab I-1-C	Dissolved Metals	09/01/09
SN08 TME	SN08	3060-67	raw water	Prep Lab I-1-C	Total Metals	09/01/09
SN08 DME	SN08	3060-68	filt. water	Prep Lab I-1-C	Dissolved Metals	09/01/09
M4 TME	M4	3060-69	raw water	Prep Lab I-1-C	Total Metals	09/01/09
M4 DME	M4	3060-70	filt. water	Prep Lab I-1-C	Dissolved Metals	09/01/09
BJ-EST TME	BJ-EST	3060-71	raw water	Prep Lab I-1-C	Total Metals	09/01/09
BJ-EST DME	BJ-EST	3060-72	filt. water	Prep Lab I-1-C	Dissolved Metals	09/01/09
PS-12 TME	PS-12	3060-73	raw water	Prep Lab I-1-C	Total Metals	09/01/09
PS-12 DME	PS-12	3060-74	filt. water	Prep Lab I-1-C	Dissolved Metals	09/01/09
BM01 TME	BM01	3060-75	raw water	Prep Lab I-1-D	Total Metals	09/01/09
BM01 DME	BM01	3060-76	filt. water	Prep Lab I-1-D	Dissolved Metals	09/01/09
HRPT TME	HRPT	3060-77	raw water	Prep Lab I-1-D	Total Metals	09/01/09
HRPT DME	HRPT	3060-78	filt. water	Prep Lab I-1-D	Dissolved Metals	09/01/09

SOP#: MSL-A-001

SAMPLE LOGIN

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Project Manager: Brandenberger
Date Received: 9/2/2009
Batch: 3
Login Designee: Mcgahan

Marine Sciences Laboratory
1529 West Sequim Bay Road
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PH: (360) 681-4565

Project: **ENVVEST 2009 Ambient Monitoring**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
ANCOVE TME	ANCOVE	3060-79	raw water	Prep Lab I-1-D	Total Metals	09/01/09
ANCOVE DME	ANCOVE	3060-80	filt. water	Prep Lab I-1-D	Dissolved Metals	09/01/09
DY07 TME	DY07	3060-81	raw water	Prep Lab I-1-D	Total Metals	09/01/09
DY07 DME	DY07	3060-82	filt. water	Prep Lab I-1-D	Dissolved Metals	09/01/09
M8 TME	M8	3060-83	raw water	Prep Lab I-1-D	Total Metals	09/01/09
M8 DME	M8	3060-84	filt. water	Prep Lab I-1-D	Dissolved Metals	09/01/09
M6 TME	M6	3060-85	raw water	Prep Lab J-4-A	Total Metals	09/01/09
M6 DME	M6	3060-86	filt. water	Prep Lab J-4-A	Dissolved Metals	09/01/09
M7 TME	M7	3060-87	raw water	Prep Lab J-4-A	Total Metals	09/01/09
M7 DME	M7	3060-88	filt. water	Prep Lab J-4-A	Dissolved Metals	09/01/09
M5 TME	M5	3060-89	raw water	Prep Lab J-4-A	Total Metals	09/01/09
M5 DME	M5	3060-90	filt. water	Prep Lab J-4-A	Dissolved Metals	09/01/09
M1 TME	M1	3060-91	raw water	Prep Lab J-4-A	Total Metals	09/01/09
M1 DME	M1	3060-92	filt. water	Prep Lab J-4-A	Dissolved Metals	09/01/09
M1 DEEP TME	M1 DEEP	3060-93	raw water	Prep Lab J-4-A	Total Metals	09/01/09
M1 DEEP DME	M1 DEEP	3060-94	filt. water	Prep Lab J-4-A	Dissolved Metals	09/01/09
M1 DEEP DUP TME	M1 DEEP	3060-95	raw water	Prep Lab J-4-B	Total Metals	09/01/09
M1 DEEP DUP DME	M1 DEEP	3060-96	filt. water	Prep Lab J-4-B	Dissolved Metals	09/01/09
ILSP TME	ILSP	3060-97	raw water	Prep Lab J-4-B	Total Metals	09/01/09
ILSP DME	ILSP	3060-98	filt. water	Prep Lab J-4-B	Dissolved Metals	09/01/09

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/2/2009
Batch: 3
Login Designee: Mcgahan

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST 2009 Ambient Monitoring**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
M2 TME	M2	3060-99	raw water	Prep Lab J-4-B	Total Metals	09/01/09
M2 DME	M2	3060-100	filt. water	Prep Lab J-4-B	Dissolved Metals	09/01/09
CLBAY TME	CLAMBAY	3060-101	raw water	Prep Lab J-4-B	Total Metals	09/01/09
CLBAY DME	CLAMBAY	3060-102	filt. water	Prep Lab J-4-B	Dissolved Metals	09/01/09
WP TME	WP	3060-103	raw water	Prep Lab J-4-B	Total Metals	09/01/09
WP DME	WP	3060-104	filt. water	Prep Lab J-4-B	Dissolved Metals	09/01/09
PS0791 TME	PS0791	3060-105	raw water	Prep Lab J-4-B	Total Metals	09/01/09
PS0791 DME	PS0791	3060-106	filt. water	Prep Lab J-4-B	Dissolved Metals	09/01/09
EB TME R1	Equipment blank	3060-107	raw water	Prep Lab J-3-B	Total Metals	09/01/09
EB DME R1	Equipment blank	3060-108	filt. water	Prep Lab J-3-B	Dissolved Metals	09/01/09
EB TME R2	Equipment blank	3060-109	raw water	Prep Lab J-3-B	Total Metals	09/01/09
EB DME R2	Equipment blank	3060-110	filt. water	Prep Lab J-3-B	Dissolved Metals	09/01/09

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/1/2010
Batch: NA
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST 2009 Ambient Monitoring**

Ammendment to Sample IDs provided to MSL in email from R. Johnston, dtd 02/01/10; addition of AMB01 Code not noted on original COC.

Sponsor ID	Site Description	AMB01 Client Code	Battelle Code	Paramenter	Original Login Date
K-I-01	Inside Cost 1	KP2009-001	3060-1	Total Metals	8/19/2009
K-I-02	Inside Cost 2	KP2009-002	3060-2	Total Metals	8/19/2009
K-I-03	Inside Cost 3	KP2009-003	3060-3	Total Metals	8/19/2009
NPDES-18 TME	NPDES-18 24hr comp	AMB01DD-001	3060-15	Total Metals	9/1/2009
NPDES-18 DME	NPDES-18 24hr comp	AMB01DD-001	3060-16	Dissolved Metals	9/1/2009
NPDES-18 OSAL	NPDES-18 24hr comp	AMB01DD-004	NA	Salinity	9/1/2009
NPDES-18 DOC	NPDES-18 24hr comp	AMB01DD-005	NA	DOC	9/2/2009
NPDES-18 NUT	NPDES-18 24hr comp	AMB01DD-006	NA	NUTRIENTS	9/1/2009
NPDES-18 TS	NPDES-18 24hr comp	AMB01DD-007	NA	TS/TSS	9/1/2009
NPDES-18 OG	NPDES-18 24hr comp	AMB01DD-008	NA	O&G	9/1/2009
NPDES-19 TME	NPDES-19 24hr comp	AMB01DD-002	3060-17	Total Metals	9/1/2009
NPDES-19 DME	NPDES-19 24hr comp	AMB01DD-002	3060-18	Dissolved Metals	9/1/2009
NPDES-19 DOC	NPDES-19 24hr comp	AMB01DD-009	NA	DOC	9/1/2009
NPDES-19 NUT	NPDES-19 24hr comp	AMB01DD-010	NA	NUTRIENTS	9/1/2009
NPDES-19 TS	NPDES-19 24hr comp	AMB01DD-011	NA	TS/TSS	9/1/2009
NPDES-19 OG	NPDES-19 24hr comp	AMB01DD-012	NA	O&G	9/1/2009
NPDES-21 TME	NPDES-21 24hr comp	AMB01DD-003	3060-19	Total Metals	9/1/2009
NPDES-21 DME	NPDES-21 24hr comp	AMB01DD-003	3060-20	Dissolved Metals	9/1/2009
M1 DEEP DUP TME	M1 DEEP	AMB01-289D	3060-95	Total Metals	09/02/09
M1 DEEP DUP DME	M1 DEEP	AMB01-289D	3060-96	Dissolved Metals	09/02/09

FIELD LOG, SAMPLE CUSTODY RECORD

Pacific Northwest NATIONAL LABORATORY

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: Atmospheric Deposition of Toxics on the Waters of Puget Sound
Project Manager: Dr. Eric Crecelius, Backup: Jill Brandenberger
Phone Number: 360-681-3604, Backup: 360-681-4564

Shipment Method:
Preservation: 4°C; overnight

Line	Station ID	Station Name	Date/Time ~~Deployed~~	Date/Time Recovered	Vol. Org. Res. (L)	Rinse Vol. Metals (mL)	Laboratory ID	Test Parameters: Metals Bottle	Test Parameters: Methyl Mercury	Test Parameters: Org. Cartridge	Comments:
1	K-I-01	Inside cast 1	8/6/09	1330			2941*	X			depth 2m ~~3060.1~~
2	K-I-02	2	8/6/09	1340			2941*	X			" 2m ~~3060.~~ 2
3	K-I-03	3	8/6/09	1350			2941*	X			~~3060.~~ 3
4							2941*				3060
5							2941*				
6							2941*				
7							2941*				
8							2941*				
9							2941*				
10							2941*				
11							2941*				
12							2941*				
13							2941*				
14							2941*				
15							2941*				
16							2941*				

Station IDs	Station Name
1-PB	Padilla Bay
2-SB	Sequim Bay
3-WP	West Point
4-PO	Manchester, Port Orchard
5-HC	Seabeck, Hood Canal
6-TCB	Tacoma, Commencement Bay
7-NR	Nisqually River Delta

Record Laboratory ID from Teflon Bottle or Cartridge

Relinquested by: [signature] Date/Time: 8/6/09 1400
Company: Battelle

Received by: [signature] Date/Time: 08/7/09 1106
Company: MSL

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
NPDES21	24hr comp	8/31/09 1200	water	X													1	fresh
NPDES21	"	8/31/09 1200	"										X					
NPDES19	24hr comp	8/31/09 1200	seawater	X													2	13 ppt
NPDES19	"	8/31/09 1200	seawater				X		X		X		X					
NPDES19	DOC "	8/31/09 1200	seawater							X								
NPDES18	24 hr comp	8/31/09 1200	seawater	X														
NPDES18	"	"	"				X		X		X		X					
NPDES18 DOC	"	"	"							X								in Wednesday shipment 8/31/09 JMB
													TOTAL # CONTAINERS					

Relinquished by: JM Pace

Signature	Date ~~8/31/09~~ 9/1/09	Time 0600
Printed Name	Company	

Received by: [illegible] 09/01/09 0900

Signature	Date/Time
Printed Name	Company

Relinquished by:

Signature	Date	Time
Printed Name	Company	

Received by:

Signature	Date/Time
Printed Name	Company

360-824-6279

Dr. R.K. Johnston

Sep 04 09 10:40a

Day 1 of 2

Sample Collector	Johnston, Baeher, Brandenberger
Project Location	PSNS Ambient monitoring PSNS
Sampling Team	Johnston et al.
Organization	

PSNS Project ENVVEST
~~FC TMDL STUDY~~
Ambient Monitoring

Ecology ID (Sample)	Station Code	Date	Time (0855)	Temp	pH	Cond (S/m)	Turb	Source Code	Remarks/Comments
AMB01-PS07	PS07								
AMB01-PS06	PS06	8/31	0916	16.5	8.75	4.91	16.0		
AMB01-PS04	PS04		0932	16.1	8.70	5.03	8.2		(3.3% sal) DO-N/A
AMB01-PS05	PS05		0942	15.8	8.64	5.07	9.2		(3.3% sal) No DO
AMB01-PS03	PS03		0958	16.4	8.58	5.01	34.5		(3.3% sal) "
AMB01-PS08	PS08		1039	15.3	8.41	5.07	38.0		"
AMB01-PS09	PS09		1100	15.4	8.42	5.02	25.6		
AMB01-PS10	PS10		1118	16.2	8.65	5.02	22.5		
AMB01-PS11	PS11		1130	15.6	8.59	5.05	33.6		
AMB01-PS16	PS16		1142	15.4	8.62	5.02	24.5		(3.3%)
AMB01-PS15	PS15		1209	16.4	8.80	4.80	138		3.1%
AMB01-PS14	PS14		1232	15.6	8.58	5.04	57.2		3.3%
AMB01-PS13	PS13		1259	18.5	9.98	4.96	109		
AMB01-PS02	PS02		1325	18.3	8.85	4.89	180		
AMB01-PS01	PS01		1339	20.7	9.18	4.91	63.7		3.2
AMB01-SN03	SN03		1407	20.1	9.09	4.56	701		3.0
AMB01-M3.1	M3.1		1456	15.8	8.48	5.13	25		Surface DO= 6.90 ??
AMB01-M3.1DEP	M3.1	1	1519	14.2	8.33	5.18	48		7 meter depth

Preservatives Used:	
Relinquished By/Date:	
Received By/Date:	
Relinquished By/Date:	
Received By/Date:	
Relinquished By/Date:	
Received By Lab/Date:	

Source Codes: 12 - Stream/River, **13** - Lake/Reservoir, **14** - Estuary/Ocean, **17** - Surface Runoff/Pond, **36** - Industrial Runoff/Po

Method of Shipment:	
Airbill No.:	
Laboratory	
Address:	

Custody Seals Present? Yes No
Custody Seals Intact? Yes No

1 of 10

PROJECT ENVVEST
Project Name:
SAMPLE TEAM: Johnston et al.
DATE: 8/31/2009
SPAWAR

CHAIN OF CUSTODY FORM

Testing Parameters

AMB01-###

Sample ID / Label Sample #	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Solids	Total Suspended Solids	LISST	Nitrate+Nitrite	Total Phosphorus	TKN	Ammonia	TOC	DOC	Total Metals	Dissolved Metals	Total Mercury	Organics	OSAL	No. of containers	COMMENTS
AMB01-001	PS07NUT	8/31/0855	Seawater						X	X	X	X	X	X						1	47.55598°N
AMB01-002	PS07DOC	8-31/0855	Seawater											X						1	122.64183°W
-003	PS07TMC	PS07	8-31/0855	Seawater											X	X				1	salinity-3.2%
-004	PS07OSAL	PS07	8-31/0855	Seawater															X	1	pH-8.20
005	PS07TSS	PS07	8-31/0855	Seawater		X	X													1	conductivity-4.87
																					Turbidity-7.3NTU
																					DO-10.83 mg/L
																					Temp-15.1°C
																					Depth-Surface
006	PS06NUT	PS06	8-31/0916	Seawater					X	X	X	X	X	X						+	
007	PS06DOC	PS06	8-31/0916	Seawater										X						1	47.55308°N
008	PS06TMC	PS06	8-31/0916	Seawater											X	X				1	122.64191°W
009	PS06OSAL	PS06	8-31/0916	Seawater															X	1	
010	PS06TSS	PS06	8-31/0916	Seawater		X	X													1	
														TOTAL # CONTAINERS							

pH	Turb	DO	T	Cond
8.75	16	NA	15.5°C	4.91

Relinquished by:	Signature	Date	Time	Received by:	Signature	Date	Time
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date	Time
	Printed Name	Company			Printed Name	Company	

2 of 10

Sep 04 09 09:23a Dr. R.K. Johnston 360-824-6279 p.1

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

SAMPLE ID

AMB01-####

Label ID

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS	pH
AMB01-011 PS04 NUT	PS04	8-31/0932	Seawater						X								1	47.55452°N	
012 PS04 DOC	PS04	8-31/0932	Seawater							X							1	122.64702°W	
013 PS04 TME	PS04	8-31/0932	Seawater										X				1	T=16.1°C	
014 PS04 OSAL	PS04	8-31/0932	Seawater												X		1	pH=8.70	
015 PS04 TSS	PS04	8-31/0932	Seawater				X										1		
016 PS05 NUT	PS05	8-31/0942	Seawater						X								1	47.55524°N	
017 PS05 DOC	PS05	8-31/0942	Seawater							X							1	122.64580°W	
018 PS05 TME	PS05	8-31/0942	Seawater										X				1	T=15.8	8.64
019 PS05 OSAL	PS05	8-31/0942	seawater												X		1		
020 PS05 TSS	PS05	8-31/0942	Seawater				X										1		
021 PS03 NUT	PS03	8-31/0958							X								1	47.55575°N	
022 PS03 DOC	PS03	8-31/0958								X							1	122.65171°W	
023 PS03 TME	PS03	8-31/0958											X	/			1	T=16.4	
024 PS03 OSAL	PS03	8-31/0958													X		1	pH=8.58	
025 PS03 TSS	PS03	8-31/0958	↓				X										1		
PS08																		TOTAL # CONTAINERS	

Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	
Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	

	pH	Turb	DO	Temp	Cond	
	8.2	NA				
	8.4	NA				
	34.5	NA				

3/10

Sep 04 09 09:23a Dr. R.K. Johnston 360-824-6279 p.2

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID
AMB01-###

Sample ID (Label)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
SID																		
AMB01026	PS03 TOX	PS03	Seawater*	X													1	47.55575° N
-027	PS03 NUT	PS03 DUP	8-31/0958						X								1	122.65171° W
-029	PS03 DOC	PS03 DUP	8-31/0958							X							1	T = 16.4°C
-029	PS03 TME	PS03 DUP	8-31/0958										X				1	pH = 8.58
-030	PS03 OSAL	PS03 DUP	8-31/0958												X		1	
-031	PS03 TSS	PS03 DUP	8-31/0958				X										1	
-032	PS03 OG	PS03	8-31/1022								X						3	
-033	PS08 NUT	PS08	8-31/1039						X								1	47.55811° W
-034	PS08 DOC	PS08	8-31/1039							X							1	122.63820° W
-035	PS08 TME	PS08	8-31/1039										X				1	T = 15.3°C
-036*	PS08 OSAL	PS08	8-31/1039												X		1	pH = 8.41
-037	PS08 TSS	PS08	8-31/1039				X										1	
-038	PS08 TOX	PS08	8-31/1039	X													1	
-039	PS08 OG	PS08	8-31/1039								X						1	
														TOTAL # CONTAINERS				

	Relinquished by:	Signature	Date	Time	Received by:	Signature	Date/Time
		Printed Name	Company			Printed Name	Company
	Relinquished by:	Signature	Date	Time	Received by:	Signature	Date/Time
		Printed Name	Company			Printed Name	Company

	Cond	Turb	DO
1	5.01	34.5	NA
2	5.07	38.0	NA

* At lab 4/10

Sep 04 09 09:23a Dr. R.K. Johnston 360-824-6279 p.3

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID → AMB01-### (LABEL)

SID	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS	Cond	DO	Turb
AMB01040	~~PS10~~ PS09TOX	PS09	8-31 / 1100	Seawater	X													1	47.56602°N	5.02	25.6	NA
-041	PS09NUT		8-31 / 1100							X								1	122.63640°W			
-042	PS09DOC		8-31 / 1100								X							1	T = 15.4°C			
-043	PS09TME		8-31 / 1100											X				1	pH = 8.42			
-044	PS09OSAL		8-31 / 1100													X		1				
-045	PS09TSS		8-31 / 1100					X										1				
-046	PS09OG		8-31 / 1100									X						1				
-047	PS10NUT	PS10	8-31 / 1118							X								1	47.56044°N	5.02	22.5	NA
-048	PS10DOC		8-31 / 1118								X							1	122.63260°W			
-049	PS10TME		8-31 / 1118											X				1	T = 16.2°C			
-050	PS10OSAL		8-31 / 1118													X		1	pH = 8.65			
-051	PS10TSS		8-31 / 1118					X										1				
															TOTAL # CONTAINERS							

Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	
Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	

5/10

Sep 04 09 09:24a Dr. R.K. Johnston 360-824-6279 p.4

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample-ID
AMB01-###
Label

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS	cond	Turb	
-052	PS11NUT	8-31/1130	Seawater						X								1	47.56049°N	5.05	33.6	
-053	PS11DOC	PS11								X							1	122.62901°W			
-054	PS11TME	PS11											X				1	T = 15.6			
-055	PS11OSAL	PS11													X		1	pH = 8.59			
-056	PS11TSS	PS11					X										1				
-057	PS16NUT	PS16	8-31/1142						X								1	47.55857°N	5.08	34.5	
-058	PS16DOC	PS16								X							1	122.62844°W			
-059	PS16TME	PS16											X				1	T = 15.4			
-060	PS16OSAL	PS16													X		1	pH = 8.62			
-061	PS16TSS	PS16					X										1				
-062	PS15NUT	PS15	8-31/1209														1	47.55529°N	4.80	138.0	
-063	PS15DOC	PS15															1	122.63699°W			
-064	PS15TME	PS15															1	T = 16.4			
-065	PS15OSAL	PS15															1	pH = 8.80			
-066	PS15TSS	PS15															1				
														TOTAL # CONTAINERS							

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

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Sep 04 09 09:24a Dr. R.K. Johnston 360-824-6279 p.5

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

AMB01-S10

	Sample ID (Labeled)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
067	PS15 TOX	PS15	8-31/1209	Seawater	X								1	
068	PS15 OG	PS15	8-31/1209							X			1	
069	PS14 NUT	PS14	8-31/1232					X					1	47.55224°N
070	PS14 DOC								X				1	122.64335°W
071	PS14 TME										X		1	T= 15.8
072	PS14 OSAL											X	1	pH = 8.58
073	PS14 TSS						X						1	
074	PS14 TOX				X								1	
075	PS14 OG									X			1	
076	PS13 NUT	PS13	8-31/1259					X					1	47.55193°N
077	PS13 DOC								X				1	122.65361°W
078	PS13 TME										X		1	T=18.5°C
079	PS13 OSAL											X	1	pH = 8.98
080	PS13 TSS						X						1	
081	PS13 TOX				X								1	
													TOTAL # CONTAINERS	

Turb = 57.2
Cond = 5.04

Turb 109.0
Cond 4.96

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

7/10

Sep 04 09 09:24a Dr. R.K. Johnston 360-824-6279 p.6

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

SID

AMB01-

Sample ID (LAB)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
082 PS13 OG	PS13	8-31/1259	Seawater								X						1	
083 PS02 NUT	PS02	8-31/1325							X								1	47.55448°N 122.65453°W Turb 180 cond 49.9
084 PS02DOC										X							1	
085 PS02TME													X				1	T = 18.3
086 PS02OSAL															X		1	pH = 8.85
087 PS02TSS																	1	
088 PS01 NUT	PS01	8-31/1339							X								1	47.55358°N 122.65752°W Turb = 63.1 cond = 49.1
089 PS01DOC										X							1	
090 PS01TME													X				1	T = 20.7
091 PS01 OSAL															X		1	pH = 9.18
092 PS01 TSS							X										1	
093 PS01 TOX				X			~~X~~										1	
095 PS01 OG				~~X~~							X						1	
															TOTAL # CONTAINERS			

Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company
Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company

8/10

Sep 04 09 09:25a Dr. R.K. Johnston 360-824-6279 p.7

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

LABEL

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB01-096 SNO3NUT	SNO3	8-31/1407	Seawater						X								1	47.54750°N
097 SNO3DOC	↓	↓	↓							X							1	122.66979°W
098 SNO3TME													X				1	T = 20.1
099 SNO3OSAL															X		1	pH = 9.09
100 SNO3TSS							X										1	
101 M3.1 NUT	M3.1	8-31/1456							X								1	47.56292°N
102 M3.1 DOC										X							1	122.60696°W
103 M3.1 TME													X				1	T = 15.8
104 M3.1 OSAL															X		1	pH = 8.48
105 M3.1 TSS							X										1	
106 M3.1 TOX				X													1	
107 M3.1 OG	↓	↓	↓								X						1	
														TOTAL # CONTAINERS				

Cond-4.57 Turb-201

Cond-5.13 Turb-25

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

9/10

Sep 04 09 09:25a Dr. R.K. Johnston 360-824-6279 p.8

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

SID. AMB01-

LABEL

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
#08 M3.1DNUT	M3.1 Deep	8-31/#1519	Seawater						X								1	47.5~~91~~2° N
#09 M3.1DDOC										X							1	122.60696° W
#10 M3.1DTME													X				1	T = 14.2
#11 M3.1DOSAL															X		1	pH = 8.33
#12 M3.1DTSS							X										1	
~~M3.1D TOX~~																		
~~M3.1D DG~~																		
														TOTAL # CONTAINERS				

Turb = 48
Cond = 5.18

Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company
Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company

10/10

Sep 04 09 09:26a Dr. R.K. Johnston 360-824-6279 p.9

Day 2 of 2

Chain of Custody Form

PSNS Project ENVVEST
Ambient Monitoring
AMB01

Sample Collector	Johnston et al.
Sampling Team	
Organization	9/1/2009

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	C		S/m			m Depth			
Sample ID ~~Ecology ID~~	Station Code	Date/Time	Temp	pH	Cond	Turb	~~SAL~~ Flow	Source Code	LONG	LAT	Remarks/Co
AMB01-FP	Fuel Pier	9/1/2009 0802	16.79	8.59	5.05	40.8	3.3	-.7	122.64835	47.55606	tidal depth
AMB01-SN05	SN05	09:13	15.15	8.18	5.12	75.5	3.3	-.2	122.67967	47.53332	taken at
AMB01-SN08	SN08	9/1/09 0921	16.11	8.52	5.07	97.0	3.3	-1	122.66297	47.54160	~~0.5 m~~
AMB01-M4	M4	9/1/09 0931	15.0	8.35	5.13	70.0	3.3	-1.1	122.66941	47.54482	↓
AMB01-SN10	SN10	9/1/09 0946	16.23	8.56	5.12	55.0	3.3	0.6	122.64345	47.54183	1.1
AMB01-M3.3	M3.3	9/1/09 0953	15.91	8.53	5.10	62.0	3.3	1.1	122.64285	47.54746	
AMB01-SN11	SN11	0959	16.22	8.55	5.09	53.1	3.3	1.5	122.63500	47.54442	
AMB01-BJEST	BJ-EST	1008	16.00	8.53	5.12	50.0	3.3	1.3	122.63003	47.54763	
AMB01-PS12	PS12	1016	14.7	8.30	5.17	64.0	3.4	2.0	122.62574	47.56065	
AMB01-BM01	BM01	1025	14.84	8.30	5.17	52.2	3.4	2.2	122.62037	47.56478	
AMB01-HRPT	HRPT	1033	14.65	8.32	5.18	46.4	3.4	1.7	122.61372	47.56551	
AMB01-ANCV	ANCOVE	1047	14.95	8.32	5.17	41.9	3.4	1.1	122.64660	47.58022	
AMB01-DY07	DY07	1106	14.89	~~8.38~~ 8.32	5.16	40.5	3.4	1.1	122.66149	47.58218	
AMB01-M8	M8	1135	16.59	8.46	5.09	43.6	3.3	1.1	122.67663	47.57357	
AMB01-M6	M6	1151	15.96	8.49	5.13	36.2	3.4	1.2	122.68163	47.60360	
AMB01-M7	M7	1201	16.95	8.80	5.11	31.9	3.3	1.2	122.68903	47.62595	

Preservatives Used:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By Lab/Date:

Method of Shipment:
Airbill No.:
Laboratory Address:

Custody Seals Present? Yes
Custody Seals Intact? Yes

Source Codes: 12 - Stream/River, 13 - Lake/Reservoir, 14 - Estuary/Ocean, 17 - Surface Runoff/Pond, 36 - Industrial Runoff/Pond

1/1/62

Sep 04 09 09:49a Dr. R.K. Johnston 360-824-6279 p.1

Chain of Custody Form

Sample Collector	
Sampling Team	9/1/2009
Organization	

PSNS Project ENVVEST
Ambient Monitoring
AMB01

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm					Salinity ~~Flow~~	Depth ~~Source code~~	LONG	LAT	Remarks/C
Ecology ID	Station Code	Date/Time	Temp	pH	Cond	Turb					
AMB01-MS	MS	9/1/09 1215	15.9	8.60	5.13	33.5	3.3	1.1	122.66620	47.61217	
AMB01-M1	M1	9/1/09 1256	15.50	8.6	5.16	128	3.4	1.0	122.58577	47.63289	
AMB01-M1D	M1 Deep	1254	13.59	8.13	5.21	23.2	3.4	7.2	122.58601	47.63393	
AMB01-ILSP	ILSP	1351	14.06	8.30	5.19	28.5	3.4	1.1	122.59434	47.60046	
AMB01-CLBAY	CLBAY	1416	13.38	8.15	5.22	68.0	3.4	1.5	122.54515	47.57071	
AMB01-M2D	M2 Deep	1439	12.51	8.08	5.26	32.5	3.4	10.1	122.53865	47.57977	
AMB01-M2	M2	1442	13.07	8.11	5.24	4*30.0	3.4	1.7	122.53865	47.57977	* drifting
AMB01-WP	WP	1453	14.43	8.27	5.19	~~14~~ 16.0	3.4	2.0	122.57076	47.58430	
AMB01-PS07	PS07 91	1514	14.76	8.31	5.16	15.5	3.4	4.0	122.64181	47.55605	

Preservatives Used:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By Lab/Date:

Method of Shipment:
Airbill No.:
Laboratory Address:

Custody Seals Present? Yes No
Custody Seals Intact? Yes No

Source Codes: 12 - Stream/River, 13 - Lake/Reservoir, 14 - Estuary/Ocean, 17 - Surface Runoff/Pond, 36 - Industrial Runoff/Pond

2/10

p.2 360-824-6279 Dr. R.K. Johnston Sep 04 09 09:49a

Sep 04 09 09:49a Dr. R.K. Johnston 360-824-6279 p.3

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID

Sample Label

AMB01-

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	Sample ID COMMENTS
SN05NUT	SN05	9-1 0908	Seawater						X									AMB01-200
SN05DOC										X								-201
SN05TME													X					-202
SN05OSAL															X			-203
SN05TSS							X											-204
SN08NUT	SN08	9-1 0919							X									-205
SN08DOC										X								-206
SN08TME													X					-207
SN08OSAL															X			-208
SN08TSS							X											-209
M4 NUT	M4	9-1 0926							X									-210
DOC										X								-211
TME													X					-212
OSAL															X			-213
TSS							X											-214
														TOTAL # CONTAINERS				

Relinquished by:				Received by:													
	Signature	Date	Time					Signature							Date/Time		
	Printed Name	Company						Printed Name								Company	
Relinquished by:				Received by:													
	Signature	Date	Time					Signature							Date/Time		
	Printed Name	Company						Printed Name								Company	

3/10

Sep 04 09 09:50a Dr. R.K. Johnston 360-824-6279 p.4

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample LABEL / Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
SN10 NUT	SN10	9-1 / 0941	Seawater						X									AMB01-215
SN10 DOC										X								-216
SN10 TME													X					-217
SN10 OSAL															X			-218
SN10 TSS							X											-219
M3.3 NUT	M3.3	9-1 / 0950							X									-220
M3.3 DOC										X								-221
M3.3 TME													X					-222
M3.3 OSAL															X			-223
M3.3 TSS							X											-224
SN11 NUT	SN11	9/1/0958							X									-225
SN11 DOC										X								-226
SN11 TME													X					-227
SN11 OSAL															X			-228
SN11 TSS							X											-229
														TOTAL # CONTAINERS				

Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company
Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company

4/10

Sep 04 09 09:50a Dr. R.K. Johnston 360-824-6279 p.5

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample LABEL

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	Sample ID COMMENTS
BJ-EST NUT	BJ-EST	9-1 / 1006	Seawater				X					1	AMB01-230
BJESTDOC								X				1	-231
BJESTTME										X		1	-232
BJESTOSAL											X	1	-233
BJESTTSS						X						1	-234
PS12 NUT	PS-12	9-1 / 1015					X					1	-235
PS12 DOC								X				1	-236
PS12 TME										X		1	-237
PS12 OSAL											X	1	-238
PS12TSS						X						1	-239
BM01 NUT	BM01	9-1 / 1023					X					1	-240
BM01 DOC								X				1	-241
BM01 TME										X		1	-242
BM01 OSAL											X	1	-243
BM01 TSS						X						1	-244
										TOTAL # CONTAINERS			

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

5/10

Sep 04 09 09:51a Dr. R.K. Johnston 360-824-6279 p.6

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (SAMPLE LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	Sample ID COMMENTS
HRPT NUT	HRPT	9-1 / 1031	Seawater						X								1	AMB01-245
HRPT DOC										X							1	-246
HRPT TME													X				1	-247
HRPT OSAL															X		1	-248
HRPT TSS							X										1	-249
ANCOVE NUT	ANCOVE	9-1 / 1047							X								1	-250
ANCOVE DOC										X							1	-251
ANCOVE TME													X				1	-252
ANCOVE OSAL															X		1	-253
ANCOVE TSS							X										1	-254
DY07 NUT	DY07	9-1 / 1102							X								1	-255
DY07 DOC										X							1	-256
DY07 TME													X				1	-257
DY07 OSAL															X		1	-258
DY07 TSS							X										1	-259
														TOTAL # CONTAINERS				

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

6/10

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS: Sample ID
MB NUT	MB	9-1 / 1133	Seawater						X								1	AMB01-260 260
MB DOC										X							1	-260 261
MB TME													X				1	-262 262
MB OSAL															X		1	-263 263
MB TSS							X										1	-264 264
M6 NUT	M6	9-1 / 1150							X								1	-265 265
M6 DOC										X							1	-266 266
M6 TME													X				1	-268 267
M6 OSAL															X		1	-268 268
M6 TSS							X										1	-268 269
M7 NUT	M7	9-1 / 1200							X								1	-269 270
M7 DOC										X							1	-270 271
M7 TME													X				1	-272 272
M7 OSAL															X		1	-272 273
M7 TSS							X										1	-273 274
														TOTAL # CONTAINERS				

Relinquished by:

Signature	Date	Time
Printed Name	Company	

Relinquished by:

Signature	Date	Time
Printed Name	Company	

Received by:

Signature	Date/Time
Printed Name	Company

Received by:

Signature	Date/Time
Printed Name	Company

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	Sample ID COMMENTS
M5NUT	M5	9-1/1215	Seawater				X					1	AMB01-275
M5DOC								X				1	-276
M5TME										X		1	-277
M5OSAL											X	1	-278
M5TSS						X						1	-279
M1NUT	M1	9-1/1248					X					1	-280
M1DOC								X				1	-281
M1TME										X		1	-282
M1OSAL											X	1	-283
M1TSS						X						1	-284
M1DeepNUT	M1Deep	9/F/120					X					1	-285
M1DeepDOC								X				1	-286
M1DeepTME										X		1	-287
M1DeepOSAL											X	1	-288
M1DeepTSS						X						1	-289
M1DeepTMEDup										X		TOTAL # CONTAINERS	

M1DeepNUT

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

8/10

Sep 04 09 09:52a Dr. R.K. Johnston 360-824-6279 p.9

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	SAMPLE ID COMMENTS
ILSP NUT	ILSP	9-1/1350	Seawater						X									AMB01-290
ILSP DOC										X								-291
ILSP TME													X					-292
ILSP OSAL															X			-293
ILSP TSS							X											-294
M2 NUT	M2	9-1/1424							X									-295
M2 DOC										X								-296
M2 TME													X					-297
M2 OSAL															X			-298
M2 TSS							X											-299
Clambay NUT	Clambay	9-1/1411							X									-300
CLBAY DOC										X								-301
CLBAY TME													X					-302
CLBAY OSAL															X			-303
CLBAY TSS							X											-304
														TOTAL # CONTAINERS				

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

9/10

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	SAMPLE ID COMMENTS
M2DeepNUT	M2 Deep	9-1	Seawater						X									
M2DeepDOC										X								
M2DeepTME													X					
M2DeepOSAL															X			
M2DeepTSS							X											
WPNUT	WP	9-1 / 1453	Seawater						X								1	AMB01-305
WP DOC										X							1	-306
WPTME													X				1	-307
WPOSAL															X		1	-308
WP TSS							X										1	-309
PS0791NUT	PS0791	9-1 / 1514							X								1	-310
PS0791DOC										X							1	-311
PS0791TME													X				1	-312
PS0791OSAL															X		1	-313
PS0791TSS							X										1	-314
														TOTAL # CONTAINERS				

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

10/10

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: _____

Battelle
. . . Putting Technology To Work
Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENWEST 2009 Ambient Monitoring
Project Manager: Brandenberger
Phone Number: _____

Shipment Method: _____
Preservation: _____

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Total Metals	Test Parameters: Dissolved Metals				Laboratory ID	Observations/Comments
1	NPDES-18 TME	08/31/09	raw water		x					3060-15	
2	NPDES-18 DME	08/31/09	filt. water			x				3060-16	
3	NPDES-19	08/31/09	raw water		x					3060-17	
4	NPDES-19	08/31/09	filt. water			x				3060-18	
5	NPDES-21	08/31/09	raw water		x					3060-19	
6	NPDES-21	08/31/09	filt. water			x				3060-20	
7	PS-01 TME	08/31/09	raw water		x					3060-21	
8	PS-01 DME	08/31/09	filt. water			x				3060-22	
9	PS-02	08/31/09	raw water		x					3060-23	
10	PS-02	08/31/09	filt. water			x				3060-24	
11	PS-03	08/31/09	raw water		x					3060-25	
12	PS-03	08/31/09	filt. water			x				3060-26	
13	PS-03 DUP	08/31/09	raw water		x					3060-27	
14	PS-03 DUP	08/31/09	filt. water			x				3060-28	
15											

Relinquished By:	Company:	Received By:	Company: MSL
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time 09/01/09 0700
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Rev. 020102COC

Distribution: White - Laboratory, Project Files Yellow - Laboratory, Client Pink - Sampler

Page _____ of _____

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
M2DeepNUT	M2 Deep	9-1	Seawater				X						
M2DeepDOC								X					
M2DeepTME										X			
M2DeepOSAL											X		
M2DeepTSS						X							
WPNUT	WP	9-1/1453	Seawater				X					1	
WP DOC								X				1	
WPTME										X		1	
WPOSAL											X	1	
WP TSS						X						1	
PS0791NUT	PS0791	9-1/1514					X					1	
PS0791DOC								X				1	
PS0791TME										X		1	
PS0791OSAL											X	1	
PS0791TSS						X						1	
NPDES 18000	NPDES	8/31/09 1200	seawater					X				TOTAL # CONTAINERS	24 hour comp?

3060 103,104

3060 105,106

Relinquished by:

Signature	Date	Time
	9/1/09	1860

Printed Name	Company

Received by:

Signature	Date/Time
	09/02/09 0700

Printed Name	Company
MLFMcGahan	

Relinquished by:

Signature	Date	Time

Printed Name	Company

Received by:

Signature	Date/Time

Printed Name	Company

page 8

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Battelle & Navy
DATE: 9/1/09
Laboratory: MSL / PNNL

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
3060*																			
107	EB-TME-1	Equipment Blk	9/1/09 1800	DI water										X					Bottle and
108	EB-DME-1	"	9/1/09 1800											X					filter blanks
109	EB-TME-2	"	9/1/09 1800											X					generated at
110	EB-DME-2	"	9/1/09 1800											X					lab
															TOTAL # CONTAINERS				

Relinquished by: _____ Received by: _____ 9/1/09 1800

Signature	Date	Time	Signature	Date/Time
Printed Name	Company		Printed Name	Company

Relinquished by: _____ Received by: _____ 9/2/09 Battelle MSL

Signature	Date	Time	Signature	Date/Time
Printed Name	Company		Printed Name	Company

LOG-IN CHECKLIST ENVVEST Ambient monitoring Reference SOP# MSL-A-001

Central File #: N 3060 Sample No(s): 1-3 Project Manager: JMR

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater WP# H

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

Date To Archive: Date To Dispose:

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Was a custody seal present?
☐	☐	☑	Was the custody seal intact?
☐	☐	☑	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? ~~4.7~~ °C
			(if multiple coolers, note temp. of each) °C
☐	☐	☑	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)?
			Comment/Remedy: Samples hand delivered by PM + already acidified
☑	☐	☐	Were all chain of custody forms signed and dated?
☐	☑	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: ~~Teflon~~ Poly Glass Cap. Vial Other:

Notes:

Completed By: Date/Time: 08/19/09 1106

SAMPLE PRESERVATION

- ☐ Sample(s) were preserved at MSL
- ☑ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- ☑ Random pH checked for ~10% of samples (use dip paper) Sample IDs: 2 ok
- ☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:		Notes:
☐	0.2% HNO3	
☐	0.5% HCl (Hg samples)	
☐	Refrigerate/Freeze	
☐	(Other)	

Completed By: Date/Time: 08/19/09 1106

Storage Shelf: J-2-B

Central File #: 3000 Sample No(s): Project Manager: JMV

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater WP# H23414

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
✓		Filter Samples: Amount: Entire sample Half of sample
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Lab# 130)
✓		Special instructions: ship TSS and nutrients and oil and grease to CAS

Sample Preservation Instructions: 0.2% HNO3

Date To Archive: Date To Dispose:

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		N/A	Was a custody seal present?
		N/A	Was the custody seal intact?
		N/A	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) °C °C
		N/A	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: 0 recieved samples acidified and on counter
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Spex Other:

Notes:

Completed By: [signature] Date/Time: 09/02/09 0800

SAMPLE PRESERVATION

- ☐ Sample(s) were preserved at MSL
- ☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- ☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- ☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:
- ☐ 0.2% HNO3 Notes:
- ☐ 0.5% HCl (Hg samples) Notes:
- ☐ Refrigerate/Freeze Notes:
- ☐ Other Notes:

Completed By: Date/Time:

Revsed 033006

Analytical Chemistry Data Package
Conventional Analysis

Project: ENVVEST Ambient Monitoring August 2009

K0908111
K0908264

Battelle Project No. 54220
CF No. 3060

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Laboratory	**Service Request No.:**	K0908111
Project:	2009 Ambient Monitoring	**Date Received:**	9/2/09
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were received for analysis at Columbia Analytical Services on 9/2/09. The samples were received in good condition and consistent with the accompanying chain of custody with some exception. The exceptions were resolved, as noted on the attached Cooler Receipt and Preservation Form and associated e-mail correspondence between CAS/Kelso and Battelle MSL. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Comments

The results are reported to the CAS/Kelso Method Detection Limit (MDL), which is supported by MDL studies performed annually. The MDL studies are conducted according to 40 CFR Part 136, Appendix B.

General Chemistry Parameters

Ammonia by 350.1LL:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Ammonia in sample M3.1 Deep was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Total Suspended Solids by Standard Method 2540D:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Suspended Solids in samples PS11 and PS08 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Hexane Extractable Material (HEM) by EPA Method 1664

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 9/24/09

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Ammonia as Nitrogen

Analysis Method 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	0.010	0.004	1	09/04/09	0.024	
SN03	K0908111-002	0.010	0.004	1	09/04/09	0.042	
M3.1	K0908111-003	0.010	0.004	1	09/04/09	0.006	J
PS13	K0908111-004	0.010	0.004	1	09/04/09	0.014	
PS02	K0908111-005	0.010	0.004	1	09/04/09	0.035	
PS01	K0908111-006	0.010	0.004	1	09/04/09	0.067	
PS15	K0908111-007	0.010	0.004	1	09/04/09	0.031	
PS14	K0908111-008	0.010	0.004	1	09/04/09	0.021	
PS11	K0908111-009	0.010	0.004	1	09/04/09	0.035	
PS16	K0908111-010	0.010	0.004	1	09/04/09	0.034	
PS09	K0908111-011	0.010	0.004	1	09/04/09	0.107	
PS10	K0908111-012	0.010	0.004	1	09/04/09	0.287	
PS03-Dup	K0908111-013	0.010	0.004	1	09/04/09	0.207	
PS03	K0908111-014	0.010	0.004	1	09/04/09	0.057	
PS08	K0908111-015	0.010	0.004	1	09/04/09	0.136	
NPDES19	K0908111-016	0.020	0.004	2	09/04/09	0.558	
NPDES18	K0908111-017	0.010	0.004	1	09/17/09	0.202	
PS04	K0908111-018	0.010	0.004	1	09/04/09	0.124	
PS05	K0908111-019	0.010	0.004	1	09/04/09	0.106	
PS06	K0908111-020	0.010	0.004	1	09/04/09	0.189	
PS07	K0908111-021	0.010	0.004	1	09/04/09	0.188	
Method Blank	K0908111-MB	0.010	0.004	1	09/17/09	ND	
Method Blank	K0908111-MB	0.010	0.004	1	09/04/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/04/09

Duplicate Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.024	0.030	0.027	22	*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908237-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	ND	ND	ND	-	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/04/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.200	0.024	0.210	93	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908237-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.200	ND	0.180	90	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	15.2	15.0	99	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/04/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	15.2	14.8	97	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/17/2009	0.250	0.235	94
CCV2 Result	9/17/2009	0.250	0.236	94
CCV3 Result	9/17/2009	0.250	0.235	94
CCV4 Result	9/17/2009	0.250	0.235	94
CCV5 Result	9/17/2009	0.250	0.235	94
CCV6 Result	9/17/2009	0.250	0.235	94
CCV7 Result	9/17/2009	0.250	0.235	94
CCV1 Result	9/4/2009	0.250	0.236	94
CCV2 Result	9/4/2009	0.250	0.236	94
CCV3 Result	9/4/2009	0.250	0.236	94
CCV4 Result	9/4/2009	0.250	0.236	94
CCV5 Result	9/4/2009	0.250	0.236	94
CCV6 Result	9/4/2009	0.250	0.235	94

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/17/2009	0.010	ND
CCB2 Result	9/17/2009	0.010	ND
CCB3 Result	9/17/2009	0.010	ND
CCB4 Result	9/17/2009	0.010	ND
CCB5 Result	9/17/2009	0.010	ND
CCB6 Result	9/17/2009	0.010	ND
CCB7 Result	9/17/2009	0.010	ND
CCB1 Result	9/4/2009	0.010	ND
CCB2 Result	9/4/2009	0.010	ND
CCB3 Result	9/4/2009	0.010	ND
CCB4 Result	9/4/2009	0.010	ND
CCB5 Result	9/4/2009	0.010	ND
CCB6 Result	9/4/2009	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	0.20	0.07	1	9/11/2009	09/18/09	1.33	
SN03	K0908111-002	0.20	0.07	1	9/11/2009	09/18/09	12.1	
M3.1	K0908111-003	0.20	0.07	1	9/11/2009	09/18/09	1.06	
PS13	K0908111-004	0.20	0.07	1	9/11/2009	09/18/09	1.27	
PS02	K0908111-005	0.20	0.07	1	9/11/2009	09/18/09	1.16	
PS01	K0908111-006	0.20	0.07	1	9/11/2009	09/18/09	4.44	
PS15	K0908111-007	0.20	0.07	1	9/11/2009	09/18/09	2.10	
PS14	K0908111-008	0.20	0.07	1	9/11/2009	09/18/09	1.18	
PS11	K0908111-009	0.20	0.07	1	9/11/2009	09/18/09	0.93	
PS16	K0908111-010	0.20	0.07	1	9/11/2009	09/18/09	2.01	
PS09	K0908111-011	0.20	0.07	1	9/11/2009	09/18/09	2.05	
PS10	K0908111-012	0.20	0.07	1	9/11/2009	09/18/09	1.87	
PS03-Dup	K0908111-013	0.20	0.07	1	9/11/2009	09/21/09	1.20	
PS03	K0908111-014	0.20	0.07	1	9/11/2009	09/18/09	2.47	
PS08	K0908111-015	0.20	0.07	1	9/11/2009	09/18/09	2.61	
NPDES19	K0908111-016	0.20	0.07	1	9/11/2009	09/18/09	1.19	
NPDES18	K0908111-017	0.20	0.07	1	9/11/2009	09/18/09	1.17	
PS04	K0908111-018	0.20	0.07	1	9/11/2009	09/18/09	1.28	
PS05	K0908111-019	0.20	0.07	1	9/11/2009	09/18/09	1.43	
PS06	K0908111-020	0.20	0.07	1	9/11/2009	09/18/09	1.87	
PS07	K0908111-021	0.20	0.07	1	9/14/2009	09/18/09	1.20	
Method Blank	K0908111-MB	0.20	0.07	1	9/14/2009	09/21/09	0.14	J
Method Blank	K0908111-MB	0.20	0.07	1	9/11/2009	09/18/09	0.11	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : 09/11/09
Date Analyzed : 09/18/09

Duplicate Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.33	1.25	1.29	6	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : 09/14/09
Date Analyzed : 09/21/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.76	2.08	1.92	17	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : 09/11/09
Date Analyzed : 09/18/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	1.33	54.0	105	37-158	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : 09/14/09
Date Analyzed : 09/21/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908264-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	1.76	52.0	100	37-158	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/11/09
		Date Analyzed :	09/18/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	28.5	30.6	107	78-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/14/09
		Date Analyzed :	09/21/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	28.5	30.2	106	78-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/18/2009	10.0	9.68	97
CCV2 Result	9/18/2009	10.0	9.36	94
CCV3 Result	9/18/2009	10.0	9.75	98
CCV4 Result	9/18/2009	10.0	9.42	94
CCV1 Result	9/21/2009	10.0	9.88	99
CCV2 Result	9/21/2009	10.0	9.43	94
CCV3 Result	9/21/2009	10.0	9.68	97
CCV4 Result	9/21/2009	10.0	9.74	97

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/18/2009	0.05	ND
CCB2 Result	9/18/2009	0.05	0.029 J
CCB3 Result	9/18/2009	0.05	0.030 J
CCB4 Result	9/18/2009	0.05	0.032 J
CCB1 Result	9/21/2009	0.05	0.013 J
CCB2 Result	9/21/2009	0.05	0.014 J
CCB3 Result	9/21/2009	0.05	ND
CCB4 Result	9/21/2009	0.05	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Nitrate+Nitrite as Nitrogen

Analysis Method 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	0.050	0.009	1	09/08/09	0.110	
SN03	K0908111-002	0.050	0.009	1	09/08/09	0.010	J
M3.1	K0908111-003	0.050	0.009	1	09/08/09	0.016	J
PS13	K0908111-004	0.050	0.009	1	09/08/09	ND	
PS02	K0908111-005	0.050	0.009	1	09/08/09	0.040	J
PS01	K0908111-006	0.050	0.009	1	09/08/09	ND	
PS15	K0908111-007	0.050	0.009	1	09/08/09	ND	
PS14	K0908111-008	0.050	0.009	1	09/08/09	0.010	J
PS11	K0908111-009	0.050	0.009	1	09/08/09	0.039	J
PS16	K0908111-010	0.050	0.009	1	09/08/09	ND	
PS09	K0908111-011	0.050	0.009	1	09/08/09	0.048	J
PS10	K0908111-012	0.050	0.009	1	09/08/09	0.014	J
PS03-Dup	K0908111-013	0.050	0.009	1	09/08/09	0.054	
PS03	K0908111-014	0.050	0.009	1	09/08/09	0.051	
PS08	K0908111-015	0.050	0.009	1	09/08/09	0.050	
NPDES19	K0908111-016	0.050	0.009	1	09/08/09	0.170	
NPDES18	K0908111-017	0.050	0.009	1	09/08/09	0.600	
PS04	K0908111-018	0.050	0.009	1	09/08/09	ND	
PS05	K0908111-019	0.050	0.009	1	09/08/09	0.012	J
PS06	K0908111-020	0.050	0.009	1	09/08/09	0.061	
PS07	K0908111-021	0.050	0.009	1	09/08/09	0.051	
Method Blank	K0908111-MB	0.050	0.009	1	09/08/09	ND	
Method Blank	K0908111-MB	0.050	0.009	1	09/08/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/08/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908059-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.018	0.020	0.019	11	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/08/09

Duplicate Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.110	0.110	0.110	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/08/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908059-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.018	2.05	102	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/08/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.110	2.14	102	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/08/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	21.0	21.3	101	89-117	
Nitrate+Nitrite as Nitrogen	NONE	353.2	21.0	21.5	102	89-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/8/2009	2.00	2.00	100
CCV2 Result	9/8/2009	2.00	2.00	100
CCV3 Result	9/8/2009	2.00	2.00	100
CCV4 Result	9/8/2009	2.00	2.00	100
CCV5 Result	9/8/2009	2.00	1.99	100
CCV6 Result	9/8/2009	2.00	1.99	100
CCV7 Result	9/8/2009	2.00	1.98	99
CCV8 Result	9/8/2009	2.00	1.98	99
CCV9 Result	9/8/2009	2.00	2.00	100
CCV10 Result	9/8/2009	2.00	1.97	99
CCV11 Result	9/8/2009	2.00	1.97	99
CCV12 Result	9/8/2009	2.00	1.96	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/8/2009	0.050	ND
CCB2 Result	9/8/2009	0.050	0.010 J
CCB3 Result	9/8/2009	0.050	ND
CCB4 Result	9/8/2009	0.050	ND
CCB5 Result	9/8/2009	0.050	ND
CCB6 Result	9/8/2009	0.050	ND
CCB7 Result	9/8/2009	0.050	ND
CCB8 Result	9/8/2009	0.050	ND
CCB9 Result	9/8/2009	0.050	0.035 J
CCB10 Result	9/8/2009	0.050	ND
CCB11 Result	9/8/2009	0.050	ND
CCB12 Result	9/8/2009	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Phosphorus, Total

Prep Method : Method
Analysis Method 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	0.010	0.004	1	9/9/2009	09/10/09	0.073	
SN03	K0908111-002	0.020	0.008	2	9/11/2009	09/15/09	0.944	
M3.1	K0908111-003	0.010	0.004	1	9/9/2009	09/10/09	0.060	
PS13	K0908111-004	0.010	0.004	1	9/9/2009	09/10/09	0.080	
PS02	K0908111-005	0.010	0.004	1	9/9/2009	09/10/09	0.062	
PS01	K0908111-006	0.010	0.004	1	9/9/2009	09/10/09	0.410	
PS15	K0908111-007	0.010	0.004	1	9/9/2009	09/10/09	0.177	
PS14	K0908111-008	0.010	0.004	1	9/11/2009	09/15/09	0.087	
PS11	K0908111-009	0.010	0.004	1	9/11/2009	09/15/09	0.082	
PS16	K0908111-010	0.010	0.004	1	9/11/2009	09/15/09	0.085	
PS09	K0908111-011	0.010	0.004	1	9/11/2009	09/15/09	0.081	
PS10	K0908111-012	0.010	0.004	1	9/11/2009	09/15/09	0.067	
PS03-Dup	K0908111-013	0.010	0.004	1	9/11/2009	09/15/09	0.136	
PS03	K0908111-014	0.010	0.004	1	9/11/2009	09/15/09	0.111	
PS08	K0908111-015	0.010	0.004	1	9/11/2009	09/15/09	0.076	
NPDES19	K0908111-016	0.010	0.004	1	9/11/2009	09/15/09	0.212	
NPDES18	K0908111-017	0.010	0.004	1	9/11/2009	09/15/09	0.181	
PS04	K0908111-018	0.010	0.004	1	9/11/2009	09/15/09	0.059	
PS05	K0908111-019	0.010	0.004	1	9/11/2009	09/15/09	0.064	
PS06	K0908111-020	0.010	0.004	1	9/11/2009	09/15/09	0.106	
PS07	K0908111-021	0.010	0.004	1	9/11/2009	09/15/09	0.089	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Phosphorus, Total

Prep Method : Method
Analysis Method 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Method Blank	K0908111-MB	0.010	0.004	1	9/11/2009	09/15/09	0.004	J
Method Blank	K0908111-MB	0.010	0.004	1	9/9/2009	09/10/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : 09/09/09
Date Analyzed : 09/10/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908059-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.016	0.016	0.016	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : 09/11/09
Date Analyzed : 09/15/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908333-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.036	0.030	0.033	18	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : 09/09/09
Date Analyzed : 09/10/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908059-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	0.016	0.544	106	50-144	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : WATER

Service Request : K0908111
Date Collected : NA
Date Received : NA
Date Prepared : 09/11/09
Date Analyzed : 09/15/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908333-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	0.036	0.574	108	50-144	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/09/09
		Date Analyzed :	09/10/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.32	103	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/11/09
		Date Analyzed :	09/15/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.42	106	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/10/2009	0.500	0.479	96
CCV2 Result	9/10/2009	0.500	0.479	96
CCV3 Result	9/10/2009	0.500	0.480	96
CCV4 Result	9/10/2009	0.500	0.479	96
CCV1 Result	9/15/2009	0.500	0.482	96
CCV2 Result	9/15/2009	0.500	0.484	97
CCV3 Result	9/15/2009	0.500	0.485	97
CCV4 Result	9/15/2009	0.500	0.485	97

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/10/2009	0.010	ND
CCB2 Result	9/10/2009	0.010	0.004 J
CCB3 Result	9/10/2009	0.010	ND
CCB4 Result	9/10/2009	0.010	ND
CCB1 Result	9/15/2009	0.010	0.004 J
CCB2 Result	9/15/2009	0.010	0.005 J
CCB3 Result	9/15/2009	0.010	ND
CCB4 Result	9/15/2009	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Solids, Total

Analysis Method SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	5	5	1	09/04/09	32200	
SN03	K0908111-002	5	5	1	09/04/09	30300	
M3.1	K0908111-003	5	5	1	09/04/09	32200	
PS13	K0908111-004	5	5	1	09/04/09	31300	
PS02	K0908111-005	5	5	1	09/04/09	30900	
PS01	K0908111-006	5	5	1	09/04/09	31000	
PS15	K0908111-007	5	5	1	09/04/09	31500	
PS14	K0908111-008	5	5	1	09/04/09	31500	
PS11	K0908111-009	5	5	1	09/04/09	32000	
PS16	K0908111-010	5	5	1	09/04/09	32100	
PS09	K0908111-011	5	5	1	09/04/09	31700	
PS10	K0908111-012	5	5	1	09/04/09	31300	
PS03-Dup	K0908111-013	5	5	1	09/04/09	31300	
PS03	K0908111-014	5	5	1	09/04/09	31400	
PS08	K0908111-015	5	5	1	09/04/09	31500	
NPDES19	K0908111-016	5	5	1	09/04/09	23100	
NPDES18	K0908111-017	5	5	1	09/04/09	23600	
PS04	K0908111-018	5	5	1	09/04/09	32400	
PS05	K0908111-019	5	5	1	09/04/09	32900	
PS06	K0908111-020	5	5	1	09/04/09	30400	
PS07	K0908111-021	5	5	1	09/04/09	31400	
Method Blank	K0908111-MB	5	5	1	09/04/09	ND	
Method Blank	K0908111-MB	5	5	1	09/04/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/04/09

Duplicate Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5	32200	32200	32200	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/04/09

Duplicate Summary
Inorganic Parameters

Sample Name : PS07
Lab Code : K0908111-021DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5	31400	30900	31200	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/04/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	1440	1460	101	88-112	
Solids, Total	NONE	SM 2540 B	1440	1470	102	88-112	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Solids, Total Suspended (TSS)

Units : mg/L
Basis : NA

Analysis Method SM 2540 D
Test Notes :

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	5	5	1	09/04/09	7	
SN03	K0908111-002	5	5	1	09/04/09	133	
M3.1	K0908111-003	5	5	1	09/04/09	27	
PS13	K0908111-004	5	5	1	09/04/09	19	
PS02	K0908111-005	5	5	1	09/04/09	24	
PS01	K0908111-006	5	5	1	09/04/09	25	
PS15	K0908111-007	5	5	1	09/04/09	78	
PS14	K0908111-008	5	5	1	09/04/09	16	
PS11	K0908111-009	5	5	1	09/04/09	18	
PS16	K0908111-010	5	5	1	09/04/09	13	
PS09	K0908111-011	5	5	1	09/04/09	15	
PS10	K0908111-012	5	5	1	09/04/09	14	
PS03-Dup	K0908111-013	5	5	1	09/04/09	12	
PS03	K0908111-014	5	5	1	09/04/09	15	
PS08	K0908111-015	5	5	1	09/04/09	14	
NPDES19	K0908111-016	5	5	1	09/04/09	14	
NPDES18	K0908111-017	5	5	1	09/04/09	9	
PS04	K0908111-018	5	5	1	09/04/09	15	
PS05	K0908111-019	5	5	1	09/04/09	11	
PS06	K0908111-020	5	5	1	09/05/09	7	
PS07	K0908111-021	5	5	1	09/05/09	15	
Method Blank	K0908111-MB	5	5	1	09/05/09	ND	
Method Blank	K0908111-MB	5	5	1	09/04/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/04/09

Duplicate Summary
Inorganic Parameters

Sample Name : PS11
Lab Code : K0908111-009DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5	18	12	15	40	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/04/09

Duplicate Summary
Inorganic Parameters

Sample Name : PS08
Lab Code : K0908111-015DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5	14	9	12	42	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/04/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	263	250	95	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/05/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	263	260	99	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Carbon, Dissolved Organic (DOC)

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	1.0	0.1	2	09/09/09	1.8	
SN03	K0908111-002	1.0	0.1	2	09/09/09	14.7	
M3.1	K0908111-003	1.0	0.1	2	09/09/09	1.7	
PS13	K0908111-004	1.0	0.1	2	09/09/09	4.8	
PS02	K0908111-005	1.0	0.1	2	09/09/09	2.1	
PS01	K0908111-006	1.0	0.1	2	09/09/09	9.4	
PS15	K0908111-007	1.0	0.1	2	09/09/09	5.4	
PS14	K0908111-008	1.0	0.1	2	09/09/09	2.8	
PS11	K0908111-009	1.0	0.1	2	09/09/09	2.3	
PS16	K0908111-010	1.0	0.1	2	09/09/09	2.9	
PS09	K0908111-011	1.0	0.1	2	09/09/09	2.7	
PS10	K0908111-012	1.0	0.1	2	09/09/09	2.4	
PS03-Dup	K0908111-013	1.0	0.1	2	09/09/09	3.3	
PS03	K0908111-014	1.0	0.1	2	09/09/09	2.6	
PS08	K0908111-015	1.0	0.1	2	09/09/09	1.6	
NPDES19	K0908111-016	1.0	0.1	2	09/09/09	1.0	
PS04	K0908111-018	1.0	0.1	2	09/09/09	1.7	
PS05	K0908111-019	1.0	0.1	2	09/09/09	1.5	
PS06	K0908111-020	1.0	0.1	2	09/09/09	1.8	
PS07	K0908111-021	1.0	0.1	2	09/09/09	1.4	
Method Blank	K0908111-MB	0.50	0.07	1	09/09/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/09/09

Duplicate Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	1.8	1.8	1.8	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/09/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	1.8	51.0	98	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 08/31/09
Date Received : 09/02/09

Carbon, Total Organic

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M3.1 Deep	K0908111-001	1.0	0.1	2	09/09/09	1.6	
SN03	K0908111-002	1.0	0.1	2	09/09/09	30.8	
M3.1	K0908111-003	1.0	0.1	2	09/09/09	1.8	
PS13	K0908111-004	1.0	0.1	2	09/09/09	4.9	
PS02	K0908111-005	1.0	0.1	2	09/09/09	1.9	
PS01	K0908111-006	1.0	0.1	2	09/09/09	16.4	
PS15	K0908111-007	1.0	0.1	2	09/09/09	7.7	
PS14	K0908111-008	1.0	0.1	2	09/09/09	2.6	
PS11	K0908111-009	1.0	0.1	2	09/09/09	2.6	
PS16	K0908111-010	1.0	0.1	2	09/09/09	2.9	
PS09	K0908111-011	1.0	0.1	2	09/09/09	2.0	
PS10	K0908111-012	1.0	0.1	2	09/09/09	1.8	
PS03-Dup	K0908111-013	1.0	0.1	2	09/09/09	4.2	
PS03	K0908111-014	1.0	0.1	2	09/09/09	3.3	
PS08	K0908111-015	1.0	0.1	2	09/09/09	1.6	
NPDES19	K0908111-016	1.0	0.1	2	09/09/09	1.1	
NPDES18	K0908111-017	1.0	0.1	2	09/09/09	1.4	
PS04	K0908111-018	1.0	0.1	2	09/09/09	1.7	
PS05	K0908111-019	1.0	0.1	2	09/09/09	1.5	
PS06	K0908111-020	1.0	0.1	2	09/09/09	1.3	
PS07	K0908111-021	1.0	0.1	2	09/09/09	1.5	
Method Blank	K0908111-MB	0.50	0.07	1	09/09/09	ND	
Method Blank	K0908111-MB	0.50	0.07	1	09/09/09	ND	

SM Standard-Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/09/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	NONE	SM 5310 C	24.7	23.2	94	84--116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Carbon, Total Organic (TOC)
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/9/2009	25.0	24.0	96
CCV2 Result	9/9/2009	25.0	26.1	104
CCV3 Result	9/9/2009	25.0	24.8	99
CCV4 Result	9/9/2009	25.0	25.2	101
CCV5 Result	9/9/2009	25.0	25.3	101
CCV6 Result	9/9/2009	25.0	24.0	96
CCV7 Result	9/9/2009	25.0	24.2	97
CCV8 Result	9/9/2009	25.0	26.7	107

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Carbon, Total Organic (TOC)
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/9/2009	0.50	0.09 J
CCB2 Result	9/9/2009	0.50	0.10 J
CCB3 Result	9/9/2009	0.50	ND
CCB4 Result	9/9/2009	0.50	ND
CCB5 Result	9/9/2009	0.50	ND
CCB6 Result	9/9/2009	0.50	ND
CCB7 Result	9/9/2009	0.50	ND
CCB8 Result	9/9/2009	0.50	0.07 J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/09/09

Duplicate Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.6	1.5	1.6	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/09/09

Duplicate Summary
Inorganic Parameters

Sample Name : PS07
Lab Code : K0908111-021DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.5	1.5	1.5	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/09/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M3.1 Deep
Lab Code : K0908111-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.6	52.3	101	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908111
Date Collected : 8/31/2009
Date Received : 9/2/2009
Date Prepared : NA
Date Analyzed : 09/09/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : PS07
Lab Code : K0908111-021MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.5	50.1	97	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/09/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	26.0	105	84-116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908111
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/09/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908111-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.2	94	84-116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/9/2009	25.0	24.0	96
CCV2 Result	9/9/2009	25.0	26.1	104
CCV3 Result	9/9/2009	25.0	24.8	99
CCV4 Result	9/9/2009	25.0	25.2	101
CCV5 Result	9/9/2009	25.0	25.3	101
CCV6 Result	9/9/2009	25.0	24.0	96
CCV7 Result	9/9/2009	25.0	24.2	97
CCV8 Result	9/9/2009	25.0	26.7	107

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908111
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/9/2009	0.50	0.09 J
CCB2 Result	9/9/2009	0.50	0.10 J
CCB3 Result	9/9/2009	0.50	ND
CCB4 Result	9/9/2009	0.50	ND
CCB5 Result	9/9/2009	0.50	ND
CCB6 Result	9/9/2009	0.50	ND
CCB7 Result	9/9/2009	0.50	ND
CCB8 Result	9/9/2009	0.50	0.07 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	M3.1	Units:	mg/L (ppm)
Lab Code:	K0908111-003	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	1.4	J

Approved By: _____ Date: 09/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS13	Units:	mg/L (ppm)
Lab Code:	K0908111-004	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	2.4	J

Approved By: _____ Date: 09/2009

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS01	Units:	mg/L (ppm)
Lab Code:	K0908111-006	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	8.3	

Approved By: _____ Date: 9/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS15	Units:	mg/L (ppm)
Lab Code:	K0908111-007	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	2.3	J

Approved By: _____ Date: 09/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS14	Units:	mg/L (ppm)
Lab Code:	K0908111-008	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	1.3	J

Approved By: _____ Date: 9/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS09	Units:	mg/L (ppm)
Lab Code:	K0908111-011	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	1.2	J

Approved By: _____ Date: 09/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS03	Units:	mg/L (ppm)
Lab Code:	K0908111-014	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	1.4	J

Approved By: _____ Date: 091009

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	PS08	Units:	mg/L (ppm)
Lab Code:	K0908111-015	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	1.7	J

Approved By: _____ Date: 09/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	NPDES19	Units:	mg/L (ppm)
Lab Code:	K0908111-016	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	3.3	J

Approved By: _____ Date: 09/09/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	8/31/2009
Sample Matrix:	Ocean water	**Date Received:**	9/2/2009

Oil and Grease

Sample Name:	NPDES18	Units:	mg/L (ppm)
Lab Code:	K0908111-017	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	1.5	J

Approved By: _____ Date: 9/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	NA
Sample Matrix:	Ocean water	**Date Received:**	NA

Oil and Grease

Sample Name:	Method Blank	Units:	mg/L (ppm)
Lab Code:	K090908-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	5.0	0.7	1	9/8/2009	9/8/2009	0.8	J

Approved By: _____ Date: 9/10/09

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K0908111
Project:	2009 Ambient Monitoring	**Date Collected:**	NA
LCS Matrix:	Ocean water	**Date Received:**	NA
		Date Extracted:	9/8/2009
		Date Analyzed:	9/8/2009

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Oil and Grease

Sample Name:	Lab Control Sample	Units:	mg/L (ppm)
Lab Code:	K090908-WL1, K090908-WL2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664	40	40	39.1	39.2	98	98	78-114	<1	

Approved By: _____ Date: 9/19/09

DLCS/072898p
K0908111phc.sm1 - DLCS 9/9/2009

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: 2009 Ambient Monitoring

Service Request: K0908111
Date Analyzed: 9/8/2009

Continuing Calibration Verification (CCV) Summary
EPA Methods 1664
Units: mg

Analyte	True Value	CCV1 Result	Percent Recovery	CCV2 Result	Percent Recovery	CCV3 Result	Percent Recovery
Oil and Grease, Total (HEM)	1000	1000	100	1000	100	1000	100
Oil and Grease, Total (HEM)	2.0	2.0	100	2.0	100	2.0	100

Approved By: _____ Date: 091009

CCV 1-4/102194
K0908111phc.sm1 - ccv 9/10/2009

Page No.:

KA908111

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 8/31/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
M3.1DNUT	M3.1 Deep	8/31/09 1519	seawater						x									
M3.1DDOC	M3.1 Deep	8/31/09 1519	seawater							x								
M3.1DTSS	M3.1 Deep	8/31/09 1519	seawater				x											
SN03NUT	SN03	8/31/09 1407	seawater						x									
SN03DOC	SN03	8/31/09 1407	seawater							x								
SN03TSS	SN03	8/31/09 1407	seawater				x											
M3.1NUT	M3.1	8/31/09 1456	seawater						x									
M3.1DOC	M3.1	8/31/09 1456	seawater							x								
M3.1TSS	M3.1	8/31/09 1456	seawater				x											
M3.1OG	M3.1	8/31/09 1456	seawater								x							
PS13OG	PS13	8/31/09 1259	seawater								x							
PS13NUT	PS13	8/31/09 1259	seawater						x									
PS13DOC	PS13	8/31/09 1259	seawater							x								
PS13TSS	PS13	8/31/09 1259	seawater				x											
PS02NUT	PS02	8/31/09 1325	seawater						x									Duplicate of CCC
														TOTAL # CONTAINERS				

Relinquished by:	Signature	Date	Time	Received by:	Signature	Date/Time
Battelle MSL		8/31/09	1500			
	Printed Name	Company			Printed Name	Company
Relinquished by:				Received by:		
	Signature	Date	Time		Signature	Date/Time
	Printed Name	Company			Printed Name	Company

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 8/31/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
PS02NUT	PS02	8/31/09 1325	seawater						x									
PS02DOC	PS02	8/31/09 1325	seawater							x								
PS02TSS	PS02	8/31/09 1325	seawater				x											
PS01NUT	PS01	8/31/09 1339	seawater						x									
PS01DOC	PS01	8/31/09 1339	seawater							x								
PS01TSS	PS01	8/31/09 1339	seawater				x											
PS01OG	PS01	8/31/09 1339	seawater								x							
PS15NUT	PS15	8/31/09 1209	seawater						x									
PS15DOC	PS15	8/31/09 1209	seawater							x								
PS15TSS	PS15	8/31/09 1209	seawater				x											
PS15OG	PS15	8/31/09 1209	seawater								x							
PS14NUT	PS14	8/31/09 1232	seawater						x									
PS14DOC	PS14	8/31/09 1232	seawater							x								
PS14TSS	PS14	8/31/09 1232	seawater				x											
PS14OG	PS14	8/31/09 1232	seawater								x							
														TOTAL # CONTAINERS				

Relinquished by:	Battelle MSL						Received by:													
	9/1/09	1500																		
	Signature	Date	Time						Signature							Date/Time				
	Printed Name	Company							Printed Name								Company			
Relinquished by:							Received by:													
	Signature	Date	Time						Signature							Date/Time				
	Printed Name	Company							Printed Name								Company			

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 8/31/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
PS11NUT	PS11	8/31/09 1130	seawater						x									
PS11DOC	PS11	8/31/09 1130	seawater							x								
PS11TSS	PS11	8/31/09 1130	seawater				x											
PS16NUT	PS16	8/31/09 1142	seawater						x									
PS16DOC	PS16	8/31/09 1142	seawater							x								
PS16TSS	PS16	8/31/09 1142	seawater				x											
PS15NUT	PS15	8/31/09 1209	seawater						x									Duplicated on COC
PS15DOC	PS15	8/31/09 1209	seawater							x								
PS15TSS	PS15	8/31/09 1209	seawater				x											
PS09NUT	PS09	8/31/09 1100	seawater						x									
PS09DOC	PS09	8/31/09 1100	seawater							x								
PS09TSS	PS09	8/31/09 1100	seawater				x											
PS09OG	PS09	8/31/09 1100	seawater								x							
PS10NUT	PS10	8/31/09 1118	seawater						x									
PS10DOC	PS10	8/31/09 1118	seawater							x								
														TOTAL # CONTAINERS				

Relinquished by: Battelle MSL — 9/1/09 — 1500
Received by: 9/1/09 1500

Signature	Date	Time	Signature	Date/Time
Printed Name	Company		Printed Name	Company

Relinquished by:
Received by:

Signature	Date	Time	Signature	Date/Time
Printed Name	Company		Printed Name	Company

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 8/31/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
12	PS10TSS	PS10	8/31/09 1118	seawater				x											
13	PS03NUT-DUP	PS03DUP	8/31/09 958	seawater						x									
13	PS03DOC-DUP	PS03DUP	8/31/09 958	seawater							x								
13	PS03TSS-DUP	PS03DUP	8/31/09 958	seawater				x											
14	PS03OG *	PS03	8/31/09 1022	seawater								x						3	Rec'd mat. DOC, TSS bottles
15	PS08NUT	PS08	8/31/09 1039	seawater						x									
15	PS08DOC	PS08	8/31/09 1039	seawater							x								
15	PS08TSS	PS08	8/31/09 1039	seawater				x											
15	PS08OG	PS08	8/31/09 1039	seawater								x							
16	NPDES19NUT	NPDES19	8/31/09 1200	water						x									24 hour comp
16	NPDES19TSS	NPDES19	8/31/09 1200	water				x											24 hour comp
16	NPDES19DOC	NPDES19	8/31/09 1200	water							x								24 hour comp
16	NPDES19OG	NPDES19	8/31/09 1200	water								x							24 hour comp
~~17~~	NPDES18NUT	NPDES18	8/31/09 1200	water						x									24 hour comp Did not Rec.
17	NPDES18TSS	NPDES18	8/31/09 1200	water				x											24 hour comp
															TOTAL # CONTAINERS				

Relinquished by: Battelle MSL — Signature: [signature] — Date: 9/1/09 — Time: 1500
Printed Name: — Company:

Received by: [signature] MSL — Signature: — Date/Time: 9/2/09 0800
Printed Name: — Company:

Relinquished by: — Signature: — Date: — Time:
Printed Name: — Company:

Received by: — Signature: — Date/Time:
Printed Name: — Company:

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 8/31/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
17	NPDES18OG	NPDES18	8/31/09 1200	water								x							24 hour comp
18	PS04																		Need Nut, TSS, DOC Bottles
19	PS05																		
20	PS06																		
21	PS07																		
															TOTAL # CONTAINERS				

Relinquished by:				Received by:														
Battelle NSI																		
9/1/09	1500																	
Signature	Date	Time					Signature							Date/Time				
Printed Name	Company						Printed Name								Company			
Relinquished by:				Received by:														
Signature	Date	Time					Signature							Date/Time				
Printed Name	Company						Printed Name								Company			

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PC TCL -

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K09 08111

Received: 9/2/09 Opened: 9/2/09 By: af

1. Samples were received via? *US Mail* (*Fed Ex*) *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA (Y) N

5. **Temperature of cooler(s) upon receipt (°C):** 1.4 3.0 2.9 1.1
   Temperature Blank (°C): 2.8 2.6 5.3 5.7
   Thermometer ID: 258 246 264 275
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other* hardware pks
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y (N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y (N)
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
MS.1 D	MS.1 Deep		

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
PS15 (nutrient)	1-500y				✓	H2SO4	1ml	EM047851	af	1130

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: ① Need nutrient, DOC, TSS bottles for PS09 not listed on COC. ② Did not rec. nutrient bottle for MRES18. ③ Rec'd 4 samples not on COC: PS04, PS05, PS06, PS07-1L w(TSS), 1-500y(nutrients), 1-500y(DOC) ④ PS02 nut + PS16 nut. PS15 TSS + PS15 DOC duplicated on COC.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Laboratory	**Service Request No.:**	K0908264
Project:	2009 Ambient Monitoring	**Date Received:**	9/4/09
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were received for analysis at Columbia Analytical Services on 9/4/09. The samples were received in good condition and consistent with the accompanying chain of custody. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Comments

The results are reported to the CAS/Kelso Method Detection Limit (MDL), which is supported by MDL studies performed annually. The MDL studies are conducted according to 40 CFR Part 136, Appendix B.

General Chemistry Parameters

Total Suspended Solids by Standard Method 2540D:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Suspended Solids in samples M1 DEEP and M4 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

-

Approved by _____ **Date** 9/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Ammonia as Nitrogen

Analysis Method 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M5	K0908264-001	0.010	0.004	1	09/17/09	ND	
M1	K0908264-002	0.010	0.004	1	09/17/09	ND	
M1 DEEP	K0908264-003	0.010	0.004	1	09/17/09	0.014	
1LSP	K0908264-004	0.010	0.004	1	09/17/09	0.005	J
M2	K0908264-005	0.010	0.004	1	09/17/09	ND	
M4	K0908264-006	0.010	0.004	1	09/17/09	ND	
BJ-EST	K0908264-007	0.010	0.004	1	09/17/09	ND	
PS-12	K0908264-008	0.010	0.004	1	09/17/09	0.004	J
BM01	K0908264-009	0.010	0.004	1	09/17/09	0.012	
HRPT	K0908264-010	0.010	0.004	1	09/17/09	0.007	J
ANCOVE	K0908264-011	0.010	0.004	1	09/17/09	0.013	
DY07	K0908264-012	0.010	0.004	1	09/17/09	0.004	J
M8	K0908264-013	0.010	0.004	1	09/17/09	ND	
M6	K0908264-014	0.010	0.004	1	09/17/09	ND	
M7	K0908264-015	0.010	0.004	1	09/17/09	ND	
SN10	K0908264-016	0.010	0.004	1	09/17/09	0.012	
M3.3	K0908264-017	0.010	0.004	1	09/17/09	ND	
SN11	K0908264-018	0.010	0.004	1	09/17/09	ND	
SN05	K0908264-019	0.010	0.004	1	09/17/09	ND	
SN08	K0908264-020	0.010	0.004	1	09/17/09	0.017	
CLAMBAY	K0908264-021	0.010	0.004	1	09/17/09	ND	
WP	K0908264-022	0.010	0.004	1	09/17/09	0.075	
PS0791	K0908264-023	0.010	0.004	1	09/17/09	0.054	
Method Blank	K0908264-MB	0.010	0.004	1	09/17/09	ND	
Method Blank	K0908264-MB	0.010	0.004	1	09/17/09	ND	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908237-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	ND	ND	ND	-	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	ND	ND	ND	-	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908237-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.200	ND	0.180	90	90-112	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.200	ND	0.207	104	90-112	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	Batch QC		Units :	mg/L
Lab Code :	K0908237-001MS	K0908237-001DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	ND	0.180	0.182	90	91	90-112	1	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	9/1/2009
Project Number :	NA	**Date Received :**	9/4/2009
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : M5 Units : mg/L

Lab Code : K0908264-001MS K0908264-001DMS Basis : NA

Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	ND	0.207	0.205	104	103	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	15.2	15.0	99	90-112	
Ammonia as Nitrogen	NONE	350.1	15.2	14.9	98	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/17/2009	0.250	0.235	94
CCV2 Result	9/17/2009	0.250	0.236	94
CCV3 Result	9/17/2009	0.250	0.235	94
CCV4 Result	9/17/2009	0.250	0.235	94
CCV5 Result	9/17/2009	0.250	0.235	94
CCV6 Result	9/17/2009	0.250	0.235	94
CCV7 Result	9/17/2009	0.250	0.235	94

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/17/2009	0.010	ND
CCB2 Result	9/17/2009	0.010	ND
CCB3 Result	9/17/2009	0.010	ND
CCB4 Result	9/17/2009	0.010	ND
CCB5 Result	9/17/2009	0.010	ND
CCB6 Result	9/17/2009	0.010	ND
CCB7 Result	9/17/2009	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M5	K0908264-001	0.20	0.07	1	9/14/2009	09/21/09	1.76	
M1	K0908264-002	0.20	0.07	1	9/14/2009	09/21/09	1.81	
M1 DEEP	K0908264-003	0.20	0.07	1	9/14/2009	09/21/09	1.76	
1LSP	K0908264-004	0.20	0.07	1	9/14/2009	09/21/09	3.39	
M2	K0908264-005	0.20	0.07	1	9/14/2009	09/21/09	3.55	
M4	K0908264-006	0.20	0.07	1	9/14/2009	09/21/09	2.76	
BI-EST	K0908264-007	0.20	0.07	1	9/14/2009	09/21/09	1.83	
PS-12	K0908264-008	0.20	0.07	1	9/14/2009	09/21/09	1.82	
BM01	K0908264-009	0.20	0.07	1	9/14/2009	09/21/09	1.42	
HRPT	K0908264-010	0.20	0.07	1	9/14/2009	09/21/09	1.95	
ANCOVE	K0908264-011	0.20	0.07	1	9/14/2009	09/21/09	2.62	
DY07	K0908264-012	0.20	0.07	1	9/14/2009	09/21/09	2.86	
M8	K0908264-013	0.20	0.07	1	9/14/2009	09/21/09	5.10	
M6	K0908264-014	0.20	0.07	1	9/14/2009	09/21/09	8.95	
M7	K0908264-015	0.20	0.07	1	9/14/2009	09/21/09	1.84	
SN10	K0908264-016	0.20	0.07	1	9/14/2009	09/21/09	3.56	
M3.3	K0908264-017	0.20	0.07	1	9/18/2009	09/21/09	3.24	
SN11	K0908264-018	0.20	0.07	1	9/18/2009	09/21/09	1.98	
SN05	K0908264-019	0.20	0.07	1	9/18/2009	09/21/09	2.27	
SN08	K0908264-020	0.20	0.07	1	9/21/2009	09/22/09	3.75	
CLAMBAY	K0908264-021	0.20	0.07	1	9/21/2009	09/22/09	1.11	
WP	K0908264-022	0.20	0.07	1	9/21/2009	09/22/09	1.31	
PS0791	K0908264-023	0.20	0.07	1	9/21/2009	09/22/09	1.63	
Method Blank	K0908264-MB	0.20	0.07	1	9/14/2009	09/21/09	0.14	J
Method Blank	K0908264-MB	0.20	0.07	1	9/21/2009	09/22/09	0.12	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : 09/14/09
Date Analyzed : 09/21/09

Duplicate Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.76	2.08	1.92	17	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : NA
Date Received : NA
Date Prepared : 09/21/09
Date Analyzed : 09/22/09

Duplicate Summary
Inorganic Parameters

Sample Name : BatchQC
Lab Code : K0908545-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.17	1.12	1.15	4	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	9/1/2009
Project Number :	NA	**Date Received :**	9/4/2009
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/14/09
		Date Analyzed :	09/21/09

Matrix Spike Summary
Inorganic Parameters

Sample Name :	M5	Units :	mg/L
Lab Code :	K0908264-001MS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	1.76	52.0	100	37-158	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : NA
Date Received : NA
Date Prepared : 09/21/09
Date Analyzed : 09/22/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : BatchQC
Lab Code : K0908545-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	20.0	1.17	23.4	111	37-158	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/14/09
		Date Analyzed :	09/21/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	28.5	30.2	106	78-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/21/09
		Date Analyzed :	09/22/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	28.5	29.8	105	78-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/21/2009	10.0	9.43	94
CCV2 Result	9/21/2009	10.0	9.88	99
CCV3 Result	9/21/2009	10.0	9.74	97
CCV4 Result	9/21/2009	10.0	9.68	97
CCV1 Result	9/22/2009	10.0	10.4	104
CCV2 Result	9/22/2009	10.0	9.69	97
CCV3 Result	9/22/2009	10.0	10.1	101
CCV4 Result	9/22/2009	10.0	10.1	101

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/21/2009	0.05	0.013 J
CCB2 Result	9/21/2009	0.05	0.014 J
CCB3 Result	9/21/2009	0.05	ND
CCB4 Result	9/21/2009	0.05	ND
CCB1 Result	9/22/2009	0.05	ND
CCB2 Result	9/22/2009	0.05	0.011 J
CCB3 Result	9/22/2009	0.05	0.019 J
CCB4 Result	9/22/2009	0.05	0.023 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Nitrate+Nitrite as Nitrogen

Analysis Method 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M5	K0908264-001	0.050	0.009	1	09/15/09	ND	
M1	K0908264-002	0.050	0.009	1	09/15/09	ND	
M1 DEEP	K0908264-003	0.050	0.009	1	09/15/09	0.114	
ILSP	K0908264-004	0.050	0.009	1	09/15/09	0.100	
M2	K0908264-005	0.050	0.009	1	09/15/09	0.214	
M4	K0908264-006	0.050	0.009	1	09/15/09	ND	
BJ-EST	K0908264-007	0.050	0.009	1	09/15/09	ND	
PS-12	K0908264-008	0.050	0.009	1	09/15/09	0.047	J
BM01	K0908264-009	0.050	0.009	1	09/15/09	0.031	J
HRPT	K0908264-010	0.050	0.009	1	09/15/09	0.042	J
ANCOVE	K0908264-011	0.050	0.009	1	09/15/09	0.026	J
DY07	K0908264-012	0.050	0.009	1	09/15/09	0.019	J
M8	K0908264-013	0.050	0.009	1	09/15/09	ND	
M6	K0908264-014	0.050	0.009	1	09/15/09	ND	
M7	K0908264-015	0.050	0.009	1	09/15/09	ND	
SN10	K0908264-016	0.050	0.009	1	09/15/09	ND	
M3.3	K0908264-017	0.050	0.009	1	09/15/09	ND	
SN11	K0908264-018	0.050	0.009	1	09/15/09	ND	
SN05	K0908264-019	0.050	0.009	1	09/15/09	ND	
SN08	K0908264-020	0.050	0.009	1	09/15/09	0.019	J
CLAMBAY	K0908264-021	0.050	0.009	1	09/15/09	0.158	
WP	K0908264-022	0.050	0.009	1	09/15/09	0.059	
PS0791	K0908264-023	0.050	0.009	1	09/15/09	0.032	J
Method Blank	K0908264-MB	0.050	0.009	1	09/15/09	ND	
Method Blank	K0908264-MB	0.050	0.009	1	09/15/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/15/09

Duplicate Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	ND	ND	ND	-	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/15/09

Duplicate Summary
Inorganic Parameters

Sample Name : SN08
Lab Code : K0908264-020DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.019	ND	NC	NC	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/15/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	ND	2.04	102	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/15/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : SN08
Lab Code : K0908264-020MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.019	2.07	103	86-117	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	9/1/2009
Project Number :	NA	**Date Received :**	9/4/2009
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	M5		Units :	mg/L
Lab Code :	K0908264-001MS	K0908264-001DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	ND	2.04	2.10	102	105	86-117	3	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	9/1/2009
Project Number :	NA	**Date Received :**	9/4/2009
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	SN08		Units :	mg/L
Lab Code :	K0908264-020MS	K0908264-020DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.019	2.07	2.09	103	104	86-117	<1	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	21.0	21.4	102	88-110	
Nitrate+Nitrite as Nitrogen	NONE	353.2	21.0	21.3	101	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/15/2009	2.00	2.02	101
CCV1 Result	9/15/2009	2.00	2.01	101
CCV2 Result	9/15/2009	2.00	2.01	101
CCV2 Result	9/15/2009	2.00	2.01	101
CCV3 Result	9/15/2009	2.00	2.00	100
CCV3 Result	9/15/2009	2.00	2.01	101
CCV4 Result	9/15/2009	2.00	2.02	101
CCV4 Result	9/15/2009	2.00	2.00	100
CCV5 Result	9/15/2009	2.00	2.00	100
CCV5 Result	9/15/2009	2.00	2.01	101
CCV6 Result	9/15/2009	2.00	2.01	101

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/15/2009	0.050	ND
CCB1 Result	9/15/2009	0.050	ND
CCB2 Result	9/15/2009	0.050	ND
CCB2 Result	9/15/2009	0.050	ND
CCB3 Result	9/15/2009	0.050	ND
CCB3 Result	9/15/2009	0.050	ND
CCB4 Result	9/15/2009	0.050	ND
CCB4 Result	9/15/2009	0.050	ND
CCB5 Result	9/15/2009	0.050	ND
CCB5 Result	9/15/2009	0.050	ND
CCB6 Result	9/15/2009	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Phosphorus, Total

Prep Method : Method
Analysis Method 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
M5	K0908264-001	0.010	0.004	1	9/16/2009	09/17/09	0.107	
M1	K0908264-002	0.010	0.004	1	9/16/2009	09/17/09	0.063	
M1 DEEP	K0908264-003	0.010	0.004	1	9/16/2009	09/17/09	0.071	
ILSP	K0908264-004	0.010	0.004	1	9/16/2009	09/17/09	0.075	
M2	K0908264-005	0.010	0.004	1	9/16/2009	09/17/09	0.074	
M4	K0908264-006	0.010	0.004	1	9/17/2009	09/18/09	0.203	
BJ-EST	K0908264-007	0.010	0.004	1	9/17/2009	09/18/09	0.060	
PS-12	K0908264-008	0.010	0.004	1	9/17/2009	09/18/09	0.067	
BM01	K0908264-009	0.010	0.004	1	9/17/2009	09/18/09	0.083	
HRPT	K0908264-010	0.010	0.004	1	9/17/2009	09/18/09	0.072	
ANCOVE	K0908264-011	0.010	0.004	1	9/17/2009	09/18/09	0.089	
DY07	K0908264-012	0.010	0.004	1	9/17/2009	09/18/09	0.099	
M8	K0908264-013	0.010	0.004	1	9/17/2009	09/18/09	0.121	
M6	K0908264-014	0.010	0.004	1	9/17/2009	09/18/09	0.085	
M7	K0908264-015	0.010	0.004	1	9/17/2009	09/18/09	0.051	
SN10	K0908264-016	0.010	0.004	1	9/17/2009	09/18/09	0.092	
M3.3	K0908264-017	0.010	0.004	1	9/17/2009	09/18/09	0.097	
SN11	K0908264-018	0.010	0.004	1	9/17/2009	09/18/09	0.060	
SN05	K0908264-019	0.010	0.004	1	9/17/2009	09/18/09	0.139	
SN08	K0908264-020	0.010	0.004	1	9/17/2009	09/18/09	0.420	
CLAMBAY	K0908264-021	0.010	0.004	1	9/17/2009	09/18/09	0.075	
WP	K0908264-022	0.010	0.004	1	9/17/2009	09/18/09	0.077	
PS0791	K0908264-023	0.010	0.004	1	9/17/2009	09/18/09	0.110	
Method Blank	K0908264-MB	0.010	0.004	1	9/16/2009	09/17/09	0.004	J
Method Blank	K0908264-MB	0.010	0.004	1	9/17/2009	09/18/09	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : NA
Date Received : NA
Date Prepared : 09/16/09
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908198-009DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	ND	ND	ND	-	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : 09/17/09
Date Analyzed : 09/18/09

Duplicate Summary
Inorganic Parameters

Sample Name : M4
Lab Code : K0908264-006DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.203	0.201	0.202	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : NA
Date Received : NA
Date Prepared : 09/16/09
Date Analyzed : 09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0908198-009MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	ND	0.492	98	50-144	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : 09/17/09
Date Analyzed : 09/18/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M4
Lab Code : K0908264-006MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	0.203	0.521	64	50-144	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/16/09
		Date Analyzed :	09/17/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC
Lab Code : K0908198-009MS K0908198-009DMS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	ND	0.492	0.941	98	94	50-144	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	9/1/2009
Project Number :	NA	**Date Received :**	9/4/2009
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/17/09
		Date Analyzed :	09/18/09

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	M4		Units :	mg/L
Lab Code :	K0908264-006MS	K0908264-006DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.203	0.521	0.865	64	66	50-144	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/16/09
		Date Analyzed :	09/17/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.42	106	88-113	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/17/09
		Date Analyzed :	09/18/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.53	109	88-113	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/17/2009	0.500	0.493	99
CCV2 Result	9/17/2009	0.500	0.492	98
CCV3 Result	9/17/2009	0.500	0.492	98
CCV4 Result	9/17/2009	0.500	0.492	98
CCV1 Result	9/18/2009	0.500	0.517	103
CCV2 Result	9/18/2009	0.500	0.513	103
CCV3 Result	9/18/2009	0.500	0.503	101

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/17/2009	0.010	ND
CCB2 Result	9/17/2009	0.010	ND
CCB3 Result	9/17/2009	0.010	ND
CCB4 Result	9/17/2009	0.010	ND
CCB1 Result	9/18/2009	0.010	ND
CCB2 Result	9/18/2009	0.010	ND
CCB3 Result	9/18/2009	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Solids, Total

Units : mg/L
Analysis Method SM 2540 B
Basis : NA
Test Notes :

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M5	K0908264-001	5	5	1	09/08/09	32400	
M1	K0908264-002	5	5	1	09/08/09	32600	
M1 DEEP	K0908264-003	5	5	1	09/08/09	32700	
1LSP	K0908264-004	5	5	1	09/08/09	32900	
M2	K0908264-005	5	5	1	09/08/09	34000	
M4	K0908264-006	5	5	1	09/08/09	33100	
BJ-EST	K0908264-007	5	5	1	09/08/09	32800	
PS-12	K0908264-008	5	5	1	09/08/09	32400	
BM01	K0908264-009	5	5	1	09/08/09	32500	
HRPT	K0908264-010	5	5	1	09/08/09	32000	
ANCOVE	K0908264-011	5	5	1	09/08/09	33000	
DY07	K0908264-012	5	5	1	09/08/09	32700	
M8	K0908264-013	5	5	1	09/08/09	32400	
M6	K0908264-014	5	5	1	09/08/09	33100	
M7	K0908264-015	5	5	1	09/08/09	32300	
SN10	K0908264-016	5	5	1	09/08/09	32400	
M3.3	K0908264-017	5	5	1	09/08/09	32100	
SN11	K0908264-018	5	5	1	09/08/09	32500	
SN05	K0908264-019	5	5	1	09/08/09	33500	
SN08	K0908264-020	5	5	1	09/08/09	31700	
CLAMBAY	K0908264-021	5	5	1	09/08/09	33300	
WP	K0908264-022	5	5	1	09/08/09	32100	
PS0791	K0908264-023	5	5	1	09/08/09	31600	
Method Blank	K0908264-MB	5	5	1	09/08/09	ND	
Method Blank	K0908264-MB	5	5	1	09/08/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/08/09

Duplicate Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5	32400	32400	32400	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/08/09

Duplicate Summary
Inorganic Parameters

Sample Name : ANCOVE
Lab Code : K0908264-011DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5	33000	32500	32800	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/08/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	1440	1390	97	85-115	
Solids, Total	NONE	SM 2540 B	1440	1480	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Solids, Total Suspended (TSS)

Analysis Method SM 2540 D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M5	K0908264-001	5	5	1	09/08/09	15	
M1	K0908264-002	5	5	1	09/08/09	9	
M1 DEEP	K0908264-003	5	5	1	09/08/09	8	
ILSP	K0908264-004	5	5	1	09/08/09	19	
M2	K0908264-005	5	5	1	09/08/09	15	
M4	K0908264-006	5	5	1	09/08/09	18	
BI-EST	K0908264-007	5	5	1	09/08/09	8	
PS-12	K0908264-008	5	5	1	09/08/09	23	
BM01	K0908264-009	5	5	1	09/08/09	27	
HRPT	K0908264-010	5	5	1	09/08/09	25	
ANCOVE	K0908264-011	5	5	1	09/08/09	27	
DY07	K0908264-012	5	5	1	09/08/09	25	
M8	K0908264-013	5	5	1	09/08/09	43	
M6	K0908264-014	5	5	1	09/08/09	33	
M7	K0908264-015	5	5	1	09/08/09	26	
SN10	K0908264-016	5	5	1	09/08/09	40	
M3.3	K0908264-017	5	5	1	09/08/09	33	
SN11	K0908264-018	5	5	1	09/08/09	25	
SN05	K0908264-019	5	5	1	09/08/09	35	
SN08	K0908264-020	5	5	1	09/08/09	69	
CLAMBAY	K0908264-021	5	5	1	09/08/09	45	
WP	K0908264-022	5	5	1	09/08/09	33	
PS0791	K0908264-023	5	5	1	09/08/09	25	
Method Blank	K0908264-MB	5	5	1	09/08/09	ND	
Method Blank	K0908264-MB	5	5	1	09/08/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/08/09

Duplicate Summary
Inorganic Parameters

Sample Name : M1 DEEP
Lab Code : K0908264-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5	8	14	11	55	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/08/09

Duplicate Summary
Inorganic Parameters

Sample Name : M4
Lab Code : K0908264-006DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5	18	21	20	15	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/08/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	263	272	103	80-115	
Solids, Total Suspended (TSS)	NONE	SM 2540 D	263	232	88	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 08/31,09/01/09
Date Received : 09/04/09

Carbon, Dissolved Organic (DOC)

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M5	K0908264-001	1.0	0.1	2	09/16/09	3.5	
M1	K0908264-002	1.0	0.1	2	09/16/09	3.0	
M1 DEEP	K0908264-003	1.0	0.1	2	09/16/09	1.8	
HLSP	K0908264-004	1.0	0.1	2	09/16/09	2.4	
M2	K0908264-005	1.0	0.1	2	09/16/09	1.5	
M4	K0908264-006	1.0	0.1	2	09/16/09	3.7	
BI-EST	K0908264-007	1.0	0.1	2	09/16/09	1.9	
PS-12	K0908264-008	1.0	0.1	2	09/16/09	1.6	
BM01	K0908264-009	1.0	0.1	2	09/16/09	1.7	
HRPT	K0908264-010	1.0	0.1	2	09/16/09	2.2	
ANCOVE	K0908264-011	1.0	0.1	2	09/16/09	2.1	
DY07	K0908264-012	1.0	0.1	2	09/16/09	1.6	
M8	K0908264-013	1.0	0.1	2	09/17/09	4.0	
M6	K0908264-014	1.0	0.1	2	09/17/09	3.3	
M7	K0908264-015	1.0	0.1	2	09/17/09	2.5	
SN10	K0908264-016	1.0	0.1	2	09/17/09	3.1	
M3.3	K0908264-017	1.0	0.1	2	09/17/09	3.7	
SN11	K0908264-018	1.0	0.1	2	09/17/09	2.0	
SN05	K0908264-019	1.0	0.1	2	09/17/09	2.9	
SN08	K0908264-020	1.0	0.1	2	09/17/09	8.8	
CLAMBAY	K0908264-021	1.0	0.1	2	09/17/09	1.7	
WP	K0908264-022	1.0	0.1	2	09/17/09	1.8	
PS0791	K0908264-023	1.0	0.1	2	09/17/09	2.1	
Method Blank	K0908264-MB	0.50	0.07	1	09/17/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : WATER

Service Request : K0908264
Date Collected : 08/31,09/01/09
Date Received : 09/04/09

Carbon, Dissolved Organic (DOC)

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
NPDES18	K0908264-024	1.0	0.1	2	09/17/09	1.3	
Method Blank	K0908264-MB	0.50	0.07	1	09/16/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/16/09

Duplicate Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	3.5	3.6	3.6	3	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : CLAMBAY
Lab Code : K0908264-021DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	1.7	1.6	1.7	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/16/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	3.5	52.4	98	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : CLAMBAY
Lab Code : K0908264-021MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	1.7	49.5	96	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 09/01/09
Date Received : 09/04/09

Carbon, Total Organic

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
M5	K0908264-001	1.0	0.1	2	09/17/09	4.6	
M1	K0908264-002	1.0	0.1	2	09/17/09	3.0	
M1 DEEP	K0908264-003	1.0	0.1	2	09/17/09	1.4	
1LSP	K0908264-004	1.0	0.1	2	09/17/09	2.2	
M2	K0908264-005	1.0	0.1	2	09/17/09	1.2	
M4	K0908264-006	1.0	0.1	2	09/17/09	6.3	
BJ-EST	K0908264-007	1.0	0.1	2	09/17/09	2.4	
PS-12	K0908264-008	1.0	0.1	2	09/17/09	1.6	
BM01	K0908264-009	1.0	0.1	2	09/17/09	2.0	
HRPT	K0908264-010	1.0	0.1	2	09/17/09	1.7	
ANCOVE	K0908264-011	1.0	0.1	2	09/17/09	2.5	
DY07	K0908264-012	1.0	0.1	2	09/17/09	2.0	
M8	K0908264-013	1.0	0.1	2	09/17/09	5.4	
M6	K0908264-014	1.0	0.1	2	09/17/09	3.1	
M7	K0908264-015	1.0	0.1	2	09/17/09	1.8	
SN10	K0908264-016	1.0	0.1	2	09/17/09	3.9	
M3.3	K0908264-017	1.0	0.1	2	09/17/09	4.0	
SN11	K0908264-018	1.0	0.1	2	09/17/09	2.3	
SN05	K0908264-019	1.0	0.1	2	09/17/09	4.2	
SN08	K0908264-020	1.0	0.1	2	09/17/09	14.8	
CLAMBAY	K0908264-021	1.0	0.1	2	09/17/09	1.5	
WP	K0908264-022	1.0	0.1	2	09/17/09	1.9	
PS0791	K0908264-023	1.0	0.1	2	09/17/09	3.3	
Method Blank	K0908264-MB	0.50	0.07	1	09/17/09	ND	
Method Blank	K0908264-MB	0.50	0.07	1	09/17/09	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/16/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	NONE	SM 5310 C	24.7	23.3	94	84-116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	NONE	SM 5310 C	24.7	23.9	97	84-116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Carbon, Total Organic (TOC)
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/16/2009	25.0	26.0	104
CCV2 Result	9/16/2009	25.0	24.6	98
CCV3 Result	9/16/2009	25.0	24.9	100
CCV4 Result	9/16/2009	25.0	24.3	97
CCV1 Result	9/17/2009	25.0	26.1	104
CCV2 Result	9/17/2009	25.0	26.5	106
CCV3 Result	9/17/2009	25.0	25.6	102
CCV4 Result	9/17/2009	25.0	24.6	98
CCV5 Result	9/17/2009	25.0	24.9	100
CCV6 Result	9/17/2009	25.0	26.1	104
CCV7 Result	9/17/2009	25.0	25.0	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Carbon, Total Organic (TOC)
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/16/2009	0.50	ND
CCB2 Result	9/16/2009	0.50	0.17 J
CCB3 Result	9/16/2009	0.50	0.22 J
CCB4 Result	9/16/2009	0.50	ND
CCB1 Result	9/17/2009	0.50	ND
CCB2 Result	9/17/2009	0.50	0.24 J
CCB3 Result	9/17/2009	0.50	ND
CCB4 Result	9/17/2009	0.50	ND
CCB5 Result	9/17/2009	0.50	ND
CCB6 Result	9/17/2009	0.50	0.14 J
CCB7 Result	9/17/2009	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	4.6	4.2	4.4	9	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : CLAMBAY
Lab Code : K0908264-021DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.5	1.7	1.6	13	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : 2009 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K0908264
Date Collected : 9/1/2009
Date Received : 9/4/2009
Date Prepared : NA
Date Analyzed : 09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name : M5
Lab Code : K0908264-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	4.6	52.7	96	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	9/1/2009
Project Number :	NA	**Date Received :**	9/4/2009
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Matrix Spike Summary
Inorganic Parameters

Sample Name :	CLAMBAY	Units :	mg/L
Lab Code :	K0908264-021MS	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.5	50.3	98	84-111	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.7	96	84-116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K0908264
Project Name :	2009 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/17/09

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0908264-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.9	97	84-116	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : 2009 Ambient Monitoring

Service Request : K0908264
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/17/2009	25.0	25.0	100
CCV2 Result	9/17/2009	25.0	26.1	104
CCV3 Result	9/17/2009	25.0	24.9	100
CCV4 Result	9/17/2009	25.0	24.6	98
CCV5 Result	9/17/2009	25.0	25.6	102
CCV6 Result	9/17/2009	25.0	26.5	106
CCV7 Result	9/17/2009	25.0	26.1	104

K0908264

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 9/2/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
M5NUT	M5	9/1/09 1215	seawater						x									
M5DOC	M5	9/1/09 1215	seawater							x								
M5TSS	M5	9/1/09 1215	seawater				x											
M1NUT	M1	9/1/09 1248	seawater						x									
M1DOC	M1	9/1/09 1248	seawater							x								
M1TSS	M1	9/1/09 1248	seawater				x											
M1DNUT	M1 DEEP	9/1/09 1320	seawater						x									
M1DDOC	M1 DEEP	9/1/09 1320	seawater							x								
M1DTSS	M1 DEEP	9/1/09 1320	seawater				x											
1LSPNUT	1LSP	9/1/09 1350	seawater						x									
1LSPDOC	1LSP	9/1/09 1350	seawater							x								
1LSPTSS	1LSP	9/1/09 1350	seawater				x											
M2NUT	M2	9/1/09 1424	seawater															
M2DOC	M2	9/1/09 1424	seawater						x									
M2TSS	M2	9/1/09 1424	seawater				x											
														TOTAL # CONTAINERS				

Relinquished by:	Signature	Date	Time	Received by:	Signature	Date/Time
Battelle MSL		9/3/09	1500	(as)		9/4/09 8:40
	Printed Name	Company			Printed Name	Company
Relinquished by:				Received by:		
	Signature	Date	Time		Signature	Date/Time
	Printed Name	Company			Printed Name	Company

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 9/2/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
M4NUT	M4	9/1/09 0926	seawater						x									
M4DOC	M4	9/1/09 0926	seawater							x								
M4TSS	M4	9/1/09 0926	seawater				x											
BJ-ESTNUT	BJ-EST	9/1/09 1006	seawater						x									
BJ-ESTDOC	BJ-EST	9/1/09 1006	seawater							x								
BJ-ESTTSS	BJ-EST	9/1/09 1006	seawater				x											
PS12NUT	PS-12	9/1/09 1015	seawater						x									
PS12DOC	PS-12	9/1/09 1015	seawater							x								
PS12TSS	PS-12	9/1/09 1015	seawater				x											
BM01NUT	BM01	9/1/09 1023	seawater						x									
BM01DOC	BM01	9/1/09 1023	seawater							x								
BM01TSS	BM01	9/1/09 1023	seawater				x											
HRPTNUT	HRPT	9/1/09 1031	seawater						x									
HRPTDOC	HRPT	9/1/09 1031	seawater							x								
HRPTTSS	HRPT	9/1/09 1031	seawater				x											
														TOTAL # CONTAINERS				

6 7 8 9 10

Relinquished by:				Received by:			
Battelle MSL					CAS 9/4/09 840		
9/3/09	1500						
Signature	Date	Time		Signature		Date/Time	
Printed Name	Company			Printed Name		Company	
Relinquished by:				Received by:			
Signature	Date	Time		Signature		Date/Time	
Printed Name	Company			Printed Name		Company	

9

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 9/2/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
ANCOVENUT	ANCOVE	9/1/09 1047	seawater						x									
ANCOVEDOC	ANCOVE	9/1/09 1047	seawater							x								
ANCOVETSS	ANCOVE	9/1/09 1047	seawater				x											
DY07NUT	DY07	9/1/09 1102	seawater						x									
DY07DOC	DY07	9/1/09 1102	seawater							x								
DY07TSS	DY07	9/1/09 1102	seawater				x											
M8NUT	M8	9/1/09 1133	seawater						x									
M8DOC	M8	9/1/09 1133	seawater							x								
M8TSS	M8	9/1/09 1133	seawater				x											
M6NUT	M6	9/1/09 1150	seawater						x									
M6DOC	M6	9/1/09 1150	seawater							x								
M6TSS	M6	9/1/09 1150	seawater				x											
M7NUT	M7	9/1/09 1200	seawater						x									
M7DOC	M7	9/1/09 1200	seawater							x								
M7TSS	M7	9/1/09 1200	seawater				x											
																	TOTAL # CONTAINERS	

Relinquished by: Battelle MSL 9/3/09 1500
Signature | Date | Time
Printed Name | Company

Received by: BJ Cas 9/4/09 0800
Signature | Date/Time
Printed Name | Company

Relinquished by:
Signature | Date | Time
Printed Name | Company

Received by:
Signature | Date/Time
Printed Name | Company

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 9/2/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
SN10NUT	SN10	9/1/09 0941	seawater				x					1	
SN10DOC	SN10	9/1/09 0941	seawater					x				1	
SN10TSS	SN10	9/1/09 0941	seawater			x						1	
M3.3NUT	M3.3	9/1/09 0950	seawater				x					1	
M3.3DOC	M3.3	9/1/09 0950	seawater					x				1	
M3.3TSS	M3.3	9/1/09 0950	seawater			x						1	
SN11NUT	SN11	9/1/09 0958	seawater				x					1	
SN11DOC	SN11	9/1/09 0958	seawater					x				1	
SN11TSS	SN11	9/1/09 0958	seawater			x						1	
SN05NUT	SN05	9/1/09 0908	seawater				x					1	
SN05DOC	SN05	9/1/09 0908	seawater					x				1	
SN05TSS	SN05	9/1/09 0908	seawater			x						1	
SN08NUT	SN08	9/1/09 0919	seawater				x					1	
SN08DOC	SN08	9/1/09 0919	seawater					x				1	
SN08TSS	SN08	9/1/09 0919	seawater			x						1	
										TOTAL # CONTAINERS			

16 17 18 19 20

Relinquished by:	Signature	Date	Time	Received by:	Signature	Date/Time
Battelle MSL		9/3/09	1500	B/		9/4/09 840
	Printed Name	Company			Printed Name	Company
Relinquished by:				Received by:		
	Signature	Date	Time		Signature	Date/Time
	Printed Name	Company			Printed Name	Company

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 9/2/2009
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
CLAMBAYNUT	CLAMBAY	9/1/09 1411	seawater				x						
21 CLBAYDOC	CLAMBAY	9/1/09 1411	seawater					x					
CLBAYTSS	CLAMBAY	9/1/09 1411	seawater			x							
WPNUT	WP	9/1/09 1453	seawater				x						
WPDOC	WP	9/1/09 1453	seawater					x					
22 WPTSS	WP	9/1/09 1453	seawater			x							
PS0791NUT	PS0791	9/1/09 1514	seawater				x						
23 PS0791DOC	PS0791	9/1/09 1514	seawater					x					
PS0791TSS	PS0791	9/1/09 1514	seawater			x							
24 NPDES18DOC	NPDES18	8/31/09 1200	water					x					24 hour comp
-end-													
												TOTAL # CONTAINERS = 73	

Relinquished by:	Signature	Date	Time	Received by:	Signature	Date/Time
Battelle MSL		9/3/09	1500			
	Printed Name	Company			Printed Name	Company
Relinquished by:				Received by:		
	Signature	Date	Time		Signature	Date/Time
	Printed Name	Company			Printed Name	Company

12

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC JCh -

Client / Project: Battelle Service Request K09 08264

Received: 9-4-09 Opened: 9-4-09 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA (Y) N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.6	1.0	1.8	1.2
Temperature Blank (°C):	2.4	2.5	2.1	2.2
Thermometer ID:	235	244	249	275
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* Hard ICE

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	Y	(N)
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	NA	(Y)	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
CLBAY	CLAmBAY		

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Day 1 of 2

Sample Collector	Johnston, Baerer, Brandenberger
Project Location	PS06 Ambient monitoring PSNS
Sampling Team	Johnston et al.
Organization	

PSNS Project ENVVEST
~~FC TMDL STUDY~~
Ambient Monitoring

Ecology ID (Sample)	Station Code	Date	Time (0855)	Temp	pH	Cond (S/m)	Turb	Source Code	Remarks/Comments
AMB01-PS07	PS07								
AMB01-PS06	PS06	8/31	0916	16.5	8.75	4.91	16.0		
AMB01-PS04	PS04		0932	16.1	8.70	5.03	8.2		(3.3% sal/m/4) DO-N/A
AMB01-PS05	PS05		0942	15.8	8.64	5.07	9.2		(3.3% sal) No DO
AMB01-PS03	PS03		0958	16.4	8.58	5.01	34.5		(3.3% sal) "
AMB01-PS08	PS08		1039	15.3	8.41	5.07	38.0		"
AMB01-PS09	PS09		1100	15.4	8.42	5.02	25.6		
AMB01-PS10	PS10		1118	16.2	8.65	5.02	22.5		
AMB01-PS11	PS11		1130	15.6	8.59	5.05	33.6		
AMB01-PS16	PS16		1142	15.4	8.62	5.02	24.5		(3.3%)
AMB01-PS15	PS15		1209	16.4	8.80	4.80	138		3.1%
AMB01-PS14	PS14		1232	15.6	8.58	5.04	57.2		3.3%
AMB01-PS13	PS13		1259	18.5	9.98	4.96	109		
AMB01-PS02	PS02		1325	18.3	8.85	4.89	180		
AMB01-PS01	PS01		1339	20.7	9.18	4.91	63.7		3.2
AMB01-SN03	SN03		1407	20.1	9.09	4.56	701		3.0
AMB01-M3.1	M3.1		1456	15.8	8.48	5.13	25		Surface DO 6.90 77
AMB01-M3.1DEEP	M3.1	1	1519	14.2	8.33	5.18	48		7 meter depth

Source Codes: **12** - Stream/River, **13** - Lake/Reservoir, **14** - Estuary/Ocean, **17** - Surface Runoff/Pond, **36** - Industrial Runoff/Po

Preservatives Used:	
Relinquished By/Dat	
Received By/Date:	
Relinquished By/Dat	
Received By/Date:	
Relinquished By/Date:	
Received By Lab/Date:	

Method of Shipment:	
Airbill No.:	
Laboratory	
Address:	

Custody Seals Present? Yes No
Custody Seals Intact? Yes No

1 of 10

p.1 360-824-6279 Dr. R.K. Johnston Sep 04 09 10:40a

PROJECT ENVVEST
Project Name:
SAMPLE TEAM: Johnston et al.
DATE: 8/31/2009
SPAWAR

CHAIN OF CUSTODY FORM

Testing Parameters

AMB01-###

Sample ID / Label Sample #	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Solids	Total Suspended Solids	LISST	Nitrate+Nitrite	Total Phosphorus	TKN	Ammonia	TOC	DOC	Total Metals	Dissolved Metals	Total Mercury	Organics	OSAL	No. of containers	COMMENTS
AMB01-001	PS07NUT	8/31/0855	Seawater						X	X	X	X	X	X						1	47.55598°N
AMB01-002	PS07DOC	8-31/0855	Seawater											X						1	122.64183°W
-003	PS07TMC	PS07	8-31/0855	Seawater											X	X				1	salinity-3.2%
-004	PS07OSAL	PS07	8-31/0855	Seawater															X	1	pH-8.20
005	PS07TSS	PS07	8-31/0855	Seawater		X	X													1	conductivity-4.87
																					Turbidity-7.3NTU
																					DO-10.83 mg/L
																					Temp-15.1°C
																					Depth-Surface
006	PS06NUT	PS06	8-31/0916	Seawater					X	X	X	X	X	X						+	
007	PS06DOC	PS06	8-31/0916	Seawater										X						1	47.55308°N
008	PS06TMC	PS06	8-31/0916	Seawater											X	X				1	122.64191°W
009	PS06OSAL	PS06	8-31/0916	Seawater															X	1	
010	PS06TSS	PS06	8-31/0916	Seawater		X	X													1	
														TOTAL # CONTAINERS							

pH	Turb	DO	T	Cond
8.75	16	NA	15.5°C	4.91

Relinquished by:

Signature	Date	Time
Printed Name	Company	

Received by:

Signature	Date	Time
Printed Name	Company	

Relinquished by:

Signature	Date	Time
Printed Name	Company	

Received by:

Signature	Date	Time
Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

SAMPLE ID

AMB01-###

Label ID

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS	pH
AMB01-011 PS04 NUT	PS04	8-31/0932	Seawater						X								1	47.55452°N	
012 PS04 DOC	PS04	8-31/0932	Seawater							X							1	122.64702°W	
013 PS04 TME	PS04	8-31/0932	Seawater										X				1	T=16.1°C	
014 PS04 OSAL	PS04	8-31/0932	Seawater												X		1	pH=8.70	
015 PS04 TSS	PS04	8-31/0932	Seawater				X										1		
016 PS05 NUT	PS05	8-31/0942	Seawater						X								1	47.55524°N	
017 PS05 DOC	PS05	8-31/0942	Seawater							X							1	122.64580°W	
018 PS05 TME	PS05	8-31/0942	Seawater										X				1	T=15.8	8.64
019 PS05 OSAL	PS05	8-31/0942	seawater												X		1		
020 PS05 TSS	PS05	8-31/0942	Seawater				X										1		
021 PS03 NUT	PS03	8-31/0958							X								1	47.55575°N	
022 PS03 DOC	PS03	8-31/0958								X							1	122.65171°W	
023 PS03 TME	PS03	8-31/0958											X	/			1	T=16.4	
024 PS03 OSAL	PS03	8-31/0958													X		1	pH=8.58	
025 PS03 TSS	PS03	8-31/0958	↓				X										1		
PS08																		TOTAL # CONTAINERS	

Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	
Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	

Turb	DO	Cond	T
8.2	NA	5.0	13.1
9.2	NA	5.01	
34.5	NA	5.01	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID
AMB01-###

Sample ID (Label)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB01-026	PS03 TOX	PS03	Seawater	X								1	47.55575° N
-027	PS03 NUT	PS03 DUP	8-31/0958				X					1	122.65171° W
-028	PS03 DOC	PS03 DUP	8-31/0958					X				1	T = 16.4°C
-029	PS03 TME	PS03 DUP	8-31/0958							X		1	pH = 8.58
-030	PS03 OSAL	PS03 DUP	8-31/0958								X	1	
-031	PS03 TSS	PS03 DUP	8-31/0958			X						1	
-032	PS03 OG	PS03	8-31/1022						X			3	
-033	PS08 NUT	PS08	8-31/1039				X					1	47.55811° W
-034	PS08 DOC	PS08	8-31/1039					X				1	122.63820° W
-035	PS08 TME	PS08	8-31/1039							X		1	T = 15.3°C
-036*	PS08 OSAL	PS08	8-31/1039								X	1	pH = 8.41
-037	PS08 TSS	PS08	8-31/1039			X						1	
-038	PS08 TOX	PS08	8-31/1039	X								1	
-039	PS08 OG	PS08	8-31/1039						X			1	
											TOTAL # CONTAINERS		

	Cond	Turb	DO
PS03	5.01	34.5	NA
PS08	5.07	38.0	NA

Relinquished by: | Signature | Date | Time | Printed Name | Company

Received by: | Signature | Date/Time | Printed Name | Company

Relinquished by: | Signature | Date | Time | Printed Name | Company

Received by: | Signature | Date/Time | Printed Name | Company

* At lab 4/10

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PROJECT ENVVEST Project Name: 2009 Ambient Monitoring SAMPLE TEAM: DATE: Laboratory:	**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP (July 2009)

Sample ID → AMB01-### (LABEL)

SID

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB01040 ~~PS10~~ PS09TOX	PS09	8-31 / 1100	Seawater	X													1	47.56602°N
-041 PS09NUT		8-31 / 1100							X								1	122.63640°W
-042 PS09DOC		8-31 / 1100								X							1	T = 15.4°C
-043 PS09TME		8-31 / 1100											X				1	pH = 8.42
-044 PS09OSAL		8-31 / 1100													X		1	
-045 PS09TSS		8-31 / 1100					X										1	
-046 PS09OG	↓	8-31 / 1100									X						1	
-047 PS10NUT	PS10	8-31 / 1118							X								1	47.56044°N
-048 PS10DOC		8-31 / 1118								X							1	122.63260°W
-049 PS10TME		8-31 / 1118											X				1	T = 16.2°C
-050 PS10OSAL		8-31 / 1118													X		1	pH = 8.65
-051 PS10TSS	↓	8-31 / 1118	↓				X										1	
														TOTAL # CONTAINERS				

Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	
Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	

Cond	DO	Turb	
5.02	25.6	NA	
5.02	22.5	NA	

5/10

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample-ID ↙ AMB01-###

Label

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS	cond	Turb	
052	PS11NUT	8-31/1130	Seawater						X								1	47.56049°N	5.05	33.6	
053	PS11DOC	PS11								X							1	122.62901°W			
054	PS11TME	PS11											X				1	T = 15.6			
055	PS11OSAL	PS11													X		1	pH = 8.59			
056	PS11TSS	PS11	↓				X										1				
057	PS16NUT	PS16	8-31/1142						X								1	47.55857°N	5.08	34.5	
058	PS16DOC	PS16								X							1	122.62844°W			
059	PS16TME	PS16											X				1	T = 15.4			
060	PS16OSAL	PS16													X		1	pH = 8.62			
061	PS16TSS	PS16	↓				X										1				
062	PS15NUT	PS15	8-31/1209														1	47.55529°N	4.80	138.0	
063	PS15DOC	PS15															1	122.63699°W			
064	PS15TME	PS15															1	T = 16.4			
065	PS15OSAL	PS15															1	pH = 8.80			
066	PS15TSS	PS15	↓														1				
														TOTAL # CONTAINERS							

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

AMB01-S10

	Sample ID (Labeled)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
067	PS15 TOX	PS15	8-31/1209	Seawater	X													1	
068	PS15 OG	PS15	8-31/1209									X						1	
069	PS14 NUT	PS14	8-31/1232							X								1	47.55224°N
070	PS14 DOC										X							1	122.64335°W
071	PS14 TME													X				1	T= 15.8
072	PS14 OSAL															X		1	pH = 8.58
073	PS14 TSS							X										1	
074	PS14 TOX				X													1	
075	PS14 OG											X						1	
076	PS13 NUT	PS13	8-31/1259							X								1	47.55193°N
077	PS13 DOC										X							1	122.65361°W
078	PS13 TME													X				1	T=18.5°C
079	PS13 OSAL															X		1	pH = 8.98
080	PS13 TSS							X										1	
081	PS13 TOX				X													1	
															TOTAL # CONTAINERS				

Turb = 57.2 Cond = 5.04

Turb 109.0 Cond 4.96

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

SID

AMB01-

Sample ID (LAB)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
082 PS13 OG	PS13	8-31/1259	Seawater								X						1	
083 PS02 NUT	PS02	8-31/1325							X								1	47.55448°N 122.65453°W Turb 180 cond 49.9
084 PS02DOC										X							1	
085 PS02TME													X				1	T = 18.3
086 PS02OSAL															X		1	pH = 8.85
087 PS02TSS																	1	
088 PS01 NUT	PS01	8-31/1339							X								1	47.55358°N 122.65752°W Turb = 63.1 cond = 49.1
089 PS01DOC										X							1	
090 PS01TME													X				1	T = 20.7
091 PS01 OSAL															X		1	pH = 9.18
092 PS01 TSS							X										1	
093 PS01 TOX				X			X										1	
095 PS01 OG											X						1	
															TOTAL # CONTAINERS			

Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company
Relinquished by:				Received by:			
	Signature	Date	Time		Signature		Date/Time
	Printed Name	Company			Printed Name		Company

8/10

Sep 04 09 09:25a Dr. R.K. Johnston 360-824-6279 p.7

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

LABEL

AMB01- Sample #	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
096	SNO3NUT	SNO3	8-31/1407						X								1	47.54750°N
097	SNO3DOC									X							1	122.66979°W
098	SNO3TME												X				1	T = 20.1
099	SNO3OSAL														X		1	pH = 9.09
100	SNO3TSS						X										1	
101	M3.1 NUT	M3.1	8-31/1456						X								1	47.56292°N
102	M3.1 DOC									X							1	122.60696°W
103	M3.1 TME												X				1	T = 15.8
104	M3.1 OSAL														X		1	pH = 8.48
105	M3.1 TSS						X										1	
106	M3.1 TOX			X													1	
107	M3.1 OG										X						1	
														TOTAL # CONTAINERS				

Turb-201 Turb-25
Cond-4.57 Cond-5.13

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

AMB01-###

SID. AMB01-

LABEL

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
#08 M3.1DNUT	M3.1 Deep	8-31/#1519	Seawater						X								1	47.5[redacted]2° N
#09 M3.1DDOC										X							1	122.60696° W
#10 M3.1DTME													X				1	T = 14.2
#11 M3.1DOSAL															X		1	pH = 8.33
#12 M3.1DTSS							X										1	
~~M3.1D TOX~~																		
~~M3.1D DO~~																		
														TOTAL # CONTAINERS				

Turb = 48
Cond = 5.18

Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
	Signature	Date	Time		Signature	Date/Time	
	Printed Name	Company			Printed Name	Company	

10/10

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Day 2 of 2

Chain of Custody Form

PSNS Project ENVVEST
Ambient Monitoring
AMB01

Sample Collector	
Sampling Team	Johnston et al.
Organization	

9/1/2009

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	C		S/m			m Depth			
Sample ID ~~Ecology ID~~	Station Code	Date/Time	Temp	pH	Cond	Turb	SAL ~~Flow~~	Source Code	LONG	LAT	Remarks/C
AMB01-FP	Fuel Pier	9/1/2009 0802	16.79	8.59	5.05	40.8	3.3	-.7	122.64835	47.55606	tidal depth
AMB01-SN05	SN05	09:13	15.15	8.18	5.12	75.5	3.3	-.2	122.67967	47.53332	taken at
AMB01-SN08	SN08	9/1/09 0921	16.11	8.52	5.07	97.0	3.3	-1	122.66297	47.54160	~~0.5 m~~
AMB01-M4	M4	9/1/09 0931	15.0	8.35	5.13	70.0	3.3	-1.1	122.66941	47.54482	↓
AMB01-SN10	SN10	9/1/09 0946	16.23	8.56	5.12	55.0	3.3	0.6	122.64345	47.54183	1.1
AMB01-M3.3	M3.3	9/1/09 0953	15.91	8.53	5.10	62.0	3.3	1.1	122.64285	47.54746	
AMB01-SN11	SN11	0959	16.22	8.55	5.09	53.1	3.3	1.5	122.63500	47.54442	
AMB01-BJEST	BJ-EST	1008	16.00	8.53	5.12	50.0	3.3	1.3	122.63003	47.54763	
AMB01-PS12	PS12	1016	14.7	8.30	5.17	64.0	3.4	2.0	122.62574	47.56065	
AMB01-BM01	BM01	1025	14.84	8.30	5.17	52.2	3.4	2.2	122.62037	47.56478	
AMB01-HRPT	HRPT	1033	14.65	8.32	5.18	46.4	3.4	1.7	122.61372	47.56551	
AMB01-ANCV	ANCOVE	1047	14.95	8.32	5.17	41.9	3.4	1.1	122.64660	47.58022	
AMB01-DY07	DY07	1106	14.89	~~8.38~~ 8.32	5.16	40.5	3.4	1.1	122.66149	47.58218	
AMB01-M8	M8	1135	16.59	8.46	5.09	43.6	3.3	1.1	122.67663	47.57357	
AMB01-M6	M6	1151	15.96	8.49	5.13	36.2	3.4	1.2	122.68163	47.60360	
AMB01-M7	M7	1201	16.95	8.80	5.11	31.9	3.3	1.2	122.68903	47.62595	

Preservatives Used:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By Lab/Date:

Method of Shipment:
Airbill No.:
Laboratory Address:

Custody Seals Present? Yes
Custody Seals Intact? Yes

Source Codes: 12 - Stream/River, 13 - Lake/Reservoir, 14 - Estuary/Ocean, 17 - Surface Runoff/Pond, 36 - Industrial Runoff/Pond

1/1/12

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Chain of Custody Form

Sample Collector	
Sampling Team	9/1/2009
Organization	

PSNS Project ENVVEST
Ambient Monitoring
AMB01

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm					Salinity ~~Flow~~	Depth ~~Source code~~			
Ecology ID	Station Code	Date/Time	Temp	pH	Cond	Turb			LONG	LAT	Remarks/C
AMB01-MS	MS	9/1/09 1215	15.9	8.60	5.13	33.5	3.3	1.1	122.66620	47.61217	
AMB01-M1	M1	9/1/09 1256	15.50	8.6	5.16	128	3.4	1.0	122.58577	47.63289	
AMB01-M1D	M1 Deep	1254	13.59	8.13	5.21	23.2	3.4	7.2	122.58601	47.63393	
AMB01-ILSP	ILSP	1351	14.06	8.30	5.19	28.5	3.4	1.1	122.59434	47.60046	
AMB01-CLBAY	CLBAY	1416	13.38	8.15	5.22	68.0	3.4	1.5	122.54515	47.57071	
AMB01-M2D	M2 Deep	1439	12.51	8.08	5.26	32.5	3.4	10.1	122.53865	47.57977	
AMB01-M2	M2	1442	13.07	8.11	5.24	4*30.0	3.4	1.7	122.53865	47.57977	* drifting
AMB01-WP	WP	1453	14.43	8.27	5.19	~~14~~ 16.0	3.4	2.0	122.57076	47.58430	
AMB01-PS07	PS07 91	1514	14.76	8.31	5.16	15.5	3.4	4.0	122.64181	47.55605	

Preservatives Used:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By/Date:
Relinquished By/Date:
Received By Lab/Date:

Method of Shipment:
Airbill No.:
Laboratory Address:

Custody Seals Present? Yes No
Custody Seals Intact? Yes No

Source Codes: 12 - Stream/River, 13 - Lake/Reservoir, 14 - Estuary/Ocean, 17 - Surface Runoff/Pond, 36 - Industrial Runoff/Pond

2/10

p.2 360-824-6279 Dr. R.K. Johnston Sep 04 09 09:49a

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID

Sample Label

AMB01-

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	Sample ID COMMENTS
SN05NUT	SN05	9-1 0908	Seawater						X									AMB01-200
SN05DOC										X								-201
SN05TME													X					-202
SN05OSAL															X			-203
SN05TSS							X											-204
SN08NUT	SN08	9-1 0919							X									-205
SN08DOC										X								-206
SN08TME													X					-207
SN08OSAL															X			-208
SN08TSS							X											-209
M4 NUT	M4	9-1 0926							X									-210
DOC										X								-211
TME													X					-212
OSAL															X			-213
TSS							X											-214
														TOTAL # CONTAINERS				

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	Signature	Date	Time					Signature							Date/Time		
	Printed Name	Company						Printed Name								Company	
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Sep 04 09 09:50a Dr. R.K. Johnston 360-824-6279 p.4

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ~~ID~~ (Sample LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS (Sample ID)
SN10 NUT	SN10	9-1 / 0941	Seawater						X									AMB01-215
SN10 DOC										X			X					-216
SN10 TME															X			-217
SN10 OSAL																		-218
SN10 TSS							X											-219
M3.3 NUT	M3.3	9-1 / 0950							X									-220
M3.3 DOC										X			X					-221
M3.3 TME															X			-222
M3.3 OSAL																		-223
M3.3 TSS							X											-224
SN11 NUT	SN11	9/1/0958							X									-225
SN11 DOC										X			X					-226
SN11 TME															X			-227
SN11 OSAL																		-228
SN11 TSS							X											-229
													TOTAL # CONTAINERS					

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	Printed Name	Company			Printed Name		Company
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	Printed Name	Company			Printed Name		Company

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample LABEL

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	Sample ID COMMENTS
BJ-EST NUT	BJ-EST	9-1 / 1006	Seawater				X					1	AMB01-230
BJESTDOC								X				1	-231
BJESTTME										X		1	-232
BJESTOSAL											X	1	-233
BJESTTSS						X						1	-234
PS12 NUT	PS-12	9-1 / 1015					X					1	-235
PS12 DOC								X				1	-236
PS12 TME										X		1	-237
PS12 OSAL											X	1	-238
PS12TSS						X						1	-239
BM01 NUT	BM01	9-1 / 1023					X					1	-240
BM01 DOC								X				1	-241
BM01 TME										X		1	-242
BM01 OSAL											X	1	-243
BM01 TSS						X						1	-244
										TOTAL # CONTAINERS			

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	Printed Name	Company			Printed Name	Company	

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Sep 04 09 09:51a Dr. R.K. Johnston 360-824-6279 p.6

PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (SAMPLE LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	Sample ID COMMENTS
HRPT NUT	HRPT	9-1 / 1031	Seawater						X								1	AMB01-245
HRPT DOC										X							1	-246
HRPT TME													X				1	-247
HRPT OSAL															X		1	-248
HRPT TSS							X										1	-249
ANCOVE NUT	ANCOVE	9-1 / 1047							X								1	-250
ANCOVE DOC										X							1	-251
ANCOVE TME													X				1	-252
ANCOVE OSAL															X		1	-253
ANCOVE TSS							X										1	-254
DY07 NUT	DY07	9-1 / 1102							X								1	-255
DY07 DOC										X							1	-256
DY07 TME													X				1	-257
DY07 OSAL															X		1	-258
DY07 TSS							X										1	-259
														TOTAL # CONTAINERS				

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	Printed Name	Company			Printed Name	Company	
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	Printed Name	Company			Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS: Sample ID
MB NUT	MB	9-1 / 1133	Seawater				X					1	AMB01-260 260
MB DOC								X				1	-260 261
MB TME										X		1	-267 262
MB OSAL											X	1	-263 263
MB TSS						X						1	-264 264
M6 NUT	M6	9-1 / 1150					X					1	-265 265
M6 DOC								X				1	-266 266
M6 TME										X		1	-268 267
M6 OSAL											X	1	-268 268
M6 TSS						X						1	-268 269
M7 NUT	M7	9-1 / 1200					X					1	-269 270
M7 DOC								X				1	-270 271
M7 TME										X		1	-272 272
M7 OSAL											X	1	-272 273
M7 TSS						X						1	-273 274
										TOTAL # CONTAINERS			

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	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
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	Printed Name	Company			Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	Sample ID COMMENTS
M5NUT	M5	9-1/1215	Seawater						X								1	AMB01-275
M5DOC										X							1	-276
M5TME													X				1	-277
M5OSAL															X		1	-278
M5TSS							X										1	-279
M1NUT	M1	9-1/1248							X								1	-280
M1DOC										X							1	-281
M1TME													X				1	-282
M1OSAL															X		1	-283
M1TSS							X										1	-284
M1DeepNUT	M1Deep	9/F/120							X								1	-285
M1DeepDOC										X							1	-286
M1DeepTME													X				1	-287
M1DeepOSAL															X		1	-288
M1DeepTSS							X										1	-289
M1DeepTMEDup													X	TOTAL # CONTAINERS				

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	SAMPLE ID COMMENTS
1LSP NUT	1LSP	9-1/1350	Seawater						X									AMB01-290
1LSP DOC										X								-291
1LSP TME													X					-292
1LSP OSAL															X			-293
1LSP TSS							X											-294
M2 NUT	M2	9-1/1424							X									-295
M2 DOC										X								-296
M2 TME													X					-297
M2 OSAL															X			-298
M2 TSS							X											-299
Clambay NUT	Clambay	9-1/1411							X									-300
CLBAY DOC										X								-301
CLBAY TME													X					-302
CLBAY OSAL															X			-303
CLBAY TSS							X											-304
														TOTAL # CONTAINERS				

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	Printed Name	Company			Printed Name	Company	
Relinquished by:				Received by:			
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	Printed Name	Company			Printed Name	Company	

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PROJECT ENVVEST
Project Name: 2009 Ambient Monitoring
SAMPLE TEAM:
DATE:
Laboratory:

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID (LABEL)	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	SAMPLE ID COMMENTS
M2DeepNUT	M2 Deep	9-1	Seawater						X									
M2DeepDOC										X								
M2DeepTME													X					
M2DeepOSAL															X			
M2DeepTSS							X											
WPNUT	WP	9-1 / 1453	Seawater						X								1	AMB01-305
WP DOC										X							1	-306
WPTME													X				1	-307
WPOSAL															X		1	-308
WP TSS							X										1	-309
PS0791NUT	PS0791	9-1 / 1514							X								1	-310
PS0791DOC										X							1	-311
PS0791TME													X				1	-312
PS0791OSAL															X		1	-313
PS0791TSS							X										1	-314
														TOTAL # CONTAINERS				

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Relinquished by:				Received by:			
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	Printed Name	Company			Printed Name	Company	

10/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/1/2010
Batch: NA
Login Designee: Suslick
Project: **Atmospheric Deposition of Toxics in the Waters of Puget Sound**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Ammendment to Sample IDs provided to MSL in email from R. Johnston, dtd 02/01/10; addition of AMB01 Code not noted on original COC.

Sponsor ID	Site Description	AMB01 Client Code	Battelle Code	Paramenter	Original Login Date
K-I-01	Inside Cost 1	KP2009-001	3060-1	Total Metals	8/19/2009
K-I-02	Inside Cost 2	KP2009-002	3060-2	Total Metals	8/19/2009
K-I-03	Inside Cost 3	KP2009-003	3060-3	Total Metals	8/19/2009
NPDES-18 TME	NPDES-18 24hr comp	AMB01DD-001	3060-15	Total Metals	9/1/2009
NPDES-18 DME	NPDES-18 24hr comp	AMB01DD-001	3060-16	Dissolved Metals	9/1/2009
NPDES-18 OSAL	NPDES-18 24hr comp	AMB01DD-004	NA	Salinity	9/1/2009
NPDES-18 DOC	NPDES-18 24hr comp	AMB01DD-005	NA	DOC	9/2/2009
NPDES-18 NUT	NPDES-18 24hr comp	AMB01DD-006	NA	NUTRIENTS	9/1/2009
NPDES-18 TS	NPDES-18 24hr comp	AMB01DD-007	NA	TS/TSS	9/1/2009
NPDES-18 OG	NPDES-18 24hr comp	AMB01DD-008	NA	O&G	9/1/2009
NPDES-19 TME	NPDES-19 24hr comp	AMB01DD-002	3060-17	Total Metals	9/1/2009
NPDES-19 DME	NPDES-19 24hr comp	AMB01DD-002	3060-18	Dissolved Metals	9/1/2009
NPDES-19 DOC	NPDES-19 24hr comp	AMB01DD-009	NA	DOC	9/1/2009
NPDES-19 NUT	NPDES-19 24hr comp	AMB01DD-010	NA	NUTRIENTS	9/1/2009
NPDES-19 TS	NPDES-19 24hr comp	AMB01DD-011	NA	TS/TSS	9/1/2009
NPDES-19 OG	NPDES-19 24hr comp	AMB01DD-012	NA	O&G	9/1/2009
NPDES-21 TME	NPDES-21 24hr comp	AMB01DD-003	3060-19	Total Metals	9/1/2009
NPDES-21 DME	NPDES-21 24hr comp	AMB01DD-003	3060-20	Dissolved Metals	9/1/2009
M1 DEEP DUP TME	M1 DEEP	AMB01-289D	3060-95	Total Metals	09/02/09
M1 DEEP DUP DME	M1 DEEP	AMB01-289D	3060-96	Dissolved Metals	09/02/09

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring February 2010 (AMB02)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
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Analytical raw data available upon request

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Analytical raw data available upon request

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB02
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0042**	**2.14**	**0.0267**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)							**0.013**	**6.8**	**0.085**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0032	0.31	**0.0267**	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--	0.010	1.0	**0.085**	0.0105	0.161
AMB02DD-001	**NPDES 18**	**TME**	**Seawater**	**3106-1**	**02/01/10**	--	**0.0168 b**	**27.4 b**	**1.37**	**0.0920 b**	**0.701 b**
AMB02DD-001	NPDES 18	DME	Seawater	3106-2	02/01/10	--	0.0126 b	3.51 Jb	--	0.0904 b	0.363 b
AMB02DD-006	**NPDES 19**	**TME**	**Seawater**	**3106-3**	**02/01/10**	--	**0.0187 b**	**16.1 b**	**1.52**	**0.106 b**	**0.491 b**
AMB02DD-006	NPDES 19	DME	Seawater	3106-4	02/01/10	--	0.00848 Jb	9.00 b	--	0.101 b	0.395 b
AMB02DD-011	**NPDES 21**	**TME**	**Freshwater**	**3106-5**	**02/01/10**	--	**0.00528 J**	**49.5**	**1.74**	**0.0251**	**8.11**
AMB02DD-011	NPDES 21	DME	Freshwater	3106-6	02/01/10	--	0.0032 U	48.3	--	0.0136	5.89
AMB02-005	**PS07**	**TME**	**Seawater**	**3106-7**	**02/01/10**	**29.7**	**0.00752 Jb**	**13.3 b**	**1.33**	**0.0949 b**	**0.218 b**
AMB02-005	PS07	DME	Seawater	3106-8	02/01/10	--	0.0042 Ub	5.96 Jb	--	0.0993 b	0.161 b
AMB02-010	**PS06**	**TME**	**Seawater**	**3106-9**	**02/01/10**	**28.2**	**0.0042 Ub**	**20.8 b**	**1.36**	**0.0964 b**	**0.247 b**
AMB02-010	PS06	DME	Seawater	3106-10	02/01/10	--	0.0042 Ub	5.50 Jb	--	0.0947 b	0.116 b
AMB02-015	**PS14**	**TME**	**Seawater**	**3106-11**	**02/01/10**	**29.1**	**0.0042 Ub**	**21.6 b**	**1.33**	**0.0943 b**	**0.241 b**
AMB02-015	PS14	DME	Seawater	3106-12	02/01/10	--	0.0042 Ub	2.80 Jb	--	0.0966 b	0.122 b
AMB02-017	**PS03**	**TME**	**Seawater**	**3106-13**	**02/01/10**	**28.6**	**0.0042 Ub**	**18.2 b**	**1.32**	**0.0982 b**	**0.271 b**
AMB02-017	PS03	DME	Seawater	3106-14	02/01/10	--	0.0042 Ub	3.71 Jb	--	0.0995 b	0.389 b
AMB02-023	**PS04**	**TME**	**Seawater**	**3106-15**	**02/01/10**	**29.3**	**0.0042 Ub**	**20.4 b**	**1.34**	**0.0990 b**	**0.717 b**
AMB02-023	PS04	DME	Seawater	3106-16	02/01/10	--	0.00682 Jb	3.98 Jb	--	0.0958 b	0.352 b
AMB02-028	**PS05**	**TME**	**Seawater**	**3106-17**	**02/01/10**	**28.5**	**0.0042 Ub**	**31.8 b**	**1.31**	**0.102 b**	**0.383 b**
AMB02-028	PS05	DME	Seawater	3106-18	02/01/10	--	0.0042 Ub	3.68 Jb	--	0.0949 b	0.647 b
AMB02-033	**PS08**	**TME**	**Seawater**	**3106-19**	**02/01/10**	**27.7**	**0.0042 Ub**	**12.0 b**	**1.29**	**0.0947 b**	**0.184 b**
AMB02-033	PS08	DME	Seawater	3106-20	02/01/10	--	0.0042 Ub	6.81 b	--	0.0964 b	0.265 b
AMB02-039	**PS15**	**TME**	**Seawater**	**3106-21**	**02/01/10**	**28.7**	**0.00533 Jb**	**17.5 b**	**1.35**	**0.0904 b**	**0.412 b**
AMB02-039	PS15	DME	Seawater	3106-22	02/01/10	--	0.0042 Ub	5.23 Jb	--	0.0912 b	2.82 b
AMB02-050	**PS15DUP**	**TME**	**Seawater**	**3106-23**	**02/01/10**	**28.8**	**0.0042 Ub**	**15.9 b**	**1.32**	**0.0918 b**	**0.444 b**
AMB02-050	PS15DUP	DME	Seawater	3106-24	02/01/10	--	0.0042 Ub	6.09 Jb	--	0.0936 b	1.75 b
AMB02-051	**PS09**	**TME**	**Seawater**	**3106-25**	**02/01/10**	**26.5**	**0.0042 Ub**	**18.6 b**	**1.33**	**0.0909 b**	**0.466 b**
AMB02-051	PS09	DME	Seawater	3106-26	02/01/10	--	0.0042 Ub	5.24 Jb	--	0.0891 b	0.968 b
AMB02-057	**PS11**	**TME**	**Seawater**	**3106-27**	**02/01/10**	**29.0**	**0.0042 Ub**	**12.7 b**	**1.29**	**0.0945 b**	**0.331 b**
AMB02-057	PS11	DME	Seawater	3106-28	02/01/10	--	0.0042 Ub	6.24 Jb	--	0.0898 b	0.354 b
AMB02-062	**PS16**	**TME**	**Seawater**	**3106-29**	**02/01/10**	**28.8**	**0.0042 Ub**	**18.0 b**	**1.20**	**0.0871 b**	**1.16 b**
AMB02-062	PS16	DME	Seawater	3106-30	02/01/10	--	0.0042 Ub	3.11 Jb	--	0.0892 b	0.406 b
AMB02-067	**PS10**	**TME**	**Seawater**	**3106-31**	**02/01/10**	**28.1**	**0.0042 Ub**	**12.1 b**	**1.23**	**0.0963 b**	**0.469 b**
AMB02-067	PS10	DME	Seawater	3106-32	02/01/10	--	0.0042 Ub	3.52 Jb	--	0.0968 b	1.80 b
AMB02-072	**M3.1**	**TME**	**Seawater**	**3106-33**	**02/01/10**	**29.2**	**0.0042 Ub**	**31.2 b**	**1.23**	**0.0929 b**	**9.80 b**

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB02
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0042**	**2.14**	**0.0267**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)							**0.013**	**6.8**	**0.085**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0032	0.31	**0.0267**	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--	0.010	1.0	**0.085**	0.0105	0.161
AMB02-072	M3.1	DME	Seawater	3106-34	02/01/10	--	0.0042 Ub	3.45 Jb	--	0.0867 b	0.263 b
AMB02-079	**BJ-EST**	**TME**	**Seawater**	**3106-35**	**02/01/10**	**28.5**	**0.0042 Ub**	**16.5 b**	**1.20**	**0.0880 b**	**0.199 b**
AMB02-079	BJ-EST	DME	Seawater	3106-36	02/01/10	--	0.0042 Ub	3.78 Jb	--	0.0928 b	0.503 b
AMB02-085	**M4**	**TME**	**Seawater**	**3106-37**	**02/01/10**	**27.9**	**0.0042 Ub**	**25.5 b**	**1.23**	**0.0943 b**	**0.281 b**
AMB02-085	M4	DME	Seawater	3106-38	02/01/10	--	0.0042 Ub	10.2 b	--	0.0909 b	0.441 b
AMB02-091	**PS01**	**TME**	**Seawater**	**3106-39**	**02/01/10**	**28.4**	**0.0042 Ub**	**25.8 b**	**1.27**	**0.0899 b**	**0.407 b**
AMB02-091	PS01	DME	Seawater	3106-40	02/01/10	--	0.0042 Ub	7.76 b	--	0.0910 b	2.28 b
AMB02-097	**PS02**	**TME**	**Seawater**	**3106-41**	**02/01/10**	**27.3**	**0.0042 Ub**	**16.9 b**	**1.27**	**0.103 b**	**0.462 b**
AMB02-097	PS02	DME	Seawater	3106-42	02/01/10	--	0.0042 Ub	4.69 Jb	--	0.101 b	0.450 b
AMB02-200	**PS13**	**TME**	**Seawater**	**3106-43**	**02/02/10**	**28.7**	**0.0042 Ub**	**11.8 b**	**1.24**	**0.0944 b**	**0.439 b**
AMB02-200	PS13	DME	Seawater	3106-44	02/02/10	--	0.0042 Ub	4.21 Jb	--	0.0888 b	0.499 b
AMB02-205	**SN03**	**TME**	**Seawater**	**3106-45**	**02/02/10**	**25.7**	**0.0042 Ub**	**19.2 b**	**1.17**	**0.0849 b**	**0.517 b**
AMB02-205	SN03	DME	Seawater	3106-46	02/02/10	--	0.0042 Ub	4.61 Jb	--	0.0892 b	0.556 b
AMB02-210	**SN05**	**TME**	**Seawater**	**3106-47**	**02/02/10**	**22.6**	**0.0042 Ub**	**31.8 b**	**0.857**	**0.0675 b**	**0.849 b**
AMB02-210	SN05	DME	Seawater	3106-48	02/02/10	--	0.0042 Ub	8.99 b	--	0.0658 b	0.845 b
AMB02-215	**SN08**	**TME**	**Seawater**	**3106-49**	**02/02/10**	**28.1**	**0.0042 Ub**	**18.7 b**	**1.22**	**0.0886 b**	**0.430 b**
AMB02-215	SN08	DME	Seawater	3106-50	02/02/10	--	0.0042 Ub	6.82 b	--	0.0875 b	0.515 b
AMB02-220	**SN10**	**TME**	**Seawater**	**3106-51**	**02/02/10**	**28.3**	**0.0042 Ub**	**15.6 b**	**1.19**	**0.0935 b**	**0.448 b**
AMB02-220	SN10	DME	Seawater	3106-52	02/02/10	--	0.0042 Ub	4.22 Jb	--	0.0879 b	0.429 b
AMB02-225	**M3.3**	**TME**	**Seawater**	**3106-53**	**02/02/10**	**27.9**	**0.0042 Ub**	**16.5 b**	**1.20**	**0.0949 b**	**0.520 b**
AMB02-225	M3.3	DME	Seawater	3106-54	02/02/10	--	0.0042 Ub	5.48 Jb	--	0.0874 b	1.19 b
AMB02-230	**SN11**	**TME**	**Seawater**	**3106-55**	**02/02/10**	**28.7**	**0.0042 Ub**	**16.4 b**	**1.24**	**0.0939 b**	**0.440 b**
AMB02-230	SN11	DME	Seawater	3106-56	02/02/10	--	0.0042 Ub	6.92 b	--	0.0881 b	0.490 b
AMB02-236	**WP**	**TME**	**Seawater**	**3106-57**	**02/02/10**	**29.3**	**0.0042 Ub**	**24.6 b**	**1.23**	**0.0880 b**	**0.716 b**
AMB02-236	WP	DME	Seawater	3106-58	02/02/10	--	0.0042 Ub	4.79 Jb	--	0.0826 b	13.9 b
AMB02-241	**M2**	**TME**	**Seawater**	**3106-59**	**02/02/10**	**29.4**	**0.0042 Ub**	**35.4 b**	**1.25**	**0.0869 b**	**0.679 b**
AMB02-241	M2	DME	Seawater	3106-60	02/02/10	--	0.0042 Ub	4.32 Jb	--	0.0819 b	0.884 b
AMB02-246	**M2DEEP**	**TME**	**Seawater**	**3106-61**	**02/02/10**	**29.4**	**0.0042 Ub**	**35.7 b**	**1.26**	**0.0877 b**	**0.539 b**
AMB02-246	M2DEEP	DME	Seawater	3106-62	02/02/10	--	0.0042 Ub	6.51 Jb	--	0.0773 b	0.754 b
AMB02-251	**CLAMBAY**	**TME**	**Seawater**	**3106-63**	**02/02/10**	**29.3**	**0.0042 Ub**	**14.1 b**	**1.27**	**0.0887 b**	**17.3 b**
AMB02-251	CLAMBAY	DME	Seawater	3106-64	02/02/10	--	0.0042 Ub	2.14 Ub	--	0.0822 b	0.0818 Jb
AMB02-256	**ILSP**	**TME**	**Seawater**	**3106-65**	**02/02/10**	**29.3**	**0.0042 Ub**	**15.0 b**	**1.24**	**0.0844 b**	**0.328 b**
AMB02-256	ILSP	DME	Seawater	3106-66	02/02/10	--	0.0042 Ub	3.66 Jb	--	0.0883 b	1.34 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB02
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0042**	**2.14**	**0.0267**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)							**0.013**	**6.8**	**0.085**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0032	0.31	**0.0267**	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--	0.010	1.0	**0.085**	0.0105	0.161
AMB02-261	**M1**	**TME**	**Seawater**	**3106-67**	**02/02/10**	**28.6**	**0.0042 Ub**	**9.05 b**	**1.21**	**0.0884 b**	**0.406 b**
AMB02-261	M1	DME	Seawater	3106-68	02/02/10	--	0.0042 Ub	2.41 Jb	--	0.0870 b	1.24 b
AMB02-266	**PWNLP**	**TME**	**Seawater**	**3106-69**	**02/02/10**	**28.9**	**0.0042 Ub**	**38.6 b**	**1.24**	**0.0918 b**	**0.599 b**
AMB02-266	PWNLP	DME	Seawater	3106-70	02/02/10	--	0.0042 Ub	3.90 Jb	--	0.0864 b	5.93 b
AMB02-271	**M6**	**TME**	**Seawater**	**3106-71**	**02/02/10**	**28.7**	**0.0042 Ub**	**32.3 b**	**1.15**	**0.0917 b**	**0.381 b**
AMB02-271	M6	DME	Seawater	3106-72	02/02/10	--	0.0042 Ub	3.47 Jb	--	0.0922 b	2.97 b
AMB02-276	**M8.1**	**TME**	**Seawater**	**3106-73**	**02/02/10**	**28.5**	**0.0042 Ub**	**25.7 b**	**1.19**	**0.0923 b**	**6.63 b**
AMB02-276	M8.1	DME	Seawater	3106-74	02/02/10	--	0.0042 Ub	2.45 Jb	--	0.0903 b	0.927 b
AMB02-281	**M7**	**TME**	**Seawater**	**3106-75**	**02/02/10**	**27.7**	**0.0042 Ub**	**17.7 b**	**1.16**	**0.0865 b**	**1.78 b**
AMB02-281	M7	DME	Seawater	3106-76	02/02/10	--	0.0042 Ub	4.65 Jb	--	0.0872 b	0.986 b
AMB02-286	**M7DUP**	**TME**	**Seawater**	**3106-77**	**02/02/10**	--	**0.0042 Ub**	**20.9 b**	**1.15**	**0.0820 b**	**1.24 b**
AMB02-286	M7DUP	DME	Seawater	3106-78	02/02/10	--	0.0042 Ub	4.23 Jb	--	0.0835 b	0.989 b
AMB02-290	**PS12**	**TME**	**Seawater**	**3106-79**	**02/02/10**	**28.9**	**0.0042 Ub**	**23.6 b**	**1.22**	**0.0851 b**	**2.09 b**
AMB02-290	PS12	DME	Seawater	3106-80	02/02/10	--	0.0042 Ub	4.26 Jb	--	0.0873 b	1.07 b
EQUIPMENT BLANKS											
AMB02-307	**EB020210**	**TME**	**Freshwater**	**3106-81**	**02/02/10**	**--**	**--**	**--**	**0.0267 U**	**--**	**--**
AMB02-307	EB020210	DME	Freshwater	3106-82	02/02/10	--	--	--	--	--	--
AMB02-308	**EB020310**	**TME**	**Freshwater**	**3106-83**	**02/02/10**	**--**	**--**	**--**	**0.0267 U**	**--**	**--**
AMB02-308	EB020310	DME	Freshwater	3106-84	02/02/10	--	--	--	--	--	--
AMB02-309	**EB1-031710**	**TME**	**Freshwater**	**3106-85**	**03/17/10**	**--**	**0.0032 U**	**0.31 U**	**--**	**0.0033 U**	**0.0958 J**
AMB02-309	EB1-031710	DME	Freshwater	3106-86	03/17/10	--	0.0032 U	2.18	--	0.0033 U	0.148 J
AMB02-310	**EB2-031710**	**TME**	**Freshwater**	**3106-87**	**03/17/10**	**--**	**0.0032 U**	**0.31 U**	**--**	**0.0033 U**	**0.114 J**
AMB02-310	EB2-031710	DME	Freshwater	3106-88	03/17/10	--	0.0032 U	2.01	--	0.0033 U	0.138 J
AMB02-311	**EB3-031710**	**TME**	**Freshwater**	**3106-89**	**03/17/10**	**--**	**0.0032 U**	**0.31 U**	**--**	**0.0033 U**	**0.0873 J**
AMB02-311	EB3-031710	DME	Freshwater	3106-90	03/17/10	--	0.0032 U	3.68	--	0.0033 U	0.0650 J
AMB02-312	**EB4-031710**	**TME**	**Freshwater**	**3106-91**	**03/17/10**	**--**	**0.0032 U**	**0.31 U**	**--**	**0.0033 U**	**0.538**
AMB02-312	EB4-031710	DME	Freshwater	3106-92	03/17/10	--	0.0032 U	2.60	--	0.0033 U	0.0432 J
AMB02-313	**EB5-031710**	**TME**	**Freshwater**	**3106-93**	**03/17/10**	**--**	**0.0032 U**	**0.31 U**	**--**	**0.0033 U**	**0.143 J**
AMB02-313	EB5-031710	DME	Freshwater	3106-94	03/17/10	--	0.0032 U	1.89	--	0.0033 U	0.051 U

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1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB02
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Cu	Hg	Pb	Zn
				Instrument:		Units (PSU)	*ICP-MS*	*CVAF*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0351**	**0.0001**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)							**0.11**	**0.00032**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0053	**0.0001**	0.0022	0.014
Freshwater Reporting Limit (MDL* 3.18)						--	0.02	**0.00032**	0.0070	0.043
AMB02DD-001	**NPDES 18**	**TME**	**Seawater**	**3106-1**	**02/01/10**	--	**7.71 b**	**0.00744**	**0.743 b**	**28.0 b**
AMB02DD-001	NPDES 18	DME	Seawater	3106-2	02/01/10	--	4.00 b	0.00296	0.0379 b	25.5 b
AMB02DD-006	**NPDES 19**	**TME**	**Seawater**	**3106-3**	**02/01/10**	--	**2.99 b**	**0.00572**	**0.380 b**	**27.9 b**
AMB02DD-006	NPDES 19	DME	Seawater	3106-4	02/01/10	--	1.38 b	0.00193	0.00346 Jb	20.7 b
AMB02DD-011	**NPDES 21**	**TME**	**Freshwater**	**3106-5**	**02/01/10**	--	**11.8**	**0.0745**	**0.587**	**13.0**
AMB02DD-011	NPDES 21	DME	Freshwater	3106-6	02/01/10	--	7.41	--	0.211	10.1
AMB02-005	**PS07**	**TME**	**Seawater**	**3106-7**	**02/01/10**	**29.7**	**1.83 b**	**0.000966**	**0.118 b**	**6.62 b**
AMB02-005	PS07	DME	Seawater	3106-8	02/01/10	--	1.63 b	0.000587	0.0148 b	7.38 b
AMB02-010	**PS06**	**TME**	**Seawater**	**3106-9**	**02/01/10**	**28.2**	**1.16 b**	**0.00156**	**0.102 b**	**7.52 b**
AMB02-010	PS06	DME	Seawater	3106-10	02/01/10	--	0.844 b	0.000663	0.0114 b	7.30 b
AMB02-015	**PS14**	**TME**	**Seawater**	**3106-11**	**02/01/10**	**29.1**	**1.22 b**	**0.000872**	**0.109 b**	**4.81 b**
AMB02-015	PS14	DME	Seawater	3106-12	02/01/10	--	1.00 b	0.000294 J	0.00941 b	4.97 b
AMB02-017	**PS03**	**TME**	**Seawater**	**3106-13**	**02/01/10**	**28.6**	**2.09 b**	**0.00138**	**0.0959 b**	**5.38 b**
AMB02-017	PS03	DME	Seawater	3106-14	02/01/10	--	1.76 b	0.000605	0.0245 b	5.66 b
AMB02-023	**PS04**	**TME**	**Seawater**	**3106-15**	**02/01/10**	**29.3**	**2.63 b**	**0.00187**	**0.134 b**	**8.05 b**
AMB02-023	PS04	DME	Seawater	3106-16	02/01/10	--	2.07 b	0.000621	0.0207 b	8.13 b
AMB02-028	**PS05**	**TME**	**Seawater**	**3106-17**	**02/01/10**	**28.5**	**1.97 b**	**0.00212**	**0.263 b**	**6.25 b**
AMB02-028	PS05	DME	Seawater	3106-18	02/01/10	--	1.41 b	0.000468	0.0247 b	6.41 b
AMB02-033	**PS08**	**TME**	**Seawater**	**3106-19**	**02/01/10**	**27.7**	**3.16 b**	**0.000967**	**0.0985 b**	**8.17 b**
AMB02-033	PS08	DME	Seawater	3106-20	02/01/10	--	2.75 b	0.000508	0.0117 b	8.46 b
AMB02-039	**PS15**	**TME**	**Seawater**	**3106-21**	**02/01/10**	**28.7**	**1.14 b**	**0.000746**	**0.0685 b**	**3.62 b**
AMB02-039	PS15	DME	Seawater	3106-22	02/01/10	--	1.14 b	0.000602	0.0213 b	5.135 b
AMB02-050	**PS15DUP**	**TME**	**Seawater**	**3106-23**	**02/01/10**	**28.8**	**1.36 b**	**0.000844**	**0.0670 b**	**5.40 b**
AMB02-050	PS15DUP	DME	Seawater	3106-24	02/01/10	--	1.24 b	0.00124	0.0101 b	8.78 b
AMB02-051	**PS09**	**TME**	**Seawater**	**3106-25**	**02/01/10**	**26.5**	**2.28 b**	**0.00159**	**0.106 b**	**11.7 b**
AMB02-051	PS09	DME	Seawater	3106-26	02/01/10	--	1.79 b	0.000783	0.0123 b	11.6 b
AMB02-057	**PS11**	**TME**	**Seawater**	**3106-27**	**02/01/10**	**29.0**	**2.34 b**	**0.000684**	**0.0558 b**	**7.31 b**
AMB02-057	PS11	DME	Seawater	3106-28	02/01/10	--	2.05 b	0.000332	0.0135 b	7.44 b
AMB02-062	**PS16**	**TME**	**Seawater**	**3106-29**	**02/01/10**	**28.8**	**1.13 b**	**0.000828**	**0.0912 b**	**4.46 b**
AMB02-062	PS16	DME	Seawater	3106-30	02/01/10	--	0.930 b	0.000324	0.00571 Jb	3.18 b
AMB02-067	**PS10**	**TME**	**Seawater**	**3106-31**	**02/01/10**	**28.1**	**3.44 b**	**0.000825**	**0.106 b**	**9.86 b**
AMB02-067	PS10	DME	Seawater	3106-32	02/01/10	--	2.97 b	0.00135	0.0196 b	11.7 b
AMB02-072	**M3.1**	**TME**	**Seawater**	**3106-33**	**02/01/10**	**29.2**	**0.752 b**	**0.00173**	**0.112 b**	**7.46 b**

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB02
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Cu	Hg	Pb	Zn
				Instrument:		Units (PSU)	*ICP-MS*	*CVAF*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0351**	**0.0001**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)							**0.11**	**0.00032**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0053	**0.0001**	0.0022	0.014
Freshwater Reporting Limit (MDL* 3.18)						--	0.02	**0.00032**	0.0070	0.043
AMB02-072	M3.1	DME	Seawater	3106-34	02/01/10	--	0.496 b	0.000295	0.0205 b	1.74 b
AMB02-079	**BJ-EST**	**TME**	**Seawater**	**3106-35**	**02/01/10**	**28.5**	**1.01 b**	**0.000609**	**0.0607 b**	**3.00 b**
AMB02-079	BJ-EST	DME	Seawater	3106-36	02/01/10	--	0.932 b	0.000269 J	0.00790 b	3.56 b
AMB02-085	**M4**	**TME**	**Seawater**	**3106-37**	**02/01/10**	**27.9**	**0.853 b**	**0.000867**	**0.0952 b**	**2.26 b**
AMB02-085	M4	DME	Seawater	3106-38	02/01/10	--	0.659 b	0.000394	0.0129 b	3.06 b
AMB02-091	**PS01**	**TME**	**Seawater**	**3106-39**	**02/01/10**	**28.4**	**1.09 b**	**0.000938**	**0.0906 b**	**2.51 b**
AMB02-091	PS01	DME	Seawater	3106-40	02/01/10	--	0.933 b	0.000563	0.0110 b	3.88 b
AMB02-097	**PS02**	**TME**	**Seawater**	**3106-41**	**02/01/10**	**27.3**	**2.05 b**	**0.00535**	**0.0933 b**	**7.43 b**
AMB02-097	PS02	DME	Seawater	3106-42	02/01/10	--	1.80 b	0.00316	0.0222 b	7.91 b
AMB02-200	**PS13**	**TME**	**Seawater**	**3106-43**	**02/02/10**	**28.7**	**2.94 b**	**0.000990**	**0.0860 b**	**6.78 b**
AMB02-200	PS13	DME	Seawater	3106-44	02/02/10	--	2.36 b	0.000468	0.0263 b	6.50 b
AMB02-205	**SN03**	**TME**	**Seawater**	**3106-45**	**02/02/10**	**25.7**	**0.990 b**	**0.00107**	**0.0701 b**	**2.53 b**
AMB02-205	SN03	DME	Seawater	3106-46	02/02/10	--	0.857 b	0.00150	0.0129 b	2.55 b
AMB02-210	**SN05**	**TME**	**Seawater**	**3106-47**	**02/02/10**	**22.6**	**0.785 b**	**0.000967**	**0.0811 b**	**4.99 b**
AMB02-210	SN05	DME	Seawater	3106-48	02/02/10	--	0.614 b	0.000462	0.0195 b	5.34 b
AMB02-215	**SN08**	**TME**	**Seawater**	**3106-49**	**02/02/10**	**28.1**	**1.25 b**	**0.000737**	**0.0795 b**	**4.15 b**
AMB02-215	SN08	DME	Seawater	3106-50	02/02/10	--	1.05 b	0.000356	0.00861 b	4.44 b
AMB02-220	**SN10**	**TME**	**Seawater**	**3106-51**	**02/02/10**	**28.3**	**2.29 b**	**0.000562**	**0.0738 b**	**8.22 b**
AMB02-220	SN10	DME	Seawater	3106-52	02/02/10	--	1.88 b	0.000283 J	0.0170 b	7.97 b
AMB02-225	**M3.3**	**TME**	**Seawater**	**3106-53**	**02/02/10**	**27.9**	**1.16 b**	**0.000848**	**0.0737 b**	**3.94 b**
AMB02-225	M3.3	DME	Seawater	3106-54	02/02/10	--	0.898 b	0.000384	0.00722 b	4.19 b
AMB02-230	**SN11**	**TME**	**Seawater**	**3106-55**	**02/02/10**	**28.7**	**1.42 b**	**0.000620**	**0.0674 b**	**4.60 b**
AMB02-230	SN11	DME	Seawater	3106-56	02/02/10	--	1.14 b	0.000251 J	0.0108 b	4.86 b
AMB02-236	**WP**	**TME**	**Seawater**	**3106-57**	**02/02/10**	**29.3**	**0.628 b**	**0.000776**	**0.0724 b**	**7.74 b**
AMB02-236	WP	DME	Seawater	3106-58	02/02/10	--	0.583 b	0.000595	0.00664 b	17.4 b
AMB02-241	**M2**	**TME**	**Seawater**	**3106-59**	**02/02/10**	**29.4**	**0.532 b**	**0.000775**	**0.0738 b**	**1.70 b**
AMB02-241	M2	DME	Seawater	3106-60	02/02/10	--	0.399 b	0.000251 J	0.00191 Jb	1.84 b
AMB02-246	**M2DEEP**	**TME**	**Seawater**	**3106-61**	**02/02/10**	**29.4**	**0.646 b**	**0.000697**	**0.0749 b**	**1.74 b**
AMB02-246	M2DEEP	DME	Seawater	3106-62	02/02/10	--	0.478 b	0.000324	0.00299 Jb	1.83 b
AMB02-251	**CLAMBAY**	**TME**	**Seawater**	**3106-63**	**02/02/10**	**29.3**	**0.624 b**	**0.00133**	**0.0596 b**	**17.7 b**
AMB02-251	CLAMBAY	DME	Seawater	3106-64	02/02/10	--	0.377 b	0.000261 J	0.00345 Jb	2.81 b
AMB02-256	**ILSP**	**TME**	**Seawater**	**3106-65**	**02/02/10**	**29.3**	**0.542 b**	**0.00049204**	**0.0633 b**	**8.85 b**
AMB02-256	ILSP	DME	Seawater	3106-66	02/02/10	--	0.452 b	0.000341	0.00989 b	10.0 b

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UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Cu	Hg	Pb	Zn
				Instrument:		Units (PSU)	*ICP-MS*	*CVAF*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0351**	**0.0001**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)							**0.11**	**0.00032**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0053	**0.0001**	0.0022	0.014
Freshwater Reporting Limit (MDL* 3.18)						--	0.02	**0.00032**	0.0070	0.043
AMB02-261	**M1**	**TME**	**Seawater**	**3106-67**	**02/02/10**	**28.6**	**0.564 b**	**0.000460**	**0.0474 b**	**2.14 b**
AMB02-261	M1	DME	Seawater	3106-68	02/02/10	--	0.983 b	0.000274 J	0.00513 Jb	2.96 b
AMB02-266	**PWNLP**	**TME**	**Seawater**	**3106-69**	**02/02/10**	**28.9**	**0.697 b**	**0.000918**	**0.146 b**	**5.66 b**
AMB02-266	PWNLP	DME	Seawater	3106-70	02/02/10	--	0.553 b	0.000698	0.0101 b	9.50 b
AMB02-271	**M6**	**TME**	**Seawater**	**3106-71**	**02/02/10**	**28.7**	**0.628 b**	**0.000967**	**0.111 b**	**2.36 b**
AMB02-271	M6	DME	Seawater	3106-72	02/02/10	--	0.529 b	0.000321	0.0109 b	4.54 b
AMB02-276	**M8.1**	**TME**	**Seawater**	**3106-73**	**02/02/10**	**28.5**	**0.652 b**	**0.00114**	**0.108 b**	**9.68 b**
AMB02-276	M8.1	DME	Seawater	3106-74	02/02/10	--	0.455 b	0.000257 J	0.0095 b	5.13 b
AMB02-281	**M7**	**TME**	**Seawater**	**3106-75**	**02/02/10**	**27.7**	**0.561 b**	**0.000627**	**0.0487 b**	**4.42 b**
AMB02-281	M7	DME	Seawater	3106-76	02/02/10	--	0.485 b	0.000310 J	0.00472 Jb	4.12 b
AMB02-286	**M7DUP**	**TME**	**Seawater**	**3106-77**	**02/02/10**	--	**0.604 b**	**0.00060404**	**0.0548 b**	**5.90 b**
AMB02-286	M7DUP	DME	Seawater	3106-78	02/02/10	--	0.484 b	0.000356	0.00558 Jb	5.73 b
AMB02-290	**PS12**	**TME**	**Seawater**	**3106-79**	**02/02/10**	**28.9**	**1.01 b**	**0.00108**	**0.103 b**	**6.66 b**
AMB02-290	PS12	DME	Seawater	3106-80	02/02/10	--	0.872 b	0.000428	0.0131 b	6.27 b
EQUIPMENT BLANKS										
AMB02-307	**EB020210**	**TME**	**Freshwater**	**3106-81**	**02/02/10**	**--**	**--**	**0.000144 J**	**--**	**--**
AMB02-307	EB020210	DME	Freshwater	3106-82	02/02/10	--	--	0.000122 J	--	--
AMB02-308	**EB020310**	**TME**	**Freshwater**	**3106-83**	**02/02/10**	**--**	**--**	**0.000145 J**	**--**	**--**
AMB02-308	EB020310	DME	Freshwater	3106-84	02/02/10	--	--	0.00012403 J	--	--
AMB02-309	**EB1-031710**	**TME**	**Freshwater**	**3106-85**	**03/17/10**	**--**	**0.0053 U**	**--**	**0.0022 U**	**0.0419 J**
AMB02-309	EB1-031710	DME	Freshwater	3106-86	03/17/10	--	0.00651 J	--	0.0022 U	0.341
AMB02-310	**EB2-031710**	**TME**	**Freshwater**	**3106-87**	**03/17/10**	**--**	**0.0053 U**	**--**	**0.0022 U**	**0.0351 J**
AMB02-310	EB2-031710	DME	Freshwater	3106-88	03/17/10	--	0.0053 U	--	0.0022 U	0.357
AMB02-311	**EB3-031710**	**TME**	**Freshwater**	**3106-89**	**03/17/10**	**--**	**0.0053 U**	**--**	**0.0022 U**	**0.0254 J**
AMB02-311	EB3-031710	DME	Freshwater	3106-90	03/17/10	--	0.0107 J	--	0.0022 U	0.466
AMB02-312	**EB4-031710**	**TME**	**Freshwater**	**3106-91**	**03/17/10**	**--**	**0.0053 U**	**--**	**0.0022 U**	**0.175**
AMB02-312	EB4-031710	DME	Freshwater	3106-92	03/17/10	--	0.00543 J	--	0.0022 U	0.394
AMB02-313	**EB5-031710**	**TME**	**Freshwater**	**3106-93**	**03/17/10**	**--**	**0.0053 U**	**--**	**0.0022 U**	**0.0190 J**
AMB02-313	EB5-031710	DME	Freshwater	3106-94	03/17/10	--	0.0053 U	--	0.0022 U	0.326

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:		Units (PSU)	Analytical Batch IDs				
Laboratory Achieved Detection Limits (Seawater)						**0.002**					
Seawater Reporting Limit (MDL* 3.18)											
Laboratory Achieved Detection Limits (Freshwater)						--					
Freshwater Reporting Limit (MDL* 3.18)						--					
AMB02DD-001	**NPDES 18**	**TME**	**Seawater**	**3106-1**	**02/01/10**	--	**021910HGA1**	**F021910A REP**	**021110-6100**	**--**	**--**
AMB02DD-001	NPDES 18	DME	Seawater	3106-2	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02DD-006	**NPDES 19**	**TME**	**Seawater**	**3106-3**	**02/01/10**	--	**021910HGA1**	**F021910A REP**	**021110-6100**	**--**	**--**
AMB02DD-006	NPDES 19	DME	Seawater	3106-4	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02DD-011	**NPDES 21**	**TME**	**Freshwater**	**3106-5**	**02/01/10**	--	**021910HGA1**	**F021910A REP**	**021910-6100**	**--**	**--**
AMB02DD-011	NPDES 21	DME	Freshwater	3106-6	02/01/10	--	--	--	021910-6100	--	--
AMB02-005	**PS07**	**TME**	**Seawater**	**3106-7**	**02/01/10**	**29.7**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-003**	**031910SAL**
AMB02-005	PS07	DME	Seawater	3106-8	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-010	**PS06**	**TME**	**Seawater**	**3106-9**	**02/01/10**	**28.2**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-008**	**031910SAL**
AMB02-010	PS06	DME	Seawater	3106-10	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-015	**PS14**	**TME**	**Seawater**	**3106-11**	**02/01/10**	**29.1**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-013**	**031910SAL**
AMB02-015	PS14	DME	Seawater	3106-12	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-017	**PS03**	**TME**	**Seawater**	**3106-13**	**02/01/10**	**28.6**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-021**	**031910SAL**
AMB02-017	PS03	DME	Seawater	3106-14	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-023	**PS04**	**TME**	**Seawater**	**3106-15**	**02/01/10**	**29.3**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-027**	**031910SAL**
AMB02-023	PS04	DME	Seawater	3106-16	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-028	**PS05**	**TME**	**Seawater**	**3106-17**	**02/01/10**	**28.5**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-032**	**031910SAL**
AMB02-028	PS05	DME	Seawater	3106-18	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-033	**PS08**	**TME**	**Seawater**	**3106-19**	**02/01/10**	**27.7**	**021910HGA1**	**F021910A REP**	**021110-6100**	**AMB02-037**	**031910SAL**
AMB02-033	PS08	DME	Seawater	3106-20	02/01/10	--	021910HGA1	--	021110-6100	--	--
AMB02-039	**PS15**	**TME**	**Seawater**	**3106-21**	**02/01/10**	**28.7**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-043**	**031910SAL**
AMB02-039	PS15	DME	Seawater	3106-22	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-050	**PS15DUP**	**TME**	**Seawater**	**3106-23**	**02/01/10**	**28.8**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-047**	**031910SAL**
AMB02-050	PS15DUP	DME	Seawater	3106-24	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-051	**PS09**	**TME**	**Seawater**	**3106-25**	**02/01/10**	**26.5**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-055**	**031910SAL**
AMB02-051	PS09	DME	Seawater	3106-26	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-057	**PS11**	**TME**	**Seawater**	**3106-27**	**02/01/10**	**29.0**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-061**	**031910SAL**
AMB02-057	PS11	DME	Seawater	3106-28	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-062	**PS16**	**TME**	**Seawater**	**3106-29**	**02/01/10**	**28.8**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-066**	**031910SAL**
AMB02-062	PS16	DME	Seawater	3106-30	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-067	**PS10**	**TME**	**Seawater**	**3106-31**	**02/01/10**	**28.1**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-071**	**031910SAL**
AMB02-067	PS10	DME	Seawater	3106-32	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-072	**M3.1**	**TME**	**Seawater**	**3106-33**	**02/01/10**	**29.2**	**022310HGA1**	**F021910A REP**	**021110-6100**	**AMB02-077**	**031910SAL**

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Ambient Monitoring - AMB02
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Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:		Units (PSU)	Analytical Batch IDs				
Laboratory Achieved Detection Limits (Seawater)						**0.002**					
Seawater Reporting Limit (MDL* 3.18)											
Laboratory Achieved Detection Limits (Freshwater)						--					
Freshwater Reporting Limit (MDL* 3.18)						--					
AMB02-072	M3.1	DME	Seawater	3106-34	02/01/10	--	022310HGA1	--	021110-6100	--	--
AMB02-079	**BJ-EST**	**TME**	**Seawater**	**3106-35**	**02/01/10**	**28.5**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-083**	**031910SAL**
AMB02-079	BJ-EST	DME	Seawater	3106-36	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-085	**M4**	**TME**	**Seawater**	**3106-37**	**02/01/10**	**27.9**	**022310HGA1**	**F021910A REP**	**021610-6100**	**AMB02-089**	**031910SAL**
AMB02-085	M4	DME	Seawater	3106-38	02/01/10	--	022310HGA1	--	021610-6100	--	--
AMB02-091	**PS01**	**TME**	**Seawater**	**3106-39**	**02/01/10**	**28.4**	**022410HGA1**	**F021910A REP**	**021610-6100**	**AMB02-095**	**031910SAL**
AMB02-091	PS01	DME	Seawater	3106-40	02/01/10	--	022410HGA1	--	021610-6100	--	--
AMB02-097	**PS02**	**TME**	**Seawater**	**3106-41**	**02/01/10**	**27.3**	**022410HGA1**	**F021910A REP**	**021610-6100**	**AMB02-101**	**031910SAL**
AMB02-097	PS02	DME	Seawater	3106-42	02/01/10	--	022410HGA1	--	021610-6100	--	--
AMB02-200	**PS13**	**TME**	**Seawater**	**3106-43**	**02/02/10**	**28.7**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-204**	**031910SAL**
AMB02-200	PS13	DME	Seawater	3106-44	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-205	**SN03**	**TME**	**Seawater**	**3106-45**	**02/02/10**	**25.7**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-209**	**031910SAL**
AMB02-205	SN03	DME	Seawater	3106-46	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-210	**SN05**	**TME**	**Seawater**	**3106-47**	**02/02/10**	**22.6**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-214**	**031910SAL**
AMB02-210	SN05	DME	Seawater	3106-48	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-215	**SN08**	**TME**	**Seawater**	**3106-49**	**02/02/10**	**28.1**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-219**	**031910SAL**
AMB02-215	SN08	DME	Seawater	3106-50	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-220	**SN10**	**TME**	**Seawater**	**3106-51**	**02/02/10**	**28.3**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-224**	**031910SAL**
AMB02-220	SN10	DME	Seawater	3106-52	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-225	**M3.3**	**TME**	**Seawater**	**3106-53**	**02/02/10**	**27.9**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-229**	**031910SAL**
AMB02-225	M3.3	DME	Seawater	3106-54	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-230	**SN11**	**TME**	**Seawater**	**3106-55**	**02/02/10**	**28.7**	**022410HGA1**	**F021910A REP**	**021710-6100**	**AMB02-235**	**031910SAL**
AMB02-230	SN11	DME	Seawater	3106-56	02/02/10	--	022410HGA1	--	021710-6100	--	--
AMB02-236	**WP**	**TME**	**Seawater**	**3106-57**	**02/02/10**	**29.3**	**030510HGA1**	**F021910A REP**	**021710-6100**	**AMB02-240**	**031910SAL**
AMB02-236	WP	DME	Seawater	3106-58	02/02/10	--	030510HGA1	--	021710-6100	--	--
AMB02-241	**M2**	**TME**	**Seawater**	**3106-59**	**02/02/10**	**29.4**	**030510HGA1**	**F021910A REP**	**021710-6100**	**AMB02-245**	**031910SAL**
AMB02-241	M2	DME	Seawater	3106-60	02/02/10	--	030510HGA1	--	021710-6100	--	--
AMB02-246	**M2DEEP**	**TME**	**Seawater**	**3106-61**	**02/02/10**	**29.4**	**030510HGA1**	**F021910A REP**	**021710-6100**	**AMB02-250**	**031910SAL**
AMB02-246	M2DEEP	DME	Seawater	3106-62	02/02/10	--	030510HGA1	--	021710-6100	--	--
AMB02-251	**CLAMBAY**	**TME**	**Seawater**	**3106-63**	**02/02/10**	**29.3**	**030510HGA1**	**F021910A REP**	**021810-6100**	**AMB02-255**	**031910SAL**
AMB02-251	CLAMBAY	DME	Seawater	3106-64	02/02/10	--	030510HGA1	--	021810-6100	--	--
AMB02-256	**ILSP**	**TME**	**Seawater**	**3106-65**	**02/02/10**	**29.3**	**030510HGA1**	**F021910A REP**	**021810-6100**	**AMB02-260**	**031910SAL**
AMB02-256	ILSP	DME	Seawater	3106-66	02/02/10	--	030510HGA1	--	021810-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB02
ENVVEST 2010
Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:		Units (PSU)	Analytical Batch IDs				
Laboratory Achieved Detection Limits (Seawater)						**0.002**					
Seawater Reporting Limit (MDL* 3.18)											
Laboratory Achieved Detection Limits (Freshwater)						--					
Freshwater Reporting Limit (MDL* 3.18)						--					
AMB02-261	**M1**	**TME**	**Seawater**	**3106-67**	**02/02/10**	**28.6**	**030510HGA1**	**F021910A REP**	**021810-6100**	**AMB02-265**	**031910SAL**
AMB02-261	M1	DME	Seawater	3106-68	02/02/10	--	030510HGA1	--	021810-6100	--	--
AMB02-266	**PWNLP**	**TME**	**Seawater**	**3106-69**	**02/02/10**	**28.9**	**030510HGA1**	**F021910A REP**	**021810-6100**	**AMB02-270**	**031910SAL**
AMB02-266	PWNLP	DME	Seawater	3106-70	02/02/10	--	030510HGA1	--	021810-6100	--	--
AMB02-271	**M6**	**TME**	**Seawater**	**3106-71**	**02/02/10**	**28.7**	**030510HGA1**	**F021910A REP**	**021810-6100**	**AMB02-275**	**031910SAL**
AMB02-271	M6	DME	Seawater	3106-72	02/02/10	--	030510HGA1	--	021810-6100	--	--
AMB02-276	**M8.1**	**TME**	**Seawater**	**3106-73**	**02/02/10**	**28.5**	**030510HGA1**	**F021910A REP**	**021810-6100**	**AMB02-280**	**031910SAL**
AMB02-276	M8.1	DME	Seawater	3106-74	02/02/10	--	030510HGA1	--	021810-6100	--	--
AMB02-281	**M7**	**TME**	**Seawater**	**3106-75**	**02/02/10**	**27.7**	**030410HGA1**	**F021910A REP**	**021810-6100**	**AMB02-285**	**031910SAL**
AMB02-281	M7	DME	Seawater	3106-76	02/02/10	--	030410HGA1	--	021810-6100	--	--
AMB02-286	**M7DUP**	**TME**	**Seawater**	**3106-77**	**02/02/10**	**--**	**030410HGA1**	**F021910A REP**	**021810-6100**	**--**	**--**
AMB02-286	M7DUP	DME	Seawater	3106-78	02/02/10	--	030410HGA1	--	021810-6100	--	--
AMB02-290	**PS12**	**TME**	**Seawater**	**3106-79**	**02/02/10**	**28.9**	**030410HGA1**	**F021910A REP**	**021810-6100**	**AMB02-294**	**031910SAL**
AMB02-290	PS12	DME	Seawater	3106-80	02/02/10	--	030410HGA1	--	021810-6100	--	--
EQUIPMENT BLANKS											
AMB02-307	**EB020210**	**TME**	**Freshwater**	**3106-81**	**02/02/10**	**--**	**030410HGA1**	**F021910A REP**	**--**	**--**	**--**
AMB02-307	EB020210	DME	Freshwater	3106-82	02/02/10	--	030410HGA1	--	--	--	--
AMB02-308	**EB020310**	**TME**	**Freshwater**	**3106-83**	**02/02/10**	**--**	**030410HGA1**	**F021910A REP**	**--**	**--**	**--**
AMB02-308	EB020310	DME	Freshwater	3106-84	02/02/10	--	030410HGA1	--	--	--	--
AMB02-309	**EB1-031710**	**TME**	**Freshwater**	**3106-85**	**03/17/10**	**--**	**--**	**--**	**031810-6100**	**--**	**--**
AMB02-309	EB1-031710	DME	Freshwater	3106-86	03/17/10	--	--	--	**031810-6100**	--	--
AMB02-310	**EB2-031710**	**TME**	**Freshwater**	**3106-87**	**03/17/10**	**--**	**--**	**--**	**031810-6100**	**--**	**--**
AMB02-310	EB2-031710	DME	Freshwater	3106-88	03/17/10	--	--	--	**031810-6100**	--	--
AMB02-311	**EB3-031710**	**TME**	**Freshwater**	**3106-89**	**03/17/10**	**--**	**--**	**--**	**031810-6100**	**--**	**--**
AMB02-311	EB3-031710	DME	Freshwater	3106-90	03/17/10	--	--	--	**031810-6100**	--	--
AMB02-312	**EB4-031710**	**TME**	**Freshwater**	**3106-91**	**03/17/10**	**--**	**--**	**--**	**031810-6100**	**--**	**--**
AMB02-312	EB4-031710	DME	Freshwater	3106-92	03/17/10	--	--	--	**031810-6100**	--	--
AMB02-313	**EB5-031710**	**TME**	**Freshwater**	**3106-93**	**03/17/10**	**--**	**--**	**--**	**031810-6100**	**--**	**--**
AMB02-313	EB5-031710	DME	Freshwater	3106-94	03/17/10	--	--	--	**031810-6100**	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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360/681-4564

Ambient Monitoring - AMB02
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.31	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	1.0	0.0105	0.161	0.02	0.0070	0.043	
Method Blanks												
MB1	TME	Water	DI Blank R1		0.0008 U	5.23 J	0.00027 U	0.0438 J	0.0541 J	0.00361 J	0.115	021110-6100
MB2	TME	Water	DI Blank R2		0.0000 U	4.79 J	0.00008 U	0.0528 J	0.0627 J	0.00419 J	0.130	021110-6100
MB3	TME	Water	DI Blank R3		0.0011 U	5.51 J	0.00006 U	0.0541 J	0.0527 J	0.00377 J	0.129	021110-6100
MB4	TME	Water	DI Blank R4		0.0007 U	5.39 J	0.00038 U	0.0608 J	0.0616 J	0.00353 J	0.126	021110-6100
MB5	TME	Water	DI Blank R5		0.0000 U	4.93 J	0.00000 U	0.0479 J	0.0631 J	0.00312 J	0.143	021110-6100
MB6	TME	Water	DI Blank R1		0.0006 U	8.64	0.00000 U	0.0999 J	0.0483 J	0.00332 J	0.148	021610-6100
MB7	TME	Water	DI Blank R2		0.0001 U	6.40 J	0.00017 U	0.109	0.0504 J	0.00432 J	0.205	021610-6100
MB8	TME	Water	DI Blank R3		0.0000 U	7.01	0.00000 U	0.124	0.0495 J	0.00432 J	0.178	021610-6100
MB9	TME	Water	DI Blank R4		0.0000 U	8.15	0.00000 U	0.113	0.0504 J	0.00400 J	0.150	021610-6100
MB10	TME	Water	DI Blank R1		0.0000 U	2.12 U	0.00000 U	0.00 U	0.0638 J	0.00344 J	0.116	021710-6100
MB11	TME	Water	DI Blank R2		0.0000 U	3.03 J	0.00002 U	0.0373 J	0.0399 J	0.00183 U	0.215	021710-6100
MB12	TME	Water	DI Blank R3		0.0000 U	2.65 J	0.00000 U	0.0422 J	0.0408 J	0.00142 U	0.168	021710-6100
MB13	TME	Water	DI Blank R4		0.0000 U	2.85 J	0.00000 U	0.0494 J	0.0488 J	0.00187 U	0.351	021710-6100
MB14	TME	Water	DI Blank R1		0.0000 U	1.84 U	0.00019 U	0.0287 U	0.0286 U	0.00161 U	0.121	021810-6100
MB15	TME	Water	DI Blank R2		0.0000 U	2.16 J	0.00033 U	0.0425 J	0.0555 J	0.00351 J	0.104	021810-6100
MB16	TME	Water	DI Blank R3		0.0000 U	2.55 J	0.00016 U	0.0548 J	0.0450 J	0.00279 J	0.122	021810-6100
MB17	TME	Water	DI Blank R4		0.0000 U	2.74 J	0.00013 U	0.0499 J	0.0355 J	0.00187 U	0.114	021810-6100
MEAN REAGENT BLANK	TME	Water	***BMRB_AMB02***		*0.0002 U*	*4.47 J*	*0.00011 U*	*0.0594 J*	*0.0500 J*	*0.00309 J*	*0.155*	
TRM Blk 1	TME	Freshwater	TRM Blank	021910	0.0032 U	0.31 U	0.0033 U	0.160 J	0.0053 U	0.0022 U	0.014 U	021910-6100
TRM Blk 2	TME	Freshwater	TRM Blank	031810	0.0032 U	0.31 U	0.0033 U	0.103 J	0.0053 U	0.0022 U	0.0285 J	031810-6100

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Ambient Monitoring - AMB02
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.31	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	1.0	0.0105	0.161	0.02	0.0070	0.043	
Laboratory Control Samples												
Spiking Level					2	2	2	2	2	2	2	
LCS1	TME	Seawater	SB LCS021010R1		1.80 b	2.93 Jb	1.89 b	2.02 b	2.30 b	1.94 b	2.15 b	021110-6100
LCS1 Blk	TME	Seawater	SB Blank021010R1		0.0042 Ub	2.14 Ub	0.0905 b	0.129 b	0.322 b	0.00398 Jb	0.437 b	021110-6100
				Percent Recovery, LCS	**90%**	**147% c**	**90%**	**95%**	**99%**	**97%**	**85%**	
Spiking Level					2	2	2	2	2	2	2	
LCS2	TME	Seawater	SB LCS021110R2		1.78 b	6.32 Jb	1.75 b	2.10 b	2.07 b	1.92 b	1.92 b	021610-6100
LCS2 Blk	TME	Seawater	SB Blank021110R2		0.0042 Ub	3.53 Jb	0.0778 b	0.174 b	0.289 b	0.00339 Jb	0.276 b	021610-6100
				Percent Recovery, LCS	**89%**	**139% c**	**84%**	**97%**	**89%**	**96%**	**82%**	
Spiking Level					2	2	2	2	2	2	2	
LCS3	TME	Seawater	SB LCS021610R1		1.83 b	2.25 Jb	1.85 b	2.04 b	2.13 b	1.97 b	2.13 b	021710-6100
LCS3 Blk	TME	Seawater	SB Blank021610R1		0.0042 Ub	2.14 Ub	0.0735 b	0.102 b	0.280 b	0.0019 Ub	0.265 b	021710-6100
				Percent Recovery, LCS	**92%**	**113% c**	**89%**	**97%**	**92%**	**98%**	**93%**	
Spiking Level					2	--	2	2	2	2	2	
LCS4	TME	Seawater	SB LCS021710R1		1.78 b	2.14 Ub	1.86 b	1.96 b	2.07 b	1.95 b	1.91 b	021810-6100
LCS4 Blk	TME	Seawater	SB Blank021710R1		0.0042 Ub	2.14 Ub	0.0750 b	0.0977 b	0.264 b	0.00267 Jb	0.199 b	021810-6100
				Percent Recovery, LCS	**89%**	**--**	**89%**	**93%**	**91%**	**97%**	**85%**	
Spiking Level					2	2	2	2	2	2	2	
TRM_LCS1	TME	Freshwater	LCS021910R1		1.95	2.18	2.00	1.95	1.99	2.00	2.08	021910-6100
TRM Blk 1	TME	Freshwater	TRM Blank 021910		0.0032 U	0.31 U	0.0033 U	0.160 J	0.0053 U	0.0022 U	0.014 U	021910-6100
				Percent Recovery, LCS	**98%**	**109%**	**100%**	**90%**	**99%**	**100%**	**104%**	
Spiking Level					2	2	2	2	2	2	2	
TRM_LCS2	TME	Freshwater	LCS031810R1		1.94	2.05 J	1.96	2.05	1.98	1.97	2.01	031810-6100
TRM Blk 2	TME	Freshwater	TRM Blank 031810		0.0032 U	0.31 U	0.0033 U	0.103 J	0.0053 U	0.0022 U	0.0285 J	031810-6100
				Percent Recovery, LCS	**97%**	**103%**	**98%**	**97%**	**99%**	**99%**	**99%**	

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB02
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.31	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	1.0	0.0105	0.161	0.02	0.0070	0.043	
MATRIX SPIKE RESULTS												
AMB02-072	M3.1	DME	Seawater	3106-34	0.0042 Ub	3.45 Jb	0.0867 b	0.263 b	0.496 b	0.0205 b	1.74 b	021110-6100
AMB02-072	M3.1	DME	Seawater	3106-34 MS	4.59 b	11.0 b	4.74 b	5.04 b	5.19 b	4.85 b	6.30 b	021110-6100
				Spiking Level, MS	5	10	5	5	5	5	5	
				Percent Recovery, MS	**92%**	**76%**	**93%**	**96%**	**94%**	**97%**	**91%**	
AMB02-085	M4	DME	Seawater	3106-38	0.004 Ub	10.2 b	0.0909 b	0.441 b	0.659 b	0.0129 b	3.06 b	021610-6100
AMB02-085	M4	DME	Seawater	3106-38 MS	4.39 b	22.5 b	4.47 b	5.15 b	5.10 b	4.62 b	7.51 b	021610-6100
				Spiking Level, MS	5	10	5	5	5	5	5	
				Percent Recovery, MS	**88%**	**123%**	**88%**	**94%**	**89%**	**92%**	**89%**	
AMB02-225	M3.3	DME	Seawater	3106-54	0.0042 Ub	5.48 Jb	0.0874 b	1.19 b	0.898 b	0.0072 b	4.19 b	021710-6100
AMB02-225	M3.3	DME	Seawater	3106-54 MS	4.48 b	14.8 b	4.40 b	6.09 b	5.48 b	4.83 b	8.88 b	021710-6100
				Spiking Level, MS	5	10	5	5	5	5	5	
				Percent Recovery, MS	**90%**	**94%**	**86%**	**98%**	**92%**	**97%**	**94%**	
AMB02-261	M1	DME	Seawater	3106-68	0.0042 Ub	2.41 Jb	0.0870 b	1.24 b	0.983 b	0.00513 Jb	2.96 b	021810-6100
AMB02-261	M1	DME	Seawater	3106-68 MS	4.52 b	12.1 b	4.64 b	6.12 b	5.20 b	4.90 b	7.49 b	021810-6100
				Spiking Level, MS	5	10	5	5	5	5	5	
				Percent Recovery, MS	**90%**	**97%**	**91%**	**98%**	**84%**	**98%**	**91%**	
AMB02-309	EB1-031710	TME	Freshwater	3106-85	0.0000 Ub	0.129 Ub	0.00074 Ub	0.0958 b	0.00029 Ub	0.000 Ub	0.0419 Jb	031810-6100
AMB02-309	EB1-031710	TME	Freshwater	3106-85 MS	4.79 b	4.87 b	4.80 b	4.75 b	4.74 b	4.73 b	4.85 b	031810-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**96%**	**97%**	**96%**	**93%**	**95%**	**95%**	**96%**	

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Ambient Monitoring - AMB02
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.31	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	1.0	0.0105	0.161	0.02	0.0070	0.043	
LABORATORY REPLICATE RESULTS												
AMB02DD-006	NPDES 19	TME	Seawater	3106-3	0.0187 b	16.1 b	0.106 b	0.491 b	2.99 b	0.380 b	27.9 b	021110-6100
AMB02DD-006	NPDES 19	TME	Seawater	3106-3DUP	0.0189 b	15.5 b	0.105 b	0.503 b	2.99 b	0.372 b	27.5 b	021110-6100
				Mean	0.0188 b	15.8 b	0.106 b	0.497 b	2.99 b	0.376 b	27.7 b	
				RPD	**1%**	**4%**	**0%**	**3%**	**0%**	**2%**	**2%**	
AMB02-051	PS09	TME	Seawater	3106-25	0.0042 Ub	18.6 b	0.0909 b	0.466 b	2.28 b	0.106 b	11.7 b	021610-6100
AMB02-051	PS09	TME	Seawater	3106-25DUP	0.0042 Ub	18.8 b	0.0903 b	0.451 b	2.20 b	0.102 b	11.3 b	021610-6100
				Mean	--	18.7 b	0.0906 b	0.458 b	2.24 b	0.104 b	11.5 b	
				RPD	--	**1%**	**1%**	**3%**	**3%**	**4%**	**3%**	
AMB02-200	PS13	TME	Seawater	3106-43	0.0042 Ub	11.8 b	0.0944 b	0.439 b	2.94 b	0.0860 b	6.78 b	021710-6100
AMB02-200	PS13	TME	Seawater	3106-43DUP	0.0042 Ub	11.0 b	0.0922 b	0.427 b	2.85 b	0.0816 b	6.57 b	021710-6100
				Mean	--	11.4 b	0.0933 b	0.433 b	2.89 b	0.0838 b	6.67 b	
				RPD	--	**7%**	**2%**	**3%**	**3%**	**5%**	**3%**	
AMB02-251	CLAMBAY	TME	Seawater	3106-63	0.0042 Ub	14.1 b	0.0887 b	17.3 b	0.624 b	0.0596 b	17.7 b	021810-6100
AMB02-251	CLAMBAY	TME	Seawater	3106-63DUP	0.0042 Ub	14.2 b	0.0860 b	16.9 b	0.602 b	0.0568 b	16.9 b	021810-6100
				Mean	--	14.2 b	0.0873 b	17.1 b	0.613 b	0.0582 b	17.3 b	
				RPD	--	**0%**	**3%**	**2%**	**4%**	**5%**	**5%**	
AMB02-310	EB2-031710	TME	Freshwater	3106-87	0.0032 U	0.31 U	0.0033 U	0.114 J	0.0053 U	0.0022 U	0.0351 J	031810-6100
AMB02-310	EB2-031710	TME	Freshwater	3106-87DUP	0.0032 U	0.31 U	0.0033 U	0.105 J	0.0053 U	0.0022 U	0.014 U	031810-6100
				Mean	--	--	--	0.110 J	--	--	--	
				RPD	--	--	--	**8%**	--	--	--	

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Ambient Monitoring - AMB02
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.31	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	1.0	0.0105	0.161	0.02	0.0070	0.043	
STANDARD REFERENCE MATERIAL RESULTS												
SRM CASS-5 (1)		TME	Seawater	CASS-5 021010	0.0042 Ub	2.14 Ub	0.0272 b	0.101 b	0.384 b	0.0105 b	0.591 b	021110-6100
SRM CASS-5 (2)		TME	Seawater	CASS-5 021110	0.0042 Ub	2.14 Ub	0.0260 b	0.183 b	0.466 b	0.0121 b	0.547 b	021610-6100
SRM CASS-5 (3)		TME	Seawater	CASS-5 021610	0.0042 Ub	2.14 Ub	0.0267 b	0.0918 Jb	0.375 b	0.00771 b	0.522 b	021710-6100
SRM CASS-5 (4)		TME	Seawater	CASS-5 021710	0.0042 Ub	2.14 Ub	0.0267 b	0.0880 Jb	0.357 b	0.00863 b	0.493 b	021810-6100
				Certified Value	*NC*	*NC*	*0.0215*	*0.106*	*0.380*	*0.011*	*0.719*	
	SRM CASS-5 (1)			**PD**	**--**	**--**	**27% &**	**5% c**	**1%**	**5% c**	**18%**	
	SRM CASS-5 (2)			**PD**	**--**	**--**	**21% &**	**72% c**	**23% &**	**10% c**	**24% &**	
	SRM CASS-5 (3)			**PD**	**--**	**--**	**24% &**	**13% c**	**1%**	**30% c**	**27% &**	
	SRM CASS-5 (4)			**PD**	**--**	**--**	**24% &**	**17% c**	**6%**	**22% c**	**31% &**	
SRM SLEW-2 (1)		TME	Seawater	SLEW-2 021010	0.0042 Ub	2.14 Ub	0.0223 b	0.141 b	1.58 b	0.0236 b	1.18 b	021110-6100
SRM SLEW-2 (2)		TME	Seawater	SLEW-2 021110	0.0042 Ub	4.62 Jb	0.0225 b	0.245 b	1.71 b	0.0345 b	1.36 b	021610-6100
SRM SLEW-2 (3)		TME	Seawater	SLEW-2 021610	0.0042 Ub	2.14 Ub	0.0220 b	0.150 b	1.61 b	0.0228 b	1.19 b	021710-6100
SRM SLEW-2 (4)		TME	Seawater	SLEW-2 021710	0.0042 Ub	2.14 Ub	0.0197 b	0.144 b	1.47 b	0.0213 b	1.12 b	021810-6100
				Certified/Reference Value	NC	NC	0.019	0.169	1.62	0.027	1.1	
	SRM SLEW-2 (1)			**PD**	**-- --**		**18%**	**17% c**	**3%**	**12%**	**7%**	
	SRM SLEW-2 (2)			**PD**	**-- --**		**19%**	**45% c**	**6%**	**28% &**	**24% &**	
	SRM SLEW-2 (3)			**PD**	**-- --**		**16%**	**11% c**	**0%**	**16%**	**8%**	
	SRM SLEW-2 (4)			**PD**	**-- --**		**4%**	**15% c**	**9%**	**21% &**	**2%**	

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Ambient Monitoring - AMB02
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.31	0.0033	0.051	0.0053	0.0022	0.014	
Freshwater Reporting Limit (MDL* 3.18)					0.010	1.0	0.0105	0.161	0.02	0.0070	0.043	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640 (1)		TME	Freshwater	**1640_021110**	7.32	52.9	22.6	39.3	89.8	29.1	52.0	021110-6100
SRM 1640 (2)		TME	Freshwater	**1640_021610**	7.52	53.2	22.3	38.8	88.4	28.4	51.4	021610-6100
SRM 1640 (3)		TME	Freshwater	**1640_021710**	7.51	53.9	23.5	39.7	88.8	29.2	56.0	021710-6100
SRM 1640 (4)		TME	Freshwater	**1640_021810**	7.23	50.0	23.7	38.0	87.7	27.9	56.2	021810-6100
SRM 1640 (5)		TME	Freshwater	**1640_021910TRM**	7.34	47.2	22.6	38.1	85.0	27.4	54.5	021910-6100
SRM 1640 (6)		TME	Freshwater	**1640_031810TRM**	7.22	52.4	22.0	37.1	84.8	26.9	54.1	031810-6100
				Certified Value	7.62	52	22.79	38.6	85.2	27.89	53.2	
SRM 1640 (1)				**PD**	**4%**	**2%**	**1%**	**2%**	**5%**	**4%**	**2%**	
SRM 1640 (2)				**PD**	**1%**	**2%**	**2%**	**0%**	**4%**	**2%**	**3%**	
SRM 1640 (3)				**PD**	**1%**	**4%**	**3%**	**3%**	**4%**	**5%**	**5%**	
SRM 1640 (4)				**PD**	**5%**	**4%**	**4%**	**2%**	**3%**	**0%**	**6%**	
SRM 1640 (5)				**PD**	**4%**	**9%**	**1%**	**1%**	**0%**	**2%**	**2%**	
SRM 1640 (6)				**PD**	**5%**	**1%**	**4%**	**4%**	**0%**	**4%**	**2%**	

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Ambient Monitoring - AMB02
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
Method Blanks						
MB1		TME	Freshwater	MB1_021810	0.0001 U	021910HGA1
MB2		TME	Freshwater	MB2_021810	0.0001 U	021910HGA1
MB3		TME	Freshwater	MB3_021810	0.0001 U	021910HGA1
MB4		TME	Freshwater	MB1_022210	0.0001 U	022310HGA1
MB5		TME	Freshwater	MB2_022210	0.0001 U	022310HGA1
MB6		TME	Freshwater	MB3_022210	0.0001 U	022310HGA1
MB7		TME	Freshwater	MB1_022310	0.0001 U	022410HGA1
MB8		TME	Freshwater	MB2_022310	0.0001 U	022410HGA1
MB9		TME	Freshwater	MB3_022310	0.0001 U	022410HGA1
MB10		TME	Freshwater	MB1_030310	0.0001 U	030410HGA1
MB11		TME	Freshwater	MB2_030310	0.0001 U	030410HGA1
MB12		TME	Freshwater	MB3_030310	0.0001 U	030410HGA1
MB13		TME	Freshwater	MB1_030410	0.0001 U	030510HGA1
MB14		TME	Freshwater	MB2_030410	0.0001 U	030510HGA1
MB15		TME	Freshwater	MB3_030410	0.0001 U	030510HGA1
Mean Method Blank					*0.0001 U*	

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Ambient Monitoring - AMB02
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
Laboratory Control Samples						
Spiking Level					0.00496	
LCS 1	TME		Freshwater	OPR 021810 run1	0.00504	021910HGA1
LCS 2	TME		Freshwater	OPR 021810 run2	0.00482	021910HGA1
LCS Blk	TME		Freshwater	Blank021810	0.0001 U	021910HGA1
				Percent Recovery, LCS	**102%**	
				Percent Recovery, LCSD	**97%**	
Spiking Level					0.00496	
LCS 1	TME		Freshwater	OPR 022210 run1	0.00494	022310HGA1
LCS 2	TME		Freshwater	OPR 022210 run2	0.00492	022310HGA1
LCS Blk	TME		Freshwater	Blank 022210	0.0001 U	022310HGA1
				Percent Recovery, LCS	**100%**	
				Percent Recovery, LCSD	**99%**	
Spiking Level					0.00496	
LCS 1	TME		Freshwater	OPR 022310 run1	0.00512	022410HGA1
LCS 2	TME		Freshwater	OPR 022310 run2	0.00515	022410HGA1
LCS Blk	TME		Freshwater	Blank 022310	0.0001 U	022410HGA1
				Percent Recovery, LCS	**103%**	
				Percent Recovery, LCSD	**104%**	
Spiking Level					0.00496	
LCS 1	TME		Freshwater	OPR 030310 run1	0.00514	030410HGA1
LCS 2	TME		Freshwater	OPR 030310 run2	0.00507	030410HGA1
LCS Blk	TME		Freshwater	BLANK 030310	0.0001 U	030410HGA1
				Percent Recovery, LCS	**104%**	
				Percent Recovery, LCSD	**102%**	
Spiking Level					0.00496	
LCS 1	TME		Freshwater	OPR 030410 run1	0.00505	030510HGA1
LCS 2	TME		Freshwater	OPR 030410 run2	0.00506	030510HGA1
LCS Blk	TME		Freshwater	BLANK 030410	0.0001 U	030510HGA1
				Percent Recovery, LCS	**102%**	
				Percent Recovery, LCSD	**102%**	

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Ambient Monitoring - AMB02
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
MATRIX SPIKE RESULTS						
AMB02-005	PS07	TME	Seawater	3106-7	0.000966	021910HGA1
AMB02-005	PS07	TME	Seawater	3106-7MS	0.0158	021910HGA1
AMB02-005	PS07	TME	Seawater	3106-7MSD	0.0162	021910HGA1
				Spiking Level, MS	0.0154	
				Spiking Level, MSD	0.0156	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**98%**	
				RPD	**1%**	
AMB02-015	PS14	DME	Seawater	3106-12	0.000294 J	021910HGA1
AMB02-015	PS14	DME	Seawater	3106-12MS	0.0105	021910HGA1
AMB02-015	PS14	DME	Seawater	3106-12MSD	0.0103	021910HGA1
				Spiking Level, MS	0.0105	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**97%**	
				RPD	**1%**	
AMB02-039	PS15	DME	Seawater	3106-22	0.000602	022310HGA1
AMB02-039	PS15	DME	Seawater	3106-22MS	0.0105	022310HGA1
AMB02-039	PS15	DME	Seawater	3106-22MSD	0.0107	022310HGA1
				Spiking Level, MS	0.0103	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**96%**	
				Percent Recovery, MSD	**97%**	
				RPD	**1%**	
AMB02-072	M3.1	TME	Seawater	3106-33	0.00173	022310HGA1
AMB02-072	M3.1	TME	Seawater	3106-33MS	0.0119	022310HGA1
AMB02-072	M3.1	TME	Seawater	3106-33MSD	0.0119	022310HGA1
				Spiking Level, MS	0.0105	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**97%**	
				RPD	**1%**	
AMB02-097	PS02	DME	Seawater	3106-42	0.00316	022410HGA1
AMB02-097	PS02	DME	Seawater	3106-42MS	0.0138	022410HGA1
AMB02-097	PS02	DME	Seawater	3106-42MSD	0.0134	022410HGA1
				Spiking Level, MS	0.0105	
				Spiking Level, MSD	0.0101	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1%**	

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Ambient Monitoring - AMB02
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
MATRIX SPIKE RESULTS cont.						
AMB02-225	M3.3	TME	Seawater	3106-53	0.000848	022410HGA1
AMB02-225	M3.3	TME	Seawater	3106-53MS	0.0113	022410HGA1
AMB02-225	M3.3	TME	Seawater	3106-53MSD	0.0118	022410HGA1
				Spiking Level, MS	0.0102	
				Spiking Level, MSD	0.0105	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**104%**	
				RPD	**2%**	
AMB02-241	M2	TME	Seawater	3106-59	0.000775	030510HGA1
AMB02-241	M2	TME	Seawater	3106-59MS	0.0109	030510HGA1
AMB02-241	M2	TME	Seawater	3106-59MSD	0.0105	030510HGA1
				Spiking Level, MS	0.0100	
				Spiking Level, MSD	0.00970	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**1%**	
AMB02-276	M8.1	DME	Seawater	3106-74	0.000257 J	030510HGA1
AMB02-276	M8.1	DME	Seawater	3106-74MS	**0.0108**	030510HGA1
AMB02-276	M8.1	DME	Seawater	3106-74MSD	**0.0104**	030510HGA1
				Spiking Level, MS	0.0101	
				Spiking Level, MSD	0.00987	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1%**	
AMB02-286	M7DUP	DME	Seawater	3106-78	0.000356	030410HGA1
AMB02-286	M7DUP	DME	Seawater	3106-78MS	0.0103	030410HGA1
AMB02-286	M7DUP	DME	Seawater	3106-78MSD	0.0101	030410HGA1
				Spiking Level, MS	0.00969	
				Spiking Level, MSD	0.00943	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**104%**	
				RPD	**1%**	

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Ambient Monitoring - AMB02
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
REPLICATE PRECISION						
AMB02DD-011	NPDES 21	TME	Seawater	3106-5	0.0745	021910HGA1
AMB02DD-011	NPDES 21	TME	Seawater	3106-5DUP	0.0761	021910HGA1
				Mean	*0.0753*	
				RPD	**2%**	
AMB02-062	PS16	TME	Seawater	3106-29	0.000828	022310HGA1
AMB02-062	PS16	TME	Seawater	3106-29DUP	0.000769	022310HGA1
				Mean	*0.000798*	
				RPD	**7%**	
AMB02-210	SN05	TME	Seawater	3106-47	0.000967	022410HGA1
AMB02-210	SN05	TME	Seawater	3106-47DUP	0.000989	022410HGA1
				Mean	*0.000978*	
				RPD	**2%**	
AMB02-266	PWNLP	TME	Seawater	3106-69	0.000918	030510HGA1
AMB02-266	PWNLP	TME	Seawater	3106-69DUP	0.000956	030510HGA1
				Mean	*0.000937*	
				RPD	**4%**	
AMB02-290	PS12	TME	Seawater	3106-79	0.00108	030410HGA1
AMB02-290	PS12	TME	Seawater	3106-79DUP	0.00108	030410HGA1
				Mean	*0.00108*	
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Water	1641d 021810	1512	021910HGA1
SRM 1641 (2)		TME	Water	1641d 022210	1490	022310HGA1
SRM 1641 (3)		TME	Water	1641d 022310	1548	022410HGA1
SRM 1641 (4)		TME	Water	1641d 030310	1594	030410HGA1
SRM 1641 (5)		TME	Water	1641d 030410	1521	030510HGA1
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**5%**	
	SRM 1641 (2)			**PD**	**6%**	
	SRM 1641 (3)			**PD**	**3%**	
	SRM 1641 (4)			**PD**	**0%**	
	SRM 1641 (5)			**PD**	**4%**	

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Ambient Monitoring - AMB02
QC Sample Results for FIAS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Freshwater	BLANK R1	0.0267 U	F021910A REP
MB2		TME	Freshwater	BLANK R2	0.0267 U	F021910A REP
MB3		TME	Freshwater	BLANK R3	0.0267 U	F021910A REP
Mean Method Blank					0.0267 U	
Laboratory Control Samples						
Spiking Level					4	
LCS1		TME	Freshwater	LCS R1	4.11	F021910A REP
MB1		TME	Freshwater	BLANK R1	0.0267 U	F021910A REP
				Percent Recovery, LCS	**103%**	
Spiking Level					4	
LCS2		TME	Freshwater	LCS R2	3.83	F021910A REP
MB2		TME	Freshwater	BLANK R2	0.0267 U	F021910A REP
				Percent Recovery, LCS	**97%**	
Spiking Level					4	
LCS3		TME	Freshwater	LCS R3	3.84	F021910A REP
MB3		TME	Freshwater	BLANK R3	0.0267 U	F021910A REP
				Percent Recovery, LCS	**99%**	
MATRIX SPIKE RESULTS						
AMB02-005	PS07	TME	Seawater	3106-7	1.33	F021910A REP
AMB02-005	PS07	TME	Seawater	3106-7MS	5.35	F021910A REP
				Spiking Level, MS	4	
				Percent Recovery, MS	**100%**	
AMB02-072	M3.1	TME	Seawater	3106-33	1.23	F021910A REP
AMB02-072	M3.1	TME	Seawater	3106-33MS	4.92	F021910A REP
				Spiking Level, MS	4	
				Percent Recovery, MS	**92%**	
AMB02-281	M7	TME	Seawater	3106-75	1.16	F021910A REP
AMB02-281	M7	TME	Seawater	3106-75MS	4.97	F021910A REP
				Spiking Level, MS	4	
				Percent Recovery, MS	**95%**	

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Ambient Monitoring - AMB02
QC Sample Results for FIAS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB02-028	PS05	TME	Seawater	3106-17	1.31	F021910A REP
AMB02-028	PS05	TME	Seawater	3106-17DUP	1.30	F021910A REP
				Mean	*1.31*	
				RPD	**1%**	
AMB02-205	SN03	TME	Seawater	3106-45	1.17	F021910A REP
AMB02-205	SN03	TME	Seawater	3106-45DUP	1.16	F021910A REP
				Mean	*1.17*	
				RPD	**0%**	
AMB02-251	CLAMBAY	TME	Seawater	3106-63	1.27	F021910A REP
AMB02-251	CLAMBAY	TME	Seawater	3106-63DUP	1.28	F021910A REP
				Mean	*1.28*	
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.08	F021910A REP
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	0.984	F021910A REP
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	0.947	F021910A REP
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**3%**	
	SRM CASS-4 (2)			**PD**	**11%**	
	SRM CASS-4 (3)			**PD**	**15%**	

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Ambient Monitoring - AMB02
QC Sample Results for Salinity
ENVVEST 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	Blank ICB	0.0 U	PSU	031910SAL
MB2		TME	Seawater	Blank CCB1	0.0 U	PSU	031910SAL
MB3		TME	Seawater	Blank CCB2	0.0 U	PSU	031910SAL
MB4		TME	Seawater	Blank CCB3	0.0 U	PSU	031910SAL
MB5		TME	Seawater	Blank CCB4	0.0 U	PSU	031910SAL
MB6		TME	Seawater	Blank CCB5	0.0 U	PSU	031910SAL
REPLICATE PRECISION							
AMB02-021	PS03	TME	Seawater	PS03	28.6	PSU	031910SAL
AMB02-021	PS03	TME	Seawater	PS03 R2	28.8	PSU	031910SAL
				Mean	*28.7*	PSU	
				RPD	**0.7%**		
AMB02-095	PS01	TME	Seawater	PS01	28.4	PSU	031910SAL
AMB02-095	PS01	TME	Seawater	PS01 R2	28.3	PSU	031910SAL
				Mean	*28.4*	PSU	
				RPD	**0.4%**		
AMB02-229	M3.3	TME	Seawater	M3.3	27.9	PSU	031910SAL
AMB02-229	M3.3	TME	Seawater	M3.3 R2	27.9	PSU	031910SAL
				Mean	*27.9*	PSU	
				RPD	**0.0%**		
AMB02-294	PS12	TME	Seawater	PS12	28.9	PSU	031910SAL
AMB02-294	PS12	TME	Seawater	PS12 R2	28.8	PSU	031910SAL
				Mean	*28.9*	PSU	
				RPD	**0.3%**		
STANDARD REFERENCE MATERIAL							
SRM Copenhagen Water-1		TME	Seawater	Copenhagen Water (LCS) R1	35.3	PSU	031910SAL
SRM Copenhagen Water-2		TME	Seawater	Copenhagen Water (LCS) R2	35.1	PSU	031910SAL
SRM Copenhagen Water-3		TME	Seawater	Copenhagen Water (LCS) R3	35.2	PSU	031910SAL
SRM Copenhagen Water-4		TME	Seawater	Copenhagen Water (LCS) R4	35.0	PSU	031910SAL
SRM Copenhagen Water-5		TME	Seawater	Copenhagen Water (LCS) R5	35.1	PSU	031910SAL
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.9%**		
	SRM-2			**PD**	**0.3%**		
	SRM-3			**PD**	**0.6%**		
	SRM-4			**PD**	**0.0%**		
	SRM-5			**PD**	**0.3%**		

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Ambient Monitoring - AMB02
QC Sample Results for Salinity
ENVVEST 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
LABORATORY CONTROL SAMPLES							
LCS-1				Calibration CCV1	50.0	mS	031910SAL
LCS-2				Calibration CCV2	50.1	mS	031910SAL
LCS-3				Calibration CCV3	50.2	mS	031910SAL
LCS-4				Calibration CCV4	50.2	mS	031910SAL
LCS-5				Calibration ICV	50.1	mS	031910SAL
				TRUE VALUE	**50.0**	mS	
	LCS-1			**% RECOVERY**	**100.0%**		
	LCS-2			**% RECOVERY**	**100.2%**		
	LCS-3			**% RECOVERY**	**100.4%**		
	LCS-4			**% RECOVERY**	**100.4%**		
	LCS-5			**% RECOVERY**	**100.2%**		

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ENVVEST 2010_AMB02
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, February 2010 (AMB002)

PARAMETER: Total and Dissolved Metals – Al (Total only), Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 02/02/10 and 02/03/10. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the sample designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	02/02/2010 and 02/03/2010
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	02/02/2010 and 02/03/2010, plus additional equipment blanks 03/17/2010
CVAF analysis dates (Hg)	02/19/10, 02/23/10, 02/24/10, 03/04/10, 03/05/10
Fe/Pd Preconcentration Dates (Ag, Al, Cd, Cr, Cu, Pb, Zn)	02/10/10, 02/11/10, 02/16/10, 02/17/10
FIAS analysis date (As)	02/19/10
ICP-MS analysis dates (Ag, Al, As, Cd, Cr, Cu, Pb, Zn)	02/11/10, 02/16/10, 02/17/10, 02/18/10, 02/19/10, 03/18/10

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	80-120%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	80-120%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	80-120%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	80-120%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	80-120%	≤30%	0.0351	0.11
Lead	ICP-MS	70-130%	80-120%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	80-120%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	80-120%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	80-120%	≤30%	0.0001	0.00032

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR EQUIPMENT BLANK SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.15	0.48
Arsenic	ICP-MS	70-130%	≤20%	≤30%	0.031	0.099
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.014	0.043
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for nine metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The following two methods do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples such as equipment blanks were digested using the total metal recoverable (TRM) method established in EPA Method 1640 and in MSL SOP-I-022.

All results were reported in units of µg/L. Data are reported as both uncorrected and blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn). The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. All reagents have trace impurities of these metals; therefore, the data should be blank corrected for these elements. This is discussed in more detail below.

Equipment blank samples consist of deionized water collected in the Teflon sample bottles and filtered along with the AMB01 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed by Hg by CVAF as described above for the seawater. The

freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for equipment blank is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg and six months for all other metals.

DETECTION LIMITS: Laboratory method detection limits (MDLs) are reported from the 2009 Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the 2009 Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument and each analytical batch. The average of all method blanks (n=15) was less than the RL for all metals except Zn. Sample concentrations were all greater than 10 times the detected blank.

Analytical note on the detected blanks in preconcentrated seawater. The required preconcentration procedure to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the samples. The current reagents available contain traces of the metals of interest; therefore the data should be blank corrected. The average of the 15 reagent blanks prepared with these samples was used to reagent blank correct the data.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals except one replicate for Al. The LCS matrix used for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn is Sequim Bay Seawater carried through the preconcentration and analytical process. The unspiked concentration of Al in Sequim Bay Seawater was 3.53µg/L and the spike was 2.0µg/L. The LCS was underspiked for Al and flagged with a "c".

QA/QC NARRATIVE

MATRIX SPIKE ACCURACY:

A minimum of one set of matrix spike/matrix spike duplicate (MS/MSD) samples was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for MS/MSD pairs were within the QC limits of 70% to 130%.

REPLICATE PRECISION:

Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY:

Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent recovery of the measured value relative to the certified concentration. The SRM for Hg was 1641d, a freshwater SRM as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was a coastal ocean CASS-4 SRM. The percent recoveries were within the QC acceptance criterion. Two different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS.

The freshwater SRM 1640 demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks). Percent recoveries were within the QC acceptance criterion.

Two seawater SRMs were prepared with each batch of preconcentrated samples prepared for analysis by ICP-MS. The SRMs were CASS-5 and SLEW-2. The Cr and Pb concentrations in CASS-5 are certified less than 10 times the MDL and were not used to evaluate data set accuracy. In addition, Cr in SLEW-2 was also certified less than 10 times the MDL. The percent recoveries for these metals were flagged with a "c" indicating they meet the contingency criterion. The data are presented as both uncorrected and reagent blank corrected. The reagent blank corrected data were used to assess the accuracy of the analytical batch. The SRM CASS-5 is not certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy. The percent recoveries for CASS-5 were within the QC acceptance criterion with the exception of Cd (127%, 121%, 124%, and 124%), one Cu (123%), and three replicates for Zn (76%, 73%, and 69%). The percent recoveries for SLEW-2 were within the QC criterion for all metals except two replicates for Pb (128%, 79%) and one for Zn (124%). The exceptions were generally within the criterion of 70-130%.

CONTINUING CALIBRATION VERIFICATION (CCV) ACCURACY:

The CCV samples were analyzed every 10 field samples. All CCVs were within the QC criterion of 85% to 115% recovery.

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/3/2010
Batch: 2
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Lable	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02DD-001	NPDES18-TME	NPDES 18	3106-1	Raw Water	PREP LAB	TOTAL METALS	02/02/10
AMB02DD-001	NPDES18-DME	NPDES 18	3106-2	Filt. Water	PREP LAB	DISSOLVED METALS	02/02/10
AMB02DD-006	NPDES19-TME	NPDES 19	3106-3	Raw Water	PREP LAB	TOTAL METALS	02/02/10
AMB02DD-006	NPDES19-DME	NPDES 19	3106-4	Filt. Water	PREP LAB	DISSOLVED METALS	02/02/10
AMB02DD-011	NPDES21-TME	NPDES 21	3106-5	Raw Water	PREP LAB	TOTAL METALS	02/02/10
AMB02DD-011	NPDES21-DME	NPDES 21	3106-6	Filt. Water	PREP LAB	DISSOLVED METALS	02/02/10
AMB02-005	PS07TME	PS07	3106-7	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-005	PS07DME	PS07	3106-8	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-010	PS06TME	PS06	3106-9	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-010	PS05DME	PS06	3106-10	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-015	PS14TME	PS14	3106-11	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-015	PS14DME	PS14	3106-12	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-017	PS03TME	PS03	3106-13	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-017	PS03DME	PS03	3106-14	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-023	PS04TME	PS04	3106-15	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-023	PS04DME	PS04	3106-16	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-028	PS05TME	PS05	3106-17	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-028	PS05DME	PS05	3106-18	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-033	PS08TME	PS08	3106-19	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/3/2010
Batch: 2
Login Designee: Suslick, Brandenberger

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Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Lable	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-033	PS08DME	PS08	3106-20	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-039	PS15TME	PS15	3106-21	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-039	PS15DME	PS15	3106-22	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-050	PS15DUPTME	PS15	3106-23	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-050	PS15DUPDME	PS15	3106-24	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-051	PS09TME	PS09	3106-25	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-051	PS09DME	PS09	3106-26	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-057	PS11TME	PS11	3106-27	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-057	PS11DME	PS11	3106-28	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-062	PS16TME	PS16	3106-29	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-062	PS16DME	PS16	3106-30	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-067	PS10TME	PS10	3106-31	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-067	PS10DME	PS10	3106-32	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-072	M3.1TME	M3.1	3106-33	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-072	M3.1DME	M3.1	3106-34	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-079	BJ-ESTTME	BJ-EST	3106-35	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-079	BJ-ESTDME	BJ-EST	3106-36	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-085	M4TME	M4	3106-37	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-085	M4DME	M4	3106-38	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/3/2010
Batch: 2
Login Designee: Suslick, Brandenberger

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Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Lable	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-091	PS01TME	PS01	3106-39	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-091	PS01DME	PS01	3106-40	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-097	PS02TME	PS02	3106-41	Raw Water	PREP LAB	TOTAL METALS & HG	02/02/10
AMB02-097	PS02DME	PS02	3106-42	Filt. Water	PREP LAB	DISSOLVED METALS & HG	02/02/10
AMB02-200	PS13-TME	PS13	3106-43	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-200	PS13-DME	PS13	3106-44	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-205	SN03-TME	SN03	3106-45	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-205	SN03-DME	SN03	3106-46	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-210	SN05-TME	SN05	3106-47	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-210	SN05-DME	SN05	3106-48	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-215	SN08-TME	SN08	3106-49	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-215	SN08-DME	SN08	3106-50	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-220	SN10-TME	SN10	3106-51	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-220	SN10-DME	SN10	3106-52	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-225	M3.3-TME	M3.3	3106-53	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-225	M3.3-DME	M3.3	3106-54	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-230	SN11-TME	SN11	3106-55	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-230	SN11-DME	SN11	3106-56	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-236	WP-TME	WP	3106-57	WATER	PREP LAB	Total Metals and Hg	02/03/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/3/2010
Batch: 2
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Lable	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-236	WP-DME	WP	3106-58	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-241	M2-TME	M2	3106-59	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-241	M2-DME	M2	3106-60	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-246	M2DEEP-TME	M2DEEP	3106-61	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-246	M2DEEP-DME	M2DEEP	3106-62	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-251	CLAMBAY-TME	CLAMBAY	3106-63	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-251	CLAMBAY-DME	CLAMBAY	3106-64	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-256	ILSP-TME	ILSP	3106-65	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-256	ILSP-DME	ILSP	3106-66	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-261	M1-TME	M1	3106-67	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-261	M1-DME	M1	3106-68	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-266	PWNLP-TME	PWNLP	3106-69	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-266	PWNLP-DME	PWNLP	3106-70	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-271	M6-TME	M6	3106-71	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-271	M6-DME	M6	3106-72	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-276	M8.1-TME	M8.1	3106-73	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-276	M8.1-DME	M8.1	3106-74	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-281	M7-TME	M7	3106-75	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-281	M7-DME	M7	3106-76	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/3/2010
Batch: 2
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Lable	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-286	M7DUP-TME	M7DUP	3106-77	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-286	M7DUP-DME	M7DUP	3106-78	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-290	PS12-TME	PS12	3106-79	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-290	PS12-DME	PS12	3106-80	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-307	EB020210-TME	EB020210	3106-81	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-307	EB020210-DME	EB020210	3106-82	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10
AMB02-308	EB020310-TME	EB020310	3106-83	WATER	PREP LAB	Total Metals and Hg	02/03/10
AMB02-308	EB020310-DME	EB020310	3106-84	WATER	PREP LAB	Dissolved Metals and Hg	02/03/10

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 03/17/10
Batch: 3
Login Designee: Mcgahan

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-309	EB1-031710-TME	3106-85	raw water	Prep Lab	Total Metals	03/17/10
AMB02-309	EB1-031710-DME	3106-86	filt. water	Prep Lab	Dissolved Metals	03/17/10
AMB02-310	EB2-031710-TME	3106-87	raw water	Prep Lab	Total Metals	03/17/10
AMB02-310	EB2-031710-DME	3106-88	filt. water	Prep Lab	Dissolved Metals	03/17/10
AMB02-311	EB3-031710-TME	3106-89	raw water	Prep Lab	Total Metals	03/17/10
AMB02-311	EB3-031710-DME	3106-90	filt. water	Prep Lab	Dissolved Metals	03/17/10
AMB02-312	EB4-031710-TME	3106-91	raw water	Prep Lab	Total Metals	03/17/10
AMB02-312	EB4-031710-DME	3106-92	filt. water	Prep Lab	Dissolved Metals	03/17/10
AMB02-313	EB5-031710-TME	3106-93	raw water	Prep Lab	Total Metals	03/17/10
AMB02-313	EB5-031710-DME	3106-94	filt. water	Prep Lab	Dissolved Metals	03/17/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/2/2010
Batch: 1
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Label	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-003	PS07OSAL	PS07	PS07	WATER	Battelle	Salinity	02/02/10
AMB02-008	PS06OSAL	PS06	PS06	WATER	Battelle	Salinity	02/02/10
AMB02-013	PS14OSAL	PS14	PS14	WATER	Battelle	Salinity	02/02/10
AMB02-021	PS03OSAL	PS03	PS03	WATER	Battelle	Salinity	02/02/10
AMB02-027	PS04OSAL	PS04	PS04	WATER	Battelle	Salinity	02/02/10
AMB02-032	PS05OSAL	PS05	PS05	WATER	Battelle	Salinity	02/02/10
AMB02-037	PS08OSAL	PS08	PS08	WATER	Battelle	Salinity	02/02/10
AMB02-043	PS15OSAL	PS15	PS15	WATER	Battelle	Salinity	02/02/10
AMB02-047	PS15DUPOSAL	PS15	PS15	WATER	Battelle	Salinity	02/02/10
AMB02-055	PS09OSAL	PS09	PS09	WATER	Battelle	Salinity	02/02/10
AMB02-061	PS11OSAL	PS11	PS11	WATER	Battelle	Salinity	02/02/10
AMB02-066	PS16OSAL	PS16	PS16	WATER	Battelle	Salinity	02/02/10
AMB02-071	PS10OSAL	PS10	PS10	WATER	Battelle	Salinity	02/02/10
AMB02-077	M3.1OSAL	M3.1	M3.1	WATER	Battelle	Salinity	02/02/10
AMB02-083	BJ-ESTOSAL	BJ-EST	BJ-EST	WATER	Battelle	Salinity	02/02/10
AMB02-089	M4OSAL	M4	M4	WATER	Battelle	Salinity	02/02/10
AMB02-095	PS01OSAL	PS01	PS01	WATER	Battelle	Salinity	02/02/10
AMB02-101	PS02OSAL	PS02	PS02	WATER	Battelle	Salinity	02/02/10
AMB02-204	PS13-OSAL	PS13	PS13	WATER	Battelle	Salinity	02/03/10
AMB02-209	SN03-OSAL	SN03	SN03	WATER	Battelle	Salinity	02/03/10
AMB02-214	SN05-OSAL	SN05	SN05	WATER	Battelle	Salinity	02/03/10
AMB02-219	SN08-OSAL	SN08	SN08	WATER	Battelle	Salinity	02/03/10
AMB02-224	SN10-OSAL	SN10	SN10	WATER	Battelle	Salinity	02/03/10
AMB02-229	M3.3-OSAL	M3.3	M3.3	WATER	Battelle	Salinity	02/03/10
AMB02-235	SN11-OSAL	SN11	SN11	WATER	Battelle	Salinity	02/03/10
AMB02-240	WP-OSAL	WP	WP	WATER	Battelle	Salinity	02/03/10
AMB02-245	M2-OSAL	M2	M2	WATER	Battelle	Salinity	02/03/10
AMB02-250	M2DEEP-OSAL	M2DEEP	M2DEEP	WATER	Battelle	Salinity	02/03/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/2/2010
Batch: 1
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, Feb 2010**

Sponsor ID	Sample Label	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB02-255	CLAMBAY-OSAL	CLAMBAY	CLAMBAY	WATER	Battelle	Salinity	02/03/10
AMB02-260	ILSP-OSAL	ILSP	ILSP	WATER	Battelle	Salinity	02/03/10
AMB02-265	M1-OSAL	M1	M1	WATER	Battelle	Salinity	02/03/10
AMB02-270	PWNLP-OSAL	PWNLP	PWNLP	WATER	Battelle	Salinity	02/03/10
AMB02-275	M6-OSAL	M6	M6	WATER	Battelle	Salinity	02/03/10
AMB02-280	M8.1-OSAL	M8.1	M8.1	WATER	Battelle	Salinity	02/03/10
AMB02-285	M7-OSAL	M7	M7	WATER	Battelle	Salinity	02/03/10
AMB02-294	PS12-OSAL	PS12	PS12	WATER	Battelle	Salinity	02/03/10

NOTE: Analysis performed at Battelle MSL per APHA Method 2520B; UW was not available.

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: _____ of _____

COC Number: _____

SSC-Pacific
Bioassy Testing Laboratory
Code 71751 Environmental Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:

Phone:

EVENT:

Address:

Attention: Gunther Rosen

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Testing Parameters: Toxicity	Temp (°C)	DO (mg/L)	pH (units)	Salinity (ppt)	Alkalinity (mg/L as CaCO)	Hardness (mg/L as CaC	Total Chlorine(mg/L)		No. of containers	StationID	Comments
30641	AMB0200-001	NPDES18-TME	2/2/2010 1200	OF													24 hr comp. 17.5 ppt
CAS	-002	NPDES18-NUT															
	-003	NPDES18-OG															
	-004	NPDES18-DOC															
	-005	NPDES18-TSS															
30642	-006	NPDES19-TME															23.3 ppt
CAS	-007	NPDES19-NUT															
	-008	NPDES19-OG															
	-009	NPDES19-DOC															
	-010	NPDES19-TSS															
30643	-011	NPDES21-TME															
CAS	-012																
	-013	JMB															
	-014	2/2/10															
	-015																

Relinquished by: JM Brown

Signature

2/2/10 Date

1800 Time

Printed Name

Hand carried Company

Received by:

Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by:

Signature

Date

Time

Printed Name

Company

Received by:

Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date: 2-2-10

Page: 1 of 7

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ~~43843~~ Collection Team Johnston, Brandenberger, Rosen, Yeager, Youngs Beck

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: Water Sampling 2/2/2010

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
CAS	AMB02-001	PS07 TSS	0939				X								PS07	
UW	-002	PS07 DOC	0941						X							
CAS	-003	PS07 OSAL	0942								X					
	-004	PS07 NUT	0939					X								
3106-4	-005	PS07 TME	0944		X	X										
CAS	-006	PS06 TSS	0952				X								PS06	
UW	-007	DOC	0953						X							
CAS	-008	OSAL	0952								X					
	-009	NUT	0952					X								
3106-5	-010	TME	0956		X	X										
CAS	-011	PS14 TSS	1002				X								PS14	
UW	-012	PS14 DOC	1002						X							
CAS	-013	PS14 OSAL	1002								X					
	-014	PS14 NUT	1001					X								
3106-6	-015	PS14 TME	1009		X	X										

Relinquished by: _____ 2/2/10 1600
Signature Date Time
Printed Name ~~TEE~~ Hand carried Company

Received by: _____
Signature
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 2-2-10
Page: 2 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB02-016	PS14 O&G	1002							X					PS14	
3106 7	-017	PS03 TME	1028		X	X									PS03	
CAS	-018	PS03 TSS	1020				X									
	-019	PS03 NUT	1022					X								
	-020	PS03 DOC	1022						X							
UW	-021	PS03 OSAL	1022								X					
CAS	-022	PS03 O&G	1020							X					PS03	
3106 x8	-023	PS04 TME	1038		X	X									PS04	
CAS	-024	PS04 TSS	1035				X									
	-025	NUT	1035					X								
	-026	DOC	1035						X							
UW	-027	OSAL	1035								X					
3106 x9	-028	PS05 TME	1046		X	X									PS05	oil sheen on water
CAS	-029	TSS	1042				X									
	-030	NUT	1042					X								

Relinquished by:
Signature
2/2/10 1800
Date Time
Printed Name
Hand Carried
Company

Received by:
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by:
Signature
Date Time
Printed Name
Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

...MPLE CHAIN OF CUSTODY FORM

Date: 2-2-10
Page: 3 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 43043
Project Name: ENVVEST Ambient Monitoring - water Sampling
~~Mussel Watch Stations~~
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: water Sampling 2/2/2010

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Lab. Use only: Lab ID	Sample ID	Sample Lable	2/2/2010 Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Observations, Instructions / Comments
CAS	AMB02-031	PS05 DOC	1045						X						PS 05	oil sheen on water
~~UW~~	-032	PS05 OSAL	1043								X				PS08	"
31062* 10	-033	PS08 TME	1105		X	X										
CAS	-034	PS08 TSS	1100				X									
	-035	PS08 NUT	1100					X								
	-036	PS08 DOC	1101						X							
~~UW~~	-037	PS08 OSAL	1100								X					
~~CAS~~	-038	PS08 O&G	1102							X					PS15	
31062* 11	-039	PS15 TME	1126		X	X										
CAS	-040	PS15 TSS	1125				X									
	-041	PS15 NUT	1125					X								
	-042	PS15 DOC	1126						X							
~~UW~~	-043	PS15 OSAL	1120								X					
~~CAS~~	-044	PS15 O&G	1118							X						
	-045	PS15DUP O&G	1119							X						

Relinquished by: _____ 2/2/10 1800
Signature Date Time

_____ ~~IEC~~ Hand carrier
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 2/2/2010
Page: 4 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 43043
Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Lab. Use only: Lab ID	Sample ID (AMB02-)	Sample Lable	Collection Date/Time (2/2/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments (Observations, Instructions)
CAS	046	PS15 DUP DOC	1121						X						PS15	
UW	047	PS15 DUP OSAL	1121								X				↓	
CAS	048	PS15 DUP TSS	1126				X									
↓	049	PS15 DUP NUT	1126					X								
3106 *12	050	PS15 DUP TME	1127		X	X									↓	
3106 *13	051	PS09 TME	1144		X	X									PS09	DD4 Hydrocarbon line
CAS	052	PS09 TSS	1147				X								↓	
	053	PS09 NUT	1149					X								
↓	054	PS09 DOC	1148						X							EBDF Filter used
UW	055	PS09 OSAL	1148								X					
CAS	056	PS09 O&G	1148							X					↓	
3106 *14	057	PS11 TME	1238		X	X									PS11	
	058	PS11 TSS	1238				X								↓	
	059	PS11 NUT	1238					X								
	060	PS11 DOC	1238						X						↓	EBDF filter

Relinquished by: _____ Signature — 2/2/10 Date — 1806 Time
_____ Printed Name — ~~TEC~~ Hand carried Company

Received by: _____ Signature
_____ Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by: _____ Signature — Date — Time
_____ Printed Name — Company

Received by: _____ Signature
_____ Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 2/2/2010
Page: 5 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 43043
Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch ST~~ tations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: Water Sampling

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Lab. Use only: Lab ID	Sample ID (AMB02-)	Sample Lable	Collection Date/Time (2/2/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	O sediment			No. of containers	StationID	Observations, Instructions / Comments
UW	-061	PS11 OSAL	2/2/2010							X					PS11	
3106 #15	-062	PS16 TME	1251	NS	X	X									PS16	Sea Lions on Barrier
CAS	-063	PS16 TSS	1252	NS			X									
	-064	PS16 NUT	1253	NS				X								
	-065	PS16 DOC	1254	NS					X							
UW	-066	PS16 OSAL	1254	NS							X					
3106 #16	-067	PS10 TME	1304	NS	X	X									PS10	DD2
CAS	-068	PS10 TSS		NS			X									
	-069	PS10 NUT		NS				X								
	-070	PS10 DOC	1306	NS					X							
UW	-071	PS10 OSAL		NS							X					
3106 #17	-072	M3.1 TME	1323	M	X	X									M3.1	Mid Channel Sinclair Inlet
CAS	* -073	M3.1 TSS		M			X									
	-075	M3.1 NUT		M				X								
	-076	M3.1 DOC		M					X							

Relinquished by: _____ Signature; 2/2/10 Date; (800) Time; Hand carried; ~~IEC~~ Company; _____ Printed Name

Received by: _____ Signature; _____ Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Relinquished by: _____ Signature; Date; Time; _____ Printed Name; Company

Received by: _____ Signature; _____ Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

* -074 dropped

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/2/2010
Page: 6 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: water sampling

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB02-)	Sample Lable	Collection Date/Time (2/2/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL		No. of containers	StationID	Comments
UW	-077	M3.1 OSAL	1326	M							X			M3.1	mud clumped Sinclair Inlet
CAS	-078	M3.1 O&G	1326	M						X				M3.1	no difference in Bottom water
3106 * 18	-079	BJ-EST TME	1348	NS	X	X								BJ-EST	Blackjack Creek mouth
CAS	-080	BJ-EST TSS	1349	NS			X								
	-081	BJ-EST DOC	1352	NS					X						EBDF filter
	-082	BJ-EST NUTS	1352	NS				X							
UW	-083	BJ-EST OSAL	1352	NS							X				
CAS	-084	BJ-EST O&G	1352	NS						X					
3106 * 19	-085	M4 TME	1407	M										M4	
CAS	-086	M4 TSS	1411	M											
	-087	M4 NUTS	1411	M											
	-088	M4 DOC	1411	M											EBDF filter
UW	-089	M4 OSAL	1408	M											
CAS	-090	M4 O&G	1408	M											
~~CAS~~	~~-091~~														

Relinquished by: _____ 2/2/10 1800
Signature Date Time
_____ Hand Carried
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/2/2010
Page: 1 of 7
COC Number:

SSC-Pacific
Bioassy Testing Laboratory
Code 71751 Environmental Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:
Phone:

EVENT:

Testing Parameters (Cond, Isotopes, Mussel GI)

Address:

Attention: Gunther Rosen
Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Toxicity Metals (TID)	Temp (°C)	DO (mg/L)	pH (units)	Salinity (ppt)	Alkalinity	Hardness as CaCO3	Total Chlorine (mg/L)	Mussel Contents	No. of containers	StationID	Comments
31 20	AMB02-091	PS01 TME	1421	NS		X	X									PS01	
CAS	092	PS01 TSS	1421	NS				X								PS01	
	093	PS01 NUTS	1421	NS					X							PS01	
	094	PS01 DOC	1430	NS								X				PS01	
UW	095	PS01 OSAL	1430	NS						X						PS01	
CAS	096	PS01 O&G	1430	NS							X					PS01	
31 21	097	PS02 TME	1442	NS		X	X					X				PS02	
CAS	098	PS02 TSS	1444	NS				X								PS02	
	099	PS02 NUTS	1444	NS					X							PS02	
	100	PS02 DOC	1447	NS								X				PS02	
UW	101	PS02 OSAL	1447	NS						X						PS02	
31 22	102	PS01-1 mussel	1430	Mus										X		PS01	mussel station 1
23	103	PS01-1 mussel Histo	1430	Mus											X		mussel station 1 Histo
24	104	PS01-2 mussel	1435	Mus										X			mussel station 2
25	105	PS01-2 Histo mussel	1435	Mus											X		mussel station 2 Histo
31 26	106	PS01-3 mussel	1445	Mus										X			mussel station 3
27	107	PS01-3 Histo mussel	1445	Mus											X		mussel station 3 Histo

Relinquished by:
Signature
Printed Name
2/2/10
Date
TEC
Company
1800 (hand carried)
Time

Received by:
Signature
Printed Name

Total # of Containers:
Shipment Method:
Shipment Method:

Relinquished by:
Signature
Printed Name
Date
Company
Time

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

Station Log

Sample Collector	Jacquelyn Young / Bob	PSNS Project ENVVEST		Page 1 of 1
Sampling Team	Johnston, Brandenburg, Johnston	Ambient Monitoring		
Organization	Rosen, Yeager, Young, Beck			
Use pre-assigned id / mm/dd/yy hh:mm	PSNS/SSC-PAC/BMSL mm/dd/yy hh:mm			

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
PS07	2/5/2010 0933	0948	NS	47°33.346 N	122°38.515 W	
PS06	0952	0957	NS	47°33.188 N	122°38.516 W	
PS14	1001	1012	NS	47.55256° N	122.64230° W	
PS03	1019	1028	NS	47.55581° N	122.65170° W	
PS04	1035	1040	NS	47.55433° N	122.64718° W	
PS05	1042	1048	NS	47.55595° N	122.64521° W	oil sheen on water Pier B
PS08	1056	1106	NS	47.55792	122.63876	DD5
PS15	1111	1135	NS	47.55586	122.63652	At Barrier off CIA
PS09	1138	1155 (est)	NS	47.56012	122.63557	DD4 / Returned to finge Pier broken Hydraulic line
PS07	1205	1224		47.55598	122.64197	Finger Pier No Sample, New Boat
PS11	1235	1245	NS	47.56070	122.62973	DD3
PS16	1251	1258	NS	47.55843	122.62867	end of Pier
PS11	1302	1308	NS	47.56644	122.63267	DD 2 next to APL-4 Barge
M3.1	1321	1327	M	47.56123	122.61076	Mid Channel / no thermocline no pycnocline
BJ-EST	1345	1352	NS	47.54771	122.62889	Blackjack Cr. Est.
M4	1404	1415	M	47.54274	122.66508	~~Goat~~ mid off Ross Pt.
PS01	1421	1436	NS	47.55385	122.65785	Callow Ave OF
PS02	1442	1449	NS	47.55400	122.65513	
PS						

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

SAMPLE CHAIN OF CUSTODY FORM
Date: 02-03-2010
Page: 1 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring Mussel Watch Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (2/3/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Observations, Instructions / Comments
	AMB02-200	PS13-TME	0936		X	X									PS13	
	-201	TSS	0936				X									
	-202	NUT	0936					X								
	-203	DOC	0936						X							
	-204	OSAL	0936								X					
	-205	SN03-TME	0953		X	X									SN03	
	-206	TSS	0953				X									
	-207	NUT	0953					X								
	-208	DOC	0953						X							
	-209	OSAL	0953								X					
	-210	SN05-TME	1017		X	X									SN05	lots of jelly fish
	-211	TSS	1017				X									
	-212	NUT	1017					X								
	-213	DOC	1017						X							
	-214	OSAL	1017								X					

Relinquished by: JM Brandenberger — 2/3/2010 — 1905
Signature — Date — Time
Hand carried — PNNL
Printed Name — Company

Received by:
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2-3-10
Page: 2 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB02-215	SN08 - TME	1055		X	X									SN08	
	-216	- TSS	1057				X								↓	
	-217	- NUT	1057					X								
	-218	- DOC	1057						X							
	-219	- OSAL	1057								X					
	-220	SN10 - TME	1109		X	X									SN10	
	-221	- TSS	1109				X									
	-222	- NUT	1109					X								
	-223	- DOC	1109						X							
	-224	- OSAL	1109								X					
	-225	113.2 - TME	1123		X	X									M3.3	
	-226	TSS	1123				X									
	-227	NUT	1123					X								
	-228	DOC	1123													
	-229	OSAL									X					

Relinquished by:
Signature: [signature] Date: 2/3/2010 Time: 1705
Printed Name: Hand carried Company: PNNL

Received by:
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/3/10
Page: 3 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB02-)	Sample Lable	Collection Date/Time (2/3/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	230	SN11 - TMC	1134		X	X									SN11	
*	231	TSS	1134				X									
	233	NUT	1134					X								
	234	DOC	1134						X							
	235	OSAL	1134								X					
	236	WP - TMC	1153		X	X									WP	
	237	TSS	1153				X									
	238	NUT	1153					X								
	239	DOC	1153						X							
	240	OSAL	1153								X					
	241	M2 TMC	1208		X	X									M2	
	242	TSS	1208				X									
	243	NUT	1208					X								
	244	DOC	1208						X							
	245	OSAL	1208								X					

Relinquished by: _____ 2/3/2010 1705
Signature Date Time
Hand carried pNNL
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

* AMB02-232 NOT USED

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/3/10

Page: 4 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB02-246	M2 Deep - TME	1229		X	X									M2 Deep	
	-247	TSS	1229				X									
	-248	NUT	1229					X								
	-249	DOC	1229						X							
	-250	OSAL	1229								X					
	-251	Clambay - TME	1241		X	X									Clambay	
	-252	TSS	1241				X									
	-253	NUT	1241					X								
	-254	DOC	1241						X							
	-255	OSAL	1241								X					
	-256	ILSP - TME	1315		X	X									ILSP	
	-257	TSS	1315				X									
	-258	NUT	1315					X								
	-259	DOC	1315						X							
	-2100	OSAL	1315								X					

Relinquished by: _____ 2/3/10 1705
Signature Date Time

Hand Carried PNNL
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/3/10

Page: 5 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	DSAL			No. of containers	StationID	Comments
	AMB02-261	M1 - TME	1335		X	X									M1	
	-262	TSS	1335				X									
	-263	NUT	1335					X								
	-264	DOC	1335						X							
	-265	OSAL	1335								X					
	-266	PWNLP - TME	1357		X	X									PWNLP	visible sheen
	-267	TSS	1357				X									
	-268	NUT	1357					X								
	-269	DOC	1357						X							
	-270	OSAL	1357								X					
	-271	M6 - TME	1411		X	X									M6	
	-272	TSS	1411				X									
	-273	NUT	1411					X								
	-274	DOC	1411						X							
	-275	OSAL	1411								X					

Relinquished by: _____ 2/3/2010 1705
Signature Date Time

_____ PWNL
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/3/10
Page: 6 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB02-)	Sample Lable	Collection Date/Time (2/3/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB0-276	M8.1-TME	1434		X	X									M8.1	
	-277	- TSS	1434				X								↓	
	-278	- NUT	1434					X								
	-279	- DOC	1434						X							
	-280	- OSAL	1434								X				↓	
	-281	M7- TME	1448		X	X									M7	
	-282	- TSS	1448				X								↓	
	-283	- NUT	1448					X								
	-284	- DOC	1448						X							
	-285	- OSAL	1448								X				↓	
	-286	M7DUP-TME	1448		X	X									M7 DUP	
	-287	- TSS	1448				X								↓	
	-288	- NUT	1448					X								
	-279	- DOC	1448						X						↓	

Relinquished by: _____ 2/3/2010 1705
Signature Date Time
_____ PNNL
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/3/10
Page: 1 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB02-)	Sample Lable	Collection Date/Time (2/3/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL		mussels	No. of containers	StationID	Comments
	AMB02-290	PSIR - TME	1506		X	X								1	PSIR	
	AMB02-291	TSS	1506				X							1		
	292	NUT	1506					X						1		
	293	DOC	1506						X					1		
	294	OSAL	1506								X			1		
	295	SIGST-1	1015										X		SIGST	
	296	SIGST-1 Histo	1015			•							X			
	297	SIGST-2	1020										X			
	298	SIGST-2 Histo	1020										X			
	299	SIGST-3	1025										X			
	300	SIGST-3 Histo	1025										X			
	301	DYOBAP-1	1420										X		DYOBAP	
	302	DYOBAP-1 Hist	1420										X			
	303	DYOBAP-2	1425										X			
	304	DYOBAP-2 Hist	1425										X			

Relinquished by: _____ 2/3/2010 1705
Signature Date Time
_____ PNNL
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/3/10
Page: 8 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB02)	Sample Lable	Collection Date/Time (2/3/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease		Mussels	No. of containers	StationID	Comments
	AMB0-305	DYOBAP-3	1427									X		DYOBAP	
	-306	DYOBAP-3 Hist	1427									X		↓	
	-307	EB 020210 TME	1910		X	X									
	-308	EB 020310 TME	1910		X	X									

Relinquished by:
2/3/2010 1705
Signature Date Time
Printed Name Company (PNWL)

Received by:
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Jacquelyn Young	PSNS Project ENVVEST	Page 1 of 2
Sampling Team		Ambient Monitoring	
Organization			

Use pre-assigned id	02/03/10 mm/dd/yy hh:mm	mm/dd/yy hh:mm				
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
PS13	0932	0938	NS	47.55259	122.65285	OF 21
SNO3	0951	0957	NS	47.54650	122.67184	lots of jelly.
SNO5	1017	1023	NS	47.53216	122.68311	
SIGST	1025	1036	Mussel	47.53306	122.68006	
SNO8	1051	1102	NS	47.54099	122.66170	
SNO	1108	1115	NS	47.54140	122.64281	
M3.3	1119	1128	M	47.54681	122.64415	

Station Type: Marine -shore (NS), [illegible]am (S), Stormwater (SW), Outfall (OF) Sed); Other - specify

Station Log

Sample Collector		PSNS Project ENVVEST	Page 2 of 2
Sampling Team		Ambient Monitoring	
Organization			

Use pre-assigned id	mm/dd/yy hh:mm	mm/dd/yy hh:mm				
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
SN11	1133	1138	NS	47.54378 N	122.63535 W	
WP	1150	1200	NS	47.58477 N	122.57110 W	
M2/M2 Deep	1206	1230	M	47.57912 N	122.53946 W	
Gambay	1235	1246	NS	47.57173 N	122.54555 W	
LSP	1255	1306	NS	47.60037 N	122.59434 W	
M2	1334	1339	M	47.62650 N	122.58786 W	
PWNLP	1353	1401	NS	47.58191 N	122.64194 W	
M6	1410	1414	M	47.60285 N	122.67942 W	
DYOBAP	1420	1427	Mussel	47.58640 N	122.68689 W	
M8.1	1433	1437	M	47.58341 N	122.67884 W	
M7	1445	1451	M	47.62463 N	122.68878 W	
PS12	1505	1511	NS	47.56070 N	122.62555 W	

Station Type: Marine (M), Nearshore (NS), Stream (S), Storm (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 1 of _____

Battelle
Marine Sciences Laboratory
1529 W. Sequim Bay Road
Sequim, Washington 98382

Project Name:

Chemistry Task Manager: Jill Brandenberger

Phone Number: 360-681-4564

Laboratory:

Address:

Attention:

Testing Parameters

Observations, Instructions

Sample ID	Collection Date	MSL ID	Matrix (DI water)	Alkalinity	Hardness	Total Solids	Total Suspended Solids	O-Phosphate	BOD	TPH	LISST	Nitrate+Nitrite	Total Phosphorus	TKN	Ammonia	TOC	DOC	Total Metals	Dissolved Metals	Organics	No. of containers	Station ID
EB031710-TME	03/17/10	3106-85	Water															X				EB
EB031710-DME		3106-86																	X			AMB02-309
EB2-031710-TME		3106-87																X				-309
EB2-031710-DME		3106-88																	X			-310
EB3-031710-TME		3106-89																X				-310
EB3-031710-DME		3106-90																	X			-311
EB4-031710-TME		3106-91																X				-311
EB4-031710-DME		3106-92																	X			-312
EB5-031710-TME		3106-93																X				-312
EB5-031710-DME	03/17/10	3106-94																	X			-313
																						-313

Total # of Containers= 10

Relinquished by: _____ 3/17/10 1530
Signature Date Time
_____
Printed Name Company

Received by: _____ 03/17/10 1530
Signature Date Time
M L McGahan 03/17/10 MSL
Printed Name Company

Shipment Method:

Special Requirements or Conditions:

Sample Disposition:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature Date Time
_____
Printed Name Company

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Ambient monitoring Feb 2010
ENVVESTO

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 1- Batch: 1

Project Name: _____ Project Manager: _____

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist) — PM Verification:
☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	✓	Custody seal present — Seal intact? YES NO
✓	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
✓	☐	☐	Were all chain of custody forms signed and dated?
✓	☐	☐	Were samples filtered at MSL?

#1 3.5 #2 2.8 #3 4.7 #4 5.2 °C #5 5.8 °C

Comment/Remedy: _____

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other: _____

Notes: _____

Completed By: _____ Date/Time: 2/2/10 1910

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐	Complete pH check required for project (use pH meter and record on pH Record form)		
☐	Sample(s) were preserved at MSL		
Type: ✓	0.2% HNO3	Notes: 1209050	← Lot#
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: _____ Date/Time: 2/2/10 2105

Storage Shelf: _____

ENVVEST AMB-02

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): _____ Batch: 2

Project Name: _____ Project Manager: _____

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☑	☐	Special instructions: mussels

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

#1 6.4 #4 6.9 ↓ mussels
#2 5.2
#3 4.7 °C
_____ °C
#5 6.4

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy: _____
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) Glass Cap. Vial Other: _____

Notes: _____

Completed By: _____ Date/Time: 2/3/10 1800

SAMPLE PRESERVATION

☐			Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
☐			Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____
☐			Complete pH check required for project (use pH meter and record on pH Record form)
☑			Sample(s) were preserved at MSL
Type:	☑	0.2% HNO3	Notes: Optima HNO3 Lot# 1209050
	☐	0.5% HCl (Hg samples)	Notes: _____ Lot# _____
	☐	Refrigerate/Freeze	Notes: _____
	☐	Other	Notes: _____

Completed By: _____ Date/Time: 2/3/10 1910

Storage Shelf: _____

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 89-94 Batch: 3

Project Name: Envvest-Ambient Monitoring Job 2010 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☒	Custody seal present Seal intact? YES NO
☐	☐	☒	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) N/A °C °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy: Samples created here ✓
☒	☐	☐	Were all chain of custody forms signed and dated?
☐	☒	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: _____ Date/Time: 03/17/10 1530

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☐		Sample(s) were preserved at MSL	
Type:	☒	0.2% HNO3	Notes: Lot# 1107120
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☐	Refrigerate/Freeze	Notes:
	☐	Other	Notes:

Completed By: _____ Date/Time: 3/17/10 12:30 pm

Storage Shelf: Prep lab

Analytical Chemistry Data Package
Conventional Analysis

Project: ENVVEST Ambient Monitoring February 2010 (AMB02)

K1001019
K1001101

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Laboratory	**Service Request No.:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Received:**	2/4/10
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Aqueous samples were received for analysis at Columbia Analytical Services on 2/4/10. The samples were received in good condition and consistent with the accompanying chain of custody. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Comments

The results were reported to the CAS/Kelso Method Detection Limit (MDL), which is supported by MDL studies performed annually. The MDL studies were conducted according to 40 CFR Part 136, Appendix B.

Total Solids (TS) by SM 2540B

No anomalies associated with the analysis of these samples were observed.

Total Suspended Solids by SM 2540D

No anomalies associated with the analysis of these samples were observed.

Nitrate + Nitrite by EPA Method 353.2

No anomalies associated with the analysis of these samples were observed.

Ammonia as Nitrogen by EPA Method 350.1

No anomalies associated with the analysis of these samples were observed.

Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC) by SM 5310C

The DOC was higher than the associated TOC for the majority of samples. Inspection of all raw data, sequences, and associated QA/QC measurements indicated the elevated DOC was probably a result of contribution during the field filtration procedure.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 3/1/10

Total Phosphorus by EPA Method 365.3

No anomalies associated with the analysis of these samples were observed.

Total Kjeldahl Nitrogen by EPA Method 351.4

No anomalies associated with the analysis of these samples were observed.

Hexane Extractable Material by EPA Method 1664

No anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 3/1/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02DD-002	K1001019-001	0.010	0.003	1	02/17/10	0.124	
AMB02DD-007	K1001019-005	0.010	0.003	1	02/17/10	0.266	
AMB02-004	K1001019-011	0.010	0.003	1	02/17/10	0.062	
AMB02-009	K1001019-014	0.010	0.003	1	02/17/10	0.086	
AMB02-014	K1001019-017	0.010	0.003	1	02/17/10	0.075	
AMB02-019	K1001019-020	0.010	0.003	1	02/17/10	0.042	
AMB02-025	K1001019-024	0.010	0.003	1	02/17/10	0.056	
AMB02-030	K1001019-027	0.010	0.003	1	02/17/10	0.065	
AMB02-035	K1001019-030	0.010	0.003	1	02/17/10	0.056	
AMB02-041	K1001019-034	0.010	0.003	1	02/17/10	0.039	
AMB02-049	K1001019-040	0.010	0.003	1	02/17/10	0.036	
AMB02-053	K1001019-042	0.010	0.003	1	02/17/10	0.070	
AMB02-059	K1001019-046	0.010	0.003	1	02/17/10	0.050	
AMB02-064	K1001019-049	0.010	0.003	1	02/17/10	0.042	
AMB02-069	K1001019-052	0.010	0.003	1	02/17/10	0.053	
AMB02-075	K1001019-055	0.010	0.003	1	02/17/10	0.023	
AMB02-082	K1001019-060	0.010	0.003	1	02/17/10	0.057	
AMB02-087	K1001019-063	0.010	0.003	1	02/17/10	0.050	
AMB02-093	K1001019-067	0.010	0.003	1	02/17/10	0.100	
AMB02-099	K1001019-071	0.010	0.003	1	02/17/10	0.077	
Method Blank	K1001019-MB	0.010	0.003	1	02/17/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 2/2/2010
Date Received : 2/4/2010
Date Prepared : NA
Date Analyzed : 02/17/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02DD-002
Lab Code : K1001019-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.124	0.129	0.127	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/17/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02DD-002		Units :	mg/L
Lab Code :	K1001019-001MS	K1001019-001DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.124	0.334	0.323	105	100	90-112	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/17/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.0	98	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/17/2010	0.250	0.242	97
CCV2 Result	2/17/2010	0.250	0.242	97
CCV3 Result	2/17/2010	0.250	0.240	96
CCV4 Result	2/17/2010	0.250	0.242	97
CCV5 Result	2/17/2010	0.250	0.240	96
CCV6 Result	2/17/2010	0.250	0.241	96
CCV7 Result	2/17/2010	0.250	0.240	96
CCV8 Result	2/17/2010	0.250	0.239	96

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/17/2010	0.010	ND
CCB2 Result	2/17/2010	0.010	ND
CCB3 Result	2/17/2010	0.010	ND
CCB4 Result	2/17/2010	0.010	ND
CCB5 Result	2/17/2010	0.010	ND
CCB6 Result	2/17/2010	0.010	ND
CCB7 Result	2/17/2010	0.010	ND
CCB8 Result	2/17/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method : 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB02DD-002	K1001019-001	0.20	0.07	1	2/12/2010	02/19/10	1.04	
AMB02DD-007	K1001019-005	0.20	0.07	1	2/12/2010	02/19/10	1.46	
AMB02-004	K1001019-011	0.20	0.07	1	2/12/2010	02/19/10	1.47	
AMB02-009	K1001019-014	0.20	0.07	1	2/12/2010	02/19/10	1.34	
AMB02-014	K1001019-017	0.20	0.07	1	2/12/2010	02/19/10	1.36	
AMB02-019	K1001019-020	0.20	0.07	1	2/12/2010	02/19/10	0.36	
AMB02-025	K1001019-024	0.20	0.07	1	2/12/2010	02/19/10	1.49	
AMB02-030	K1001019-027	0.20	0.07	1	2/12/2010	02/19/10	1.38	
AMB02-035	K1001019-030	0.20	0.07	1	2/12/2010	02/19/10	1.88	
AMB02-041	K1001019-034	0.20	0.07	1	2/12/2010	02/19/10	1.88	
AMB02-049	K1001019-040	0.20	0.07	1	2/12/2010	02/19/10	1.32	
AMB02-053	K1001019-042	0.20	0.07	1	2/12/2010	02/19/10	1.24	
AMB02-059	K1001019-046	0.20	0.07	1	2/12/2010	02/19/10	1.70	
AMB02-064	K1001019-049	0.20	0.07	1	2/12/2010	02/19/10	2.22	
AMB02-069	K1001019-052	0.20	0.07	1	2/12/2010	02/19/10	2.68	
AMB02-075	K1001019-055	0.20	0.07	1	2/12/2010	02/19/10	1.67	
AMB02-082	K1001019-060	0.20	0.07	1	2/12/2010	02/19/10	1.72	
AMB02-087	K1001019-063	0.20	0.07	1	2/12/2010	02/19/10	1.28	
AMB02-093	K1001019-067	0.20	0.07	1	2/12/2010	02/19/10	1.20	
AMB02-099	K1001019-071	0.20	0.07	1	2/12/2010	02/19/10	1.82	
Method Blank	K1001019-MB	0.20	0.07	1	2/12/2010	02/19/10	0.14	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 2/2/2010
Date Received : 2/4/2010
Date Prepared : 02/12/10
Date Analyzed : 02/19/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02DD-002
Lab Code : K1001019-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	NONE	351.4	0.20	1.04	1.06	1.05	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/12/10
		Date Analyzed :	02/19/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02DD-002		Units :	mg/L
Lab Code :	K1001019-001MS	K1001019-001DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	NONE	351.4	0.20	50.0	100	1.04	42.4	81.0	83	80	75-125	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	02/12/10
		Date Analyzed :	02/19/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	NONE	351.4	15.2	14.7	97	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/19/2010	10.0	9.97	100
CCV2 Result	2/19/2010	10.0	9.51	95
CCV3 Result	2/19/2010	10.0	9.38	94
CCV4 Result	2/19/2010	10.0	9.38	94
CCV5 Result	2/19/2010	10.0	9.24	92
CCV6 Result	2/19/2010	10.0	9.51	95

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/19/2010	0.050	ND
CCB2 Result	2/19/2010	0.050	0.035 J
CCB3 Result	2/19/2010	0.050	0.029 J
CCB4 Result	2/19/2010	0.050	ND
CCB5 Result	2/19/2010	0.050	0.021 J
CCB6 Result	2/19/2010	0.050	0.031 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02DD-002	K1001019-001	0.050	0.009	1	02/10/10	0.523	
AMB02DD-007	K1001019-005	0.050	0.009	1	02/10/10	0.346	
AMB02-004	K1001019-011	0.050	0.009	1	02/10/10	0.414	
AMB02-009	K1001019-014	0.050	0.009	1	02/10/10	0.386	
AMB02-014	K1001019-017	0.050	0.009	1	02/10/10	0.413	
AMB02-019	K1001019-020	0.050	0.009	1	02/10/10	0.437	
AMB02-025	K1001019-024	0.050	0.009	1	02/10/10	0.414	
AMB02-030	K1001019-027	0.050	0.009	1	02/10/10	0.408	
AMB02-035	K1001019-030	0.050	0.009	1	02/10/10	0.423	
AMB02-041	K1001019-034	0.050	0.009	1	02/10/10	0.404	
AMB02-049	K1001019-040	0.050	0.009	1	02/10/10	0.414	
AMB02-053	K1001019-042	0.050	0.009	1	02/10/10	0.437	
AMB02-059	K1001019-046	0.050	0.009	1	02/10/10	0.415	
AMB02-064	K1001019-049	0.050	0.009	1	02/10/10	0.419	
AMB02-069	K1001019-052	0.050	0.009	1	02/10/10	0.443	
AMB02-075	K1001019-055	0.050	0.009	1	02/10/10	0.411	
AMB02-082	K1001019-060	0.050	0.009	1	02/10/10	0.410	
AMB02-087	K1001019-063	0.050	0.009	1	02/10/10	0.407	
AMB02-093	K1001019-067	0.050	0.009	1	02/10/10	0.423	
AMB02-099	K1001019-071	0.050	0.009	1	02/10/10	0.447	
Method Blank	K1001019-MB	0.050	0.009	1	02/10/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 2/2/2010
Date Received : 2/4/2010
Date Prepared : NA
Date Analyzed : 02/10/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02DD-002
Lab Code : K1001019-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.523	0.527	0.525	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02DD-002		Units :	mg/L
Lab Code :	K1001019-001MS	K1001019-001DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.523	2.60	2.55	104	101	86-117	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.7	99	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/10/2010	2.00	1.96	98
CCV2 Result	2/10/2010	2.00	1.97	99
CCV3 Result	2/10/2010	2.00	1.97	99
CCV4 Result	2/10/2010	2.00	1.95	98
CCV5 Result	2/10/2010	2.00	1.96	98
CCV6 Result	2/10/2010	2.00	1.96	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/10/2010	0.050	ND
CCB2 Result	2/10/2010	0.050	ND
CCB3 Result	2/10/2010	0.050	ND
CCB4 Result	2/10/2010	0.050	ND
CCB5 Result	2/10/2010	0.050	ND
CCB6 Result	2/10/2010	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB02DD-002	K1001019-001	0.010	0.004	1	2/17/2010	02/18/10	ND	
AMB02DD-007	K1001019-005	0.010	0.004	1	2/17/2010	02/18/10	0.152	
AMB02-004	K1001019-011	0.010	0.004	1	2/17/2010	02/18/10	0.094	
AMB02-009	K1001019-014	0.010	0.004	1	2/17/2010	02/18/10	0.102	
AMB02-014	K1001019-017	0.010	0.004	1	2/17/2010	02/18/10	0.091	
AMB02-019	K1001019-020	0.010	0.004	1	2/17/2010	02/18/10	0.094	
AMB02-025	K1001019-024	0.010	0.004	1	2/17/2010	02/18/10	0.092	
AMB02-030	K1001019-027	0.010	0.004	1	2/17/2010	02/18/10	0.093	
AMB02-035	K1001019-030	0.010	0.004	1	2/17/2010	02/18/10	0.100	
AMB02-041	K1001019-034	0.010	0.004	1	2/17/2010	02/18/10	0.091	
AMB02-049	K1001019-040	0.010	0.004	1	2/17/2010	02/18/10	0.092	
AMB02-053	K1001019-042	0.010	0.004	1	2/17/2010	02/18/10	0.104	
AMB02-059	K1001019-046	0.010	0.004	1	2/17/2010	02/18/10	0.092	
AMB02-064	K1001019-049	0.010	0.004	1	2/17/2010	02/18/10	0.094	
AMB02-069	K1001019-052	0.010	0.004	1	2/17/2010	02/18/10	0.097	
AMB02-075	K1001019-055	0.010	0.004	1	2/17/2010	02/18/10	0.090	
AMB02-082	K1001019-060	0.010	0.004	1	2/17/2010	02/18/10	0.093	
AMB02-087	K1001019-063	0.010	0.004	1	2/17/2010	02/18/10	0.091	
AMB02-093	K1001019-067	0.010	0.004	1	2/17/2010	02/18/10	0.099	
AMB02-099	K1001019-071	0.010	0.004	1	2/17/2010	02/18/10	0.091	
Method Blank	K1001019-MB	0.010	0.004	1	2/17/2010	02/18/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 2/2/2010
Date Received : 2/4/2010
Date Prepared : 02/17/10
Date Analyzed : 02/18/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-004
Lab Code : K1001019-011DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.094	0.093	0.094	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/17/10
		Date Analyzed :	02/18/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-099	Units :	mg/L
Lab Code :	K1001019-071DUP	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.091	0.092	0.092	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/17/10
		Date Analyzed :	02/18/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02-004		Units :	mg/L
Lab Code :	K1001019-011MS	K1001019-011DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.094	0.396	0.676	60	58	50-144	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/17/10
		Date Analyzed :	02/18/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02-099		Units :	mg/L
Lab Code :	K1001019-071MS	K1001019-071DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.091	0.420	0.747	66	66	50-144	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	02/17/10
		Date Analyzed :	02/18/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.35	104	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/18/2010	0.500	0.499	100
CCV2 Result	2/18/2010	0.500	0.499	100
CCV3 Result	2/18/2010	0.500	0.498	100
CCV4 Result	2/18/2010	0.500	0.499	100
CCV5 Result	2/18/2010	0.500	0.500	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/18/2010	0.010	ND
CCB2 Result	2/18/2010	0.010	ND
CCB3 Result	2/18/2010	0.010	ND
CCB4 Result	2/18/2010	0.010	ND
CCB5 Result	2/18/2010	0.010	0.004 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Solids, Total

Analysis Method : SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02DD-005	K1001019-004	5.0	5.0	1	02/09/10	19900	
AMB02DD-010	K1001019-008	5.0	5.0	1	02/09/10	26200	
AMB02-001	K1001019-009	5.0	5.0	1	02/09/10	30100	
AMB02-006	K1001019-012	5.0	5.0	1	02/09/10	29200	
AMB02-011	K1001019-015	5.0	5.0	1	02/09/10	29600	
AMB02-018	K1001019-019	5.0	5.0	1	02/09/10	29400	
AMB02-024	K1001019-023	5.0	5.0	1	02/09/10	31200	
AMB02-029	K1001019-026	5.0	5.0	1	02/09/10	30400	
AMB02-034	K1001019-029	5.0	5.0	1	02/09/10	29100	
AMB02-040	K1001019-033	5.0	5.0	1	02/09/10	30500	
AMB02-048	K1001019-039	5.0	5.0	1	02/09/10	30300	
AMB02-052	K1001019-041	5.0	5.0	1	02/09/10	30000	
AMB02-058	K1001019-045	5.0	5.0	1	02/09/10	30600	
AMB02-063	K1001019-048	5.0	5.0	1	02/09/10	31100	
AMB02-068	K1001019-051	5.0	5.0	1	02/09/10	29300	
AMB02-073	K1001019-054	5.0	5.0	1	02/09/10	30800	
AMB02-080	K1001019-058	5.0	5.0	1	02/09/10	31300	
AMB02-086	K1001019-062	5.0	5.0	1	02/09/10	29700	
AMB02-092	K1001019-066	5.0	5.0	1	02/09/10	30100	
AMB02-098	K1001019-070	5.0	5.0	1	02/09/10	29300	
Method Blank	K1001019-MB	5.0	5.0	1	02/09/10	ND	
Method Blank	K1001019-MB	5.0	5.0	1	02/09/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/09/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-001	Units :	mg/L
Lab Code :	K1001019-009DUP	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	30100	30200	30200	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/09/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-063	Units :	mg/L
Lab Code :	K1001019-048DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	31100	31600	31400	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/09/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	915	994	109	88-112	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Solids, Total Suspended (TSS)

Units : mg/L
Analysis Method : SM 2540 D
Basis : NA
Test Notes :

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02DD-005	K1001019-004	5.0	5.0	1	02/09/10	6.5	
AMB02DD-010	K1001019-008	5.0	5.0	1	02/09/10	6.5	
AMB02-001	K1001019-009	5.0	5.0	1	02/09/10	7.5	
AMB02-006	K1001019-012	5.0	5.0	1	02/09/10	9.5	
AMB02-011	K1001019-015	5.0	5.0	1	02/09/10	9.0	
AMB02-018	K1001019-019	5.0	5.0	1	02/09/10	8.5	
AMB02-024	K1001019-023	5.0	5.0	1	02/09/10	8.5	
AMB02-029	K1001019-026	5.0	5.0	1	02/09/10	9.0	
AMB02-034	K1001019-029	5.0	5.0	1	02/09/10	7.0	
AMB02-040	K1001019-033	5.0	5.0	1	02/09/10	8.5	
AMB02-048	K1001019-039	5.0	5.0	1	02/09/10	7.5	
AMB02-052	K1001019-041	5.0	5.0	1	02/09/10	8.0	
AMB02-058	K1001019-045	5.0	5.0	1	02/09/10	6.5	
AMB02-063	K1001019-048	5.0	5.0	1	02/09/10	8.0	
AMB02-068	K1001019-051	5.0	5.0	1	02/09/10	7.0	
AMB02-073	K1001019-054	5.0	5.0	1	02/09/10	7.0	
AMB02-080	K1001019-058	5.0	5.0	1	02/09/10	8.5	
AMB02-086	K1001019-062	5.0	5.0	1	02/09/10	6.5	
AMB02-092	K1001019-066	5.0	5.0	1	02/09/10	6.0	
AMB02-098	K1001019-070	5.0	5.0	1	02/09/10	6.5	
Method Blank	K1001019-MB	5.0	5.0	1	02/09/10	ND	
Method Blank	K1001019-MB	5.0	5.0	1	02/09/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/09/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-018
Lab Code : K1001019-019DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	8.5	8.0	8.3	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 2/2/2010
Date Received : 2/4/2010
Date Prepared : NA
Date Analyzed : 02/09/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-086
Lab Code : K1001019-062DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	6.5	7.5	7.0	14	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/09/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	165	154	93	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Carbon, Dissolved Organic (DOC)

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02DD-004	K1001019-003	1.0	0.1	2	02/22/10	3.6	
AMB02DD-009	K1001019-007	1.0	0.1	2	02/22/10	3.6	
AMB02-002	K1001019-010	1.0	0.1	2	02/22/10	2.9	
AMB02-007	K1001019-013	1.0	0.1	2	02/22/10	2.8	
AMB02-012	K1001019-016	1.0	0.1	2	02/22/10	2.0	
AMB02-020	K1001019-021	1.0	0.1	2	02/22/10	0.9	J
AMB02-026	K1001019-025	1.0	0.1	2	02/22/10	2.3	
AMB02-031	K1001019-028	1.0	0.1	2	02/22/10	1.4	
AMB02-036	K1001019-031	1.0	0.1	2	02/22/10	1.9	
AMB02-042	K1001019-035	1.0	0.1	2	02/22/10	2.3	
AMB02-046	K1001019-038	1.0	0.1	2	02/22/10	1.0	J
AMB02-054	K1001019-043	1.0	0.1	2	02/22/10	2.7	
AMB02-060	K1001019-047	1.0	0.1	2	02/22/10	1.0	J
AMB02-065	K1001019-050	1.0	0.1	2	02/22/10	2.8	
AMB02-070	K1001019-053	1.0	0.1	2	02/22/10	1.7	
AMB02-076	K1001019-056	1.0	0.1	2	02/22/10	2.3	
AMB02-081	K1001019-059	1.0	0.1	2	02/22/10	1.1	
AMB02-088	K1001019-064	1.0	0.1	2	02/22/10	2.5	
AMB02-094	K1001019-068	1.0	0.1	2	02/22/10	2.3	
AMB02-100	K1001019-072	1.0	0.1	2	02/22/10	2.1	
Method Blank	K1001019-MB	0.50	0.07	1	02/22/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/22/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02DD-004	Units :	mg/L
Lab Code :	K1001019-003DUP	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	3.6	3.5	3.6	3	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 2/2/2010
Date Received : 2/4/2010
Date Prepared : NA
Date Analyzed : 02/22/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB02DD-004
Lab Code : K1001019-003MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	3.6	47.8	88	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/22/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	24.3	98	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/22/2010	25.0	26.0	104
CCV2 Result	2/22/2010	25.0	25.8	103
CCV3 Result	2/22/2010	25.0	26.4	106
CCV4 Result	2/22/2010	25.0	25.2	101
CCV5 Result	2/22/2010	25.0	25.1	100
CCV6 Result	2/22/2010	25.0	26.2	105
CCV7 Result	2/22/2010	25.0	25.1	100
CCV8 Result	2/22/2010	25.0	25.4	102

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/22/2010	0.50	ND
CCB2 Result	2/22/2010	0.50	ND
CCB3 Result	2/22/2010	0.50	ND
CCB4 Result	2/22/2010	0.50	ND
CCB5 Result	2/22/2010	0.50	ND
CCB6 Result	2/22/2010	0.50	ND
CCB7 Result	2/22/2010	0.50	ND
CCB8 Result	2/22/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001019
Date Collected : 02/02/10
Date Received : 02/04/10

Carbon, Total Organic

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02DD-002	K1001019-001	1.0	0.1	2	02/22/10	1.2	
AMB02DD-007	K1001019-005	1.0	0.1	2	02/22/10	1.0	
AMB02-004	K1001019-011	1.0	0.1	2	02/22/10	1.0	J
AMB02-009	K1001019-014	1.0	0.1	2	02/22/10	1.0	
AMB02-014	K1001019-017	1.0	0.1	2	02/22/10	1.1	
AMB02-019	K1001019-020	1.0	0.1	2	02/22/10	1.2	
AMB02-025	K1001019-024	1.0	0.1	2	02/22/10	1.1	
AMB02-030	K1001019-027	1.0	0.1	2	02/22/10	1.1	
AMB02-035	K1001019-030	1.0	0.1	2	02/22/10	1.0	
AMB02-041	K1001019-034	1.0	0.1	2	02/22/10	1.0	J
AMB02-049	K1001019-040	1.0	0.1	2	02/22/10	1.0	J
AMB02-053	K1001019-042	1.0	0.1	2	02/22/10	1.2	
AMB02-059	K1001019-046	1.0	0.1	2	02/22/10	1.1	
AMB02-064	K1001019-049	1.0	0.1	2	02/22/10	1.0	J
AMB02-069	K1001019-052	1.0	0.1	2	02/22/10	1.2	
AMB02-075	K1001019-055	1.0	0.1	2	02/22/10	1.0	
AMB02-082	K1001019-060	1.0	0.1	2	02/22/10	1.4	
AMB02-087	K1001019-063	1.0	0.1	2	02/22/10	1.0	
AMB02-093	K1001019-067	1.0	0.1	2	02/22/10	1.3	
AMB02-099	K1001019-071	1.0	0.1	2	02/22/10	1.1	
Method Blank	K1001019-MB	0.50	0.07	1	02/22/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/22/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02DD-002	Units :	mg/L
Lab Code :	K1001019-001DUP	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.2	1.2	1.2	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/2/2010
Project Number :	NA	**Date Received :**	2/4/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/22/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	AMB02DD-002	Units :	mg/L
Lab Code :	K1001019-001MS	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.2	47.7	93	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001019
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/22/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1001019-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	24.3	98	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/22/2010	25.0	26.0	104
CCV2 Result	2/22/2010	25.0	25.8	103
CCV3 Result	2/22/2010	25.0	26.4	106
CCV4 Result	2/22/2010	25.0	25.2	101
CCV5 Result	2/22/2010	25.0	25.1	100
CCV6 Result	2/22/2010	25.0	26.2	105
CCV7 Result	2/22/2010	25.0	25.1	100
CCV8 Result	2/22/2010	25.0	25.4	102

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001019
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/22/2010	0.50	ND
CCB2 Result	2/22/2010	0.50	ND
CCB3 Result	2/22/2010	0.50	ND
CCB4 Result	2/22/2010	0.50	ND
CCB5 Result	2/22/2010	0.50	ND
CCB6 Result	2/22/2010	0.50	ND
CCB7 Result	2/22/2010	0.50	ND
CCB8 Result	2/22/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02DD-003	Units:	mg/L (ppm)
Lab Code:	K1001019-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	12.0	0.7	1	2/11/2010	2/17/2010	1.2	J

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02DD-008	Units:	mg/L (ppm)
Lab Code:	K1001019-006	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-016	Units:	mg/L (ppm)
Lab Code:	K1001019-018	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-022	Units:	mg/L (ppm)
Lab Code:	K1001019-022	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 2/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-038	Units:	mg/L (ppm)
Lab Code:	K1001019-032	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-044	Units:	mg/L (ppm)
Lab Code:	K1001019-036	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-045	Units:	mg/L (ppm)
Lab Code:	K1001019-037	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-056	Units:	mg/L (ppm)
Lab Code:	K1001019-044	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-078	Units:	mg/L (ppm)
Lab Code:	K1001019-057	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-084	Units:	mg/L (ppm)
Lab Code:	K1001019-061	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-090	Units:	mg/L (ppm)
Lab Code:	K1001019-065	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/20

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	2/2/2010
Sample Matrix:	Ocean water	**Date Received:**	2/4/2010

Oil and Grease

Sample Name:	AMB02-096	Units:	mg/L (ppm)
Lab Code:	K1001019-069	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Oil and Grease

Sample Name:	Method Blank	Units:	mg/L (ppm)
Lab Code:	K100211-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	0.7	1	2/11/2010	2/17/2010	ND	

Approved By: _____ Date: 02/17/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	2/11/2010
		Date Analyzed:	2/17/2010

Matrix Spike Summary
Oil and Grease

Sample Name:	Batch QC	Units:	mg/L (ppm)
Lab Code:	K1001040-001MS	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	5.0	38.1	ND	33.0	87	78-114	

Approved By: _____ Date: 02/20

MS/072898p
K1001019phc.sm1 - MS 2/17/2010

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1001019
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	2/11/2010
		Date Analyzed:	2/17/2010

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Oil and Grease

Sample Name:	Lab Control Sample	Units:	mg/L (ppm)
Lab Code:	K100211-WL1, K100211-WL2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	40	40	32.9	31.7	82	79	78-114	4	

Approved By: _____ Date: 02/17/10

DLCS/072898p
K1001019phc.sm1 - DLCS 2/17/2010

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST Feb. 2010 Ambient Monitoring

Service Request: K1001019
Date Analyzed: 2/17/2010

Continuing Calibration Verification (CCV) Summary
EPA Methods 1664A
Units: mg

Analyte	True Value	CCV1 Result	Percent Recovery	CCV2 Result	Percent Recovery	CCV3 Result	Percent Recovery	CCV4 Result	Percent Recovery
Oil and Grease, Total (HEM)	1000	1000	100	1000	100	1000	100	1000	100
Oil and Grease, Total (HEM)	2.0	2.0	100	1.9	95	2.0	100	2.0	100

Approved By: _____ Date: 2/17/10

CCV 1-4/102194

K100 1019

PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/3/2010
Laboratory: Columbia Analytical
Page 1 of 5

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Shipped Fedex on Blue Ice
2/3/10

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02DD-002	NPDES18	02/02/10 1200	seawater						x									NPDES18-NUT
AMB02DD-003	NPDES18	02/02/10 1200	seawater								x							NPDES18-OG
AMB02DD-004	NPDES18	02/02/10 1200	seawater							x								NPDES18-DOC
AMB02DD-005	NPDES18	02/02/10 1200	seawater				x											NPDES18-TSS
AMB02DD-007	NPDES19	02/02/10 1200	seawater						x									NPDES19-NUT
AMB02DD-008	NPDES19	02/02/10 1200	seawater								x							NPDES19-OG
AMB02DD-009	NPDES19	02/02/10 1200	seawater							x								NPDES19-DOC
AMB02DD-010	NPDES19	02/02/10 1200	seawater				x											NPDES19-TSS
AMB02-001	PS07	02/02/10 939	seawater				x											PS07TSS
AMB02-002	PS07	02/02/10 941	seawater							x								PS07DOC
AMB02-004	PS07	02/02/10 939	seawater						x									PS07NUT
AMB02-006	PS06	02/02/10 952	seawater				x											PS06TSS
AMB02-007	PS06	02/02/10 953	seawater							x								PS06DOC
AMB02-009	PS06	02/02/10 952	seawater						x									PS06NUT
AMB02-011	PS14	02/02/10 1002	seawater				x											PS14TSS
														TOTAL # CONTAINERS = 72				

Relinquished by:			Received by:		
Signature	Date	Time	Signature		Date/Time
C. Sushenko	2/3/10	1500	A Juell	CAS	2/4/10 0900
Printed Name	Company		Printed Name		Company
C. SUSHENKO	MSL to Fedex				
Relinquished by:			Received by:		
Signature	Date	Time	Signature		Date/Time
Printed Name	Company		Printed Name		Company

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K100 1019

PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/3/2010
Laboratory: Columbia Analytical
Page 2 of 5

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-012	PS14	02/02/10 1002	seawater							x								PS14DOC
AMB02-014	PS14	02/02/10 1001	seawater						x									PS14NUT
AMB02-016	PS14	02/02/10 1002	seawater								x							PS14O&G
AMB02-018	PS03	02/02/10 1020	seawater				x											PS03TSS
AMB02-019	PS03	02/02/10 1022	seawater						x									PS03NUT
AMB02-020	PS03	02/02/10 1022	seawater							x								PS03DOC
AMB02-022	PS03	02/02/10 1020	seawater								x							PS03O&G
AMB02-024	PS04	02/02/10 1035	seawater				x											PS04TSS
AMB02-025	PS04	02/02/10 1035	seawater						x									PS04NUT
AMB02-026	PS04	02/02/10 1035	seawater							x								PS04DOC
AMB02-029	PS05	02/02/10 1042	seawater				x											PS05TSS
AMB02-030	PS05	02/02/10 1042	seawater						x									PS05NUT
AMB02-031	PS05	02/02/10 1045	seawater							x								PS05DOC
AMB02-034	PS08	02/02/10 1100	seawater				x											PS08TSS
AMB02-035	PS08	02/02/10 1100	seawater						x									PS08NUT
																		TOTAL # CONTAINERS = 72

Relinquished by:				Received by:														
	Signature	Date	Time					Signature							Date/Time			
	Printed Name	Company						Printed Name								Company		
Relinquished by:				Received by:														
	Signature	Date	Time					Signature							Date/Time			
	Printed Name	Company						Printed Name								Company		

Received by: afuell CRS 2/4/10 0900

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PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/3/2010
Laboratory: Columbia Analytical
Page 3 of 5

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-036	PS08	02/02/10 1101	seawater							x								PS08DOC
AMB02-038	PS08	02/02/10 1102	seawater								x							PS08O&G
AMB02-040	PS15	02/02/10 1125	seawater				x											PS15TSS
AMB02-041	PS15	02/02/10 1125	seawater						x									PS15NUT
AMB02-042	PS15	02/02/10 1120	seawater							x								PS15DOC
AMB02-044	PS15	02/02/10 1118	seawater								x							PS15O&G
AMB02-045	PS15	02/02/10 1119	seawater								x							PS15DUPO&G
AMB02-046	PS15	02/02/10 1121	seawater							x								PS15DUPDOC
AMB02-048	PS15	02/02/10 1126	seawater				x											PS15DUPTSS
AMB02-049	PS15	02/02/10 1126	seawater						x									PS15DUPNUT
AMB02-052	PS09	02/02/10 1147	seawater				x											PS09TSS
AMB02-053	PS09	02/02/10 1149	seawater						x									PS09NUT
AMB02-054	PS09	02/02/10 1148	seawater							x								PS09DOC
AMB02-056	PS09	02/02/10 1148	seawater								x							PS09O&G
AMB02-058	PS11	02/02/10 1238	seawater				x											PS11TSS
														TOTAL # CONTAINERS = 72				

Relinquished by:				Received by:													
	Signature	Date	Time				Signature							Date/Time			
	Printed Name	Company					Printed Name								Company		
Relinquished by:				Received by:													
	Signature	Date	Time				Signature							Date/Time			
	Printed Name	Company					Printed Name								Company		

R Gault CAS 3/4/10 0900

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PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/3/2010
Laboratory: Columbia Analytical
Page 4 of 5

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-059	PS11	02/02/10 1238	seawater						x									PS11NUT
AMB02-060	PS11	02/02/10 1238	seawater							x								PS11DOC
AMB02-063	PS16	02/02/10 1252	seawater				x											PS16TSS
AMB02-064	PS16	02/02/10 1253	seawater						x									PS16NUT
AMB02-065	PS16	02/02/10 1254	seawater							x								PS16DOC
AMB02-068	PS10	02/02/10 1304	seawater				x											PS10TSS
AMB02-069	PS10	02/02/10 1304	seawater						x									PS10NUT
AMB02-070	PS10	02/02/10 1306	seawater							x								PS10DOC
AMB02-073	M3.1	02/02/10 1323	seawater				x											M3.1TSS
AMB02-075	M3.1	02/02/10 1323	seawater						x									M3.1NUT
AMB02-076	M3.1	02/02/10 1323	seawater							x								M3.1DOC
AMB02-078	M3.1	02/02/10 1326	seawater								x							M3.1O&G
AMB02-080	BJ-EST	02/02/10 1349	seawater				x											BJ-ESTTSS
AMB02-081	BJ-EST	02/02/10 1352	seawater							x								BJ-ESTDOC
AMB02-082	BJ-EST	02/02/10 1352	seawater						x									BJ-ESTNUT
																	TOTAL # CONTAINERS = 72	

Relinquished by:					Received by: Ajfuell CRS 2/4/10 0900														
	Signature	Date	Time					Signature							Date/Time				
	Printed Name	Company						Printed Name								Company			
Relinquished by:					Received by:														
	Signature	Date	Time					Signature							Date/Time				
	Printed Name	Company						Printed Name								Company			

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PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/3/2010
Laboratory: Columbia Analytical
Page 5 of 5

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB02-084	BJ-EST	02/02/10 1352	seawater						x				BJ-ESTO&G
AMB02-086	M4	02/02/10 1411	seawater			x							M4TSS
AMB02-087	M4	02/02/10 1411	seawater				x						M4NUT
AMB02-088	M4	02/02/10 1411	seawater					x					M4DOC
AMB02-090	M4	02/02/10 1408	seawater						x				M4O&G
AMB02-092	PS01	02/02/10 1421	seawater			x							PS01TSS
AMB02-093	PS01	02/02/10 1421	seawater				x						PS01NUT
AMB02-094	PS01	02/02/10 1430	seawater					x					PS01DOC
AMB02-096	PS01	02/02/10 1430	seawater						x				PS01O&G
AMB02-098	PS02	02/02/10 1444	seawater			x							PS02TSS
AMB02-099	PS02	02/02/10 1444	seawater				x						PS02NUT
AMB02-100	PS02	02/02/10 1447	seawater					x					PS02DOC
END													

TOTAL # CONTAINERS = 72

Relinquished by:				Received by: A. Juell CRG 2/4/10 0900												
	Signature	Date	Time				Signature						Date/Time			
	Printed Name	Company					Printed Name							Company		
Relinquished by:				Received by:												
	Signature	Date	Time				Signature						Date/Time			
	Printed Name	Company					Printed Name							Company		

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC JC

Client / Project: Battelle Service Request K1001019

Received: 2/4/10 Opened: 2/4/10 By: AJ

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
1.4	na	284	↓		X
0.3	na	268			X
1.4	na	282			X
1.2	2.2	258			X

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* (*Sleeves*) *Other* hard ice pks
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Laboratory	**Service Request No.:**	K1001101
Project:	ENVVEST Feb. 2010 Ambient Monitoring	**Date Received:**	2/5/10
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Aqueous samples were received for analysis at Columbia Analytical Services on 2/5/10. The samples were received in good condition and consistent with the accompanying chain of custody. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Comments

The results were reported to the CAS/Kelso Method Detection Limit (MDL), which is supported by MDL studies performed annually. The MDL studies were conducted according to 40 CFR Part 136, Appendix B.

Total Solids (TS) by SM 2540B

No anomalies associated with the analysis of these samples were observed.

Total Suspended Solids by SM 2540D

No anomalies associated with the analysis of these samples were observed.

Nitrate + Nitrite by EPA Method 353.2

No anomalies associated with the analysis of these samples were observed.

Ammonia as Nitrogen by EPA Method 350.1

No anomalies associated with the analysis of these samples were observed.

Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC) by SM 5310C

The DOC was higher than the associated TOC for a number of samples. Inspection of all raw data, sequences, and associated QA/QC measurements indicated the elevated DOC was probably a result of contribution during the field filtration procedure.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 3/3/10

Total Phosphorus by EPA Method 365.3

No anomalies associated with the analysis of these samples were observed.

Total Kjeldahl Nitrogen by EPA Method 351.4

No anomalies associated with the analysis of these samples were observed.

Hexane Extractable Material by EPA Method 1664

No anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 3/3/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02-202	K1001101-002	0.010	0.003	1	02/17/10	0.060	
AMB02-207	K1001101-005	0.010	0.003	1	02/17/10	0.120	
AMB02-212	K1001101-008	0.010	0.003	1	02/17/10	0.067	
AMB02-217	K1001101-011	0.010	0.003	1	02/17/10	0.064	
AMB02-222	K1001101-014	0.010	0.003	1	02/17/10	0.070	
AMB02-227	K1001101-017	0.010	0.003	1	02/17/10	0.082	
AMB02-233	K1001101-020	0.010	0.003	1	02/17/10	0.055	
AMB02-238	K1001101-023	0.010	0.003	1	02/17/10	0.012	
AMB02-243	K1001101-026	0.010	0.003	1	02/17/10	0.014	
AMB02-248	K1001101-029	0.010	0.003	1	02/17/10	0.009	J
AMB02-253	K1001101-032	0.010	0.003	1	02/17/10	0.011	
AMB02-258	K1001101-035	0.010	0.003	1	02/17/10	0.026	
AMB02-263	K1001101-038	0.010	0.003	1	02/17/10	0.025	
AMB02-268	K1001101-041	0.010	0.003	1	02/17/10	0.028	
AMB02-273	K1001101-044	0.010	0.003	1	02/17/10	0.042	
AMB02-278	K1001101-047	0.010	0.003	1	02/17/10	0.034	
AMB02-283	K1001101-050	0.010	0.003	1	02/17/10	0.033	
AMB02-288	K1001101-053	0.010	0.003	1	02/17/10	0.028	
AMB02-292	K1001101-056	0.010	0.003	1	02/17/10	0.092	
Method Blank	K1001101-MB	0.010	0.003	1	02/17/10	ND	
Method Blank	K1001101-MB	0.010	0.003	1	02/17/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 2/3/2010
Date Received : 2/5/2010
Date Prepared : NA
Date Analyzed : 02/17/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-202
Lab Code : K1001101-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.060	0.063	0.062	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/17/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02-202		Units :	mg/L
Lab Code :	K1001101-002MS	K1001101-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.060	0.264	0.265	102	103	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/17/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	13.9	97	90-112	
Ammonia as Nitrogen	NONE	350.1	14.3	14.0	98	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/17/2010	0.250	0.242	97
CCV2 Result	2/17/2010	0.250	0.242	97
CCV3 Result	2/17/2010	0.250	0.240	96
CCV4 Result	2/17/2010	0.250	0.242	97
CCV5 Result	2/17/2010	0.250	0.240	96
CCV6 Result	2/17/2010	0.250	0.241	96
CCV7 Result	2/17/2010	0.250	0.240	96
CCV8 Result	2/17/2010	0.250	0.239	96

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/17/2010	0.010	ND
CCB2 Result	2/17/2010	0.010	ND
CCB3 Result	2/17/2010	0.010	ND
CCB4 Result	2/17/2010	0.010	ND
CCB5 Result	2/17/2010	0.010	ND
CCB6 Result	2/17/2010	0.010	ND
CCB7 Result	2/17/2010	0.010	ND
CCB8 Result	2/17/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB02-202	K1001101-002	0.20	0.07	1	2/12/2010	02/19/10	1.45	
AMB02-207	K1001101-005	0.20	0.07	1	2/12/2010	02/19/10	1.58	
AMB02-212	K1001101-008	0.20	0.07	1	2/12/2010	02/19/10	1.36	
AMB02-217	K1001101-011	0.20	0.07	1	2/12/2010	02/19/10	1.36	
AMB02-222	K1001101-014	0.20	0.07	1	2/12/2010	02/19/10	1.25	
AMB02-227	K1001101-017	0.20	0.07	1	2/12/2010	02/19/10	1.49	
AMB02-233	K1001101-020	0.20	0.07	1	2/12/2010	02/19/10	1.25	
AMB02-238	K1001101-023	0.20	0.07	1	2/12/2010	02/19/10	1.34	
AMB02-243	K1001101-026	0.20	0.07	1	2/12/2010	02/19/10	1.79	
AMB02-248	K1001101-029	0.20	0.07	1	2/12/2010	02/19/10	1.82	
AMB02-253	K1001101-032	0.20	0.07	1	2/12/2010	02/19/10	1.54	
AMB02-258	K1001101-035	0.20	0.07	1	2/12/2010	02/19/10	1.67	
AMB02-263	K1001101-038	0.20	0.07	1	2/12/2010	02/19/10	1.90	
AMB02-268	K1001101-041	0.20	0.07	1	2/12/2010	02/19/10	1.98	
AMB02-273	K1001101-044	0.20	0.07	1	2/12/2010	02/19/10	2.79	
AMB02-278	K1001101-047	0.20	0.07	1	2/12/2010	02/19/10	2.56	
AMB02-283	K1001101-050	0.20	0.07	1	2/17/2010	02/17/10	2.13	
AMB02-288	K1001101-053	0.20	0.07	1	2/17/2010	02/17/10	2.49	
AMB02-292	K1001101-056	0.20	0.07	1	2/22/2010	02/23/10	1.63	
Method Blank	K1001101-MB	0.20	0.07	1	2/12/2010	02/19/10	0.13	J
Method Blank	K1001101-MB	0.20	0.07	1	2/17/2010	02/17/10	0.14	J
Method Blank	K1001101-MB	0.20	0.07	1	2/22/2010	02/23/10	0.14	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/12/10
		Date Analyzed :	02/19/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-202
Lab Code : K1001101-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.45	1.51	1.48	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/12/10
		Date Analyzed :	02/19/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB02-202		Units :	mg/L
Lab Code :	K1001101-002MS	K1001101-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	100	1.45	40.9	94.5	79	93	75-125	16	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	02/17/10
		Date Analyzed :	02/17/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	15.2	15.9	105	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	02/12/10
		Date Analyzed :	02/19/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	15.2	13.4	88	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	02/22/10
		Date Analyzed :	02/23/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	15.2	13.1	86	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV 1 Result	2/17/2010	10.0	10.1	101
CCV2 Result	2/17/2010	10.0	9.72	97
CCV3 Result	2/17/2010	10.0	9.65	97
CCV1 Result	2/19/2010	10.0	9.97	100
CCV2 Result	2/19/2010	10.0	9.51	95
CCV3 Result	2/19/2010	10.0	9.38	94
CCV4 Result	2/19/2010	10.0	9.38	94
CCV5 Result	2/19/2010	10.0	9.24	92
CCV6 Result	2/19/2010	10.0	9.51	95
CCV1 Result	2/23/2010	10.0	9.89	99
CCV2 Result	2/23/2010	10.0	9.96	100
CCV3 Result	2/23/2010	10.0	9.82	98
CCV4 Result	2/23/2010	10.0	10.0	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/17/2010	0.050	0.009 J
CCB2 Result	2/17/2010	0.050	0.024 J
CCB3 Result	2/17/2010	0.050	0.040 J
CCB1 Result	2/19/2010	0.050	ND
CCB2 Result	2/19/2010	0.050	0.035 J
CCB3 Result	2/19/2010	0.050	0.029 J
CCB4 Result	2/19/2010	0.050	ND
CCB5 Result	2/19/2010	0.050	0.021 J
CCB6 Result	2/19/2010	0.050	0.031 J
CCB1 Result	2/23/2010	0.050	ND
CCB2 Result	2/23/2010	0.050	0.026 J
CCB3 Result	2/23/2010	0.050	0.027 J
CCB4 Result	2/23/2010	0.050	0.041 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02-202	K1001101-002	0.050	0.009	1	02/16/10	0.429	
AMB02-207	K1001101-005	0.050	0.009	1	02/16/10	0.451	
AMB02-212	K1001101-008	0.050	0.009	1	02/16/10	0.445	
AMB02-217	K1001101-011	0.050	0.009	1	02/16/10	0.406	
AMB02-222	K1001101-014	0.050	0.009	1	02/16/10	0.414	
AMB02-227	K1001101-017	0.050	0.009	1	02/16/10	0.413	
AMB02-233	K1001101-020	0.050	0.009	1	02/16/10	0.414	
AMB02-238	K1001101-023	0.050	0.009	1	02/16/10	0.419	
AMB02-243	K1001101-026	0.050	0.009	1	02/16/10	0.416	
AMB02-248	K1001101-029	0.050	0.009	1	02/16/10	0.432	
AMB02-253	K1001101-032	0.050	0.009	1	02/16/10	0.408	
AMB02-258	K1001101-035	0.050	0.009	1	02/16/10	0.417	
AMB02-263	K1001101-038	0.050	0.009	1	02/16/10	0.429	
AMB02-268	K1001101-041	0.050	0.009	1	02/16/10	0.410	
AMB02-273	K1001101-044	0.050	0.009	1	02/16/10	0.410	
AMB02-278	K1001101-047	0.050	0.009	1	02/16/10	0.408	
AMB02-283	K1001101-050	0.050	0.009	1	02/16/10	0.411	
AMB02-288	K1001101-053	0.050	0.009	1	02/16/10	0.407	
AMB02-292	K1001101-056	0.050	0.009	1	02/16/10	0.420	
Method Blank	K1001101-MB	0.050	0.009	1	02/16/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 2/3/2010
Date Received : 2/5/2010
Date Prepared : NA
Date Analyzed : 02/16/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-202
Lab Code : K1001101-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.429	0.425	0.427	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/16/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	AMB02-202	Units :	mg/L
Lab Code :	K1001101-002MS	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.429	2.43	100	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/16/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.6	99	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/16/2010	2.00	1.95	98
CCV2 Result	2/16/2010	2.00	1.96	98
CCV3 Result	2/16/2010	2.00	1.95	98
CCV4 Result	2/16/2010	2.00	1.96	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/16/2010	0.050	ND
CCB2 Result	2/16/2010	0.050	ND
CCB3 Result	2/16/2010	0.050	ND
CCB4 Result	2/16/2010	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB02-202	K1001101-002	0.010	0.004	1	2/23/2010	02/24/10	0.098	
AMB02-207	K1001101-005	0.010	0.004	1	2/23/2010	02/24/10	0.095	
AMB02-212	K1001101-008	0.010	0.004	1	2/23/2010	02/24/10	0.099	
AMB02-217	K1001101-011	0.010	0.004	1	2/23/2010	02/24/10	0.100	
AMB02-222	K1001101-014	0.010	0.004	1	2/23/2010	02/24/10	0.099	
AMB02-227	K1001101-017	0.010	0.004	1	2/23/2010	02/24/10	0.103	
AMB02-233	K1001101-020	0.010	0.004	1	2/23/2010	02/24/10	0.102	
AMB02-238	K1001101-023	0.010	0.004	1	2/23/2010	02/24/10	0.117	
AMB02-243	K1001101-026	0.010	0.004	1	2/23/2010	02/24/10	0.104	
AMB02-248	K1001101-029	0.010	0.004	1	2/23/2010	02/24/10	0.101	
AMB02-253	K1001101-032	0.010	0.004	1	2/23/2010	02/24/10	0.093	
AMB02-258	K1001101-035	0.010	0.004	1	2/23/2010	02/24/10	0.095	
AMB02-263	K1001101-038	0.010	0.004	1	2/23/2010	02/24/10	0.105	
AMB02-268	K1001101-041	0.010	0.004	1	2/23/2010	02/24/10	0.100	
AMB02-273	K1001101-044	0.010	0.004	1	2/23/2010	02/24/10	0.097	
AMB02-278	K1001101-047	0.010	0.004	1	2/23/2010	02/24/10	0.095	
AMB02-283	K1001101-050	0.010	0.004	1	2/23/2010	02/24/10	0.094	
AMB02-288	K1001101-053	0.010	0.004	1	2/23/2010	02/24/10	0.091	
AMB02-292	K1001101-056	0.010	0.004	1	2/23/2010	02/24/10	0.098	
Method Blank	K1001101-MB	0.010	0.004	1	2/23/2010	02/24/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/23/10
		Date Analyzed :	02/24/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-207	Units :	mg/L
Lab Code :	K1001101-005DUP	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.095	0.098	0.097	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	02/23/10
		Date Analyzed :	02/24/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	AMB02-207	Units :	mg/L
Lab Code :	K1001101-005MS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	0.095	0.419	65	50-144	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	02/23/10
		Date Analyzed :	02/24/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.47	107	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/24/2010	0.500	0.501	100
CCV2 Result	2/24/2010	0.500	0.498	100
CCV3 Result	2/24/2010	0.500	0.498	100
CCV4 Result	2/24/2010	0.500	0.496	99

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/24/2010	0.010	ND
CCB2 Result	2/24/2010	0.010	ND
CCB3 Result	2/24/2010	0.010	ND
CCB4 Result	2/24/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Solids, Total

Analysis Method : SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02-201	K1001101-001	5.0	5.0	1	02/10/10	30800	
AMB02-206	K1001101-004	5.0	5.0	1	02/10/10	27800	
AMB02-211	K1001101-007	5.0	5.0	1	02/10/10	25900	
AMB02-216	K1001101-010	5.0	5.0	1	02/10/10	30400	
AMB02-221	K1001101-013	5.0	5.0	1	02/10/10	28900	
AMB02-226	K1001101-016	5.0	5.0	1	02/10/10	30400	
AMB02-231	K1001101-019	5.0	5.0	1	02/10/10	31600	
AMB02-237	K1001101-022	5.0	5.0	1	02/10/10	30900	
AMB02-242	K1001101-025	5.0	5.0	1	02/10/10	31200	
AMB02-247	K1001101-028	5.0	5.0	1	02/10/10	31400	
AMB02-252	K1001101-031	5.0	5.0	1	02/10/10	32000	
AMB02-257	K1001101-034	5.0	5.0	1	02/10/10	30300	
AMB02-262	K1001101-037	5.0	5.0	1	02/10/10	28800	
AMB02-267	K1001101-040	5.0	5.0	1	02/10/10	31300	
AMB02-272	K1001101-043	5.0	5.0	1	02/10/10	31800	
AMB02-277	K1001101-046	5.0	5.0	1	02/10/10	30400	
AMB02-282	K1001101-049	5.0	5.0	1	02/10/10	29500	
AMB02-287	K1001101-052	5.0	5.0	1	02/10/10	30700	
AMB02-291	K1001101-055	5.0	5.0	1	02/10/10	31700	
Method Blank	K1001101-MB	5.0	5.0	1	02/10/10	ND	
Method Blank	K1001101-MB	5.0	5.0	1	02/10/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-216	Units :	mg/L
Lab Code :	K1001101-010DUP	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	30400	29000	29700	5	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-267	Units :	mg/L
Lab Code :	K1001101-040DUP	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	31300	30300	30800	3	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	915	906	99	88-112	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Solids, Total Suspended (TSS)

Analysis Method : SM 2540 D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02-201	K1001101-001	5.0	5.0	1	02/10/10	9.5	
AMB02-206	K1001101-004	5.0	5.0	1	02/10/10	6.5	
AMB02-211	K1001101-007	5.0	5.0	1	02/10/10	7.5	
AMB02-216	K1001101-010	5.0	5.0	1	02/10/10	7.0	
AMB02-221	K1001101-013	5.0	5.0	1	02/10/10	6.0	
AMB02-226	K1001101-016	5.0	5.0	1	02/10/10	9.0	
AMB02-231	K1001101-019	5.0	5.0	1	02/10/10	6.5	
AMB02-237	K1001101-022	5.0	5.0	1	02/10/10	9.5	
AMB02-242	K1001101-025	5.0	5.0	1	02/10/10	9.0	
AMB02-247	K1001101-028	5.0	5.0	1	02/10/10	8.5	
AMB02-252	K1001101-031	5.0	5.0	1	02/10/10	6.0	
AMB02-257	K1001101-034	5.0	5.0	1	02/10/10	8.0	
AMB02-262	K1001101-037	5.0	5.0	1	02/10/10	9.0	
AMB02-267	K1001101-040	5.0	5.0	1	02/10/10	10.0	
AMB02-272	K1001101-043	5.0	5.0	1	02/10/10	11.5	
AMB02-277	K1001101-046	5.0	5.0	1	02/10/10	10.5	
AMB02-282	K1001101-049	5.0	5.0	1	02/10/10	8.5	
AMB02-287	K1001101-052	5.0	5.0	1	02/10/10	9.5	
AMB02-291	K1001101-055	5.0	5.0	1	02/10/10	10.5	
Method Blank	K1001101-MB	5.0	5.0	1	02/10/10	ND	
Method Blank	K1001101-MB	5.0	5.0	1	02/10/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-206
Lab Code : K1001101-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	6.5	10.0	8.3	42	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-282	Units :	mg/L
Lab Code :	K1001101-049DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	8.5	9.0	8.8	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/10/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	165	156	95	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Carbon, Dissolved Organic (DOC)

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02-203	K1001101-003	1.0	0.1	2	02/19/10	1.1	
AMB02-208	K1001101-006	1.0	0.1	2	02/19/10	0.9	J
AMB02-213	K1001101-009	1.0	0.1	2	02/19/10	2.0	
AMB02-218	K1001101-012	1.0	0.1	2	02/19/10	1.6	
AMB02-223	K1001101-015	1.0	0.1	2	02/19/10	2.2	
AMB02-228	K1001101-018	1.0	0.1	2	02/19/10	1.3	
AMB02-234	K1001101-021	1.0	0.1	2	02/19/10	2.3	
AMB02-239	K1001101-024	1.0	0.1	2	02/19/10	1.3	
AMB02-244	K1001101-027	1.0	0.1	2	02/19/10	1.7	
AMB02-249	K1001101-030	1.0	0.1	2	02/19/10	1.6	
AMB02-254	K1001101-033	1.0	0.1	2	02/19/10	1.9	
AMB02-259	K1001101-036	1.0	0.1	2	02/19/10	1.1	
AMB02-264	K1001101-039	1.0	0.1	2	02/19/10	0.6	J
AMB02-269	K1001101-042	1.0	0.1	2	02/19/10	1.8	
AMB02-274	K1001101-045	1.0	0.1	2	02/19/10	2.1	
AMB02-279	K1001101-048	1.0	0.1	2	02/19/10	2.4	
AMB02-284	K1001101-051	1.0	0.1	2	02/19/10	1.9	
AMB02-289	K1001101-054	1.0	0.1	2	02/19/10	2.5	
AMB02-293	K1001101-057	1.0	0.1	2	02/19/10	2.4	
Method Blank	K1001101-MB	0.50	0.07	1	02/19/10	ND	
Method Blank	K1001101-MB	0.50	0.07	1	02/19/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 2/3/2010
Date Received : 2/5/2010
Date Prepared : NA
Date Analyzed : 02/19/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB02-203
Lab Code : K1001101-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	1.1	1.1	1.1	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 2/3/2010
Date Received : 2/5/2010
Date Prepared : NA
Date Analyzed : 02/19/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB02-203
Lab Code : K1001101-003MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	1.1	48.1	94	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/19/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	25.0	22.9	92	83-117	
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.2	94	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/19/2010	25.0	24.6	98
CCV2 Result	2/19/2010	25.0	25.6	102
CCV3 Result	2/19/2010	25.0	25.5	102
CCV4 Result	2/19/2010	25.0	25.5	102
CCV5 Result	2/19/2010	25.0	25.0	100
CCV6 Result	2/19/2010	25.0	25.6	102
CCV7 Result	2/19/2010	25.0	25.9	104

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/19/2010	0.50	ND
CCB2 Result	2/19/2010	0.50	ND
CCB3 Result	2/19/2010	0.50	0.10 J
CCB4 Result	2/19/2010	0.50	0.09 J
CCB5 Result	2/19/2010	0.50	ND
CCB6 Result	2/19/2010	0.50	ND
CCB7 Result	2/19/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 02/03/10
Date Received : 02/05/10

Carbon, Total Organic

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB02-202	K1001101-002	1.0	0.1	2	02/19/10	1.5	
AMB02-207	K1001101-005	1.0	0.1	2	02/19/10	1.5	
AMB02-212	K1001101-008	1.0	0.1	2	02/19/10	1.5	
AMB02-217	K1001101-011	1.0	0.1	2	02/19/10	1.3	
AMB02-222	K1001101-014	1.0	0.1	2	02/19/10	1.2	
AMB02-227	K1001101-017	1.0	0.1	2	02/19/10	1.4	
AMB02-233	K1001101-020	1.0	0.1	2	02/19/10	1.2	
AMB02-238	K1001101-023	1.0	0.1	2	02/19/10	1.0	J
AMB02-243	K1001101-026	1.0	0.1	2	02/19/10	0.9	J
AMB02-248	K1001101-029	1.0	0.14	2	02/19/10	1.2	
AMB02-253	K1001101-032	1.0	0.1	2	02/19/10	1.4	
AMB02-258	K1001101-035	1.0	0.1	2	02/19/10	1.1	
AMB02-263	K1001101-038	1.0	0.1	2	02/19/10	1.3	
AMB02-268	K1001101-041	1.0	0.1	2	02/19/10	1.4	
AMB02-273	K1001101-044	1.0	0.1	2	02/19/10	1.3	
AMB02-278	K1001101-047	1.0	0.1	2	02/19/10	1.2	
AMB02-283	K1001101-050	1.0	0.1	2	02/19/10	1.3	
AMB02-288	K1001101-053	1.0	0.1	2	02/19/10	1.5	
AMB02-292	K1001101-056	1.0	0.14	2	02/19/10	1.44	
Method Blank	K1001101-MB	0.50	0.07	1	02/19/10	ND	
Method Blank	K1001101-MB	0.50	0.07	1	02/19/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	2/3/2010
Project Number :	NA	**Date Received :**	2/5/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	02/19/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB02-207	Units :	mg/L
Lab Code :	K1001101-005DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.5	1.5	1.5	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : ENVVEST Feb. 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1001101
Date Collected : 2/3/2010
Date Received : 2/5/2010
Date Prepared : NA
Date Analyzed : 02/19/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB02-207
Lab Code : K1001101-005MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.5	43.9	85	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1001101
Project Name :	ENVVEST Feb. 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	02/19/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1001101-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	22.9	93	83-117	
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.2	94	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	2/19/2010	25.0	24.6	98
CCV2 Result	2/19/2010	25.0	25.6	102
CCV3 Result	2/19/2010	25.0	25.5	102
CCV4 Result	2/19/2010	25.0	25.5	102
CCV5 Result	2/19/2010	25.0	25.0	100
CCV6 Result	2/19/2010	25.0	25.6	102
CCV7 Result	2/19/2010	25.0	25.9	104

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : ENVVEST Feb. 2010 Ambient Monitoring

Service Request : K1001101
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	2/19/2010	0.50	ND
CCB2 Result	2/19/2010	0.50	ND
CCB3 Result	2/19/2010	0.50	0.10 J
CCB4 Result	2/19/2010	0.50	0.09 J
CCB5 Result	2/19/2010	0.50	ND
CCB6 Result	2/19/2010	0.50	ND
CCB7 Result	2/19/2010	0.50	ND

K100 1191

Shipped on Blue Ice / Fedex SS

PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/4/2010
Laboratory: Columbia Analytical
Page 1 of 4

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-201	PS13	02/03/10 936	seawater				X											PS13-TSS
AMB02-202	PS13	02/03/10 936	seawater						X									PS13-NUT
AMB02-203	PS13	02/03/10 936	seawater							X								PS13-DOC
AMB02-206	SN03	02/03/10 953	seawater				X											SN03-TSS
AMB02-207	SN03	02/03/10 953	seawater						X									SN03-NUT
AMB02-208	SN03	02/03/10 953	seawater							X								SN03-DOC
AMB02-211	SN05	02/03/10 1017	seawater				X											SN05-TSS
AMB02-212	SN05	02/03/10 1017	seawater						X									SN05-NUT
AMB02-213	SN05	02/03/10 1017	seawater							X								SN05-DOC
AMB02-216	SN08	02/03/10 1057	seawater				X											SN08-TSS
AMB02-217	SN08	02/03/10 1057	seawater						X									SN08-NUT
AMB02-218	SN08	02/03/10 1057	seawater							X								SN08-DOC
AMB02-221	SN10	02/03/10 1109	seawater				X											SN10-TSS
AMB02-222	SN10	02/03/10 1109	seawater						X									SN10-NUT
AMB02-223	SN10	02/03/10 1109	seawater							X								SN10-DOC
													TOTAL # CONTAINERS = 57					

Relinquished by:				Received by:				
C. Sushon	2/4/10	1500		John Jones	2/5/10	0930		
Signature	Date	Time		Signature			Date/Time	
C. Sushon	Battelle			John Jones	CAS			
Printed Name	Company			Printed Name			Company	
Relinquished by:				Received by:				
Signature	Date	Time		Signature			Date/Time	
Printed Name	Company			Printed Name			Company	

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K1001101

PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/4/2010
Laboratory: Columbia Analytical

Page 2 of 4

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-226	M3.3	02/03/10 1123	seawater				X											M3.3-TSS
AMB02-227	M3.3	02/03/10 1123	seawater						X									M3.3-NUT
AMB02-228	M3.3	02/03/10 1123	seawater							X								M3.3-DOC
AMB02-231	SN11	02/03/10 1134	seawater				X											SN11-TSS
AMB02-233	SN11	02/03/10 1134	seawater						X									SN11-NUT
AMB02-234	SN11	02/03/10 1134	seawater							X								SN11-DOC
AMB02-237	WP	02/03/10 1153	seawater				X											WP-TSS
AMB02-238	WP	02/03/10 1153	seawater						X									WP-NUT
AMB02-239	WP	02/03/10 1153	seawater							X								WP-DOC
AMB02-242	M2	02/03/10 1208	seawater				X											M2-TSS
AMB02-243	M2	02/03/10 1208	seawater						X									M2-NUT
AMB02-244	M2	02/03/10 1208	seawater							X								M2-DOC
AMB02-247	M2DEEP	02/03/10 1229	seawater				X											M2DEEP-TSS
AMB02-248	M2DEEP	02/03/10 1229	seawater						X									M2DEEP-NUT
AMB02-249	M2DEEP	02/03/10 1229	seawater							X								M2DEEP-DOC
														TOTAL # CONTAINERS = 57				

Relinquished by:				Received by:			
[signature]	2/4/10	1500		Jason Jones	2/5/10	0930	
Signature	Date	Time		Signature		Date/Time	
C. SUSLICK	Battelle			JOHN JONES	CAS		
Printed Name	Company			Printed Name		Company	
Relinquished by:				Received by:			
Signature	Date	Time		Signature		Date/Time	
Printed Name	Company			Printed Name		Company	

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K1001101

PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/4/2010
Laboratory: Columbia Analytical
Page 3 of 4

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-252	CLAMBAY	02/03/10 1241	seawater				X											CLAMBAY-TSS
AMB02-253	CLAMBAY	02/03/10 1241	seawater						X									CLAMBAY-NUT
AMB02-254	CLAMBAY	02/03/10 1241	seawater							X								CLAMBAY-DOC
AMB02-257	ILSP	02/03/10 1315	seawater				X											ILSP-TSS
AMB02-258	ILSP	02/03/10 1315	seawater						X									ILSP-NUT
AMB02-259	ILSP	02/03/10 1315	seawater							X								ILSP-DOC
AMB02-262	M1	02/03/10 1335	seawater				X											M1-TSS
AMB02-263	M1	02/03/10 1335	seawater						X									M1-NUT
AMB02-264	M1	02/03/10 1335	seawater							X								M1-DOC
AMB02-267	PWNLP	02/03/10 1357	seawater				X											PWNLP-TSS
AMB02-268	PWNLP	02/03/10 1357	seawater						X									PWNLP-NUT
AMB02-269	PWNLP	02/03/10 1357	seawater							X								PWNLP-DOC
AMB02-272	M6	02/03/10 1411	seawater				X											M6-TSS
AMB02-273	M6	02/03/10 1411	seawater						X									M6-NUT
AMB02-274	M6	02/03/10 1411	seawater							X								M6-DOC
														TOTAL # CONTAINERS = 57				

Relinquished by:				Received by:			
C. Sullen	2/4/10	1500		John Jones	2/5/10	0930	
Signature	Date	Time		Signature		Date/Time	
C. Sullen	Battelle			John Jones	CAS		
Printed Name	Company			Printed Name		Company	
Relinquished by:				Received by:			
Signature	Date	Time		Signature		Date/Time	
Printed Name	Company			Printed Name		Company	

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K100 1101

PROJECT ENVVEST
Project Name: Feb 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 2/4/2010
Laboratory: Columbia Analytical
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CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB02-277	M8.1	02/03/10 1434	seawater				X											M8.1-TSS
AMB02-278	M8.1	02/03/10 1434	seawater						X									M8.1-NUT
AMB02-279	M8.1	02/03/10 1434	seawater							X								M8.1-DOC
AMB02-282	M7	02/03/10 1448	seawater				X											M7-TSS
AMB02-283	M7	02/03/10 1448	seawater						X									M7-NUT
AMB02-284	M7	02/03/10 1448	seawater							X								M7-DOC
AMB02-287	M7DUP	02/03/10 1448	seawater				X											M7DUP-TSS
AMB02-288	M7DUP	02/03/10 1448	seawater						X									M7DUP-NUT
AMB02-289	M7DUP	02/03/10 1448	seawater							X								M7DUP-DOC
AMB02-291	PS12	02/03/10 1506	seawater				X											PS12-TSS
AMB02-292	PS12	02/03/10 1506	seawater						X									PS12-NUT
AMB02-293	PS12	02/03/10 1506	seawater							X								PS12-DOC
END																		
														TOTAL # CONTAINERS = 57				

Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
C. Sullen	2/4/10	1500	John Jones	2/5/10	0930
Printed Name	Company		Printed Name	Company	
C. Sullen	Battelle		John Jones	CAS	
Relinquished by:			Received by:		
Signature	Date	Time	Signature	Date/Time	
Printed Name	Company		Printed Name	Company	

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC JCH-

Client / Project: Battelle Service Request K10 01101

Received: 2/5/10 Opened: 2/5/10 By: Jomar

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	(Filed)
3.7	/	266			
1.0	/	275			
1.7		279			

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* (*Other* Blue ice)
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring March 2010 (AMB03)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

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CVAF Analysis of Samples for Hg
Analytical raw data available upon request

FIAS Analysis of Samples for As
Analytical raw data available upon request

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Analytical raw data available upon request

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr	Cu
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0042**	**2.14**	**0.0267**	**0.00110**	**0.0293**	**0.0351**
Seawater Reporting Limit (MDL* 3.18)							**0.013**	**6.8**	**0.085**	**0.0035**	**0.093**	**0.11**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0032	0.2	0.0267	0.0033	0.051	0.0053
Freshwater Reporting Limit (MDL* 3.18)						--	0.010	0.6	0.085	0.0105	0.161	0.017
AMB03-001	PS07	TME	Seawater	3106-95	03/23/10	25.1	0.0042 Ub	10.9 b	1.18	0.0780 b	0.197 bB	1.35 b
AMB03-001	PS07	DME	Seawater	3106-96	03/23/10	--	0.0042 Ub	--	--	0.0814 b	0.186 bB	1.21 b
AMB03-006	PS06	TME	Seawater	3106-97	03/23/10	26.7	0.0042 Ub	11.0 b	1.19	0.0867 b	0.189 bB	1.34 b
AMB03-006	PS06	DME	Seawater	3106-98	03/23/10	--	0.0042 Ub	--	--	0.0829 b	0.133 bB	1.09 b
AMB03-011	PS14	TME	Seawater	3106-99	03/23/10	27.8	0.0042 Ub	12.7 b	1.23	0.0748 b	0.120 bB	1.20 b
AMB03-011	PS14	DME	Seawater	3106-100	03/23/10	--	0.0042 Ub	--	--	0.0831 b	0.193 bB	1.06 b
AMB03-017	PS03	TME	Seawater	3106-101	03/23/10	29.0	0.00542 Jb	70.1 b	1.23	0.0896 b	0.337 bB	2.00 b
AMB03-017	PS03	DME	Seawater	3106-102	03/23/10	--	0.0042 Ub	--	--	0.0812 b	0.107 bB	0.830 b
AMB03-023	PS03DUP	TME	Seawater	3106-103	03/23/10	--	0.00676 Jb	80.6 b	1.28	0.0980 b	0.283 bB	2.11 b
AMB03-023	PS03DUP	DME	Seawater	3106-104	03/23/10	--	0.0042 Ub	--	--	0.0800 b	0.112 bB	0.817 b
AMB03-027	PS04	TME	Seawater	3106-105	03/23/10	28.2	0.0042 Ub	13.4 b	1.22	0.0831 b	0.0897 JbB	1.74 b
AMB03-027	PS04	DME	Seawater	3106-106	03/23/10	--	0.0042 Ub	--	--	0.0876 b	0.115 bB	1.53 b
AMB03-032	PS05	TME	Seawater	3106-107	03/23/10	26.5	0.0042 Ub	12.3 b	1.18	0.0811 b	0.194 bB	2.54 b
AMB03-032	PS05	DME	Seawater	3106-108	03/23/10	--	0.0042 Ub	--	--	0.0794 b	0.144 bB	2.05 b
AMB03-037	PS08	TME	Seawater	3106-109	03/23/10	26.2	0.0042 Ub	9.85 b	1.22	0.0739 b	0.127 bB	1.30 b
AMB03-037	PS08	DME	Seawater	3106-110	03/23/10	--	0.0042 Ub	--	--	0.0822 b	0.129 bB	1.21 b
AMB03-043	PS15	TME	Seawater	3106-111	03/23/10	28.7	0.0042 Ub	15.6 b	1.22	0.0844 b	0.137 bB	0.993 b
AMB03-043	PS15	DME	Seawater	3106-112	03/23/10	--	0.0042 Ub	--	--	0.0795 b	0.0967 bB	0.802 b
AMB03-049	PS09	TME	Seawater	3106-113	03/23/10	26.3	0.0042 Ub	7.61 b	1.21	0.0802 b	0.160 b	2.27 b
AMB03-049	PS09	DME	Seawater	3106-114	03/23/10	--	0.0042 Ub	--	--	0.0813 b	0.144 b	1.93 b
AMB03-055	PS10	TME	Seawater	3106-115	03/23/10	28.1	0.0042 Ub	6.78 b	1.22	0.0861 b	0.199 b	2.40 b
AMB03-055	PS10	DME	Seawater	3106-116	03/23/10	--	0.0042 Ub	--	--	0.0772 b	0.154 b	1.83 b
AMB03-060	PS11	TME	Seawater	3106-117	03/23/10	29.0	0.0042 Ub	9.72 b	1.22	0.0739 b	0.150 b	0.825 b
AMB03-060	PS11	DME	Seawater	3106-118	03/23/10	--	0.0042 Ub	--	--	0.0836 b	0.114 b	0.759 b
AMB03-065	PS16	TME	Seawater	3106-119	03/23/10	28.7	0.0042 Ub	7.65 b	1.22	0.0796 b	0.137 b	0.725 b
AMB03-065	PS16	DME	Seawater	3106-120	03/23/10	--	0.0042 Ub	--	--	0.0755 b	0.140 b	0.578 b
AMB03-070	M3.1-SUR	TME	Seawater	3106-121	03/23/10	28.5	0.0042 Ub	8.31 b	1.20	0.0819 b	0.130 bB	0.746 b
AMB03-070	M3.1-SUR	DME	Seawater	3106-122	03/23/10	--	0.0042 Ub	--	--	0.0854 b	0.0706 JbB	0.673 b
AMB03-071	M3.1-DEEP	TME	Seawater	3106-123	03/23/10	28.9	0.0042 Ub	10.0 b	1.21	0.0767 b	0.151 b	0.634 b
AMB03-071	M3.1-DEEP	DME	Seawater	3106-124	03/23/10	--	0.0042 Ub	--	--	0.0737 b	0.141 b	0.555 b
AMB03-082	BM01	TME	Seawater	3106-125	03/23/10	28.7	0.0042 Ub	8.45 b	1.22	0.0798 b	0.144 b	0.810 b
AMB03-082	BM01	DME	Seawater	3106-126	03/23/10	--	0.0042 Ub	--	--	0.0859 b	0.118 b	0.744 b
AMB03-087	PS12	TME	Seawater	3106-127	03/23/10	28.7	0.0042 Ub	6.94 b	1.23	0.0829 b	0.122 b	1.16 b
AMB03-087	PS12	DME	Seawater	3106-128	03/23/10	--	0.0042 Ub	--	--	0.0770 b	0.0866 Jb	0.910 b
AMB03-092	BJEST	TME	Seawater	3106-129	03/23/10	27.4	0.0042 Ub	11.5 b	1.20	0.0830 b	0.186 b	0.972 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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360/681-4564

Ambient Monitoring - AMB03
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr	Cu
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB03-092	BJEST	DME	Seawater	3106-130	03/23/10	--	0.0042 Ub	--	--	0.0839 b	0.155 b	0.865 b
AMB03-098	M4	TME	Seawater	3106-131	03/23/10	28.4	0.0042 Ub	11.6 b	1.18	0.0946 b	0.173 b	0.782 b
AMB03-098	M4	DME	Seawater	3106-132	03/23/10	--	0.0042 Ub	--	--	0.0848 b	0.110 b	0.666 b
AMB03-104	PS01	TME	Seawater	3106-133	03/23/10	27.7	0.0042 Ub	5.39 Jb	1.22	0.0821 b	0.144 b	0.891 b
AMB03-104	PS01	DME	Seawater	3106-134	03/23/10	--	0.0042 Ub	--	--	0.0810 b	0.133 b	0.819 b
AMB03-110	M4-DUP	TME	Seawater	3106-135	03/23/10	--	0.0042 Ub	10.9 b	1.18	0.154 b	0.206 b	0.865 b
AMB03-110	M4-DUP	DME	Seawater	3106-136	03/23/10	--	0.0042 Ub	--	--	0.131 b	0.163 b	0.670 b
AMB03-114	PS02	TME	Seawater	3106-137	03/23/10	27.1	0.0042 Ub	7.30 b	1.25	0.0876 b	0.146 b	1.33 b
AMB03-114	PS02	DME	Seawater	3106-138	03/23/10	--	0.0042 Ub	--	--	0.0835 b	0.138 b	1.09 b
AMB03-119	PS13	TME	Seawater	3106-139	03/23/10	28.4	0.0042 Ub	14.6 b	1.22	0.0893 b	0.176 b	1.64 b
AMB03-119	PS13	DME	Seawater	3106-140	03/23/10	--	0.0042 Ub	--	--	0.0833 b	0.100 b	1.26 b
AMB03-124	DD4-SANDTRAP	TME	Seawater	3106-141	03/23/10	--	0.169 b	16.1 b	2.00	0.250 b	0.791 b	30.0 b
AMB03-124	DD4-SANDTRAP	DME	Seawater	3106-142	03/23/10	--	0.111 b	--	--	0.247 b	0.524 b	18.9 b
AMB03-126	DD5-PUMPWELL	TME	Seawater	3106-143	03/23/10	--	0.0141 b	10.2 b	1.71	0.247 b	0.199 bB	30.1 b
AMB03DD-132	NPDES018	TME	Seawater	3106-145	03/23/10	--	0.0179 b	32.5 b	1.45	0.0931 b	0.395 b	5.78 b
AMB03DD-132	NPDES018	DME	Seawater	3106-146	03/23/10	--	0.00823 Jb	--	--	0.0832 b	0.208 b	2.65 b
AMB03DD-137	NPDES021	TME	Freshwater	3106-147	03/23/10	--	0.0032 U	23.7	0.788	0.0221	1.24	5.73
AMB03DD-137	NPDES021	DME	Freshwater	3106-148	03/23/10	--	0.0032 U	--	--	0.0154	1.07	4.13
AMB03-300	PWNLP	TME	Seawater	3106-149	03/24/10	28.9	0.0042 Ub	9.13 b	1.21	0.0776 b	0.126 b	0.539 b
AMB03-300	PWNLP	DME	Seawater	3106-150	03/24/10	--	0.0042 Ub	--	--	0.0804 b	0.111 b	0.469 b
AMB03-305	M6	TME	Seawater	3106-151	03/24/10	28.5	0.0042 Ub	9.11 b	1.16	0.0854 b	0.0926 b	0.573 b
AMB03-305	M6	DME	Seawater	3106-152	03/24/10	--	0.0042 Ub	--	--	0.0839 b	0.113 b	0.656 b
AMB03-310	M8	TME	Seawater	3106-153	03/24/10	27.9	0.0042 Ub	12.0 b	1.16	0.0924 b	0.159 b	0.618 b
AMB03-310	M8	DME	Seawater	3106-154	03/24/10	--	0.0042 Ub	--	--	0.0840 b	0.122 b	0.504 b
AMB03-315	M7	TME	Seawater	3106-155	03/24/10	28.6	0.0042 Ub	8.47 b	1.18	0.0825 b	0.137 b	0.545 b
AMB03-315	M7	DME	Seawater	3106-156	03/24/10	--	0.0042 Ub	--	--	0.0802 b	0.132 b	0.508 b
AMB03-320	M5	TME	Seawater	3106-157	03/24/10	28.4	0.0042 Ub	8.14 b	1.17	0.0866 b	0.194 b	0.604 b
AMB03-320	M5	DME	Seawater	3106-158	03/24/10	--	0.0042 Ub	--	--	0.0867 b	0.195 b	0.593 b
AMB03-325	CLAMBAY	TME	Seawater	3106-159	03/24/10	29.0	0.0042 Ub	13.5 b	1.24	0.0847 b	0.184 b	0.446 b
AMB03-325	CLAMBAY	DME	Seawater	3106-160	03/24/10	--	0.0042 Ub	--	--	0.0816 b	0.153 b	0.405 b
AMB03-330	M2-SURF	TME	Seawater	3106-161	03/24/10	29.0	0.0042 Ub	9.07 b	1.28	0.0879 b	0.195 b	0.527 b
AMB03-330	M2-SURF	DME	Seawater	3106-162	03/24/10	--	0.0042 Ub	--	--	0.0823 b	0.152 b	0.401 b
AMB03-335	M2-DEEP	TME	Seawater	3106-163	03/24/10	29.3	0.0042 Ub	11.7 b	1.20	0.0808 b	0.195 b	0.542 b
AMB03-335	M2-DEEP	DME	Seawater	3106-164	03/24/10	--	0.0042 Ub	--	--	0.0760 b	0.150 b	0.448 b
AMB03-340	WP	TME	Seawater	3106-165	03/24/10	28.7	0.0042 Ub	13.9 b	1.20	0.0769 b	0.193 b	0.587 b
AMB03-340	WP	DME	Seawater	3106-166	03/24/10	--	0.0042 Ub	--	--	0.0821 b	0.169 b	0.533 b
AMB03-345	ILSP	TME	Seawater	3106-167	03/24/10	28.9	0.0042 Ub	9.70 b	1.15	0.0875 b	0.204 b	0.573 b
AMB03-345	ILSP	DME	Seawater	3106-168	03/24/10	--	0.0042 Ub	--	--	0.0879 b	0.161 b	0.498 b
AMB03-350	M1 SURF	TME	Seawater	3106-169	03/24/10	28.9	0.0042 Ub	6.71 Jb	1.14	0.0881 b	0.191 b	0.628 b

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Ambient Monitoring - AMB03
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Ag	Al	As	Cd	Cr	Cu
				Instrument:		Units (PSU)	*ICP-MS*	*ICP-MS*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB03-350	M1 SURF	DME	Seawater	3106-170	03/24/10	--	0.0042 Ub	--	--	0.0839 b	0.138 b	0.486 b
AMB03-355	M1 DEEP	TME	Seawater	3106-171	03/24/10	29.1	0.0042 Ub	9.67	1.19	0.0882 b	0.191 b	0.564 b
AMB03-355	M1 DEEP	DME	Seawater	3106-172	03/24/10	--	0.0042 Ub	--	--	0.0842 b	0.170 b	0.492 b
AMB03-360	SN11	TME	Seawater	3106-173	03/24/10	22.9	0.0042 Ub	13.9	1.18	0.0835 b	0.290 b	1.50 b
AMB03-360	SN11	DME	Seawater	3106-174	03/24/10	--	0.0042 Ub	--	--	0.0784 b	0.240 b	1.24 b
AMB03-365	SN10	TME	Seawater	3106-175	03/24/10	27.2	0.0042 Ub	14.5	1.06	0.101 b	0.202 b	1.24 b
AMB03-365	SN10	DME	Seawater	3106-176	03/24/10	--	0.0042 Ub	--	--	0.0883 b	0.164 b	0.857 b
AMB03-370	SN08	TME	Seawater	3106-177	03/24/10	27.3	0.0042 Ub	14.3 b	1.15	0.0789 b	0.166 bB	0.741 b
AMB03-370	SN08	DME	Seawater	3106-178	03/24/10	--	0.0042 Ub	--	--	0.0725 b	0.113 bB	0.653 b
AMB03-375	SN05	TME	Seawater	3106-179	03/24/10	22.8	0.0042 Ub	34.2 b	0.847	0.0471 b	0.530 bB	0.741 b
AMB03-375	SN05	DME	Seawater	3106-180	03/24/10	--	0.0042 Ub	--	--	0.0502 b	0.449 bB	0.750 b
AMB03-380	SN03	TME	Seawater	3106-181	03/24/10	27.9	0.0042 Ub	9.89 b	1.12	0.0819 b	0.151 bB	0.931 b
AMB03-380	SN03	DME	Seawater	3106-182	03/24/10	--	0.0042 Ub	--	--	0.0705 b	0.119 bB	0.696 b
AMB03-385	M3.3	TME	Seawater	3106-183	03/24/10	28.2	0.0042 Ub	8.64 b	1.18	0.0789 b	0.112 bB	0.853 b
AMB03-385	M3.3	DME	Seawater	3106-184	03/24/10	--	0.0042 Ub	--	--	0.0764 b	0.121 bB	0.777 b
EQUIPMENT BLANKS												
AMB03-390	EB032410-1	TME	Freshwater	3106-185	03/24/10	--	0.0032 U	0.2 U	0.0267 U	0.0033 U	0.051 U	0.0053 U
AMB03-391	EB032410-1	DME	Freshwater	3106-186	03/24/10	--	0.0032 U	--	--	0.0033 U	0.051 U	0.0053 U
AMB03-392	EB032410-2	TME	Freshwater	3106-187	03/24/10	--	0.0032 U	0.2 U	0.0267 U	0.0033 U	0.051 U	0.0053 U
AMB03-393	EB032410-2	DME	Freshwater	3106-188	03/24/10	--	0.0032 U	--	--	0.0033 U	0.051 U	0.0053 U
AMB03-394	EB032410-3	TME	Freshwater	3106-189	03/24/10	--	0.0032 U	0.2 U	0.0267 U	0.0033 U	0.051 U	0.0053 U
AMB03-395	EB032410-3	DME	Freshwater	3106-190	03/24/10	--	0.0032 U	--	--	0.0033 U	0.051 U	0.0053 U

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*CVAF*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0001**	**0.0019**	**0.0263**					
Seawater Reporting Limit (MDL* 3.18)					**0.00032**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					0.0001	0.0022	0.02					
Freshwater Reporting Limit (MDL* 3.18)					0.00032	0.0070	0.06					
AMB03-001	PS07	TME	Seawater	3106-95	0.000715	0.0587 b	4.31 b	042710HGA	F042610A	033010-6100	AMB03-005	S041310
AMB03-001	PS07	DME	Seawater	3106-96	0.000476	0.0183 b	4.48 b	042710HGA	--	033010-6100	--	S041310
AMB03-006	PS06	TME	Seawater	3106-97	0.000590	0.0668 b	4.03 b	042710HGA	F042610A	033010-6100	AMB03-010	S041310
AMB03-006	PS06	DME	Seawater	3106-98	0.000339	0.0178 b	3.86 b	042710HGA	--	033010-6100	--	S041310
AMB03-011	PS14	TME	Seawater	3106-99	0.000778	0.0642 b	3.56 b	042710HGA	F042610A	033010-6100	AMB03-016	S041310
AMB03-011	PS14	DME	Seawater	3106-100	0.000353	0.0174 b	3.69 b	042710HGA	--	033010-6100	--	S041310
AMB03-017	PS03	TME	Seawater	3106-101	0.00739	0.548 b	3.88 b	042810HGA	F042610A	033010-6100	AMB03-022	S041310
AMB03-017	PS03	DME	Seawater	3106-102	0.000493	0.0403 b	2.88 b	042810HGA	--	033010-6100	--	S041310
AMB03-023	PS03DUP	TME	Seawater	3106-103	0.00852	0.598 b	4.17 b	042810HGA	F042610A	033010-6100	--	S041310
AMB03-023	PS03DUP	DME	Seawater	3106-104	0.000374	0.0619 b	2.86 b	042810HGA	--	033010-6100	--	S041310
AMB03-027	PS04	TME	Seawater	3106-105	0.000811	0.0640 b	4.88 b	042810HGA	F042610A	033010-6100	AMB03-031	S041310
AMB03-027	PS04	DME	Seawater	3106-106	0.000265 J	0.0234 b	5.27 b	042810HGA	--	033010-6100	--	S041310
AMB03-032	PS05	TME	Seawater	3106-107	0.000836	0.0676 b	9.68 b	042810HGA	F042610A	033010-6100	AMB03-036	S041310
AMB03-032	PS05	DME	Seawater	3106-108	0.000403	0.0169 b	9.38 b	042810HGA	--	033010-6100	--	S041310
AMB03-037	PS08	TME	Seawater	3106-109	0.000694	0.0482 b	4.18 b	042810HGA	F042610A	033010-6100	AMB03-042	S041310
AMB03-037	PS08	DME	Seawater	3106-110	0.000363	0.0105 b	4.63 b	042810HGA	--	033010-6100	--	S041310
AMB03-043	PS15	TME	Seawater	3106-111	0.000887	0.0723 b	3.06 b	042810HGA	F042610A	033010-6100	AMB03-048	S041310
AMB03-043	PS15	DME	Seawater	3106-112	0.000334	0.0165 b	2.99 b	042810HGA	--	033010-6100	--	S041310
AMB03-049	PS09	TME	Seawater	3106-113	0.000791	0.0523 b	6.09 b	042810HGA	F042610A	033110-6100	AMB03-054	S041310
AMB03-049	PS09	DME	Seawater	3106-114	0.000376	0.0127 b	5.97 b	042810HGA	--	033110-6100	--	S041310
AMB03-055	PS10	TME	Seawater	3106-115	0.000590	0.0462 b	6.72 b	042810HGA	F042610A	033110-6100	AMB03-059	S041310
AMB03-055	PS10	DME	Seawater	3106-116	0.000336	0.0162 b	5.73 b	042810HGA	--	033110-6100	--	S041310
AMB03-060	PS11	TME	Seawater	3106-117	0.000789	0.0514 b	2.98 b	042810HGA	F042610A	033110-6100	AMB03-064	S041310
AMB03-060	PS11	DME	Seawater	3106-118	0.000644	0.0129 b	3.18 b	042810HGA	--	033110-6100	--	S041310
AMB03-065	PS16	TME	Seawater	3106-119	0.000687	0.0442 b	2.38 b	042810HGA	F042610A	033110-6100	AMB03-069	S041310
AMB03-065	PS16	DME	Seawater	3106-120	0.000334	0.0118 b	2.13 b	042810HGA	--	033110-6100	--	S041310
AMB03-070	M3.1-SUR	TME	Seawater	3106-121	0.000552	0.0392 b	2.12 b	050310HGA	F042610A	033010-6100	AMB03-080	S041310
AMB03-070	M3.1-SUR	DME	Seawater	3106-122	0.000300 J	0.0182 b	2.16 b	050310HGA	--	033010-6100	--	S041310
AMB03-071	M3.1-DEEP	TME	Seawater	3106-123	0.000599	0.0475 b	1.64 b	050310HGA	F042610A	033110-6100	AMB03-081	S041310
AMB03-071	M3.1-DEEP	DME	Seawater	3106-124	0.000383	0.00938 b	1.47 b	050310HGA	--	033110-6100	--	S041310
AMB03-082	BM01	TME	Seawater	3106-125	0.000567	0.0476 b	2.46 b	050310HGA	F042610A	033110-6100	AMB03-086	S041310
AMB03-082	BM01	DME	Seawater	3106-126	0.000300 J	0.0163 b	2.67 b	050310HGA	--	033110-6100	--	S041310
AMB03-087	PS12	TME	Seawater	3106-127	0.000562	0.0472 b	4.74 b	050310HGA	F042610A	033110-6100	AMB03-091	S041310
AMB03-087	PS12	DME	Seawater	3106-128	0.000271 J	0.0134 b	4.42 b	050310HGA	--	033110-6100	--	S041310
AMB03-092	BJEST	TME	Seawater	3106-129	0.000611	0.0507 b	2.98 b	050310HGA	F042610A	033110-6100	AMB03-097	S041310

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*CVAF*	*ICP-MS*	*ICP-MS*					
AMB03-092	BJEST	DME	Seawater	3106-130	0.000520	0.0121 b	2.87 b	050310HGA	--	033110-6100	--	S041310
AMB03-098	M4	TME	Seawater	3106-131	0.000604	0.0583 b	2.18 b	050310HGA	F042610A	033110-6100	AMB03-103	S041310
AMB03-098	M4	DME	Seawater	3106-132	0.000365	0.0142 b	1.77 b	050310HGA	--	033110-6100	--	S041310
AMB03-104	PS01	TME	Seawater	3106-133	0.000879	0.0407 b	2.28 b	050310HGA	F042610A	033110-6100	AMB03-109	S041310
AMB03-104	PS01	DME	Seawater	3106-134	0.000436	0.0149 b	2.25 b	050310HGA	--	033110-6100	--	S041310
AMB03-110	M4-DUP	TME	Seawater	3106-135	0.000946	0.0687 b	3.55 b	050310HGA	F042610A	040210-6100	--	S041310
AMB03-110	M4-DUP	DME	Seawater	3106-136	0.000504	0.0180 b	3.43 b	050310HGA	--	040210-6100	--	S041310
AMB03-114	PS02	TME	Seawater	3106-137	0.000678	0.0513 b	3.48 b	050310HGA	F042610A	040210-6100	AMB03-118	S041310
AMB03-114	PS02	DME	Seawater	3106-138	0.000363	0.0196 b	3.26 b	050310HGA	--	040210-6100	--	S041310
AMB03-119	PS13	TME	Seawater	3106-139	0.00103	0.208 b	4.05 b	050310HGA	F042610A	040210-6100	AMB03-123	S041310
AMB03-119	PS13	DME	Seawater	3106-140	0.000331	0.0448 b	3.47 b	050310HGA	--	040210-6100	--	S041310
AMB03-124	DD4-SANDTRAP	TME	Seawater	3106-141	0.0242	4.26 b	122 b	050410HGA	F042610A	040210-6100	--	S041310
AMB03-124	DD4-SANDTRAP	DME	Seawater	3106-142	0.0131	0.985 b	107 b	050410HGA	--	040210-6100	--	S041310
AMB03-126	DD5-PUMPWELL	TME	Seawater	3106-143	0.00490	4.23 b	184 b	050410HGA	F042610A	041510-6100	--	S041310
AMB03DD-132	NPDES018	TME	Seawater	3106-145	0.0111	0.381 b	25.0 b	050410HGA	F042610A	040210-6100	--	S041310
AMB03DD-132	NPDES018	DME	Seawater	3106-146	0.00283	0.0142 b	21.8 b	050410HGA	--	040210-6100	--	S041310
AMB03DD-137	NPDES021	TME	Freshwater	3106-147	0.0227	0.428	8.25	050410HGA	F042610A	041410-6100	--	--
AMB03DD-137	NPDES021	DME	Freshwater	3106-148	0.00382	0.235	7.09	050410HGA	--	041410-6100	--	--
AMB03-300	PWNLP	TME	Seawater	3106-149	0.000573	0.0369 b	1.26 b	050410HGA	F042610A	040210-6100	AMB03-304	S041310
AMB03-300	PWNLP	DME	Seawater	3106-150	0.000238 J	0.0101 b	1.12 b	050410HGA	--	040210-6100	--	S041310
AMB03-305	M6	TME	Seawater	3106-151	0.000516	0.0534 b	1.48 b	050410HGA	F042610A	040210-6100	AMB03-309	S041310
AMB03-305	M6	DME	Seawater	3106-152	0.000305 J	0.0188 b	1.72 b	050410HGA	--	040210-6100	--	S041310
AMB03-310	M8	TME	Seawater	3106-153	0.000584	0.0600 b	1.39 b	050410HGA	F042610A	040210-6100	AMB03-314	S041310
AMB03-310	M8	DME	Seawater	3106-154	0.000240 J	0.0192 b	1.21 b	050410HGA	--	040210-6100	--	S041310
AMB03-315	M7	TME	Seawater	3106-155	0.000706	0.0358 b	1.29 b	050410HGA	F042610A	040210-6100	AMB03-319	S041310
AMB03-315	M7	DME	Seawater	3106-156	0.000320	0.0115 b	1.38 b	050410HGA	--	040210-6100	--	S041310
AMB03-320	M5	TME	Seawater	3106-157	0.000313 J	0.0318 b	1.47 b	050410HGA	F042610A	040610-6100	AMB03-324	S041310
AMB03-320	M5	DME	Seawater	3106-158	0.000275 J	0.0150 b	1.49 b	050410HGA	--	040610-6100	--	S041310
AMB03-325	CLAMBAY	TME	Seawater	3106-159	0.000287 J	0.0281 b	0.755 bB	050410HGA	F042610A	040610-6100	AMB03-329	S041310
AMB03-325	CLAMBAY	DME	Seawater	3106-160	0.000182 J	0.00331 Jb	0.665 bB	050410HGA	--	040610-6100	--	S041310
AMB03-330	M2-SURF	TME	Seawater	3106-161	0.000377	0.0250 b	0.883 bB	050610HGA	F042610A	040610-6100	AMB03-334	S041310
AMB03-330	M2-SURF	DME	Seawater	3106-162	0.000373	0.00461 Jb	0.885 bB	050610HGA	--	040610-6100	--	S041310
AMB03-335	M2-DEEP	TME	Seawater	3106-163	0.000520	0.0264 b	0.821 bB	050610HGA	F042610A	040610-6100	AMB03-339	S041310
AMB03-335	M2-DEEP	DME	Seawater	3106-164	0.000425	0.0137 b	0.736 bB	050610HGA	--	040610-6100	--	S041310
AMB03-340	WP	TME	Seawater	3106-165	0.000522	0.0436 b	1.98 b	050610HGA	F042610A	040610-6100	AMB03-344	S041310
AMB03-340	WP	DME	Seawater	3106-166	0.000284 J	0.0129 b	1.54 b	050610HGA	--	040610-6100	--	S041310
AMB03-345	ILSP	TME	Seawater	3106-167	0.000368	0.0276 b	1.12 b	050610HGA	F042610A	040610-6100	AMB03-349	S041310
AMB03-345	ILSP	DME	Seawater	3106-168	0.000215 J	0.00699 b	0.953 b	050610HGA	--	040610-6100	--	S041310
AMB03-350	M1 SURF	TME	Seawater	3106-169	0.000531	0.0233 b	1.27 b	050610HGA	F042610A	040610-6100	AMB03-354	S041310

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*CVAF*	*ICP-MS*	*ICP-MS*					
AMB03-350	M1 SURF	DME	Seawater	3106-170	0.000198 J	0.0165 b	1.13 b	050610HGA	--	040610-6100	--	S041310
AMB03-355	M1 DEEP	TME	Seawater	3106-171	0.000511	0.0339 b	1.19 b	050610HGA	F042610A	040610-6100	AMB03-359	S041310
AMB03-355	M1 DEEP	DME	Seawater	3106-172	0.000493	0.00779 b	1.09 b	050610HGA	--	040610-6100	--	S041310
AMB03-360	SN11	TME	Seawater	3106-173	0.000603	0.0500 b	5.23 b	050610HGA	F042610A	040610-6100	AMB03-364	S041310
AMB03-360	SN11	DME	Seawater	3106-174	0.000356	0.0188 b	4.84 b	050610HGA	--	040610-6100	--	S041310
AMB03-365	SN10	TME	Seawater	3106-175	0.000629	0.0970 b	3.31 b	050610HGA	F042610A	040610-6100	AMB03-369	S041310
AMB03-365	SN10	DME	Seawater	3106-176	0.000267	0.0187 b	2.96 b	050610HGA	--	040610-6100	--	S041310
AMB03-370	SN08	TME	Seawater	3106-177	0.000575	0.0560 b	2.47 b	050610HGA	F042610A	041510-6100	AMB03-374	S041310
AMB03-370	SN08	DME	Seawater	3106-178	0.000265	0.0174 b	1.96 b	050610HGA	--	041510-6100	--	S041310
AMB03-375	SN05	TME	Seawater	3106-179	0.00105	0.106 b	1.41 b	050610HGA	F042610A	041510-6100	AMB03-379	S041310
AMB03-375	SN05	DME	Seawater	3106-180	0.000443	0.00877 b	1.16 bB	050610HGA	--	041510-6100	--	S041310
AMB03-380	SN03	TME	Seawater	3106-181	0.000687	0.0584 b	2.69 b	051010HGA	F042610A	041510-6100	AMB03-384	S041310
AMB03-380	SN03	DME	Seawater	3106-182	0.000255 J	0.0117 b	2.33 b	051010HGA	--	041510-6100	--	S041310
AMB03-385	M3.3	TME	Seawater	3106-183	0.000578	0.0461 b	2.34 b	051010HGA	F042610A	041510-6100	AMB03-389	S041310
AMB03-385	M3.3	DME	Seawater	3106-184	0.000292 J	0.0139 b	2.35 b	051010HGA	--	041510-6100	--	S041310
EQUIPMENT BLANKS												
AMB03-390	EB032410-1	TME	Freshwater	3106-185	0.000501	0.0022 U	0.014 U	051010HGA	F042610A	041410-6100	--	--
AMB03-391	EB032410-1	DME	Freshwater	3106-186	0.0001 U	0.0022 U	0.159	051010HGA	--	041410-6100	--	--
AMB03-392	EB032410-2	TME	Freshwater	3106-187	0.0001 U	0.0022 U	0.014 U	051010HGA	F042610A	041410-6100	--	--
AMB03-393	EB032410-2	DME	Freshwater	3106-188	0.0001 U	0.0244	0.0586 J	051010HGA	--	041410-6100	--	--
AMB03-394	EB032410-3	TME	Freshwater	3106-189	0.0001 U	0.0022 U	0.014 U	051010HGA	F042610A	041410-6100	--	--
AMB03-395	EB032410-3	DME	Freshwater	3106-190	0.000172 J	0.0022 U	0.0331 J	051010HGA	--	041410-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.0070	0.06	
METHOD BLANKS												
MB-1	TME		Seawater	DIBlk2_041510	0.000 U	0.462 U	0.000 U	0.122	0.0531 J	0.00150 U	0.105	041510-6100
MB-2	TME		Seawater	DIBlk3_041510	0.00039 U	0.485 U	0.000 U	0.120	0.100 J	0.00144 U	0.119	041510-6100
MB-3	TME		Seawater	DIBlk4_041510	0.00033 U	0.497 U	0.000 U	0.113	0.0618 J	0.00199 J	0.104	041510-6100
MEAN REAGENT BLANK			Seawater	***BMRB_041510***	***0.000239*** *U*	***0.481*** U	***0.000063*** *U*	***0.118***	***0.0717*** *J*	***0.00164*** *U*	***0.109***	041510-6100
MB-4	TME		Seawater	DIBlk2_040610	0.00066 U	0.318 U	0.0000 U	0.0752 J	0.0658 J	0.00112 U	0.0797 J	040610-6100
MB-5	TME		Seawater	DIBlk3_040610	0.00177 U	0.424 U	0.0000 U	0.0485 J	0.106 J	0.00183 U	0.114	040610-6100
MB-6	TME		Seawater	DIBlk4_040610	0.00000 U	0.325 U	0.0002 U	0.0429 J	0.0626 J	0.00209 J	0.0912	040610-6100
MEAN REAGENT BLANK			Seawater	***BMRB_040610***	***0.000809*** U	***0.356*** U	***0.000067*** U	***0.0555*** J	***0.0780*** J	***0.00168*** *U*	***0.0948***	040610-6100
MB-7	TME		Seawater	DIBlk2_040210	0.00 U	0.327 U	0.000199 U	0.0809 J	0.0745 J	0.00172 U	0.118	040210-6100
MB-8	TME		Seawater	DIBlk3_040210	0.00 U	0.402 U	0.000021 U	0.114	0.0542 J	0.00160 U	0.0858	040210-6100
MB-9	TME		Seawater	DIBlk4_040210	0.00 U	0.369 U	0.000116 U	0.0381 J	0.0584 J	0.00141 U	0.0888	040210-6100
MEAN REAGENT BLANK			Seawater	***BMRB_040210***	*0.00* U	*0.366* U	*0.000112* U	*0.0777* J	*0.0623* J	*0.00158* *U*	*0.0973*	040210-6100
MB-10	TME		Seawater	DIBlk2_033010	0.00 U	0.494 U	0.000038 U	0.117	0.0534 J	0.00137 U	0.0845	033010-6100
MB-11	TME		Seawater	DIBlk3_033010	0.00 U	0.427 U	0.000158 U	0.114	0.0482 J	0.00144 U	0.0841	033010-6100
MB-12	TME		Seawater	DIBlk4_033010	0.00 U	0.323 U	0.000026 U	0.133	0.0565 J	0.00135 U	0.0888	033010-6100
MEAN REAGENT BLANK			Seawater	***BMRB_033010***	*0.00* U	*0.415* U	*0.000074* U	*0.121*	*0.0527* J	*0.00139* U	*0.0858*	033010-6100
MB-13	TME		Seawater	DIBlk6_092209	0.00 U	0.305 U	0.00005 U	0.0382 J	0.0579 J	0.00170 U	0.0838 J	033110-6100
MB-14	TME		Seawater	DIBlk7_092209	0.00 U	0.277 U	0.00013 U	0.0491 J	0.0510 J	0.00172 U	0.0949	033110-6100
MB-15	TME		Seawater	DIBlk8_092209	0.00 U	0.453 U	0.00000 U	0.0777 J	0.0550 J	0.00144 U	0.0886	033110-6100
MEAN REAGENT BLANK			Seawater	***BMRB_033110***	*0.00* U	*0.345* U	*0.00006* U	*0.0550* J	*0.0546* J	*0.00162* U	*0.0891*	033110-6100
TRM_BLK1	TME		Freshwater	TRMblk_041410	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0022 U	0.02 U	041410-6100
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)	TME		Seawater	SBBlkr1_41510	0.0042 Ub	2.14 Ub	0.0684 b	0.129 b	0.186 b	0.0019 Ub	0.205 b	041510-6100
LCS (1)	TME		Seawater	SBLCS-r1_041510	1.69 b	2.14 Ub	1.87 b	1.98 b	1.90 b	2.01 b	2.00 b	041510-6100
				Percent Recovery, LCS	**84%**	**NA**	**90%**	**93%**	**86%**	**101%**	**90%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (2)		TME	Seawater	SBBlkr2_040610	0.0042 Ub	2.14 Ub	0.0784 b	0.166 b	0.222 b	0.00237 Jb	0.226 b	040610-6100
LCS (2)		TME	Seawater	SBLCS-r2_040610	1.78 b	2.14 Ub	1.84 b	2.10 b	2.17 b	1.92 b	2.23 b	040610-6100
				Percent Recovery, LCS	**89%**	**NA**	**88%**	**97%**	**97%**	**96%**	**100%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (3)		TME	Seawater	SBBlkr1_040210	0.0042 Ub	2.14 Ub	0.0752 b	0.164 b	0.347 b	0.00240 Jb	0.211 b	040210-6100
LCS (3)		TME	Seawater	SBLCS-r1_040210	1.80 b	2.39 Jb	2.01 b	2.24 b	2.17 b	2.08 b	2.02 b	040210-6100
				Percent Recovery, LCS	**90%**	**120%**	**97%**	**104%**	**91%**	**104%**	**90%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (4)		TME	Seawater	SBBlkr2_033010	0.0042 Ub	2.14 Ub	0.0668 b	0.110 b	0.311 b	0.00538 Jb	0.285 b	033010-6100
LCS (4)		TME	Seawater	SBLCS-r2_033010	1.77 b	2.25 Jb	1.86 b	2.05 b	2.16 b	1.89 b	2.24 b	033010-6100
				Percent Recovery, LCS	**88%**	**112%**	**90%**	**97%**	**92%**	**94%**	**98%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (5)		TME	Seawater	SBBlkr3_033110	0.0042 Ub	2.14 Ub	0.0707 b	0.115 b	0.276 b	0.00240 Jb	0.247 b	033110-6100
LCS (5)		TME	Seawater	SBLCS-r3_033110	1.75 b	2.14 Ub	1.79 b	2.04 b	2.09 b	1.89 b	2.18 b	033110-6100
				Percent Recovery, LCS	**87%**	**NA**	**86%**	**96%**	**91%**	**94%**	**97%**	
MATRIX SPIKE RESULTS												
AMB03-391	EB032410-1	DME	Freshwater	3106-186	0.0032 U	0.519 J	0.0033 U	0.051 U	0.0053 U	0.0022 U	0.159	041410-6100
		DME	Freshwater	3106-186MS	5.08	5.66	5.05	4.87	5.04	5.16	5.08	041410-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**102%**	**103%**	**101%**	**97%**	**101%**	**103%**	**98%**	
AMB03-370	SN08	TME	Seawater	3106-177	0.0042 Ub	14.3 b	0.0789 b	0.166 b	0.741 b	0.0560 b	2.47 b	041510-6100
		TME	Seawater	3106-177MS	4.19 b	18.8 b	4.29 b	4.71 b	4.88 b	4.96 b	6.88 b	041510-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**84%**	**89%**	**84%**	**91%**	**83%**	**98%**	**88%**	
AMB03-380	SN03	DME	Seawater	3106-182	0.0042 Ub	2.14 Ub	0.0705 b	0.119 b	0.696 b	0.0117 b	2.33 b	041510-6100
		DME	Seawater	3106-182MS	4.57 b	5.09 Jb	4.51 b	5.21 b	5.61 b	4.95 b	7.40 b	041510-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**91%**	**102%**	**89%**	**102%**	**98%**	**99%**	**101%**	
AMB03-320	M5	DME	Seawater	3106-158	0.0042 Ub	2.14 Ub	0.0867 b	0.195 b	0.593 b	0.0150 b	1.49 b	040610-6100
		DME	Seawater	3106-158MS	4.22 b	5.32 Jb	4.16 b	4.86 b	4.92 b	4.50 b	5.66 b	040610-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**84%**	**106%**	**81%**	**93%**	**87%**	**90%**	**83%**	

BATTELLE MARINE SCIENCE LABORATORIES
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360/681-4564

Ambient Monitoring - AMB03
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB03-110	M4-DUP	TME	Seawater	3106-135	0.0042 Ub	10.9 b	0.154 b	0.206 b	0.865 b	0.0687 b	3.55 b	040210-6100
		TME	Seawater	3106-135MS	9.35 b	18.1 b	9.32 b	10.1 b	10.3 b	9.83 b	12.8 b	040210-6100
				Spiking Level, MS	10	10	10	10	10	10	10	
				Percent Recovery, MS	**94%**	**72%**	**92%**	**99%**	**95%**	**98%**	**93%**	
AMB03-114	PS02	DME	Seawater	3106-138	0.0042 Ub	2.14 Ub	0.0835 b	0.138 b	1.09 b	0.0196 b	3.26 b	040210-6100
		DME	Seawater	3106-138MS	4.41 b	6.34 Jb	4.67 b	5.05 b	5.62 b	4.95 b	7.73 b	040210-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**88%**	**127%**	**92%**	**98%**	**91%**	**99%**	**89%**	
AMB03-070	M3.1-SUR	DME	Seawater	3106-122	0.0042 Ub	5.37 Jb	0.0854 b	0.0706 Jb	0.673 b	0.0182 b	2.16 b	033010-6100
		DME	Seawater	3106-122MS	4.04 b	4.66 Jb	4.03 b	4.44 b	4.83 b	4.27 b	6.06 b	033010-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**81%**	**-14%** c	**79%**	**87%**	**83%**	**85%**	**78%**	
AMB03-071	M3.1-DEEP	DME	Seawater	3106-124	0.0042 Ub	2.14 Ub	0.0737 b	0.141 b	0.555 b	0.00938 b	1.47 b	033110-6100
		DME	Seawater	3106-124MS	4.21 b	4.18 Jb	4.04 b	4.65 b	4.99 b	4.39 b	5.68 b	033110-6100
				Spiking Level, MS	5	5	5	5	5	5	5	
				Percent Recovery, MS	**84%**	**84%**	**79%**	**90%**	**89%**	**88%**	**84%**	
REPLICATE PRECISION												
AMB03-390	EB032410-1	TME	Freshwater	3106-185	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0022 U	0.02 U	041410-6100
AMB03-390	EB032410-1	TME	Freshwater	3106-185R2	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0022 U	0.02 U	041410-6100
				Mean	NA	NA	NA	NA	NA	NA	NA	
				RPD	NA	NA	NA	NA	NA	NA	NA	
AMB03-126	DD5-PUMPWELL	TME	Seawater	3106-143	0.0141 b	10.2 b	0.247 b	0.199 b	30.1 b	4.23 b	184 b	041510-6100
AMB03-126	DD5-PUMPWELL	TME	Seawater	3106-143r2	0.0153 b	11.2 b	0.258 b	0.198 b	30.7 b	4.47 b	190 b	041510-6100
				Mean	0.0147	10.7	0.252	0.199	30.4	4.35	187	
				RPD	**8%**	**10%**	**4%**	**1%**	**2%**	**6%**	**3%**	
AMB03-370	SN08	TME	Seawater	3106-177	0.0042 Ub	14.3 b	0.0789 b	0.166 b	0.741 b	0.0560 b	2.47 b	041510-6100
AMB03-370	SN08	TME	Seawater	3106-177r2	0.0042 Ub	14.6 b	0.0737 b	0.145 b	0.709 b	0.0544 b	2.39 b	041510-6100
				Mean	NA	14.4	0.0763	0.156	0.725	0.0552	2.43	
				RPD	NA	**2%**	**7%**	**13%**	**4%**	**3%**	**3%**	

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Ambient Monitoring - AMB03
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION												
AMB03-325	CLAMBAY	TME	Seawater	3106-159	0.0042 Ub	13.5 b	0.0847 b	0.184 b	0.446 b	0.0281 b	0.755 b	040610-6100
		TME	Seawater	3106-159r2	0.0042 Ub	12.6 b	0.0773 b	0.178 b	0.416 b	0.0263 b	0.646 b	040610-6100
				Mean	NA	13.0	0.0810	0.181	0.431	0.0272	0.700	
				RPD	NA	**7%**	**9%**	**3%**	**7%**	**6%**	**16%**	
AMB03DD-132	NPDES018	TME	Seawater	3106-145	0.0179 b	32.5 b	0.0931 b	0.395 b	5.78 b	0.381 b	25.0 b	040210-6100
		TME	Seawater	3106-145r2	0.0163 b	32.9 b	0.0921 b	0.380 b	5.64 b	0.373 b	24.6 b	040210-6100
				Mean	0.0171	32.7	0.0926	0.388	5.71	0.377	24.8	
				RPD	**9%**	**1%**	**1%**	**4%**	**3%**	**2%**	**2%**	
AMB03-006	PS06	TME	Seawater	3106-97	0.0042 Ub	11.0 b	0.0867 b	0.189 b	1.34 b	0.0668 b	4.03 b	033010-6100
		TME	Seawater	3106-97r2	0.0042 Ub	11.1 b	0.0851 b	0.177 b	1.33 b	0.0658 b	3.87 b	033010-6100
				Mean	NA	11.1	0.0859	0.183	1.34	0.0663	3.95	
				RPD	NA	**1%**	**2%**	**6%**	**1%**	**2%**	**4%**	
AMB03-082	BM01	TME	Seawater	3106-125	0.0042 Ub	8.45 b	0.0798 b	0.144 b	0.810 b	0.0476 b	2.46 b	033110-6100
		TME	Seawater	3106-125r2	0.0042 Ub	8.27 b	0.0813 b	0.141 b	0.792 b	0.0471 b	2.41 b	033110-6100
				Mean	NA	8.36	0.0806	0.142	0.801	0.0473	2.44	
				RPD	NA	**2%**	**2%**	**2%**	**2%**	**1%**	**2%**	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-5 (1)		TME	Seawater	CASS-5 041510	0.0042 Ub	2.14 Ub	0.0246 b	0.123 b	0.357 b	0.0117 b	0.615 b	041510-6100
SRM CASS-5 (2)		TME	Seawater	CASS-5 040610	0.0042 Ub	2.14 Ub	0.0268 b	0.111 b	0.373 b	0.00912 b	0.614 b	040610-6100
SRM CASS-5 (3)		TME	Seawater	CASS-5 040210	0.0042 Ub	2.14 Ub	0.0254 b	0.0922 b	0.371 b	0.00883 b	0.543 b	040210-6100
SRM CASS-5 (4)		TME	Seawater	CASS-5 033010	0.0042 Ub	2.14 Ub	0.0247 b	0.125 b	0.413 b	0.00842 b	0.611 b	033010-6100
SRM CASS-5 (5)		TME	Seawater	CASS-5 033110	0.0042 Ub	2.14 Ub	0.0270 b	0.146 b	0.377 b	0.00910 b	0.655 b	033110-6100
				Certified Value	NC	NC	**0.0215**	**0.106** c	**0.38**	**0.011** c	**0.719**	
				PD	--	--	**14%**	**16%** c	**6%**	**7%** c	**14%**	
				PD	--	--	**25%** &	**4%** c	**2%**	**17%** c	**15%**	
				PD	--	--	**18%**	**13%** c	**2%**	**20%** c	**24%** &	
				PD	--	--	**15%**	**18%** c	**9%**	**23%** c	**15%**	
				PD	--	--	**26%** &	**38%** c	**1%**	**17%** c	**9%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB03
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640 (1)		TME	Freshwater	1640_041410	7.81	53.8	24.9	39.2	91.7	30.1	58.3	041410-6100
SRM 1640 (2)		TME	Freshwater	1640_041510	6.94	49.6	22.3	37.7	86.1	27.8	54.9	041510-6100
SRM 1640 (3)		TME	Freshwater	1640_040610	6.87	50.3	23.0	36.8	85.8	27.8	55.0	040610-6100
SRM 1640 (4)		TME	Freshwater	1640_040210	7.38	55.1	23.9	40.0	91.6	28.6	57.3	040210-6100
SRM 1640 (5)		TME	Freshwater	1640_033010	7.28	48.2	22.9	36.7	86.6	27.5	54.3	033010-6100
SRM 1640 (6)		TME	Freshwater	1640_033110	7.71	52.3	24.0	39.0	90.2	28.4	58.1	033110-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.9**	**53.2**	
				PD	**2%**	**3%**	**9%**	**2%**	**8%**	**8%**	**10%**	
				PD	**9%**	**5%**	**2%**	**2%**	**1%**	**0%**	**3%**	
				PD	**10%**	**3%**	**1%**	**5%**	**1%**	**0%**	**3%**	
				PD	**3%**	**6%**	**5%**	**4%**	**7%**	**3%**	**8%**	
				PD	**4%**	**7%**	**1%**	**5%**	**2%**	**2%**	**2%**	
				PD	**1%**	**0%**	**5%**	**1%**	**6%**	**2%**	**9%**	

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB03
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
METHOD BLANKS						
MB-1	TME	Water	MB1_051010		0.0001 U	051010HGA
MB-2	TME	Water	MB2_051010		0.0001 U	051010HGA
MB-3	TME	Water	MB3_051010		0.0001 U	051010HGA
MB-4	TME	Water	MB1_042710		0.0001 U	042710HGA
MB-5	TME	Water	MB2_042710		0.0001 U	042710HGA
MB-6	TME	Water	MB3_042710		0.0001 U	042710HGA
MB-7	TME	Water	MB1_042710		0.0001 U	042810HGA
MB-8	TME	Water	MB2_042710		0.0001 U	042810HGA
MB-9	TME	Water	MB3_042710		0.0001 U	042810HGA
MB-10	TME	Water	MB1_043010		0.0001 U	050310HGA
MB-11	TME	Water	MB2_043010		0.0001 U	050310HGA
MB-12	TME	Water	MB3_043010		0.0001 U	050310HGA
MB-13	TME	Water	MB1_050310		0.0001 U	050410HGA
MB-14	TME	Water	MB2_050310		0.0001 U	050410HGA
MB-15	TME	Water	MB3_050310		0.0001 U	050410HGA
MB-16	TME	Water	MB1_050510		0.0001 U	050610HGA
MB-17	TME	Water	MB2_050510		0.0001 U	050610HGA
MB-18	TME	Water	MB3_050510		0.0001 U	050610HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					0.00496	
LCS (1)	TME	Water	OPR 050710r1		0.00499	051010HGA
LCS (2)	TME	Water	OPR 050710r2		0.00507	051010HGA
LCS Blank (1)	TME	Water	BLANK 050710		0.0001 U	051010HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**102%**	
Spiking Level					0.00496	
LCS (1)	TME	Water	OPR 042610r1		0.00493	042710HGA
LCS (2)	TME	Water	OPR 042610r2		0.00521	042710HGA
LCS Blank (1)	TME	Water	BLANK042610		0.0001 U	042710HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**105%**	
Spiking Level					0.00496	
LCS (1)	TME	Water	OPR 042710r1		0.00499	042810HGA
LCS (2)	TME	Water	OPR 042710r2		0.00537	042810HGA
LCS Blank (1)	TME	Water	BLANK 042710		0.0001 U	042810HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**108%**	
Spiking Level					0.00496	
LCS (1)	TME	Water	OPR 043010r1		0.00498	050310HGA
LCS (2)	TME	Water	OPR 043010r2		0.00512	050310HGA
LCS Blank (1)	TME	Water	BLANK 043010		0.0001 U	050310HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**103%**	

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Ambient Monitoring - AMB03
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont.)						
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 050310r1	0.00477	050410HGA
LCS (2)		TME	Water	OPR 050310r2	0.00511	050410HGA
LCS Blank (1)		TME	Water	BLANK 050310	0.000163 J	050410HGA
				Percent Recovery, LCS 1	**93%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 050510r1	0.00476	050610HGA
LCS (2)		TME	Water	OPR 050510r2	0.00486	050610HGA
LCS Blank (1)		TME	Water	BLANK 050510	0.0001 U	050610HGA
				Percent Recovery, LCS 1	**96%**	
				Percent Recovery, LCS 2	**98%**	
MATRIX SPIKE RESULTS						
AMB03-385	M3.3	DME	Seawater	3106-184	0.000292 J	051010HGA
		DME	Seawater	3106-184MS	0.0101	051010HGA
		DME	Seawater	3106-184MSD	0.0104	051010HGA
				Spiking Level, MS	0.00974	
				Spiking Level, MSD	0.00988	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1.4%**	
AMB03-011	PS14	DME	Seawater	3106-100	0.000353	042710HGA
		DME	Seawater	3106-100MS	0.0101	042710HGA
		DME	Seawater	3106-100MSD	0.0103	042710HGA
				Spiking Level, MS	0.00948	
				Spiking Level, MSD	0.00969	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.1%**	
AMB03-017	PS03	TME	Seawater	3106-101	0.00739	042810HGA
		TME	Seawater	3106-101MS	0.0187	042810HGA
		TME	Seawater	3106-101MSD	0.0185	042810HGA
				Spiking Level, MS	0.0106	
				Spiking Level, MSD	0.0103	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**107%**	
				RPD	**0.8%**	
AMB03-037	PS08	DME	Seawater	3106-110	0.000363	042810HGA
		DME	Seawater	3106-110MS	0.0110	042810HGA
		DME	Seawater	3106-110MSD	0.0114	042810HGA
				Spiking Level, MS	0.0102	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**107%**	
				RPD	**1.7%**	

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Ambient Monitoring - AMB03
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB03-070	M3.1-SUR	TME	Seawater	3106-121	0.000552	050310HGA
		TME	Seawater	3106-121MS	0.0105	050310HGA
		TME	Seawater	3106-121MSD	0.0103	050310HGA
				Spiking Level, MS	0.00981	
				Spiking Level, MSD	0.00985	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**99%**	
				RPD	**2.4%**	
AMB03-087	PS12	DME	Seawater	3106-128	0.000271 J	050310HGA
		DME	Seawater	3106-128MS	0.0102	050310HGA
		DME	Seawater	3106-128MSD	0.0108	050310HGA
				Spiking Level, MS	0.00971	
				Spiking Level, MSD	0.0101	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**104%**	
				RPD	**2.0%**	
AMB03-300	PWNLP	DME	Seawater	3106-150	0.000238 J	050410HGA
		DME	Seawater	3106-150MS	0.0109	050410HGA
		DME	Seawater	3106-150MSD	0.0110	050410HGA
				Spiking Level, MS	0.0104	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**104%**	
				RPD	**1.3%**	
AMB03-325	CLAMBAY	TME	Seawater	3106-159	0.000287 J	050410HGA
		TME	Seawater	3106-159MS	0.0104	050410HGA
		TME	Seawater	3106-159MSD	0.0103	050410HGA
				Spiking Level, MS	0.00990	
				Spiking Level, MSD	0.00984	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.3%**	
AMB03-345	ILSP	TME	Seawater	3106-167	0.000368	050610HGA
		TME	Seawater	3106-167MS	0.0107	050610HGA
		TME	Seawater	3106-167MSD	0.0102	050610HGA
				Spiking Level, MS	0.00992	
				Spiking Level, MSD	0.00982	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**101%**	
				RPD	**3.7%**	
AMB03-360	SN11	DME	Seawater	3106-174	0.000356	050610HGA
		DME	Seawater	3106-174MS	0.0106	050610HGA
		DME	Seawater	3106-174MSD	0.0103	050610HGA
				Spiking Level, MS	0.00991	
				Spiking Level, MSD	0.00992	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**100%**	
				RPD	**3.2%**	

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Ambient Monitoring - AMB03
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB03-380	SN03	TME	Seawater	3106-181	0.000687	051010HGA
AMB03-380	SN03	TME	Seawater	3106-181r2	0.000685	051010HGA
				Mean	*0.000686*	
				RPD	**0%**	
AMB03-001	PS07	TME	Seawater	3106-95	0.000715	042710HGA
AMB03-001	PS07	TME	Seawater	3106-95r2	0.000744	042710HGA
				Mean	*0.000730*	
				RPD	**4%**	
AMB03-049	PS09	TME	Seawater	3106-113	0.000791	042810HGA
AMB03-049	PS09	TME	Seawater	3106-113r2	0.000719	042810HGA
				Mean	*0.000755*	
				RPD	**10%**	
AMB03-114	PS02	TME	Seawater	3106-137	0.000678	050310HGA
AMB03-114	PS02	TME	Seawater	3106-137r2	0.000680	050310HGA
				Mean	*0.000679*	
				RPD	**0%**	
AMB03DD-137	NPDES021	TME	Freshwater	3106-147	0.0227	050410HGA
AMB03DD-137	NPDES021	TME	Freshwater	3106-147r2	0.0197	050410HGA
				Mean	*0.0212*	
				RPD	**14%**	
AMB03-350	M1 SURF	TME	Seawater	3106-169	0.000531	050610HGA
AMB03-350	M1 SURF	TME	Seawater	3106-169r2	0.000554	050610HGA
				Mean	*0.000543*	
				RPD	**4%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 050710	1567	051010HGA
SRM 1641 (2)		TME	Freshwater	1641d 042610	1583	042710HGA
SRM 1641 (3)		TME	Freshwater	1641d 042710	1642	042810HGA
SRM 1641 (4)		TME	Freshwater	1641d 043010	1560	050310HGA
SRM 1641 (5)		TME	Freshwater	1641d 050310	1588	050410HGA
SRM 1641 (6)		TME	Freshwater	1641d 050510	1567	050610HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**1%**	
	SRM 1641 (2)			**PD**	**0%**	
	SRM 1641 (3)			**PD**	**3%**	
	SRM 1641 (4)			**PD**	**2%**	
	SRM 1641 (5)			**PD**	**0%**	
	SRM 1641 (6)			**PD**	**1%**	

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Ambient Monitoring - AMB03
QC Sample Results for FIAS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Water	BLANK R1	0.0267 U	F042610A
MB2		TME	Water	BLANK R2	0.0267 U	F042610A
MB3		TME	Water	BLANK R3	0.0267 U	F042610A
Laboratory Control Samples						
Spiking Level					2	
LCS1		TME	Water	LCS R1	1.87	F042610A
MB1		TME	Water	BLANK R1	0.0267 U	F042610A
				Percent Recovery, LCS	**94%**	
Spiking Level					2	
LCS2		TME	Water	LCS R2	1.82	F042610A
MB2		TME	Water	BLANK R2	0.0267 U	F042610A
				Percent Recovery, LCS	**91%**	
Spiking Level					2	
LCS3		TME	Water	LCS R3	1.79	F042610A
MB3		TME	Water	BLANK R3	0.0267 U	F042610A
				Percent Recovery, LCS	**90%**	
MATRIX SPIKE RESULTS						
AMB03-023	PS03DUP	TME	Seawater	3106-103	1.28	F042610A
AMB03-023	PS03DUP	TME	Seawater	3106-103MS	6.04	F042610A
				Spiking Level, MS	5	
				Percent Recovery, MS	**95%**	
AMB03-114	PS02	TME	Seawater	3106-137	1.25	F042610A
AMB03-114	PS02	TME	Seawater	3106-137MS	5.93	F042610A
				Spiking Level, MS	5	
				Percent Recovery, MS	**94%**	
AMB03-375	SN05	TME	Seawater	3106-179	0.847	F042610A
AMB03-375	SN05	TME	Seawater	3106-179MS	5.44	F042610A
				Spiking Level, MS	5	
				Percent Recovery, MS	**92%**	

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Ambient Monitoring - AMB03
QC Sample Results for FIAS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB03-011	PS14	TME	Seawater	3106-99	1.23	F042610A
AMB03-011	PS14	TME	Seawater	3106-99r2	1.22	F042610A
				Mean	*1.23*	
				RPD	**1%**	
AMB03-126	DD5-PUMPWELL	TME	Seawater	3106-143	1.71	F042610A
AMB03-126	DD5-PUMPWELL	TME	Seawater	3106-143r2	1.69	F042610A
				Mean	*1.70*	
				RPD	**1%**	
AMB03-385	M3.3	TME	Seawater	3106-183	1.18	F042610A
AMB03-385	M3.3	TME	Seawater	3106-183r2	1.13	F042610A
				Mean	*1.16*	
				RPD	**4%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	0.977	F042610A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	0.980	F042610A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	0.975	F042610A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**12%**	
	SRM CASS-4 (2)			**PD**	**12%**	
	SRM CASS-4 (3)			**PD**	**12%**	

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Ambient Monitoring - AMB03
QC Sample Results for Salinity
ENVVEST 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	Blank ICB	0.0 U	PSU	S041310
MB2		TME	Seawater	Blank CCB1	0.0 U	PSU	S041310
MB3		TME	Seawater	Blank CCB2	0.0 U	PSU	S041310
MB4		TME	Seawater	Blank CCB3	0.0 U	PSU	S041310
MB5		TME	Seawater	Blank CCB4	0.0 U	PSU	S041310
MB6		TME	Seawater	Blank CCB5	0.0 U	PSU	S041310
REPLICATE PRECISION							
AMB03-389	M3.3	TME	Seawater	M3.3	28.2	PSU	S041310
AMB03-389	M3.3	TME	Seawater	M3.3 R2	28.2	PSU	S041310
				Mean	*28.2*	PSU	
				RPD	**0.0%**		
AMB03-097	BJEST	TME	Seawater	3106-129	27.4	PSU	S041310
AMB03-097	BJEST	TME	Seawater	3106-129 R2	27.3	PSU	S041310
				Mean	*27.4*	PSU	
				RPD	**0.4%**		
AMB03-314	M8	TME	Seawater	M8	27.9	PSU	S041310
AMB03-314	M8	TME	Seawater	M8 R2	27.9	PSU	S041310
				Mean	*27.9*	PSU	
				RPD	**0.0%**		
AMB03-022	PS03	TME	Seawater	PS03	29.0	PSU	S041310
AMB03-022	PS03	TME	Seawater	PS03 R2	28.9	PSU	S041310
				Mean	*29.0*	PSU	
				RPD	**0.3%**		
AMB03-374	SN08	TME	Seawater	SN08	27.3	PSU	S041310
AMB03-374	SN08	TME	Seawater	SN08 R2	27.2	PSU	S041310
				Mean	*27.3*	PSU	
				RPD	**0.4%**		
STANDARD REFERENCE MATERIAL							
SRM Copenhagen Water-1		TME	Seawater	Copenhagen Water (LCS) R1	35.1	PSU	S041310
SRM Copenhagen Water-2		TME	Seawater	Copenhagen Water (LCS) R2	35.2	PSU	S041310
SRM Copenhagen Water-3		TME	Seawater	Copenhagen Water (LCS) R3	35.0	PSU	S041310
SRM Copenhagen Water-4		TME	Seawater	Copenhagen Water (LCS) R4	35.1	PSU	S041310
SRM Copenhagen Water-5		TME	Seawater	Copenhagen Water (LCS) R5	34.8	PSU	S041310
SRM Copenhagen Water-6		TME	Seawater	Copenhagen Water (LCS) R6	34.8	PSU	S041310
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.3%**		
	SRM-2			**PD**	**0.6%**		
	SRM-3			**PD**	**0.0%**		
	SRM-4			**PD**	**0.3%**		
	SRM-5			**PD**	**0.5%**		
	SRM-6			**PD**	**0.5%**		

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Ambient Monitoring - AMB03
QC Sample Results for Salinity
ENVVEST 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
LABORATORY CONTROL SAMPLES							
LCS-1				Calibration CCV1	50.0	mS	
LCS-2				Calibration CCV2	49.9	mS	
LCS-3				Calibration CCV3	49.9	mS	
LCS-4				Calibration CCV4	50.0	mS	
LCS-5				Calibration CCV5	49.9	mS	
LCS-6				Calibration ICV	50.1	mS	
				TRUE VALUE	**50.0**	mS	
	LCS-1			**% RECOVERY**	**100.0%**		
	LCS-2			**% RECOVERY**	**99.8%**		
	LCS-3			**% RECOVERY**	**99.8%**		
	LCS-4			**% RECOVERY**	**100.0%**		
	LCS-5			**% RECOVERY**	**99.8%**		
	LCS-6			**% RECOVERY**	**100.2%**		

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ENVVEST 2010_AMB03
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, March 2010 (AMB003)

PARAMETER: Total and Dissolved Metals – Al (Total only), Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks (DI water matrix)

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 03/23/10 and 03/24/10. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	03/23/2010 and 03/24/2010
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	03/23/2010 and 03/24/2010
CVAF analysis dates (Hg)	04/27/10, 04/28/10, 05/03/10, 05/04/10, 05/06/10 and 05/10/10
TRM Prep Dates for Freshwater by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	04/14/10
Fe/Pd Preconcentration Dates prior to ICP-MS Analysis (Ag, Al, Cd, Cr, Cu, Pb, Zn)	03/29/10, 03/30/10, 04/01/10, 04/05/10, and 04/13/10
FIAS analysis date (As)	04/26/10
ICP-MS analysis dates (Ag, Al, Cd, Cr, Cu, Pb, Zn)	03/30/10, 03/31/10, 04/02/10, 04/06/10, 04/14/10, and 04/15/10

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.0101
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.161
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.02
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for nine metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of*

QA/QC NARRATIVE

METHODS: *Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples such as equipment blanks were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and qualified with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Equipment blanks were created by MSL using the same lot of bottles and filter units cleaned for AMB03. They consist of deionized water collected in the Teflon sample bottle (1L) and filtered along with the AMB03 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed for Hg by CVAF as described above for the seawater. The freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for freshwater is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg and six months for all other metals.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annual Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annual Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

QA/QC NARRATIVE

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch. The average method blank for each batch was less than the RL for all metals except Cr and Zn. The required preconcentration procedure to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank for the analytical batch.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals except Al. The LCS matrix used for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn is Sequim Bay Seawater carried through the preconcentration and analytical process. The quantification of Al is not considered a critical chemical measurement; therefore, the spiking levels are optimized for the other metals of interest. The spiking level is less than the MDL and considered underspiked with respects to Al; results were reported and J-flagged when detected. The accuracy of Al was evaluated on matrix spikes, freshwater SRMs, and high purity standards.

MATRIX SPIKE ACCURACY: A minimum of one matrix spike or set of matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals except one spike for Al (-14%). The spiked sample was less than the RL and qualified with a "c" as discussed above.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion. Two different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS.

The freshwater SRM 1640 demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion.

The seawater SRM prepared with each batch of preconcentrated samples was CASS-5. The Cr and Pb concentrations in CASS-5 are certified less than 10 times the MDL and were only used to evaluate data set accuracy. The percent recoveries for these metals were flagged with a "c" indicating they meet the contingency criterion. The seawater SRMs are not certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy for these metals. The percent recoveries for CASS-5 were within the QC acceptance criterion with the exception of two for Cd (25% and 26% PD) and one for Zn (24% PD). The exceptions were within the criterion of 70-130%.

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 3/23/2010
Batch: 4
Login Designee: Brandenberger/Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MAR 2010 (AMB03)**

Sponsor ID	Site Description		Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB03-001	PS07-TME	PS07	3106-95	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-001	PS07-DME	PS07	3106-96	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-006	PS06-TME	PS06	3106-97	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-006	PS06-DME	PS06	3106-98	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-011	PS14-TME	PS14	3106-99	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-011	PS14-DME	PS14	3106-100	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-017	PS03-TME	PS03	3106-101	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-017	PS03-DME	PS03	3106-102	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-023	PS03DUP-TME	PS03DUP	3106-103	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-023	PS03DUP-DME	PS03DUP	3106-104	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-027	PS04-TME	PS04	3106-105	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-027	PS04-DME	PS04	3106-106	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-032	PS05-TME	PS05	3106-107	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-032	PS05-DME	PS05	3106-108	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-037	PS08-TME	PS08	3106-109	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-037	PS08-DME	PS08	3106-110	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-043	PS15-TME	PS15	3106-111	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-043	PS15-DME	PS15	3106-112	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-049	PS09-TME	PS09	3106-113	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-049	PS09-DME	PS09	3106-114	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-055	PS10-TME	PS10	3106-115	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-055	PS10-DME	PS10	3106-116	WATER	PREP LAB	Dissolved Metals	03/23/10

Shelves: K-1-C
L-1-C
L-5-C

SOP#: MSL-A-001

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 3/23/2010
Batch: 4
Login Designee: Brandenberger/Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
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Project: **ENVVEST Ambient Monitoring, MAR 2010 (AMB03)**

Sponsor ID	Site Description		Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB03-060	PS11-TME	PS11	3106-117	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-060	PS11-DME	PS11	3106-118	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-065	PS16-TME	PS16	3106-119	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-065	PS16-DME	PS16	3106-120	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-070	M3.1-SUR-TME	M3.1-SUR	3106-121	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-070	M3.1-SUR-DME	M3.1-SUR	3106-122	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-071	M3.1-DEEP-TME	M3.1-DEEP	3106-123	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-071	M3.1-DEEP-DME	M3.1-DEEP	3106-124	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-082	BM01-TME	BM01	3106-125	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-082	BM01-DME	BM01	3106-126	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-087	PS12-TME	PS12	3106-127	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-087	PS12-DME	PS12	3106-128	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-092	BJEST-TME	BJEST	3106-129	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-092	BJEST-DME	BJEST	3106-130	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-098	M4-TME	M4	3106-131	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-098	M4-DME	M4	3106-132	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-104	PS01-TME	PS01	3106-133	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-104	PS01-DME	PS01	3106-134	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-110	M4-DUP-TME	M4-DUP	3106-135	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-110	M4-DUP-DME	M4-DUP	3106-136	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-114	PS02-TME	PS02	3106-137	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-114	PS02-DME	PS02	3106-138	WATER	PREP LAB	Dissolved Metals	03/23/10

SOP#: MSL-A-001

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

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Project: **ENVVEST Ambient Monitoring, MAR 2010 (AMB03)**

Sponsor ID	Site Description		Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB03-119	PS13-TME	PS13	3106-139	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-119	PS13-DME	PS13	3106-140	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-124	DD4-SANDTRAP-	DD4-SANDTRAP	3106-141	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-124	DD4-SANDTRAP-	DD4-SANDTRAP	3106-142	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-126	DD5-PUMPWELL	DD5-PUMPWELL	3106-143	WATER	PREP LAB - large subtainer	Total Metals, Hg	03/23/10
AMB03-126	DD5-PUMPWELL	DD5-PUMPWELL	3106-144*	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-132	NPDES018-TME	NPDES018	3106-145	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-132	NPDES018-DME	NPDES018	3106-146	WATER	PREP LAB	Dissolved Metals	03/23/10
AMB03-137	NPDES021-TME	NPDES021	3106-147	WATER	PREP LAB	Total Metals, Hg	03/23/10
AMB03-137	NPDES021-DME	NPDES021	3106-148	WATER	PREP LAB	Dissolved Metals	03/23/10

*Not Generated 4/6/10

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 3/24/2010
Batch: 5
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
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Project: **ENVVEST Ambient Monitoring, MAR 2010 (AMB03)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB03-300	PWNLP-TME	3106-149	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-300	PWNLP-DME	3106-150	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-305	M6-TME	3106-151	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-305	M6-DME	3106-152	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-310	M8-TME	3106-153	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-310	M8-DME	3106-154	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-315	M7-TME	3106-155	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-315	M7-DME	3106-156	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-320	M5-TME	3106-157	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-320	M5-DME	3106-158	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-325	CLAMBAY-TME	3106-159	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-325	CLAMBAY-DME	3106-160	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-330	M2-SURF-TME	3106-161	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-330	M2-SURF-DME	3106-162	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-335	M2-DEEP-TME	3106-163	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-335	M2-DEEP-DME	3106-164	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-340	WP-TME	3106-165	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-340	WP-DME	3106-166	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-345	ILSP-TME	3106-167	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-345	ILSP-DME	3106-168	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-350	M1 SURFACE-TME	3106-169	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-350	M1 SURFACE-DME	3106-170	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-355	M1 DEEP-TME	3106-171	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-355	M1 DEEP-DME	3106-172	WATER	PREP LAB	Dissolved Metals	03/24/10

Shelves: L-2-A
L-4-D
L-5-D

SOP#: MSL-A-001

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 3/24/2010
Batch: 5
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MAR 2010 (AMB03)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB03-360	SN11-TME	3106-173	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-360	SN11-DME	3106-174	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-365	SN10-TME	3106-175	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-365	SN10-DME	3106-176	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-370	SN08-TME	3106-177	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-370	SN08-DME	3106-178	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-375	SN05-TME	3106-179	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-375	SN05-DME	3106-180	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-380	SN03-TME	3106-181	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-380	SN03-DME	3106-182	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-385	M3.3-TME	3106-183	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-385	M3.3-DME	3106-184	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-390	EB032410-1-TME	3106-185	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-391	EB032410-1-DME	3106-186	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-392	EB032410-2-TME	3106-187	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-393	EB032410-2-DME	3106-188	WATER	PREP LAB	Dissolved Metals	03/24/10
AMB03-394	EB032410-3-TME	3106-189	WATER	PREP LAB	Total Metals, Hg	03/24/10
AMB03-395	EB032410-3-DME	3106-190	WATER	PREP LAB	Dissolved Metals	03/24/10

SAMPLE CHAIN OF CUSTODY FORM

Date: March 23, 2010

Page: 1 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB03 ENVVEST Ambient Monitoring for testing

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB03
3/23/2010

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-01	PS07 - TME	03/23/2010 0850		✓	✓								1	PS07	
	AMB03-02	PS07 - TSS	0850				✓							1	PS07	
	AMB03-03	PS07 - NUT	0850					✓						1	PS07	
	AMB03-04	PS07 - DOC	0850						✓					1	PS07	
	AMB03-05	PS07 - OSAL	0850								✓			1	PS07	
	AMB03-06	PS06 - TME	0905		✓	✓								1	PS06	Nimitz Going Out
	AMB03-07	PS06 - TSS	0905				✓							1	PS06	
	AMB03-08	PS06 - NUT	0905					✓						1	PS06	
	AMB03-09	PS06 - DOC	0905						✓					1	PS06	
	AMB03-10	PS06 - OSAL	0905								✓			1	PS06	
	AMB03-11	PS14 - TME	0914		✓	✓								1	PS14	
	AMB03-12	PS14 - TSS	0914			*	✓							1	PS14	
	AMB03-13	PS14 - NUT	0914					✓						1	PS14	
	AMB03-14	PS14 - DOC	0914						✓					1	PS14	
	AMB03-15	PS14 - OC	6914								✓			1	PS14	

Relinquished by: _____ 3/23/10 1830
Signature Date Time

_____
Printed Name Company

Relinquished by:
_____
Signature Date Time

_____
Printed Name Company

Received by:
_____
Signature

_____
Printed Name

Received by:
_____
Signature

_____
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: March 23, 2010

Page: 1 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB03 ENVVEST Ambient Monitoring & Tox testing

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB03
3/23/2010

Testing Parameters

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-001	PS07 - TME	03/23/2010 0850		✓	✓								1	PS07	
	AMB03-002	PS07 - TSS	0850				✓							1	PS07	
	AMB03-003	PS07 - NUT	0850					✓						1	PS07	
	AMB03-004	PS07 - DOC	0850						✓					1	PS07	
	AMB03-005	PS07 - OSAL	0850								✓			1	PS07	
	AMB03-006	PS06 - TME	0905		✓	✓								1	PS06	Nimitz Going Out
	AMB03-007	PS06 - TSS	0905				✓							1	PS06	
	AMB03-008	PS06 - NUT	0905					✓						1	PS06	
	AMB03-009	PS06 - DOC	0905						✓					1	PS06	
	AMB03-010	PS06 - OSAL	0905								✓			1	PS06	
	AMB03-011	PS14 - TME	0914		✓	✓								1	PSEM14	
	AMB03-012	PS14 - TSS	0914			✓	✓							1	PS14	
	AMB03-013	PS14 - NUT	0914					✓						1	PS14	
	AMB03-014	PS14 - DOC	0914						✓					1	PS14	
	AMB03-015	PS14 - OG	0914							✓				1	PS14	

Relinquished by: _____ 3/23/10 1830
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/23/2010
Page: 2 of 90
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB03

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (09/25/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMBØ3-Ø16	PS14 – OSAL	0914								✓			1	PS14	
	AMBØ3-Ø17	PSØ3 - TME	0930		✓	✓								1	PSØ3	(Small boat operating nearby
	AMBØ3-Ø18	PSØ3 - TSS	0930				✓							1	PSØ3	
	AMBØ3-Ø19	PSØ3 - NUT	0930					✓						1	PSØ3	
	AMBØ3-Ø20	PSØ3 - DOC	0930						✓					1	PSØ3	
	AMBØ3-Ø21	PSØ3 - OG	0930							✓				1	PSØ3	
	AMBØ3-Ø22	PSØ3 - OSAL	0930								✓			1	PSØ3	
	AMBØ3-Ø23	PSØ3 Dup - TME	0935		✓	✓								1	PSØ3	
	AMBØ3-Ø24	PSØ3 Dup - TSS	0935				✓							1	PSØ3	
	AMBØ3-Ø25	PSØ3 Dup - NUT	0935					✓						1	PSØ3	
	AMBØ3-Ø26	PSØ3 Dup - DOC	0935						✓					1	PSØ3	
	AMBØ3-Ø27	PSØ4 - TME	0947		✓	✓								1	PSØ4	Charlie Prer
	AMBØ3-Ø28	PSØ4 - TSS	0947				✓							1	PSØ4	
	AMBØ3-Ø29	PSØ4 - NUT	0947					✓						1	PSØ4	
	AMBØ3-Ø30	PSØ4 - DOC	0947						✓					1	PSØ4	

Relinquished by: _____ 3/28/10 1830
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/2010
Page: 3 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	03/23/2010 Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-031	PS04 - OSAL	0947								✓			1	PS04	
	AMB03-032	PS05 - TME	0956		✓	✓								1	PS05	Near Construction Site
	AMB03-033	PS05 - TSS	0956				✓							1	PS05	
	AMB03-034	PS05 - NUTS	0956					✓						1	PS05	
	AMB03-035	PS05 - DOC	0956						✓					1	PS05	
	AMB03-036	PS05 - OSAL	0956								✓			1	PS05	
	AMB03-037	PS08 - TME	1012		✓	✓								1	PS08	
	AMB03-038	PS08 - TSS	1012				✓							1	PS08	
	AMB03-039	PS08 - NUT	1012					✓						1	PS08	
	AMB03-040	PS08 - DOC	1012						✓					1	PS08	
	AMB03-041	PS08 - OG	1012							✓				1	PS08	
	AMB03-042	PS08 - OSAL	1012								✓			1	PS08	
	AMB03-043	PS15 - TME	1023		✓	✓									PS15	
	AMB03-044	PS15 - TSS	1023				✓								PS15	
	AMB03-045	PS15 - NUT	1023					✓							PS15	

Relinquished by: _____ 3/23/10 1830
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/23/2010
Page: 4 of 9 ~~8~~
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: ~~AMB~~03

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (05/23/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-046	PS15 - DOC	0823						✓					1	PS15	
	AMB03-047	PS15 - OG	1023							✓				1	PS15	
	AMB03-048	PS15 - OSAL	1023								✓			1	PS15	
	AMB03-049	PS09 - TME	1030		✓	✓	EM ✓							1	PS09	Oil Sheen on water
	AMB03-050	PS09 - TSS	1030				✓	EM ✓						1	PS09	
	AMB03-051	PS09 - NWT	1050					✓	EM ✓					1	PS09	
	AMB03-052	PS09 - DOC	1030						✓	EM ✓				1	PS09	
	AMB03-053	PS09 - OG	1030							✓				1	PS09	
	AMB03-054	PS09 - OSAL	1030								✓			1	PS09	
	AMB03-055	PS10 - TME	1043		✓	✓								1	PS10	
	AMB03-056	PS10 - TSS	1043				✓							1	PS10	
	AMB03-057	PS10 - NWT	1043					✓						1	PS10	
	AMB03-058	PS10 - DOC	1043						✓					1	PS10	
	AMB03-059	PS10 - OSAL	1043								✓			1	PS10	
	AMB03-060	PS11 - TME	1055		✓	✓								1	PS11	

Relinquished by: JMB 1830 3/23/10
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/23/2010
Page: 5 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB03

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger
Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-061	PS11 - TSS	3/23/2010 1055				✓								PS11	
	062	PS11 - NUT	1055					✓							PS11	
	063	PS11 - DOC	1055						✓						PS11	
	064	PS11 - OSAL	1055								✓				PS11	
	065	PS16 - TME	1010		✓	✓									PS16	Sea Lions Present
	066	PS16 - TSS	1010				✓								PS16	
	067	PS16 - NUT	1010					✓							PS16	
	068	PS16 - DOC	1010						✓						PS16	
	069	PS16 - OSAL	1016								✓				PS16	
	070	M3.1 - Surf - TME	1151		✓	✓									M3.1	Jellies & Slime Scum on Surface
	071	M3.1 - Deep - TME	1200 ~~HST~~		✓	✓									M3.1	Boundary btwn Stratified & Dyes in surface Scum
	072	M3.1 - Surf - TSS	1151				✓								M3.1	
	073	M3.1 - Deep - TSS	1200 ~~HST~~				✓								M3.1	
	074	M3.1 - Surf - NUT	1151					✓							M3.1	
	075	M3.1 - Deep - NUT	1200 ~~HST~~					✓							M3.1	

Relinquished by: _____ 3/23/10 1830
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/2010
Page: 6 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (03/23/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-076	M3.1-Sur-DOC	1151						✓						M3 1	
	-077	M3.1-Deep-DOC	1200 ~~1151~~						✓						M3 1	
	-078	M3.1-Sur-OG	1151							✓					M3 1	
	-079	M3 1-Deep-OG	1151							✓					M3 1	
	-080	M3.1-Sur-OSAL	1151								✓				M3 1	
	-081	M3.1 Deep-OSAL	1151								✓				M3.1	
	-082	BMØ1-TME	1252		✓	✓									BMØ1	
	-083	BMØ1-TSS	1252				✓								BMØ1	Brem Marina
	-084	BMØ1-NUT	1252					✓							BMØ1	
	-085	BMØ1-DOC	1252						✓						BMØ1	
	-086	BMØ1-OSAL	1252								✓				BMØ1	
	-087	PSI2-TME	1305		✓	✓									PS12	~~Received 10/3 Sabrina~~
	-088	PSI2-TSS	1305				✓								PS12	
	-089	PS12-NUT	1305					✓							PS12	
	-090	PSI2-DOC	1305						✓						PS12	

Relinquished by: _____ 3/23/10 1830
Signature Date Time

Printed Name Company

Received by:
Signature

Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:

Relinquished by:
Signature Date Time

Printed Name Company

Received by:
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/2016

Page: 7 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB03

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	03/23/2016 Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	O&AL			No. of containers	StationID	Comments
	AMB03-091	PS12 - OSAL	1305								✓			1	PS12	
	-092	~~PS12~~ BJEST-TME	1315		✓	✓								1	BJEST	7ft depth Cover Salinity
	-093	BJEST - TSS	1315				✓							1	BJEST	
	-094	BJEST - NUT	1315					✓						1	BJEST	
	-095	BJEST - DOC	1315						✓					1	BJEST	
	-096	BJEST - OG	1315							✓				1	BJEST	
	-097	BJEST - OSAL	1315								✓			1	BJEST	
	-098	M4 - TME	1333		✓	✓								1	M4	No red ~~Algae~~ Red
	-099	M4 - TSS	1333				✓							1	M4	No red Algae present
	-100	M4 - NUT	1333					✓						1	M4	in water but
	-101	M4 - DOC	1333						✓					1	M4	patchy
	-102	M4 - OG	1333							✓				1	M4	
	-103	M4 - OSAL	1333								✓			1	M4	
	-104	PS01 - TME	1404		✓	✓								1	PS01	
	-105	PS01 - TSS	1404				✓							1	PS01	

Relinquished by: _____ 3/23/16 1830
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
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Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/23/2010
Page: 8 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB03

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-106	PS01 - NUT	1409					✓						1	PS01	
	-107	PS01 - DOC	1409						✓					1	PS01	
	-108	PS01 - OG	1409							✓				1	PS01	
	-109	PS01 - OSAL	1409								✓			1	PS01	
	-110	M4-Dup-TME	1345		✓	✓								1	M4	Red - Resampled Algae
	-111	M4-Dup-TSS	1345				✓							1	M4	Red "
	~~-112~~	~~M4-Dup-NUT~~	~~1345~~					✓						1	M4	EM
	~~-113~~	~~M4-Dup-DOC~~	~~1345~~						✓					1	M4	EM
	-114	PS02 - TME	1418		✓	✓								1	PS02	
	-115	PS02 - TSS	1418				✓							1	PS02	
	-116	PS02 - NUT	1418					✓						1	PS02	
	-117	PS02 - DOC	1418						✓					1	PS02	
	-118	PS02 - OSAL	1418								✓			1	PS02	
	-119	PS13 - TME	1425		✓	✓								1	PS13	
	-120	PS13 - TSS	1425				✓							1	PS13	

Relinquished by: _____ 3/23/10 1830
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/2010
Page: 9 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB03

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID	Comments
	AMB03-121	PS13 - NUT	03/23/2010 1425					✓						1	PS13	
	-122	PS13 - DOC	1425						✓					1	PS13	
	-123	PS13 - OSAL	1425								✓			1	PS13	
	-124	DD4 - TME	Comp 1200		X	X									DD4	sand trap
	-125	DD4 - TSS					X								DD4	"
	-126	DD5 - TME			X	X									DD5	pumpwell
	127	DD5 - TSS					X								DD5	"
	128	DD4 - NUT						X							DD4	sand trap
	129	DD4 - DOC							X						DD4	"
	130	DD5 - NUT						X							DD5	pumpwell
	131	DD5 - DOC	↓ ✓						X						DD5	"
	132	NPDES018 - TME			X	X									NPDES018	
	133	NPDES018 - TSS					X								NPDES018	
	134	NPDES018 - NUT						X							"	
	135	NPDES018 - DOC							X						"	

Relinquished by: _____ 3/23/10 1830
Signature Date Time

Printed Name Company

Received by:
Signature

Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:

Relinquished by:
Signature Date Time

Printed Name Company

Received by:
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

page 10 of 10

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/23/2010

Battelle
. . . Putting Technology To Work

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST
Project Manager:
Phone Number:

Shipment Method:
Preservation:

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Metals (TME/DME)	Hg	TSS/TS	NUT/TOC	DOC	Oil & Grease	Laboratory ID	Observations/Comments
1	AMB03-136	24 composited 1200	3/23/10 seawater							X	NPDES018-OG	
2	AMB03-137				X	X					NPDES021-TME	
3	-138						X				NPDES021-TSS	
4	-139							X			NPDES021-NUT	
5	-140								X		NPDES021-DOC	
6											~~NPDES021-OG~~	JMB 3/23/2010
7												
8												
9												
10												
11												
12												
13												
14												
15												

Relinquished By:	Company:	Received By:	Company:
JMB 3/23/10	1830		
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

SPAWAR
Systems Center San Diego

ENVIRONMENTAL SCIENCES AND
APPLIED SYSTEMS BRANCH, CODE 71750
53605 HULL STREET
SAN DIEGO, CA 92152-5000

Chain of Custody Record

Date: 3/23/10

PSNS + IMF

Project Title/Project Number: ENVVEST AMBIENT MONITORING STUDY (AMB03)			**Project Leader:** BOB JOHNSTON
Remarks/Air Bill:			**Contact:**
Sampler(s): (Signature) GUNTHER ROSEN			**Contact Tel:**
Tel: 619-553-2836	**Fax:**	**Email:**	**Requested Analyses**

Special Instructions:

Field Sample Identification	Date	Time	Matrix	Type	Temp (°C)	SALINITY	ACUTE MYOID	KELP TOX	BIVALVE TOX	ECHINO TOX	3 NITE					
AMB03TOX01 – PS14	3/23/10	0920	SW	GRAB	9.7	27.1	✓	✓	✓	✓	✓					
AMB03TOX02 – PS03	3/23/10	0945	SW	GRAB	9.7	27.5	✓	✓	✓	✓	✓					
AMB03TOX03 – PS08	3/23/10	1020	SW	GRAB	9.0	23.5	✓	✓	✓	✓	✓					
AMB03TOX04 GR PS15	3/23/10	1030	SW	GRAB	9.5	23.2	✓	✓	✓	✓	✓					
AMB03TOX05 – PS09	3/23/10	1040	SW	GRAB	9.7	26.8	✓	✓	✓	✓	✓					
AMB03TOX06 – M3.1	3/23/10	1200	SW	GRAB	10.0	28.3	✓	✓	✓	✓	✓					
AMB03TOX07 – BJ-EST	3/23/10	1330	SW	GRAB	11.4	26.1	✓	✓	✓	✓	✓					
AMB03TOX08 – M4	3/23/10	1359	SW	GRAB	14.4	26.1	✓	✓	✓	✓	✓					
AMB03TOX09 – PS01	3/23/10	1415	SW	GRAB	12.7	26.6	✓	✓	✓	✓	✓					
AMB03~~DD03~~ GR – NPDES18	3/23/10	1600	SW	COMP	~~15.3~~ GR 10.2	20.2										
AMB03 DD04 GR – NPDES21	3/23/10	1600	SW	COMP	10.0	0.8										
~~AMB03 DD03 – DD4~~																

Relinquished by: (Signature) Gunther Rosen	**Received by: (Signature)**	**Date:** 3/24/10	**Time:** 1020
Relinquished by: (Signature)	**Received by: (Signature)**	**Date:**	**Time:**

SPAWAR
Systems Center San Diego

ENVIRONMENTAL SCIENCES AND
APPLIED SYSTEMS BRANCH, CODE 71750
53605 HULL STREET
SAN DIEGO, CA 92152-5000

Chain of Custody Record

Date: 3/23/10

Project Title/Project Number: PSNSbIMF AMB03 (Ambient Monitor & Tox testing)			**Project Leader:** BOB JOHNSTON
Remarks/Air Bill:			**Contact:**
Sampler(s): (Signature) GUNTHER ROSEN			**Contact Tel:**
Tel: 360 782-0113	**Fax:**	**Email:** johnstonc@spawar.navy.mil	**Requested Analyses**

Special Instructions:
DD4 – Test all tox tests
DD5 – Do what tox tests we can.

Field Sample Identification	Date	Time	Matrix	Type	Temp (°C)	Salinity	Acute Mysid	Bivalve Tox	Kelp Tox	Echino Tox	Qwiklite					
AMB03DD-01 DD4 Sand Trap	3/22/2010	1515	water	2.5gal	9.0	11.2	✓	✓	✓	✓	✓					20
AMB03DD-02 DD5 PWS	3/23/2010	1535	water	2.5gal	9.3	10.8		✓		✓	✓					20
	3/22															

Receipt Temp

Relinquished by: (Signature)	**Received by: (Signature)**	**Date:** 3/24/10	**Time:** 1020
Relinquished by: (Signature)	**Received by: (Signature)**	**Date:**	**Time:**

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/24/2010
Page: 1 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB03-300	PWNLP-TME	0930	Seawater	X	X								1	PWNLP	
	301	PWNLP-TSS	0930				X							1	PWNLP	
	302	PWNLP-Nuts&C	0930					X						1	PWNLP	
	303	PWNLP-~~OSAL~~DOC	0930						X					1	PWNLP	
	304	PWNLP-OSAL	0930							X				1	PWNLP	
	305	M6-TME	0946		X	X								1	M6	
	306	M6-TSS					X							1	M6	
	307	M6-Nut						X						1	M6	
	308	M6-DOC							X					1	M6	
	309	M6-OSAL								X				1	M6	
	310	MB-TME	1007		X	X								1	MB	scum on water
	311	MB-TSS					X							1	MB	
	312	MB-Nut						X						1	MB	
	313	MB-DOC							X					1	MB	
	314	MB-OSAL								X				1	MB	

Relinquished by: _____ 3/24/10 1700
Signature Date Time
Printed Name Company

Received by: _____ MSL 1800
Signature 3/24/10
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carried

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/24/2010
Page: 2 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (CG 3/04/24/10)	Matrix (Seawater)	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB03-315	M7-TME	1028		X	X								1	M7	
	316	M7-TSS					X							1		
	317	M7-Nut						X						1		
	318	M7-DOC							X					1		
	319	M7-OSAL								X				1		
	320	M5-TME	1042		X	X								1	M5	
	321	M5-TSS					X							1		
	322	M5-Nut						X						1		
	323	M5-DOC							X					1		
	324	M-5-OSAL								X				1		
	325	CLAMBAY-TME	1131		X	X								1	CLAMBAY	
	326	CLAMBAY-TSS					X							1		
	327	CLAMBAY-Nut						X						1		
	328	CLAMBAY-DOC							X					1		
	329	CLAMBAY-OSAL								X				1		

Relinquished by: JMB — 3/24/10 — 1700
Signature — Date — Time
Printed Name — Company

Received by: MSL 1800
Signature
C. Sussman 3/24/10
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carried

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/24/2010
Page: 3 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB03-330	surface M2 - TME	1147	Seawater	X	X								1	M2 surf.	
	331	surface M2 - TSS					X							1		
	332	surface M2 - Nut						X						1		
	333	surface M2 - DOC							X	X				1		
	334	surface M2 - OSAL								X				1		
	335	M2 DEEP - TME	1158		X	X								1	M2 deep	about 32 ft. deep
	336	M2 DEEP - TSS					X							1		
	337	M2 DEEP - Nut						X						1		
	338	M2 DEEP - DOC							X					1		
	339	M2 DEEP - OSAL								X				1		
	340	WP - TME	1219		X	X								1	WP	
	341	WP - TSS					X							1		
	342	WP - Nut						X						1		
	343	WP - DOC							X					1		
	344	WP - OSAL								X				1		

Relinquished by: _____ 3/24/10 1700
Signature Date Time
_____
Printed Name Company

Received by: _____ MSL 1800
Signature
C. Sussich 3/24/10
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carried
Sample Disposition:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/24/2010
Page: 4 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB03-345	ILSP - TME	1228	seawater	X	X								1	ILSP	
	346	ILSP - TSS					X							1		
	347	ILSP - Nuts						X						1		
	348	ILSP - DOC							X					1		
	349	ILSP - OSAL								X				1		
	350	MIsurface - TME	1245		X	X								1	MIsurface	
	351	MIsurface - TSS					X							1		
	352	MIsurface - Nuts						X						1		
	353	MIsurface - DOC							X					1		
	354	MIsurface - OSAL								X				1		
	355	MI DEEP - TME	1252		X	X								1	MI DEEP	Depth about 36 ft.
	356	MI DEEP - TSS					X							1		
	357	MI DEEP - Nuts						X						1		
	358	MI DEEP - DOC							X					1		
	359	MI DEEP - OSAL								X				1		

Relinquished by: _____ Signature 3/24/10 Date 1700 Time
_____ Printed Name _____ Company

Received by: _____ Signature MSL 1800
C. Sussich 3/24/10 Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carried

Sample Disposition:

Relinquished by: _____ Signature _____ Date _____ Time
_____ Printed Name _____ Company

Received by: _____ Signature
_____ Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/24/2010

Page: 5 of 6

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB03 -360	SN11 - TME	1321	seawater	X	X								1	SN11	
	361	SN11 - TSS					X							1		
	362	SN11 - Nuts						X						1		
	363	SN11 - DOC							X					1		
	364	SN11 - OSAL								X				1		
	365	SN10 - TME	1332		X	X								1	SN10	
	366	SN10 - TSS					X							1		
	367	SN10 - Nuts						X						1		
	368	SN10 - DOC							X					1		
	369	SN10 - OSAL								X				1		
	370	SN08 - TME	1344		X	X								1	SN08	red algea and jellyfish
	371	SN08 - TSS					X							1		
	372	SN08 - Nuts						X						1		
	373	SN08 - DOC							X					1		
	374	SN08 - OSAL								X				1		

Relinquished by: [signature] 3/24/10 1700
Signature Date Time

Printed Name Company

Received by: [signature] MSL 1800
Signature

C. Sussich 3/24/10
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: hand carried

Sample Disposition:

Relinquished by:
Signature Date Time

Printed Name Company

Received by:
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/24/2010
Page: 6 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Observations, Instructions / Comments
	AMB03-375	SN05 - TME	1354		X	X								1	SN05	Tide going out, turbid waters
	376	SN05 - TSS					X							1		
	377	SN05 - Nuts						X						1		
	378	SN05 - DOC							X					1		
	379	SN05 - OSAL								X				1		
	380	SN03 - TME	1405		X	X								1	SN03	Green Algea
	381	SN03 - TSS					X							1		
	382	SN03 - Nuts						X						1		
	383	SN03 - DOC							X					1		
	384	SN03 - OSAL								X				1		
	385	M3.3 TME	1415		X	X								1	M3.3	
	386	M3.3 TSS					X							1		
	387	M3.3 Nuts						X						1		
	388	M3.3 DOC							X					1		
	389	M3.3 OSAL								X				1		

Relinquished by: _____ 3/24/10 1700
Signature Date Time
Printed Name Company

Received by: _____ MSL 1800
Signature
C. Sullivan 3/24/10
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carried

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector		ENVVEST Johnston	PSNS Project ENVVEST		Page 1 of 2	
Sampling Team		Johnston Brandenberger	Ambient Monitoring		March 23 2010	
Organization		Risen, Mollerstuen, Yeager, Beck				
Use pre-assigned id	mm/dd/yy hh:mm	mm/dd/yy hh:mm		DD.ddd DD MM.dd	DD.dd DD. MM'.mmm	
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
AMB03-PS07	03/23/2010 0840	0854	NS	47.55528 / 47 33.31	122.64166 / 122 38'.499	
AMB03-PS06	0904	0908	NS	47.55304 / 47 33'.184	122.64194 / 122 38'.519	Nimitz going out
AMB03-PS14	0910	0916	NS	47.55248 / 47 33'.147	122.64335 / 122 38'.601	
AMB03-PS03	0927	0940	NS	47.55583 4733'.350	122.65154 39'.091	Small Boat operating near By
AMB03-PS04	0944	0952	NS	47.55439 33'.263	122.64713 38'.830	charlie Pier
AMB03-PS05	0954	0959	NS	47.55545 33'.329	122.64547 38'.732	near construction site
AMB03-PS08	1006	1016	NS	47.55785 33'.47	122.63878 38'.328	
AMB03-PS15	1020	1026	NS	47.5558 33'.348	122.63615 38'.169	
AMB03-PS09	1030	1036	NS	47.56015 33'.604	122.63587 38'.159	Oil sheen on water
AMB03-PS10	1042	1049	NS	47.56043 33'.626	122.63268 37'.961	
AMB03-PS11	1053	1101	NS	47.5601 33'.604	122.62915 37'.751	
AMB03-PS16	1104	1112	NS	47.55861 33'.518	122.62812 37'.688	Sea Lion 2
AMB03-PS16A	1114	1119	NS	47.55816 33'.49	122.62606 37.681	Sea Lion 8
AMB03 PS16B	1120	1125	NS	47.55 757 33'.455	122.6288 37'.732	Sea Lion 9
AMB03 PS16C	1126	1131	NS	47.55679 33'.408	122.62953 37'.774	Sea Lion 8
AMB03-M3.1	1148	1156	NS	47.56264 33'.757	122.6123 36'737	jellies & slime section surface layer bowing
AMB03 M3.1 Deep	1200	1220	M	47.56022 33'.613	122.6153 36'910	
AMB03-BM01	1250	1258	NS	47.5628	122.62055	Brem Marina
AMB03-PS12	1303	1308	N	47.56053 33'.621	122.62648 37'.586	
AMB03-BS BS1	1316	1322	N	47.54702 32'.817	122.62814 37'.691	7ft
AMB03-M4	1333		M	47.54271 32'.56	122.62621 39'.959	Reddish Algae in water very thick

Data Package, ENVVEST Ambient Monitoring, AMB03

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other, specify

Station Log

Sample Collector	ENVVEST		PSNS Project ENVVEST		Page 2 of 2
Sampling Team			Ambient Monitoring		
Organization			March 23, 2010		
Use pre-assigned id	mm/dd/yy hh:mm	mm/dd/yy hh:mm	AMB03		
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
AMB03 M4 Dup	1341	1350	M	47.54204 32.519	122.66076 40'.064	Mossed in patch of Red Algae
AMB03 PS01	1404	1411	NS	47.55332 33'.196	122.65760 39'.442	
AMB03 PS02	1414	1420	NS	47.55444	122.65476	
AMB03-PS13	1424	1429	NS	47.5519	122.65339	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	YEAGER	PSNS Project ENVVEST	
Sampling Team		Ambient Monitoring	
Organization	PSNS & IMF	Instrument: HORIBA U-22 / HACH 2000 (TURB.)	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	(C)		mS/cm	NTU	mg/L	m	
SampleID	StationID	Date/Time	Temp	pH	Cond	Turbidity	DO	Depth	Salinity (%) Remarks/ Comments
AMB03_PS07	PS07	03/23/10/08:40	10.14	7.65	4.90	0.7	10.59	1	3.1 TURB CHECK (5.90 NTU/105%) - 5.94 NTU
AMB03-PS06	PS06	03/23/10/09:05	10.40	7.81	4.94	0.6	9.71	1	3.2
AMB03-PS14	PS14	03/23/10/09:13	10.58	7.80	4.90	0.6	9.41	1	3.2
AMB03-PS03	PS03	03/23/10/09:29	10.44	7.76	4.97	2.0	9.42	1	3.2
AMB03-PS04	PS04	03/23/10/09:48	10.72	7.78	4.88	0.5	9.47	1	3.1 - 5.74 NTU
AMB03-PS05	PS05	03/23/10/09:57	10.63	7.86	4.92	0.6	9.73	1	3.2
AMB03-PS08	PS08	03/23/10/10:10	10.31	7.84	4.91	0.6	9.61	1	3.1
AMB03-PS15	PS15	03/23/10/10:22	10.12	7.86	4.92	1.2	9.58	1	3.1 REFRACTOMETER = 3.0
AMB03-PS09	PS09	03/23/10/10:32	10.15	7.87	4.89	0.8	9.63	1	3.1 REFRACTOMETER = 3.5
AMB03-PS10	PS10	03/23/10/10:45	10.24	7.87	4.91	0.7	9.76	1	3.1 - 5.72 NTU
AMB03-PS11	PS11	03/23/10/10:56	10.57	7.87	4.96	0.6	9.58	1	3.2
AMB03-PS16	PS16	03/23/10/11:08	10.43	7.87	4.94	0.6	9.74	1	3.2
AMB03-PS16A	PS16A	03/23/10/11:17	10.65	7.87	4.90	0.7	9.86	1	3.1
AMB03-PS16B	PS16B	03/23/10/11:23	10.71	7.86	4.88	0.5	9.83	1	3.1
AMB03-PS16C	PS16C	03/23/10/11:30	10.36	7.90	4.92	0.5	10.12	1	3.1 - 5.79 NTU
AMB03-M3.1	M3.1	03/28/10/11:52	10.57	7.89	4.96	0.7	9.90	1	3.2
	DEEP	03/28/10/12:04	10.00	7.85	4.98	0.5	9.67	10	3.2 REFRACTOMETER = 3.0
		03/28/10/12:06	9.98	7.84	4.99		9.47	15	3.2
		03/28/10/12:09	9.96	7.83	4.99		9.34	20	3.2
		03/28/10/12:11	9.96	7.83	4.98		9.35	25	3.2
AMB03-BM01	BM01	03/28/10/12:50	10.47	7.89	5.01	0.5	10.27	1	3.2

Water Quality Log

Sample Collector	YEAGER	PSNS Project ENVVEST	
Sampling Team		Ambient Monitoring	
Organization		Instrument: HORIBA U-22 / HACH 2100P	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	C		S/m	NTU	g/L	m	Salinity	
SampleID	StationID	Date/Time	Temp	pH	Cond	Turbidity	DO	Depth		Remarks/ Comments
AMB03-PS12	PS12	03-23-10 / 13:06	10.63	7.89	4.87	0.4	10.12	1	3.1	TURB CK ERR = 5.96 ±10%
AMB03-BJEST	BJ-EST	03-23-10 / 13:17	10.62	7.97	4.90	0.7	10.90	1	3.1	REFRACTOMETER = 2.6%
AMB03-M4	M4	03-23-10 / 13:36	11.24	8.37	4.88	1.3 ; 11.5 (1ST ; 2ND)	14.21	1	3.1	REFRACTOMETER = 2.8% RED WATER TOOK 2ND MEAS.
DUP	M4-DUP	03-23-10 / 13:45	11.35	8.51	4.81	11.5	15.67	1	3.1	- TURB CHECK = 5.87 NTU DEEPER RED COLOR
AMB03-PS01	PS01	03-23-10 / 14:05	11.10	7.97	4.90	0.7	10.81	1	3.1	REFRACTOMETER = 3.0%
AMB03-PS02	PS02	03-23-10 / 14:15	10.92	7.95	4.86	0.8	10.72	1	3.1	REFRACTOMETER = 2.7%
AMB03-PS13	PS13	03-23-10 / 14:28	10.05	7.92	4.90	0.9	10.64	1	3.1	REFRACTOMETER = 2.9% TURB CHECK = 5.84 NTU

3/24/2010

Collector	ENVVEST	PSNS Project ENVVEST	Page ___ of ___
ng Team		Ambient Monitoring	
Organization	Bob Johnston, Jill Brancten berger, Eric Mollerstuen, Bruce Beak, Charity Garland		

Use pre-assigned id m/dd/yy hh:mm/dd/yy hh:mm

StationID	Time Arrive Date/Time (3/24/2010)	Time Leave Date/Time	Station Type	LAT DD.ddd MM.mm	LONG	Remarks/ Comments
AMB03-Evergreen Park	0900	0938	E	47.57459 34'.47N	122.62707 37'.624	26 Sea Lions + 1 Eagle
AMB03-pwrlp	0930	0938	NS	47.58400 35'040	122.64441 38'.664	
AMB03-M6	0946	0956	M	47.59721 35'.228	122.68155 40'.890	
AMB03-M8	1007	1014	M	47.57308 34'.383	122.67680 40'.611	scum on water/pollen
AMB03-M7	1027	1035	M	47.62551 37'.531	122.67924 41'.352	
AMB03-M5	1040	1048	M	47.61172 36'.702	122.66833 40'101	
AMB03-CLAMBAY	1131	1135	NS	47.57098 34'.258	122.54838 32'.909	
AMB03-M2surf	1145	1208	M	47.57930 34'.758	122.53855 32'.318	
AMB03-M2Deep	1145	1208	M	"	"	Depth about 82 ft.
AMB03-WP	1215	1220	NS	47.58435 35'.057	122.57100 34'.260	
AMB03-ILSP	1227	1234	NS	47.59992 35'.990	122.59371 35'.623	pollen, needles, off from pier
AMB03-M1surface	1242	1302	M	47.63011 37'.800	122.58531 35'.117	
AMB03-M1 DEEP	1242	1302	M	"	"	Depth about 36 ft.
AMB03-SN11	1319	1327	NS	47.54352 32'.609	122.63543 38'.127	
AMB03-SN10	1331	1337	NS	47.54096 32'.456	122.64224 38'.535	
AMB03-SN08	1340	1348	NS	47.54011 32'.454	122.66283 39'.770	red algae and jellyfish
AMB03-SN05	1351	1358	NS	47.53111 31'.861	122.68470 41'.082	Tide going out, turbid waters
AMB03-SN03	1403	1409	NS	47.54725 32'.835	122.67031 40'.219	Green Algae
AMB03-M3.3	1413	1420	M	47.~~54840~~ 32'.899 (47.54840)	122.~~64281~~ 38'.570 (122.64281)	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Mar 26 10 08:15a Dr. R.K. Johnston 360-824-6279 p.1

p.2
360-824-6279
Dr. R.K. Johnston
Mar 26 10 08:15a

Water Quality Log

Sample Collector	Mollerstuen	PSNS Project ENVVEST	
Sampling Team		Ambient Monitoring	
Organization	PSNS + IMF	Instrument:	

Use pre-assigned id	Use allowable code only	3/24/10 mm/dd/yy hh:mm	(C)		mS/cm²	NTU	DO data suspect	mft		ft	Salinity (%)	Refractometer (%)
SampleID	StationID	Date/Time	Temp	pH	Cond	Turb	DO	Depth	Sechi Depth	Bottom Depth	Remarks/ Comments	* Sechi Depth = Bottom Depth
AMB03-PWNLP	PWN LP	0931	10.34	7.83	4.96	.49	17.70	3	EM 8*	8	3.2	3.0
- M6	M6	0951	11.18	7.91	4.87	.56	18.15	3	25	31	3.1	3.0
- M8	M8	1011	11.00	7.92	4.82	.59	18.70	3	17	21	3.1	3.0
- M7	M7	1030	10.57	7.89	4.89	.38	18.08	3	33	68	3.1	3.1
- M5	M5	1043	10.72	7.87	4.86	.50	18.18	3	29	97	3.1	3.0
- CLAMBAY	CLAMBAY	1132	10.03	7.78	4.96	.47	18.02	3	*	8	3.2	3.2
- M2 surface	M2 surface	1147	10.10	7.85	5.01	.41	18.04	3	30	70	3.2	3.0
- M2 Deep	M2 Deep	1154	9.90	7.77	5.02	.90	16.85	30	30	~~70~~ 83	3.2	3.1
- M2 Deep 2	M2 Deep 2	1205	9.75	7.72	5.02	—	16.13	60	30	86	3.2	—
- WP	WP	1217	10.49	7.86	4.90	.69	18.33	3	*	22	3.1	3.1
- ILSP	ILSP	1229	11.12	8.03	4.94	.37	19.36	3	25	43	3.2	3.0
- M1 surface	M1 surface	1244	11.45	8.09	4.93	.47	19.85	3	26	115	3.2	3.0
- M1 Deep	M1 Deep	1250	10.15	7.89	4.98	.55	17.95	30	26	115	3.2	3.0
- M1 Deep 2	M1 Deep 2	1255	10.08	7.87	4.99	—	17.33	60	26	115	3.2	—
- SN11	SN11	1321	10.72	7.96	4.87	.58	19.99	3	21	24	3.1	2.5
- SN10	SN10	1335	11.24	7.97	4.89	.54	19.99	3	*	10	3.1	2.9
- SN08	SN08	1342	11.18	8.55	4.88	7.36	19.99	3	5	29	3.1	3.0
- SN05	SN05	1354	12.11	8.40	4.73	1.26	19.99	3	*	8	3.0	2.3
- SN03	SN03	1407	11.97	8.31	4.83	.55	19.99	3	*	15	3.1	2.8
- M3.3	M3.3	1415	11.43	8.10	4.81	.54	19.27	3	21	45	3.1	3.0
	PS07	1456							26			Return to Dock

20 m

Red

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/24/2010

Battelle
. . . Putting Technology To Work

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST - AMB03 (March 2010)
Project Manager: Brandenberger
Phone Number: 681-4564

Shipment Method: Prepared at MSL
Preservation: HNO3

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Total Metals	Test Parameters: Dissolved Metals	Test Parameters	Test Parameters	Test Parameters	Laboratory ID	Observations/Comments
1	AMB03-390	3/24/2010	WATER	1	X					3106-185	EB032410-1-TME
2	AMB03-391	3/24/2010	WATER	1		X				3106-186	EB032410-1-DME
3	AMB03-392	3/24/2010	WATER	1	X					3106-187	EB032410-2-TME
4	AMB03-393	3/24/2010	WATER	1		X				3106-188	EB032410-2-DME
5	AMB03-394	3/24/2010	WATER	1	X					3106-189	EB032410-3-TME
6	AMB03-395	3/24/2010	WATER	1		X				3106-190	EB032410-3-DME
7	-end-										
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time: 3/24/10 1800	Signature/Printed Name: C. Sussman	Date/Time: 3/24/10 1800
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 95- ~~181~~ of -190 Batch: 4 | 5

Project Name: ENVVEST AMB03 Project Manager: JD

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

hand delivered to Lab Bat 4 3/23/10 Bat 5 3/24/10

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☐	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) ~~°C~~ NA °C
☑	☐	☐	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Other:

Notes: _____

Completed By: _____ Date/Time: 3/24/10 1730

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
☐	Random pH checked for ~10% of samples (use dip paper) Sample IDs:
☐	Complete pH check required for project (use pH meter and record on pH Record form)
☑	Sample(s) were preserved at MSL (metals)

Type:	☑	0.2% HNO3	Notes: optima	Lot# 12070606
	☐	0.5% HCl (Hg samples)	Notes:	Lot#
	☐	Refrigerate/Freeze	Notes:	
	☐	Other	Notes:	

Completed By: _____ Date/Time: 3/23/10 2100

Storage Shelf: Prep Lab - Various Shelves

Analytical Chemistry Data Package
Conventional Analysis

Project: ENVVEST Ambient Monitoring March 2010 (AMB03)

K1002799
K1002881

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Laboratory	**Service Request No.:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Received:**	3/25/10
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Aqueous samples were received for analysis at Columbia Analytical Services on 3/25/10. The samples were received in good condition and consistent with the accompanying chain of custody. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Comments

The results were reported to the CAS/Kelso Method Detection Limit (MDL), which is supported by MDL studies performed annually. The MDL studies were conducted according to 40 CFR Part 136, Appendix B.

Total Solids (TS) by SM 2540B

No anomalies associated with the analysis of these samples were observed.

Total Suspended Solids by SM 2540D

No anomalies associated with the analysis of these samples were observed.

Nitrate + Nitrite by EPA Method 353.2

No anomalies associated with the analysis of these samples were observed.

Ammonia as Nitrogen by EPA Method 350.1

No anomalies associated with the analysis of these samples were observed.

Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC) by SM 5310C

The DOC was higher than the associated TOC for a number of samples. Inspection of all raw data, sequences, and associated QA/QC measurements indicated the elevated DOC was probably a result of contribution during the field filtration procedure.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 4/15/10

Total Phosphorus by EPA Method 365.3

No anomalies associated with the analysis of these samples were observed.

Total Kjeldahl Nitrogen by EPA Method 351.4

No anomalies associated with the analysis of these samples were observed.

Hexane Extractable Material by EPA Method 1664

No anomalies associated with the analysis of these samples were observed.

Approved by_____ **Date** 4/15/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-003	K1002799-002	0.010	0.003	1	04/02/10	0.042	
AMB03-008	K1002799-005	0.010	0.003	1	04/02/10	0.080	
AMB03-013	K1002799-008	0.010	0.003	1	04/02/10	0.046	
AMB03-019	K1002799-012	0.010	0.003	1	04/02/10	0.024	
AMB03-025	K1002799-016	0.010	0.003	1	04/02/10	0.022	
AMB03-029	K1002799-019	0.010	0.003	1	04/02/10	0.050	
AMB03-034	K1002799-022	0.010	0.003	1	04/02/10	0.024	
AMB03-039	K1002799-025	0.010	0.003	1	04/02/10	0.050	
AMB03-045	K1002799-029	0.010	0.003	1	04/02/10	0.040	
AMB03-051	K1002799-033	0.010	0.003	1	04/02/10	0.034	
AMB03-057	K1002799-037	0.010	0.003	1	04/02/10	0.040	
AMB03-062	K1002799-040	0.010	0.003	1	04/02/10	0.029	
AMB03-067	K1002799-043	0.010	0.003	1	04/02/10	0.061	
AMB03-074	K1002799-047	0.010	0.003	1	04/02/10	0.023	
AMB03-075	K1002799-048	0.010	0.003	1	04/02/10	0.039	
AMB03-084	K1002799-054	0.010	0.003	1	04/02/10	0.032	
AMB03-089	K1002799-057	0.010	0.003	1	04/02/10	0.025	
AMB03-094	K1002799-060	0.010	0.003	1	04/02/10	0.026	
AMB03-100	K1002799-064	0.010	0.003	1	04/02/10	0.041	
AMB03-106	K1002799-068	0.010	0.003	1	04/02/10	0.084	
AMB03-116	K1002799-073	0.010	0.003	1	04/02/10	0.049	
AMB03-121	K1002799-076	0.010	0.003	1	04/02/10	0.055	
AMB03-128	K1002799-080	0.010	0.003	1	04/02/10	0.098	
AMB03-130	K1002799-082	0.020	0.006	2	04/09/10	0.510	
AMB03-134	K1002799-085	0.010	0.003	1	04/02/10	0.157	
AMB03-139	K1002799-089	0.010	0.003	1	04/02/10	0.026	
Method Blank	K1002799-MB	0.010	0.003	1	04/02/10	ND	
Method Blank	K1002799-MB	0.010	0.003	1	04/02/10	ND	
Method Blank	K1002799-MB	0.010	0.003	1	04/09/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/02/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB03-003	Units :	mg/L
Lab Code :	K1002799-002DUP	Basis :	NA

Test Notes :

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.042	0.032	0.037	27	*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/09/10

Duplicate Summary
Inorganic Parameters

Sample Name :	Batch QC	Units :	mg/L
Lab Code :	K1002821-002DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	ND	ND	ND	-	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/02/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-003		Units :	mg/L
Lab Code :	K1002799-002MS	K1002799-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.042	0.230	0.237	94	98	90-112	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/09/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	Batch QC		Units :	mg/L
Lab Code :	K1002821-002MS	K1002821-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	ND	0.206	0.208	102	103	90-112	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/02/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.3	100	90-112	
Ammonia as Nitrogen	NONE	350.1	14.3	14.3	100	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/09/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.6	102	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/2/2010	0.250	0.239	96
CCV2 Result	4/2/2010	0.250	0.240	96
CCV3 Result	4/2/2010	0.250	0.262	105
CCV4 Result	4/2/2010	0.250	0.252	101
CCV5 Result	4/2/2010	0.250	0.247	99
CCV6 Result	4/2/2010	0.250	0.245	98
CCV7 Result	4/2/2010	0.250	0.260	104
CCV8 Result	4/2/2010	0.250	0.250	100
CCV9 Result	4/2/2010	0.250	0.248	99
CCV10 Result	4/2/2010	0.250	0.248	99
CCV1 Result	4/9/2010	0.250	0.253	101
CCV2 Result	4/9/2010	0.250	0.247	99
CCV3 Result	4/9/2010	0.250	0.240	96
CCV4 Result	4/9/2010	0.250	0.236	94
CCV5 Result	4/9/2010	0.250	0.243	97

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/2/2010	0.010	ND
CCB2 Result	4/2/2010	0.010	ND
CCB3 Result	4/2/2010	0.010	ND
CCB4 Result	4/2/2010	0.010	0.005 J
CCB5 Result	4/2/2010	0.010	0.006 J
CCB6 Result	4/2/2010	0.010	0.004 J
CCB7 Result	4/2/2010	0.010	0.006 J
CCB8 Result	4/2/2010	0.010	0.004 J
CCB9 Result	4/2/2010	0.010	0.005 J
CCB10 Result	4/2/2010	0.010	0.005 J
CCB1 Result	4/9/2010	0.010	ND
CCB2 Result	4/9/2010	0.010	ND
CCB3 Result	4/9/2010	0.010	ND
CCB4 Result	4/9/2010	0.010	ND
CCB5 Result	4/9/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method : 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB03-003	K1002799-002	0.20	0.07	1	3/30/2010	03/31/10	1.45	
AMB03-008	K1002799-005	0.20	0.07	1	3/30/2010	03/31/10	1.63	
AMB03-013	K1002799-008	0.20	0.07	1	3/30/2010	03/31/10	1.71	
AMB03-019	K1002799-012	0.20	0.07	1	3/30/2010	03/31/10	2.22	
AMB03-025	K1002799-016	0.20	0.07	1	3/30/2010	03/31/10	1.39	
AMB03-029	K1002799-019	0.20	0.07	1	3/30/2010	03/31/10	1.53	
AMB03-034	K1002799-022	0.20	0.07	1	3/30/2010	03/31/10	1.06	
AMB03-039	K1002799-025	0.20	0.07	1	3/30/2010	03/31/10	1.46	
AMB03-045	K1002799-029	0.20	0.07	1	3/30/2010	03/31/10	2.06	
AMB03-051	K1002799-033	0.20	0.07	1	3/30/2010	03/31/10	1.68	
AMB03-057	K1002799-037	0.20	0.07	1	3/30/2010	03/31/10	2.93	
AMB03-062	K1002799-040	0.20	0.07	1	3/30/2010	03/31/10	1.36	
AMB03-067	K1002799-043	0.20	0.07	1	3/30/2010	03/31/10	1.83	
AMB03-074	K1002799-047	0.20	0.07	1	3/30/2010	03/31/10	1.70	
AMB03-075	K1002799-048	0.20	0.07	1	3/30/2010	03/31/10	1.62	
AMB03-084	K1002799-054	0.20	0.07	1	3/30/2010	03/31/10	1.60	
AMB03-089	K1002799-057	0.20	0.07	1	3/30/2010	03/31/10	1.36	
AMB03-094	K1002799-060	0.20	0.07	1	3/30/2010	03/31/10	1.69	
AMB03-100	K1002799-064	0.20	0.07	1	3/30/2010	03/31/10	5.95	
AMB03-106	K1002799-068	0.20	0.07	1	3/30/2010	03/31/10	1.84	
AMB03-116	K1002799-073	0.20	0.07	1	3/30/2010	03/31/10	1.04	
AMB03-121	K1002799-076	0.20	0.07	1	3/30/2010	03/31/10	1.74	
AMB03-128	K1002799-080	0.20	0.07	1	3/30/2010	03/31/10	1.60	
AMB03-130	K1002799-082	0.20	0.07	1	3/30/2010	03/31/10	2.40	
AMB03-134	K1002799-085	0.20	0.07	1	3/30/2010	03/31/10	3.03	
AMB03-139	K1002799-089	0.20	0.07	1	3/30/2010	03/31/10	2.64	
Method Blank	K1002799-MB	0.20	0.07	1	3/30/2010	03/31/10	0.12	J
Method Blank	K1002799-MB	0.20	0.07	1	3/30/2010	03/31/10	0.14	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : 03/30/10
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-003
Lab Code : K1002799-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.45	1.52	1.49	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : 03/30/10
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-116
Lab Code : K1002799-073DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.04	0.98	1.01	6	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	03/30/10
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-003		Units :	mg/L
Lab Code :	K1002799-002MS	K1002799-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	100	1.45	60.5	108	118	107	75-125	10	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	03/30/10
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-116		Units :	mg/L
Lab Code :	K1002799-073MS	K1002799-073DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	100	1.04	47.7	114	93	113	75-125	19	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	03/30/10
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	15.2	16.6	109	85-115	
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	15.2	16.0	105	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	3/31/2010	10.0	9.98	100
CCV2 Result	3/31/2010	10.0	10.1	101
CCV3 Result	3/31/2010	10.0	9.59	96
CCV4 Result	3/31/2010	10.0	9.98	100
CCV5 Result	3/31/2010	10.0	10.2	102
CCV6 Result	3/31/2010	10.0	10.1	101

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	3/31/2010	0.050	ND
CCB2 Result	3/31/2010	0.050	ND
CCB3 Result	3/31/2010	0.050	ND
CCB4 Result	3/31/2010	0.050	0.018 J
CCB5 Result	3/31/2010	0.050	0.031 J
CCB6 Result	3/31/2010	0.050	0.016 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-003	K1002799-002	0.050	0.009	1	03/31/10	0.356	
AMB03-008	K1002799-005	0.050	0.009	1	03/31/10	0.369	
AMB03-013	K1002799-008	0.050	0.009	1	03/31/10	0.362	
AMB03-019	K1002799-012	0.050	0.009	1	03/31/10	0.366	
AMB03-025	K1002799-016	0.050	0.009	1	03/31/10	0.364	
AMB03-029	K1002799-019	0.050	0.009	1	03/31/10	0.368	
AMB03-034	K1002799-022	0.050	0.009	1	03/31/10	0.360	
AMB03-039	K1002799-025	0.050	0.009	1	03/31/10	0.366	
AMB03-045	K1002799-029	0.050	0.009	1	03/31/10	0.359	
AMB03-051	K1002799-033	0.050	0.009	1	03/31/10	0.365	
AMB03-057	K1002799-037	0.050	0.009	1	03/31/10	0.398	
AMB03-062	K1002799-040	0.050	0.009	1	03/31/10	0.369	
AMB03-067	K1002799-043	0.050	0.009	1	03/31/10	0.388	
AMB03-074	K1002799-047	0.050	0.009	1	03/31/10	0.380	
AMB03-075	K1002799-048	0.050	0.009	1	03/31/10	0.373	
AMB03-084	K1002799-054	0.050	0.009	1	03/31/10	0.323	
AMB03-089	K1002799-057	0.050	0.009	1	03/31/10	0.327	
AMB03-094	K1002799-060	0.050	0.009	1	03/31/10	0.308	
AMB03-100	K1002799-064	0.050	0.009	1	03/31/10	0.035	J
AMB03-106	K1002799-068	0.050	0.009	1	03/31/10	0.312	
AMB03-116	K1002799-073	0.050	0.009	1	03/31/10	0.319	
AMB03-121	K1002799-076	0.050	0.009	1	03/31/10	0.351	
AMB03-128	K1002799-080	0.050	0.009	1	03/31/10	0.816	
AMB03-130	K1002799-082	0.050	0.009	1	03/31/10	0.486	
AMB03-134	K1002799-085	0.050	0.009	1	03/31/10	0.529	
AMB03-139	K1002799-089	0.050	0.009	1	03/31/10	1.51	
Method Blank	K1002799-MB	0.050	0.009	1	03/31/10	0.013	J
Method Blank	K1002799-MB	0.050	0.009	1	03/31/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1002724-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.138	0.128	0.133	8	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-003
Lab Code : K1002799-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.356	0.362	0.359	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	Batch QC		Units :	mg/L
Lab Code :	K1002724-001MS	K1002724-001DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.138	2.19	2.15	103	101	86-117	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-003		Units :	mg/L
Lab Code :	K1002799-002MS	K1002799-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.356	2.38	2.36	101	100	86-117	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.7	99	88-110	
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	15.0	101	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	3/31/2010	2.00	1.97	99
CCV2 Result	3/31/2010	2.00	1.98	99
CCV3 Result	3/31/2010	2.00	1.99	100
CCV4 Result	3/31/2010	2.00	1.99	100
CCV5 Result	3/31/2010	2.00	1.95	98
CCV6 Result	3/31/2010	2.00	1.96	98
CCV7 Result	3/31/2010	2.00	1.95	98
CCV8 Result	3/31/2010	2.00	1.98	99
CCV9 Result	3/31/2010	2.00	1.95	98
CCV10 Result	3/31/2010	2.00	1.97	99

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	3/31/2010	0.050	ND
CCB2 Result	3/31/2010	0.050	ND
CCB3 Result	3/31/2010	0.050	0.014 J
CCB4 Result	3/31/2010	0.050	ND
CCB5 Result	3/31/2010	0.050	ND
CCB6 Result	3/31/2010	0.050	ND
CCB7 Result	3/31/2010	0.050	ND
CCB8 Result	3/31/2010	0.050	0.012 J
CCB9 Result	3/31/2010	0.050	ND
CCB10 Result	3/31/2010	0.050	0.030 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB03-003	K1002799-002	0.010	0.004	1	4/9/2010	04/10/10	0.086	
AMB03-008	K1002799-005	0.010	0.004	1	4/9/2010	04/10/10	0.084	
AMB03-013	K1002799-008	0.010	0.004	1	4/9/2010	04/10/10	0.079	
AMB03-019	K1002799-012	0.010	0.004	1	4/9/2010	04/10/10	0.092	
AMB03-025	K1002799-016	0.010	0.004	1	4/9/2010	04/10/10	0.096	
AMB03-029	K1002799-019	0.010	0.004	1	4/9/2010	04/10/10	0.094	
AMB03-034	K1002799-022	0.010	0.004	1	4/9/2010	04/10/10	0.081	
AMB03-039	K1002799-025	0.010	0.004	1	4/9/2010	04/10/10	0.086	
AMB03-045	K1002799-029	0.010	0.004	1	4/9/2010	04/10/10	0.091	
AMB03-051	K1002799-033	0.010	0.004	1	4/9/2010	04/10/10	0.095	
AMB03-057	K1002799-037	0.010	0.004	1	4/9/2010	04/10/10	0.098	
AMB03-062	K1002799-040	0.010	0.004	1	4/9/2010	04/10/10	0.089	
AMB03-067	K1002799-043	0.010	0.004	1	4/9/2010	04/10/10	0.089	
AMB03-074	K1002799-047	0.010	0.004	1	4/9/2010	04/10/10	0.096	
AMB03-075	K1002799-048	0.010	0.004	1	4/9/2010	04/10/10	0.089	
AMB03-084	K1002799-054	0.010	0.004	1	4/9/2010	04/10/10	0.087	
AMB03-089	K1002799-057	0.010	0.004	1	4/9/2010	04/10/10	0.089	
AMB03-094	K1002799-060	0.010	0.004	1	4/9/2010	04/10/10	0.077	
AMB03-100	K1002799-064	0.010	0.004	1	4/9/2010	04/10/10	0.450	
AMB03-106	K1002799-068	0.010	0.004	1	4/9/2010	04/10/10	0.104	
AMB03-116	K1002799-073	0.010	0.004	1	4/9/2010	04/10/10	0.084	
AMB03-121	K1002799-076	0.010	0.004	1	4/9/2010	04/10/10	0.102	
AMB03-128	K1002799-080	0.010	0.004	1	4/9/2010	04/10/10	0.166	
AMB03-130	K1002799-082	0.010	0.004	1	4/9/2010	04/10/10	0.322	
AMB03-134	K1002799-085	0.010	0.004	1	4/9/2010	04/10/10	0.147	
AMB03-139	K1002799-089	0.010	0.004	1	4/9/2010	04/10/10	0.684	
Method Blank	K1002799-MB	0.010	0.004	1	4/9/2010	04/10/10	ND	
Method Blank	K1002799-MB	0.010	0.004	1	4/9/2010	04/10/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	04/09/10
		Date Analyzed :	04/10/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB03-008	Units :	mg/L
Lab Code :	K1002799-005DUP	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.084	0.090	0.087	7	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : 04/09/10
Date Analyzed : 04/10/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-116
Lab Code : K1002799-073DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.084	0.081	0.083	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	04/09/10
		Date Analyzed :	04/10/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-008		Units :	mg/L
Lab Code :	K1002799-005MS	K1002799-005DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.084	0.397	0.716	63	63	50-144	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	04/09/10
		Date Analyzed :	04/10/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-116		Units :	mg/L
Lab Code :	K1002799-073MS	K1002799-073DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.084	0.411	0.746	65	66	50-144	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	04/09/10
		Date Analyzed :	04/10/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.323	0.340	105	88-113	
Phosphorus, Total	Method	365.3	0.323	0.340	105	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/10/2010	0.500	0.494	99
CCV2 Result	4/10/2010	0.500	0.493	99
CCV3 Result	4/10/2010	0.500	0.491	98
CCV4 Result	4/10/2010	0.500	0.491	98
CCV5 Result	4/10/2010	0.500	0.485	97
CCV6 Result	4/10/2010	0.500	0.482	96
CCV7 Result	4/10/2010	0.500	0.480	96

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/10/2010	0.010	ND
CCB2 Result	4/10/2010	0.010	ND
CCB3 Result	4/10/2010	0.010	ND
CCB4 Result	4/10/2010	0.010	ND
CCB5 Result	4/10/2010	0.010	ND
CCB6 Result	4/10/2010	0.010	ND
CCB7 Result	4/10/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Solids, Total

Analysis Method : SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-002	K1002799-001	5.0	5.0	1	03/27/10	24700	
AMB03-007	K1002799-004	5.0	5.0	1	03/27/10	29900	
AMB03-012	K1002799-007	5.0	5.0	1	03/27/10	31000	
AMB03-018	K1002799-011	5.0	5.0	1	03/27/10	31000	
AMB03-024	K1002799-015	5.0	5.0	1	03/27/10	32400	
AMB03-028	K1002799-018	5.0	5.0	1	03/27/10	31200	
AMB03-033	K1002799-021	5.0	5.0	1	03/27/10	29800	
AMB03-038	K1002799-024	5.0	5.0	1	03/27/10	27200	
AMB03-044	K1002799-028	5.0	5.0	1	03/27/10	31300	
AMB03-050	K1002799-032	5.0	5.0	1	03/27/10	29400	
AMB03-056	K1002799-036	5.0	5.0	1	03/27/10	29300	
AMB03-061	K1002799-039	5.0	5.0	1	03/27/10	32200	
AMB03-066	K1002799-042	5.0	5.0	1	03/27/10	31000	
AMB03-072	K1002799-045	5.0	5.0	1	03/27/10	31600	
AMB03-073	K1002799-046	5.0	5.0	1	03/27/10	31600	
AMB03-083	K1002799-053	5.0	5.0	1	03/27/10	32100	
AMB03-088	K1002799-056	5.0	5.0	1	03/27/10	32500	
AMB03-093	K1002799-059	5.0	5.0	1	03/27/10	28900	
AMB03-099	K1002799-063	5.0	5.0	1	03/27/10	31100	
AMB03-105	K1002799-067	5.0	5.0	1	03/27/10	29200	
AMB03-111	K1002799-071	5.0	5.0	1	03/27/10	31600	
AMB03-115	K1002799-072	5.0	5.0	1	03/27/10	28200	
AMB03-120	K1002799-075	5.0	5.0	1	03/27/10	31500	
AMB03-125	K1002799-078	5.0	5.0	1	03/27/10	12900	
AMB03-127	K1002799-079	5.0	5.0	1	03/27/10	10600	
AMB03-133	K1002799-084	5.0	5.0	1	03/27/10	22300	
AMB03-138	K1002799-088	5.0	5.0	1	03/27/10	650	
Method Blank	K1002799-MB	5.0	5.0	1	03/27/10	ND	
Method Blank	K1002799-MB	5.0	5.0	1	03/27/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/27/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB03-002	Units :	mg/L
Lab Code :	K1002799-001DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	24700	25300	25000	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : NA
Date Analyzed : 03/27/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-066
Lab Code : K1002799-042DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	31000	31400	31200	1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : NA
Date Analyzed : 03/27/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-138
Lab Code : K1002799-088DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	650	640	645	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/27/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	915	892	97	88-112	
Solids, Total	NONE	SM 2540 B	915	922	101	88-112	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Solids, Total Suspended (TSS)

Analysis Method : SM 2540 D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-002	K1002799-001	5.0	5.0	1	03/30/10	6.0	
AMB03-007	K1002799-004	5.0	5.0	1	03/30/10	6.5	
AMB03-012	K1002799-007	5.0	5.0	1	03/30/10	8.0	
AMB03-018	K1002799-011	5.0	5.0	1	03/30/10	11.5	
AMB03-024	K1002799-015	5.0	5.0	1	03/30/10	12.0	
AMB03-028	K1002799-018	5.0	5.0	1	03/30/10	7.0	
AMB03-033	K1002799-021	5.0	5.0	1	03/30/10	6.0	
AMB03-038	K1002799-024	5.0	5.0	1	03/30/10	8.0	
AMB03-044	K1002799-028	5.0	5.0	1	03/30/10	9.5	
AMB03-050	K1002799-032	5.0	5.0	1	03/30/10	8.0	
AMB03-056	K1002799-036	5.0	5.0	1	03/30/10	5.5	
AMB03-061	K1002799-039	5.0	5.0	1	03/30/10	7.5	
AMB03-066	K1002799-042	5.0	5.0	1	03/30/10	8.5	
AMB03-072	K1002799-045	5.0	5.0	1	03/30/10	8.5	
AMB03-073	K1002799-046	5.0	5.0	1	03/30/10	7.5	
AMB03-083	K1002799-053	5.0	5.0	1	03/30/10	7.5	
AMB03-088	K1002799-056	5.0	5.0	1	03/30/10	7.5	
AMB03-093	K1002799-059	5.0	5.0	1	03/30/10	8.5	
AMB03-099	K1002799-063	5.0	5.0	1	03/30/10	7.5	
AMB03-105	K1002799-067	5.0	5.0	1	03/30/10	6.5	
AMB03-111	K1002799-071	5.0	5.0	1	03/30/10	10.5	
AMB03-115	K1002799-072	5.0	5.0	1	03/30/10	ND	
AMB03-120	K1002799-075	5.0	5.0	1	03/30/10	10.0	
AMB03-125	K1002799-078	5.0	5.0	1	03/30/10	6.5	
AMB03-127	K1002799-079	5.0	5.0	1	03/30/10	ND	
AMB03-133	K1002799-084	5.0	5.0	1	03/30/10	9.5	
AMB03-138	K1002799-088	5.0	5.0	1	03/30/10	ND	
Method Blank	K1002799-MB	5.0	5.0	1	03/30/10	ND	
Method Blank	K1002799-MB	5.0	5.0	1	03/30/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/30/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-012
Lab Code : K1002799-007DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	8.0	7.0	7.5	13	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/30/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-061
Lab Code : K1002799-039DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	7.5	6.0	6.8	22	*

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : NA
Date Analyzed : 03/30/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-120
Lab Code : K1002799-075DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	10.0	10.0	10.0	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/30/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	165	156	95	80-115	
Solids, Total Suspended (TSS)	NONE	SM 2540 D	165	160	97	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Carbon, Dissolved Organic (DOC)

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-004	K1002799-003	1.0	0.1	2	03/26/10	1.6	
AMB03-009	K1002799-006	1.0	0.1	2	03/26/10	2.2	
AMB03-014	K1002799-009	1.0	0.1	2	03/26/10	1.7	
AMB03-020	K1002799-013	1.0	0.1	2	03/26/10	1.9	
AMB03-026	K1002799-017	1.0	0.1	2	03/26/10	2.0	
AMB03-030	K1002799-020	1.0	0.1	2	03/26/10	1.5	
AMB03-035	K1002799-023	1.0	0.1	2	03/26/10	1.9	
AMB03-040	K1002799-026	1.0	0.1	2	03/26/10	2.2	
AMB03-046	K1002799-030	1.0	0.1	2	03/26/10	1.6	
AMB03-052	K1002799-034	1.0	0.1	2	03/26/10	1.9	
AMB03-058	K1002799-038	1.0	0.1	2	03/26/10	2.0	
AMB03-063	K1002799-041	1.0	0.1	2	03/26/10	1.5	
AMB03-068	K1002799-044	1.0	0.1	2	03/26/10	1.9	
AMB03-076	K1002799-049	1.0	0.1	2	03/26/10	1.8	
AMB03-077	K1002799-050	1.0	0.1	2	03/26/10	1.7	
AMB03-085	K1002799-055	1.0	0.1	2	03/26/10	1.4	
AMB03-090	K1002799-058	1.0	0.1	2	03/26/10	1.3	
AMB03-095	K1002799-061	1.0	0.1	2	03/31/10	2.6	
AMB03-101	K1002799-065	1.0	0.1	2	03/31/10	2.6	
AMB03-107	K1002799-069	1.0	0.1	2	03/31/10	1.7	
AMB03-117	K1002799-074	1.0	0.1	2	03/31/10	1.8	
AMB03-122	K1002799-077	1.0	0.1	2	03/31/10	2.5	
AMB03-129	K1002799-081	1.0	0.1	2	03/31/10	2.3	
AMB03-131	K1002799-083	1.0	0.1	2	03/31/10	2.5	
AMB03-135	K1002799-086	1.0	0.1	2	03/31/10	2.6	
AMB03-140	K1002799-090	1.0	0.1	2	03/31/10	4.3	
Method Blank	K1002799-MB	0.50	0.07	1	03/26/10	ND	
Method Blank	K1002799-MB	0.50	0.07	1	03/31/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : NA
Date Analyzed : 03/26/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-004
Lab Code : K1002799-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	1.6	1.7	1.7	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1002881-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	2.0	1.8	1.9	11	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/26/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-004		Units :	mg/L
Lab Code :	K1002799-003MS	K1002799-003DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	NONE	SM 5310 C	1.0	50.0	50.0	1.6	48.0	44.9	93	87	85-108	7	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	Batch QC		Units : mg/L
Lab Code :	K1002881-003MS	K1002881-003DMS	Basis : NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	NONE	SM 5310 C	1.0	50.0	50.0	2.0	49.7	50.7	96	97	85-108	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/26/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	22.8	92	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	22.8	92	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	3/26/2010	25.0	24.5	98
CCV2 Result	3/26/2010	25.0	23.7	95
CCV3 Result	3/26/2010	25.0	22.8	91
CCV4 Result	3/26/2010	25.0	23.3	93
CCV5 Result	3/26/2010	25.0	22.7	91
CCV1 Result	3/31/2010	25.0	25.8	103
CCV2 Result	3/31/2010	25.0	25.8	103
CCV3 Result	3/31/2010	25.0	27.0	108
CCV4 Result	3/31/2010	25.0	26.8	107
CCV5 Result	3/31/2010	25.0	25.8	103
CCV6 Result	3/31/2010	25.0	24.1	96
CCV7 Result	3/31/2010	25.0	23.6	94

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	3/26/2010	0.50	ND
CCB2 Result	3/26/2010	0.50	ND
CCB3 Result	3/26/2010	0.50	0.08 J
CCB4 Result	3/26/2010	0.50	ND
CCB5 Result	3/26/2010	0.50	ND
CCB1 Result	3/31/2010	0.50	ND
CCB2 Result	3/31/2010	0.50	0.10 J
CCB3 Result	3/31/2010	0.50	ND
CCB4 Result	3/31/2010	0.50	ND
CCB5 Result	3/31/2010	0.50	ND
CCB6 Result	3/31/2010	0.50	ND
CCB7 Result	3/31/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 03/23/10
Date Received : 03/25/10

Carbon, Total Organic

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-003	K1002799-002	1.0	0.1	2	03/31/10	1.6	
AMB03-008	K1002799-005	1.0	0.1	2	03/31/10	1.6	
AMB03-013	K1002799-008	1.0	0.1	2	03/31/10	1.2	
AMB03-019	K1002799-012	1.0	0.1	2	03/31/10	1.3	
AMB03-025	K1002799-016	1.0	0.1	2	03/31/10	1.2	
AMB03-029	K1002799-019	1.0	0.1	2	03/31/10	1.2	
AMB03-034	K1002799-022	1.0	0.1	2	03/31/10	1.1	
AMB03-039	K1002799-025	1.0	0.1	2	03/31/10	1.4	
AMB03-045	K1002799-029	1.0	0.1	2	03/31/10	1.6	
AMB03-051	K1002799-033	1.0	0.1	2	03/31/10	1.2	
AMB03-057	K1002799-037	1.0	0.1	2	03/31/10	1.3	
AMB03-062	K1002799-040	1.0	0.1	2	03/31/10	1.1	
AMB03-067	K1002799-043	1.0	0.1	2	03/31/10	1.5	
AMB03-074	K1002799-047	1.0	0.1	2	03/31/10	1.3	
AMB03-075	K1002799-048	1.0	0.1	2	03/31/10	1.2	
AMB03-084	K1002799-054	1.0	0.1	2	03/31/10	1.0	
AMB03-089	K1002799-057	1.0	0.1	2	03/31/10	1.1	
AMB03-094	K1002799-060	1.0	0.1	2	03/31/10	1.9	
AMB03-100	K1002799-064	1.0	0.1	2	03/31/10	6.9	
AMB03-106	K1002799-068	1.0	0.1	2	03/31/10	1.5	
AMB03-116	K1002799-073	1.0	0.1	2	03/31/10	1.3	
AMB03-121	K1002799-076	1.0	0.1	2	03/31/10	1.3	
AMB03-128	K1002799-080	1.0	0.1	2	03/31/10	2.2	
AMB03-130	K1002799-082	1.0	0.1	2	03/31/10	1.7	
AMB03-134	K1002799-085	1.0	0.1	2	03/31/10	1.1	
AMB03-139	K1002799-089	1.0	0.1	2	03/31/10	3.6	
Method Blank	K1002799-MB	0.50	0.07	1	03/31/10	ND	
Method Blank	K1002799-MB	0.50	0.07	1	03/31/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002799
Date Collected : 3/23/2010
Date Received : 3/25/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-003
Lab Code : K1002799-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.6	1.6	1.6	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-139
Lab Code : K1002799-089DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	3.6	3.0	3.3	18	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-003		Units :	mg/L
Lab Code :	K1002799-002MS	K1002799-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	50.0	50.0	1.6	49.4	50.6	96	98	85-108	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/23/2010
Project Number :	NA	**Date Received :**	3/25/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-139		Units :	mg/L
Lab Code :	K1002799-089MS	K1002799-089DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	50.0	50.0	3.6	54.3	54.6	101	102	85-108	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002799
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1002799-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	25.2	102	83-117	
Carbon, Total Organic	NONE	SM 5310 C	24.7	22.8	92	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	3/31/2010	25.0	25.8	103
CCV2 Result	3/31/2010	25.0	25.8	103
CCV3 Result	3/31/2010	25.0	27.0	108
CCV4 Result	3/31/2010	25.0	26.8	107
CCV5 Result	3/31/2010	25.0	25.8	103
CCV6 Result	3/31/2010	25.0	24.1	96
CCV7 Result	3/31/2010	25.0	23.6	94

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002799
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	3/31/2010	0.50	ND
CCB2 Result	3/31/2010	0.50	0.10 J
CCB3 Result	3/31/2010	0.50	ND
CCB4 Result	3/31/2010	0.50	ND
CCB5 Result	3/31/2010	0.50	ND
CCB6 Result	3/31/2010	0.50	ND
CCB7 Result	3/31/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-015	Units:	mg/L (ppm)
Lab Code:	K1002799-010	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	10	1.4	1	4/10/2010	4/10/2010	2.2	J

Approved By: _____ Date: 04/13/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-021	Units:	mg/L (ppm)
Lab Code:	K1002799-014	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	13	1.8	1	4/10/2010	4/10/2010	2.7	J

Approved By: _____ Date: 041310

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-041	Units:	mg/L (ppm)
Lab Code:	K1002799-027	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	10	1.4	1	4/10/2010	4/10/2010	2.6	J

Approved By: _____ Date: 04/13/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-047	Units:	mg/L (ppm)
Lab Code:	K1002799-031	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	12	1.6	1	4/10/2010	4/10/2010	2.8	J

Approved By: _____ Date: 04/13/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-053	Units:	mg/L (ppm)
Lab Code:	K1002799-035	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	12	1.6	1	4/10/2010	4/10/2010	ND	

Approved By: _____ Date: 041310

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-096	Units:	mg/L (ppm)
Lab Code:	K1002799-062	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	10	1.4	1	4/10/2010	4/10/2010	2.8	J

Approved By: _____ Date: 04/13/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-102	Units:	mg/L (ppm)
Lab Code:	K1002799-066	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	10	1.4	1	4/10/2010	4/10/2010	2.2	J

Approved By: _____ Date: 041310

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-108	Units:	mg/L (ppm)
Lab Code:	K1002799-070	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	10	1.4	1	4/10/2010	4/10/2010	2.0	J

Approved By: _____ Date: 04130

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	3/23/2010
Sample Matrix:	Ocean water	**Date Received:**	3/25/2010

Oil and Grease

Sample Name:	AMB03-136	Units:	mg/L (ppm)
Lab Code:	K1002799-087	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	13	1.8	1	4/10/2010	4/10/2010	3.1	J

Approved By: _____ Date: 04/15/10

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	NA
Sample Matrix:	Ocean water	**Date Received:**	NA

Oil and Grease

Sample Name:	Method Blank	Units:	mg/L (ppm)
Lab Code:	K100410-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	10	1.4	1	4/10/2010	4/10/2010	ND	

Approved By: _____ Date: 041310

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1002799
Project:	Mar 2010 Ambient Monitoring	**Date Collected:**	NA
LCS Matrix:	Ocean water	**Date Received:**	NA
		Date Extracted:	4/10/2010
		Date Analyzed:	4/10/2010

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Oil and Grease

Sample Name:	Lab Control Sample	Units:	mg/L (ppm)
Lab Code:	K100410-WL1, K100410-WL2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Oil and Grease, Total (HEM)	METHOD	1664A	80	80	69.2	72.2	87	90	78-114	4	

Approved By: _____ Date: 04/13/10

DLCS/072898p
K1002799phc.sm1 - DLCS 4/13/2010

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: Mar 2010 Ambient Monitoring

Service Request: K1002799
Date Analyzed: 4/10/2010

Continuing Calibration Verification (CCV) Summary
EPA Methods 1664A
Units: mg

Analyte	True Value	CCV1 Result	Percent Recovery	CCV2 Result	Percent Recovery	CCV3 Result	Percent Recovery
Oil and Grease, Total (HEM)	1000	1000	100	1000	100	1000	100
Oil and Grease, Total (HEM)	2.0	2.0	100	2.0	100	2.0	100

Approved By: _____ Date: 04/13/10

CCV 1-4/102194
K1002799phc.sm1 - ccv 4/13/2010

Page No.:

K1002799

PROJECT ENVVEST				CHAIN OF CUSTODY FORM																
Project Name: Mar 2010 Ambient Monitoring																				
SAMPLE TEAM: Navy, Battelle																				
DATE: 3/23/2010																				
Laboratory: Columbia Analytical				Testing Parameters per QAPP (July 2009)																
Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS		
AMB03-002	PS07	03/23/10 850	seawater				X										1			
AMB03-003	PS07	03/23/10 850	seawater						X								1			
AMB03-004	PS07	03/23/10 850	seawater							X							1			
AMB03-007	PS06	03/23/10 905	seawater				X										1			
AMB03-008	PS06	03/23/10 905	seawater						X								1			
AMB03-009	PS06	03/23/10 905	seawater							X							1			
AMB03-012	PS14	03/23/10 914	seawater				X										1			
AMB03-013	PS14	03/23/10 914	seawater						X								1			
AMB03-014	PS14	03/23/10 914	seawater							X							1			
AMB03-015	PS14	03/23/10 914	seawater								X						1			
AMB03-018	PS03	03/23/10 930	seawater				X										1			
AMB03-019	PS03	03/23/10 930	seawater						X								1			
AMB03-020	PS03	03/23/10 930	seawater							X							1			
AMB03-021	PS03	03/23/10 930	seawater								X						1			
AMB03-024	PS03DUP	03/23/10 935	seawater				X										1			
AMB03-025	PS03DUP	03/23/10 935	seawater						X								1			
AMB03-026	PS03DUP	03/23/10 935	seawater							X							1			
AMB03-028	PS04	03/23/10 947	seawater				X										1			
AMB03-029	PS04	03/23/10 947	seawater						X								1			
AMB03-030	PS04	03/23/10 947	seawater							X							1			
AMB03-033	PS05	03/23/10 956	seawater				X										1			
AMB03-034	PS05	03/23/10 956	seawater						X								1			
AMB03-035	PS05	03/23/10 956	seawater							X							1			
AMB03-038	PS08	03/23/10 1012	seawater				X										1			
AMB03-039	PS08	03/23/10 1012	seawater						X								1			
AMB03-040	PS08	03/23/10 1012	seawater							X							1			
AMB03-041	PS08	03/23/10 1012	seawater								X						1			
AMB03-044	PS15	03/23/10 1023	seawater				X										1			
AMB03-045	PS15	03/23/10 1023	seawater						X								1			
AMB03-046	PS15	03/23/10 1023	seawater							X							1			
AMB03-047	PS15	03/23/10 1023	seawater								X						1			
AMB03-050	PS09	03/23/10 1030	seawater				X										1			

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K1007799

PROJECT ENVVEST
Project Name: Mar 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 3/23/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-051	PS09	03/23/10 1030	seawater						X								1	
AMB03-052	PS09	03/23/10 1030	seawater							X							1	
AMB03-053	PS09	03/23/10 1030	seawater								X						1	
AMB03-056	PS10	03/23/10 1043	seawater				X										1	
AMB03-057	PS10	03/23/10 1043	seawater						X								1	
AMB03-058	PS10	03/23/10 1043	seawater							X							1	
AMB03-061	PS11	03/23/10 1055	seawater				X										1	
AMB03-062	PS11	03/23/10 1055	seawater						X								1	
AMB03-063	PS11	03/23/10 1055	seawater							X							1	
AMB03-066	PS16	03/23/10 1010	seawater				X										1	
AMB03-067	PS16	03/23/10 1010	seawater						X								1	
AMB03-068	PS16	03/23/10 1010	seawater							X							1	
AMB03-072	M3.1-SUR	03/23/10 1151	seawater				X										1	
AMB03-073	M3.1-DEEP	03/23/10 1200	seawater				X										1	
AMB03-074	M3.1-SUR	03/23/10 1151	seawater						X								1	
AMB03-075	M3.1-DEEP	03/23/10 1200	seawater						X								1	
AMB03-076	M3.1-SUR	03/23/10 1151	seawater							X							1	
AMB03-077	M3.1-DEEP	03/23/10 1200	seawater							X							1	
AMB03-078	M3.1-SUR	03/23/10 1151	seawater								X						1	
AMB03-079	M3.1-DEEP	03/23/10 1200	seawater								X						1	
AMB03-083	BM01	03/23/10 1252	seawater				X										1	
AMB03-084	BM01	03/23/10 1252	seawater						X								1	
AMB03-085	BM01	03/23/10 1252	seawater							X							1	
AMB03-088	PS12	03/23/10 1305	seawater				X										1	
AMB03-089	PS12	03/23/10 1305	seawater						X								1	
AMB03-090	PS12	03/23/10 1305	seawater							X							1	
AMB03-093	BJEST	03/23/10 1315	seawater				X										1	
AMB03-094	BJEST	03/23/10 1315	seawater						X								1	
AMB03-095	BJEST	03/23/10 1315	seawater							X							1	
AMB03-096	BJEST	03/23/10 1315	seawater								X						1	
AMB03-099	M4	03/23/10 1333	seawater				X										1	
AMB03-100	M4	03/23/10 1333	seawater						X								1	

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K1002799

PROJECT ENVVEST
Project Name: Mar 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 3/23/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-101	M4	03/23/10 1333	seawater							X							1	
AMB03-102	M4	03/23/10 1333	seawater								X						1	
AMB03-105	PS01	03/23/10 1404	seawater				X										1	
AMB03-106	PS01	03/23/10 1404	seawater						X								1	
AMB03-107	PS01	03/23/10 1404	seawater							X							1	
AMB03-108	PS01	03/23/10 1404	seawater								X						1	
AMB03-111	M4-DUP	03/23/10 1345	seawater				X										1	
AMB03-115	PS02	03/23/10 1418	seawater				X										1	
AMB03-116	PS02	03/23/10 1418	seawater						X								1	
AMB03-117	PS02	03/23/10 1418	seawater							X							1	
AMB03-120	PS13	03/23/10 1425	seawater				X										1	
AMB03-121	PS13	03/23/10 1425	seawater						X								1	
AMB03-122	PS13	03/23/10 1425	seawater							X							1	
AMB03-125	DD4-SANDTRAP	03/23/10 1200	seawater				X										1	
AMB03-127	DD5-PUMPWELL	03/23/10 1200	seawater				X										1	
AMB03-128	DD4-SANDTRAP	03/23/10 1200	seawater						X								1	
AMB03-129	DD4-SANDTRAP	03/23/10 1200	seawater							X							1	
AMB03-130	DD5-PUMPWELL	03/23/10 1200	seawater						X								1	
AMB03-131	DD5-PUMPWELL	03/23/10 1200	seawater							X							1	

TOTAL CONTAINERS = 83

Relinquished By: Company: Battelle MSL
C. Suslick 3/24/2010 1530
Signature/Printed Name Date/Time

Relinquished By: Company:
Signature/Printed Name Date/Time

Received: 3/25/10 0940

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UPDATED COC PRINTED 7/25/10 K1002799

PROJECT ENVVEST
Project Name: Mar 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 3/23/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-002	PS07	03/23/10 850	seawater				X										1	
AMB03-003	PS07	03/23/10 850	seawater						X								1	
AMB03-004	PS07	03/23/10 850	seawater							X							1	
AMB03-007	PS06	03/23/10 905	seawater				X										1	
AMB03-008	PS06	03/23/10 905	seawater						X								1	
AMB03-009	PS06	03/23/10 905	seawater							X							1	
AMB03-012	PS14	03/23/10 914	seawater				X										1	
AMB03-013	PS14	03/23/10 914	seawater						X								1	
AMB03-014	PS14	03/23/10 914	seawater							X							1	
AMB03-015	PS14	03/23/10 914	seawater								X						1	
AMB03-018	PS03	03/23/10 930	seawater				X										1	
AMB03-019	PS03	03/23/10 930	seawater						X								1	
AMB03-020	PS03	03/23/10 930	seawater							X							1	
AMB03-021	PS03	03/23/10 930	seawater								X						1	
AMB03-024	PS03DUP	03/23/10 935	seawater				X										1	
AMB03-025	PS03DUP	03/23/10 935	seawater						X								1	
AMB03-026	PS03DUP	03/23/10 935	seawater							X							1	
AMB03-028	PS04	03/23/10 947	seawater				X										1	
AMB03-029	PS04	03/23/10 947	seawater						X								1	
AMB03-030	PS04	03/23/10 947	seawater							X							1	
AMB03-033	PS05	03/23/10 956	seawater				X										1	
AMB03-034	PS05	03/23/10 956	seawater						X								1	
AMB03-035	PS05	03/23/10 956	seawater							X							1	
AMB03-038	PS08	03/23/10 1012	seawater				X										1	
AMB03-039	PS08	03/23/10 1012	seawater						X								1	
AMB03-040	PS08	03/23/10 1012	seawater							X							1	
AMB03-041	PS08	03/23/10 1012	seawater								X						1	
AMB03-044	PS15	03/23/10 1023	seawater				X										1	
AMB03-045	PS15	03/23/10 1023	seawater						X								1	
AMB03-046	PS15	03/23/10 1023	seawater							X							1	
AMB03-047	PS15	03/23/10 1023	seawater								X						1	

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K1002799

PROJECT ENVVEST Project Name: Mar 2010 Ambient Monitoring SAMPLE TEAM: Navy, Battelle DATE: 3/23/2010 Laboratory: Columbia Analytical	CHAIN OF CUSTODY FORM Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-050	PS09	03/23/10 1030	seawater				X										1	
AMB03-051	PS09	03/23/10 1030	seawater						X								1	
AMB03-052	PS09	03/23/10 1030	seawater							X							1	
AMB03-053	PS09	03/23/10 1030	seawater								X						1	
AMB03-056	PS10	03/23/10 1043	seawater				X										1	
AMB03-057	PS10	03/23/10 1043	seawater						X								1	
AMB03-058	PS10	03/23/10 1043	seawater							X							1	
AMB03-061	PS11	03/23/10 1055	seawater				X										1	
AMB03-062	PS11	03/23/10 1055	seawater						X								1	
AMB03-063	PS11	03/23/10 1055	seawater							X							1	
AMB03-066	PS16	03/23/10 1010	seawater				X										1	
AMB03-067	PS16	03/23/10 1010	seawater						X								1	
AMB03-068	PS16	03/23/10 1010	seawater							X							1	
AMB03-072	M3.1-SUR	03/23/10 1151	seawater				X										1	
AMB03-073	M3.1-DEEP	03/23/10 1200	seawater				X										1	
AMB03-074	M3.1-SUR	03/23/10 1151	seawater						X								1	
AMB03-075	M3.1-DEEP	03/23/10 1200	seawater						X								1	
AMB03-076	M3.1-SUR	03/23/10 1151	seawater							X							1	
AMB03-077	M3.1-DEEP	03/23/10 1200	seawater							X							1	
AMB03-078	M3.1-SUR	03/23/10 1151	seawater								X						1	
AMB03-079	M3.1-DEEP	03/23/10 1200	seawater								X						1	
AMB03-083	BM01	03/23/10 1252	seawater				X										1	
AMB03-084	BM01	03/23/10 1252	seawater						X								1	
AMB03-085	BM01	03/23/10 1252	seawater							X							1	
AMB03-088	PS12	03/23/10 1305	seawater				X										1	
AMB03-089	PS12	03/23/10 1305	seawater						X								1	
AMB03-090	PS12	03/23/10 1305	seawater							X							1	
AMB03-093	BJEST	03/23/10 1315	seawater				X										1	
AMB03-094	BJEST	03/23/10 1315	seawater						X								1	
AMB03-095	BJEST	03/23/10 1315	seawater							X							1	
AMB03-096	BJEST	03/23/10 1315	seawater								X						1	

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K1002799

PROJECT ENVVEST Project Name: Mar 2010 Ambient Monitoring SAMPLE TEAM: Navy, Battelle DATE: 3/23/2010 Laboratory: Columbia Analytical	**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-099	M4	03/23/10 1333	seawater				X										1	
AMB03-100	M4	03/23/10 1333	seawater						X								1	
AMB03-101	M4	03/23/10 1333	seawater							X							1	
AMB03-102	M4	03/23/10 1333	seawater								X						1	
AMB03-105	PS01	03/23/10 1404	seawater				X										1	
AMB03-106	PS01	03/23/10 1404	seawater						X								1	
AMB03-107	PS01	03/23/10 1404	seawater							X							1	
AMB03-108	PS01	03/23/10 1404	seawater								X						1	
AMB03-111	M4-DUP	03/23/10 1345	seawater				X										1	
AMB03-115	PS02	03/23/10 1418	seawater				X										1	
AMB03-116	PS02	03/23/10 1418	seawater						X								1	
AMB03-117	PS02	03/23/10 1418	seawater							X							1	
AMB03-120	PS13	03/23/10 1425	seawater				X										1	
AMB03-121	PS13	03/23/10 1425	seawater						X								1	
AMB03-122	PS13	03/23/10 1425	seawater							X							1	
AMB03-125	DD4-SANDTRAP	03/23/10 1200	seawater				X										1	
AMB03-127	DD5-PUMPWELL	03/23/10 1200	seawater				X										1	
AMB03-128	DD4-SANDTRAP	03/23/10 1200	seawater						X								1	
AMB03-129	DD4-SANDTRAP	03/23/10 1200	seawater							X							1	
AMB03-130	DD5-PUMPWELL	03/23/10 1200	seawater						X								1	
AMB03-131	DD5-PUMPWELL	03/23/10 1200	seawater							X							1	
AMB03-133	NPDES018	03/23/10	seawater				X										1	
AMB03-134	NPDES018	03/23/10	seawater						X								1	
AMB03-135	NPDES018	03/23/10	seawater							X							1	
AMB03-136	NPDES018	03/23/10	seawater								X						1	
AMB03-138	NPDES021	03/23/10	seawater				X										1	
AMB03-139	NPDES021	03/23/10	seawater						X								1	
AMB03-140	NPDES021	03/23/10	seawater							X							1	

TOTAL CONTAINERS = 90

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC JC

Client / Project: Envvest Service Request K10 02799

Received: 3/25/10 Opened: 3/25/10 By: LM

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
2.3	0.3	281		1		✓
2.2	—	251		2		✓
3.7	—	244		3		✓
1.9	2.8	223		4		✓

7. Packing material used. *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* *NA (Y) (N)
12. Were appropriate bottles/containers and volumes received for the tests indicated? 3/25/10 NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: * Did not receive samples AMB03-078 and AMB03-079 (MB.1-SUR and MB.1 Dup for O&G.)

Page 1 of _____

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Laboratory	**Service Request No.:**	K1002881
Project:	Mar 2020 Ambient Monitoring	**Date Received:**	3/26/10
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Aqueous samples were received for analysis at Columbia Analytical Services on 3/26/10. The samples were received in good condition and consistent with the accompanying chain of custody. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Comments

The results were reported to the CAS/Kelso Method Detection Limit (MDL), which is supported by MDL studies performed annually. The MDL studies were conducted according to 40 CFR Part 136, Appendix B.

Total Solids (TS) by SM 2540B

No anomalies associated with the analysis of these samples were observed.

Total Suspended Solids by SM 2540D

No anomalies associated with the analysis of these samples were observed.

Nitrate + Nitrite by EPA Method 353.2

No anomalies associated with the analysis of these samples were observed.

Ammonia as Nitrogen by EPA Method 350.1

No anomalies associated with the analysis of these samples were observed.

Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC) by SM 5310C

The DOC was higher than the associated TOC for the majority of samples. The bias was relatively small, except sample AMB03-373. Inspection of all raw data, sequences, and associated QA/QC measurements indicated the elevated DOC was probably a result of contribution during the field filtration procedure.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 4/21/10

Total Phosphorus by EPA Method 365.3

No anomalies associated with the analysis of these samples were observed.

Total Kjeldahl Nitrogen by EPA Method 351.4

No anomalies associated with the analysis of these samples were observed.

Hexane Extractable Material by EPA Method 1664

No anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 7/21/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-302	K1002881-002	0.010	0.003	1	04/09/10	0.019	
AMB03-307	K1002881-005	0.010	0.003	1	04/09/10	0.018	
AMB03-312	K1002881-008	0.010	0.003	1	04/09/10	0.031	
AMB03-317	K1002881-011	0.010	0.003	1	04/09/10	0.019	
AMB03-322	K1002881-014	0.010	0.003	1	04/09/10	0.016	
AMB03-327	K1002881-017	0.010	0.003	1	04/09/10	0.011	
AMB03-332	K1002881-020	0.010	0.003	1	04/09/10	0.015	
AMB03-337	K1002881-023	0.010	0.003	1	04/09/10	0.013	
AMB03-342	K1002881-026	0.010	0.003	1	04/09/10	0.058	
AMB03-347	K1002881-029	0.010	0.003	1	04/09/10	0.010	
AMB03-352	K1002881-032	0.010	0.003	1	04/09/10	0.020	
AMB03-357	K1002881-035	0.010	0.003	1	04/09/10	0.017	
AMB03-362	K1002881-038	0.010	0.003	1	04/09/10	0.030	
AMB03-367	K1002881-041	0.010	0.003	1	04/09/10	0.050	
AMB03-372	K1002881-044	0.010	0.003	1	04/09/10	0.014	
AMB03-377	K1002881-047	0.010	0.003	1	04/09/10	0.022	
AMB03-382	K1002881-050	0.010	0.003	1	04/09/10	0.063	
AMB03-387	K1002881-053	0.010	0.003	1	04/09/10	0.034	
Method Blank	K1002881-MB	0.010	0.003	1	04/09/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 04/09/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-302
Lab Code : K1002881-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.019	0.017	0.018	11	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/09/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-302		Units :	mg/L
Lab Code :	K1002881-002MS	K1002881-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.019	0.214	0.216	97	98	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/09/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.3	100	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/9/2010	0.250	0.244	98
CCV2 Result	4/9/2010	0.250	0.243	97
CCV3 Result	4/9/2010	0.250	0.237	95
CCV4 Result	4/9/2010	0.250	0.246	98
CCV5 Result	4/9/2010	0.250	0.241	96
CCV6 Result	4/9/2010	0.250	0.240	96
CCV7 Result	4/9/2010	0.250	0.234	94
CCV8 Result	4/9/2010	0.250	0.245	98
CCV9 Result	4/9/2010	0.250	0.244	98
CCV10 Result	4/9/2010	0.250	0.242	97

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/9/2010	0.010	ND
CCB2 Result	4/9/2010	0.010	ND
CCB3 Result	4/9/2010	0.010	ND
CCB4 Result	4/9/2010	0.010	ND
CCB5 Result	4/9/2010	0.010	ND
CCB6 Result	4/9/2010	0.010	ND
CCB7 Result	4/9/2010	0.010	0.003 J
CCB8 Result	4/9/2010	0.010	0.003 J
CCB9 Result	4/9/2010	0.010	0.003 J
CCB10 Result	4/9/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method : 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB03-302	K1002881-002	0.20	0.07	1	4/2/2010	04/05/10	1.11	
AMB03-307	K1002881-005	0.20	0.07	1	4/2/2010	04/05/10	1.15	
AMB03-312	K1002881-008	0.20	0.07	1	4/2/2010	04/05/10	1.15	
AMB03-317	K1002881-011	0.20	0.07	1	4/2/2010	04/05/10	1.51	
AMB03-322	K1002881-014	0.20	0.07	1	4/2/2010	04/05/10	2.05	
AMB03-327	K1002881-017	0.20	0.07	1	4/2/2010	04/05/10	0.95	
AMB03-332	K1002881-020	0.20	0.07	1	4/2/2010	04/05/10	0.61	
AMB03-337	K1002881-023	0.20	0.07	1	4/2/2010	04/05/10	1.73	
AMB03-342	K1002881-026	0.20	0.07	1	4/2/2010	04/05/10	1.02	
AMB03-347	K1002881-029	0.20	0.07	1	4/2/2010	04/05/10	2.21	
AMB03-352	K1002881-032	0.20	0.07	1	4/2/2010	04/05/10	1.42	
AMB03-357	K1002881-035	0.20	0.07	1	4/2/2010	04/05/10	0.97	
AMB03-362	K1002881-038	0.20	0.07	1	4/2/2010	04/05/10	1.01	
AMB03-367	K1002881-041	0.20	0.07	1	4/2/2010	04/05/10	1.55	
AMB03-372	K1002881-044	0.20	0.07	1	4/2/2010	04/05/10	2.81	
AMB03-377	K1002881-047	0.20	0.07	1	4/2/2010	04/05/10	0.70	
AMB03-382	K1002881-050	0.20	0.07	1	4/2/2010	04/05/10	1.15	
AMB03-387	K1002881-053	0.20	0.07	1	4/2/2010	04/05/10	1.05	
Method Blank	K1002881-MB	0.20	0.07	1	4/2/2010	04/05/10	0.11	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : 04/02/10
Date Analyzed : 04/05/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-302
Lab Code : K1002881-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	1.11	1.00	1.06	10	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	04/02/10
		Date Analyzed :	04/05/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-302		Units :	mg/L
Lab Code :	K1002881-002MS	K1002881-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.20	50.0	100	1.11	49.3	100	96	99	75-125	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	04/02/10
		Date Analyzed :	04/05/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	15.2	16.4	108	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/5/2010	10.0	10.4	104
CCV2 Result	4/5/2010	10.0	9.82	98
CCV3 Result	4/5/2010	10.0	10.4	104
CCV4 Result	4/5/2010	10.0	10.4	104

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/5/2010	0.050	0.018 J
CCB2 Result	4/5/2010	0.050	0.029 J
CCB3 Result	4/5/2010	0.050	0.021 J
CCB4 Result	4/5/2010	0.050	0.040 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-302	K1002881-002	0.050	0.009	1	04/06/10	0.391	
AMB03-307	K1002881-005	0.050	0.009	1	04/06/10	0.378	
AMB03-312	K1002881-008	0.050	0.009	1	04/06/10	0.373	
AMB03-317	K1002881-011	0.050	0.009	1	04/06/10	0.371	
AMB03-322	K1002881-014	0.050	0.009	1	04/06/10	0.369	
AMB03-327	K1002881-017	0.050	0.009	1	04/06/10	0.402	
AMB03-332	K1002881-020	0.050	0.009	1	04/06/10	0.399	
AMB03-337	K1002881-023	0.050	0.009	1	04/06/10	0.435	
AMB03-342	K1002881-026	0.050	0.009	1	04/06/10	0.391	
AMB03-347	K1002881-029	0.050	0.009	1	04/06/10	0.319	
AMB03-352	K1002881-032	0.050	0.009	1	04/06/10	0.302	
AMB03-357	K1002881-035	0.050	0.009	1	04/06/10	0.416	
AMB03-362	K1002881-038	0.050	0.009	1	04/06/10	0.388	
AMB03-367	K1002881-041	0.050	0.009	1	04/06/10	0.318	
AMB03-372	K1002881-044	0.050	0.009	1	04/06/10	0.162	
AMB03-377	K1002881-047	0.050	0.009	1	04/06/10	0.174	
AMB03-382	K1002881-050	0.050	0.009	1	04/06/10	0.244	
AMB03-387	K1002881-053	0.050	0.009	1	04/06/10	0.329	
Method Blank	K1002881-MB	0.050	0.009	1	04/06/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 04/06/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-302
Lab Code : K1002881-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.391	0.376	0.384	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/06/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-302		Units :	mg/L
Lab Code :	K1002881-002MS	K1002881-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.391	2.44	2.45	103	103	86-117	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/06/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.5	98	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/6/2010	2.00	1.98	99
CCV2 Result	4/6/2010	2.00	2.00	100
CCV3 Result	4/6/2010	2.00	2.02	101
CCV4 Result	4/6/2010	2.00	1.98	99
CCV5 Result	4/6/2010	2.00	1.96	98
CCV6 Result	4/6/2010	2.00	2.01	101

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/6/2010	0.050	ND
CCB2 Result	4/6/2010	0.050	ND
CCB3 Result	4/6/2010	0.050	0.036 J
CCB4 Result	4/6/2010	0.050	0.024 J
CCB5 Result	4/6/2010	0.050	ND
CCB6 Result	4/6/2010	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB03-302	K1002881-002	0.010	0.004	1	4/13/2010	04/14/10	0.079	
AMB03-307	K1002881-005	0.010	0.004	1	4/13/2010	04/14/10	0.071	
AMB03-312	K1002881-008	0.010	0.004	1	4/13/2010	04/14/10	0.077	
AMB03-317	K1002881-011	0.010	0.004	1	4/13/2010	04/14/10	0.077	
AMB03-322	K1002881-014	0.010	0.004	1	4/13/2010	04/14/10	0.078	
AMB03-327	K1002881-017	0.010	0.004	1	4/13/2010	04/14/10	0.076	
AMB03-332	K1002881-020	0.010	0.004	1	4/13/2010	04/14/10	0.081	
AMB03-337	K1002881-023	0.010	0.004	1	4/13/2010	04/14/10	0.082	
AMB03-342	K1002881-026	0.010	0.004	1	4/13/2010	04/14/10	0.082	
AMB03-347	K1002881-029	0.010	0.004	1	4/13/2010	04/14/10	0.072	
AMB03-352	K1002881-032	0.010	0.004	1	4/13/2010	04/14/10	0.069	
AMB03-357	K1002881-035	0.010	0.004	1	4/13/2010	04/14/10	0.089	
AMB03-362	K1002881-038	0.010	0.004	1	4/13/2010	04/14/10	0.067	
AMB03-367	K1002881-041	0.010	0.004	1	4/13/2010	04/14/10	0.079	
AMB03-372	K1002881-044	0.010	0.004	1	4/13/2010	04/14/10	0.142	
AMB03-377	K1002881-047	0.010	0.004	1	4/13/2010	04/14/10	0.050	
AMB03-382	K1002881-050	0.010	0.004	1	4/13/2010	04/14/10	0.069	
AMB03-387	K1002881-053	0.010	0.004	1	4/13/2010	04/14/10	0.072	
Method Blank	K1002881-MB	0.010	0.004	1	4/13/2010	04/14/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : 04/13/10
Date Analyzed : 04/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-307
Lab Code : K1002881-005DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.071	0.077	0.074	8	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	04/13/10
		Date Analyzed :	04/14/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-307		Units :	mg/L
Lab Code :	K1002881-005MS	K1002881-005DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.071	0.388	0.674	63	60	50-144	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	04/13/10
		Date Analyzed :	04/14/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.323	0.348	108	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/14/2010	0.500	0.501	100
CCV2 Result	4/14/2010	0.500	0.500	100
CCV3 Result	4/14/2010	0.500	0.499	100
CCV4 Result	4/14/2010	0.500	0.496	99

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/14/2010	0.010	ND
CCB2 Result	4/14/2010	0.010	ND
CCB3 Result	4/14/2010	0.010	ND
CCB4 Result	4/14/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Solids, Total

Analysis Method : SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-301	K1002881-001	5.0	5.0	1	03/31/10	30200	
AMB03-306	K1002881-004	5.0	5.0	1	03/31/10	30800	
AMB03-311	K1002881-007	5.0	5.0	1	03/31/10	29600	
AMB03-316	K1002881-010	5.0	5.0	1	03/31/10	31700	
AMB03-321	K1002881-013	5.0	5.0	1	03/31/10	30800	
AMB03-326	K1002881-016	5.0	5.0	1	03/31/10	30500	
AMB03-331	K1002881-019	5.0	5.0	1	03/31/10	30800	
AMB03-336	K1002881-022	5.0	5.0	1	03/31/10	32100	
AMB03-341	K1002881-025	5.0	5.0	1	03/31/10	32000	
AMB03-346	K1002881-028	5.0	5.0	1	03/31/10	29800	
AMB03-351	K1002881-031	5.0	5.0	1	03/31/10	30200	
AMB03-356	K1002881-034	5.0	5.0	1	03/31/10	31600	
AMB03-361	K1002881-037	5.0	5.0	1	03/31/10	26600	
AMB03-366	K1002881-040	5.0	5.0	1	03/31/10	29800	
AMB03-371	K1002881-043	5.0	5.0	1	03/31/10	30400	
AMB03-376	K1002881-046	5.0	5.0	1	03/31/10	21100	
AMB03-381	K1002881-049	5.0	5.0	1	03/31/10	30100	
AMB03-386	K1002881-052	5.0	5.0	1	03/31/10	30700	
Method Blank	K1002881-MB	5.0	5.0	1	03/31/10	ND	
Method Blank	K1002881-MB	5.0	5.0	1	03/31/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-301
Lab Code : K1002881-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	30200	31500	30900	4	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-366
Lab Code : K1002881-040DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	5.0	29800	29900	29900	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	915	958	105	88-112	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Solids, Total Suspended (TSS)

Analysis Method : SM 2540 D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-301	K1002881-001	5.0	5.0	1	03/31/10	9.5	
AMB03-306	K1002881-004	5.0	5.0	1	03/31/10	6.5	
AMB03-311	K1002881-007	5.0	5.0	1	03/31/10	10.5	
AMB03-316	K1002881-010	5.0	5.0	1	03/31/10	10.5	
AMB03-321	K1002881-013	5.0	5.0	1	03/31/10	8.5	
AMB03-326	K1002881-016	5.0	5.0	1	03/31/10	15.0	
AMB03-331	K1002881-019	5.0	5.0	1	03/31/10	8.0	
AMB03-336	K1002881-022	5.0	5.0	1	03/31/10	10.5	
AMB03-341	K1002881-025	5.0	5.0	1	03/31/10	9.5	
AMB03-346	K1002881-028	5.0	5.0	1	03/31/10	10.0	
AMB03-351	K1002881-031	5.0	5.0	1	03/31/10	ND	
AMB03-356	K1002881-034	5.0	5.0	1	03/31/10	10.0	
AMB03-361	K1002881-037	5.0	5.0	1	03/31/10	8.5	
AMB03-366	K1002881-040	5.0	5.0	1	03/31/10	8.5	
AMB03-371	K1002881-043	5.0	5.0	1	03/31/10	9.0	
AMB03-376	K1002881-046	5.0	5.0	1	03/31/10	7.5	
AMB03-381	K1002881-049	5.0	5.0	1	03/31/10	8.0	
AMB03-386	K1002881-052	5.0	5.0	1	03/31/10	9.0	
Method Blank	K1002881-MB	5.0	5.0	1	03/31/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-301
Lab Code : K1002881-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	9.5	8.5	9.0	11	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	165	166	101	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Carbon, Dissolved Organic (DOC)

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-303	K1002881-003	1.0	0.1	2	03/31/10	2.0	
AMB03-308	K1002881-006	1.0	0.1	2	03/31/10	2.1	
AMB03-313	K1002881-009	1.0	0.1	2	03/31/10	1.8	
AMB03-318	K1002881-012	1.0	0.1	2	03/31/10	1.2	
AMB03-323	K1002881-015	1.0	0.1	2	03/31/10	2.3	
AMB03-328	K1002881-018	1.0	0.1	2	04/05/10	1.9	
AMB03-333	K1002881-021	1.0	0.1	2	04/05/10	1.7	
AMB03-338	K1002881-024	1.0	0.1	2	04/05/10	1.6	
AMB03-343	K1002881-027	1.0	0.1	2	04/05/10	2.1	
AMB03-348	K1002881-030	1.0	0.1	2	04/05/10	2.3	
AMB03-353	K1002881-033	1.0	0.1	2	04/05/10	1.8	
AMB03-358	K1002881-036	1.0	0.1	2	04/05/10	1.9	
AMB03-363	K1002881-039	1.0	0.1	2	04/05/10	2.6	
AMB03-368	K1002881-042	1.0	0.1	2	04/05/10	1.5	
AMB03-373	K1002881-045	1.0	0.1	2	04/05/10	9.7	
AMB03-378	K1002881-048	1.0	0.1	2	04/05/10	1.9	
AMB03-383	K1002881-051	1.0	0.1	2	04/05/10	1.7	
AMB03-388	K1002881-054	1.0	0.1	2	04/05/10	2.1	
Method Blank	K1002881-MB	0.50	0.07	1	03/31/10	ND	
Method Blank	K1002881-MB	0.50	0.07	1	04/05/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-303
Lab Code : K1002881-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	2.0	1.8	1.9	11	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 03/31/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB03-303
Lab Code : K1002881-003MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	2.0	49.7	96	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-303		Units :	mg/L
Lab Code :	K1002881-003MS	K1002881-003DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	NONE	SM 5310 C	1.0	50.0	50.0	2.0	49.7	50.7	96	97	85-108	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	03/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	22.8	92	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/05/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	24.6	100	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	3/31/2010	25.0	25.8	103
CCV2 Result	3/31/2010	25.0	25.8	103
CCV3 Result	3/31/2010	25.0	27.0	108
CCV4 Result	3/31/2010	25.0	26.8	107
CCV5 Result	3/31/2010	25.0	25.8	103
CCV6 Result	3/31/2010	25.0	24.1	96
CCV7 Result	3/31/2010	25.0	23.6	94
CCV1 Result	4/5/2010	25.0	23.9	96
CCV2 Result	4/5/2010	25.0	25.4	102
CCV3 Result	4/5/2010	25.0	25.3	101
CCV4 Result	4/5/2010	25.0	24.3	97
CCV5 Result	4/5/2010	25.0	25.3	101
CCV6 Result	4/5/2010	25.0	28.5	114

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	3/31/2010	0.50	ND
CCB2 Result	3/31/2010	0.50	0.10 J
CCB3 Result	3/31/2010	0.50	ND
CCB4 Result	3/31/2010	0.50	ND
CCB5 Result	3/31/2010	0.50	ND
CCB6 Result	3/31/2010	0.50	ND
CCB7 Result	3/31/2010	0.50	ND
CCB1 Result	4/5/2010	0.50	0.08 J
CCB2 Result	4/5/2010	0.50	ND
CCB3 Result	4/5/2010	0.50	ND
CCB4 Result	4/5/2010	0.50	ND
CCB5 Result	4/5/2010	0.50	ND
CCB6 Result	4/5/2010	0.50	0.14 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 03/24/10
Date Received : 03/26/10

Carbon, Total Organic

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB03-302	K1002881-002	1.0	0.1	2	04/05/10	1.6	
AMB03-307	K1002881-005	1.0	0.1	2	04/05/10	1.7	
AMB03-312	K1002881-008	1.0	0.1	2	04/05/10	1.3	
AMB03-317	K1002881-011	1.0	0.1	2	04/05/10	1.2	
AMB03-322	K1002881-014	1.0	0.1	2	04/05/10	1.1	
AMB03-327	K1002881-017	1.0	0.1	2	04/07/10	1.2	
AMB03-332	K1002881-020	1.0	0.1	2	04/07/10	1.4	
AMB03-337	K1002881-023	1.0	0.1	2	04/07/10	1.1	
AMB03-342	K1002881-026	1.0	0.1	2	04/07/10	1.1	
AMB03-347	K1002881-029	1.0	0.1	2	04/07/10	1.1	
AMB03-352	K1002881-032	1.0	0.1	2	04/07/10	1.3	
AMB03-357	K1002881-035	1.0	0.1	2	04/07/10	1.1	
AMB03-362	K1002881-038	1.0	0.1	2	04/07/10	2.3	
AMB03-367	K1002881-041	1.0	0.1	2	04/07/10	1.0	
AMB03-372	K1002881-044	1.0	0.1	2	04/07/10	2.6	
AMB03-377	K1002881-047	1.0	0.1	2	04/07/10	1.4	
AMB03-382	K1002881-050	1.0	0.1	2	04/07/10	1.6	
AMB03-387	K1002881-053	1.0	0.1	2	04/07/10	1.5	
Method Blank	K1002881-MB	0.50	0.07	1	04/07/10	ND	
Method Blank	K1002881-MB	0.50	0.07	1	04/05/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 04/05/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-302
Lab Code : K1002881-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.6	1.7	1.7	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 04/07/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB03-327
Lab Code : K1002881-017DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.2	1.0	1.1	18	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 04/05/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB03-302
Lab Code : K1002881-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.6	49.7	96	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Mar 2010 Ambient Monitoring
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1002881
Date Collected : 3/24/2010
Date Received : 3/26/2010
Date Prepared : NA
Date Analyzed : 04/07/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB03-327
Lab Code : K1002881-017MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.2	46.4	90	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/05/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-302		Units :	mg/L
Lab Code :	K1002881-002MS	K1002881-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	50.0	50.0	1.6	49.7	49.7	96	96	85-108	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	3/24/2010
Project Number :	NA	**Date Received :**	3/26/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	04/07/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB03-327		Units :	mg/L
Lab Code :	K1002881-017MS	K1002881-017DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	50.0	50.0	1.2	46.4	48.1	90	94	85-108	4	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/05/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	24.6	100	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1002881
Project Name :	Mar 2010 Ambient Monitoring	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	04/07/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1002881-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.8	96	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	4/5/2010	25.0	23.9	96
CCV2 Result	4/5/2010	25.0	25.4	102
CCV3 Result	4/5/2010	25.0	25.3	101
CCV4 Result	4/5/2010	25.0	24.3	97
CCV5 Result	4/5/2010	25.0	25.3	101
CCV6 Result	4/5/2010	25.0	28.5	114
CCV1 Result	4/7/2010	25.0	23.3	93
CCV2 Result	4/7/2010	25.0	23.9	96
CCV3 Result	4/7/2010	25.0	23.6	94

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Mar 2010 Ambient Monitoring

Service Request : K1002881
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	4/5/2010	0.50	0.08 J
CCB2 Result	4/5/2010	0.50	ND
CCB3 Result	4/5/2010	0.50	ND
CCB4 Result	4/5/2010	0.50	ND
CCB5 Result	4/5/2010	0.50	ND
CCB6 Result	4/5/2010	0.50	0.14 J
CCB1 Result	4/7/2010	0.50	ND
CCB2 Result	4/7/2010	0.50	ND
CCB3 Result	4/7/2010	0.50	ND

K002881

PROJECT ENVVEST	
Project Name: Mar 2010 Ambient Monitoring	
SAMPLE TEAM:	Navy, Battelle
DATE:	3/25/2010
Laboratory:	Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-301	PWNLP	03/24/10 930	seawater				X										1	
AMB03-302	PWNLP	03/24/10 930	seawater						X								1	
AMB03-303	PWNLP	03/24/10 930	seawater							X							1	
AMB03-306	M6	03/24/10 946	seawater				X										1	
AMB03-307	M6	03/24/10 946	seawater						X								1	
AMB03-308	M6	03/24/10 946	seawater							X							1	
AMB03-311	M8	03/24/10 1007	seawater				X										1	
AMB03-312	M8	03/24/10 1007	seawater						X								1	
AMB03-313	M8	03/24/10 1007	seawater							X							1	
AMB03-316	M7	03/24/10 1028	seawater				X										1	
AMB03-317	M7	03/24/10 1028	seawater						X								1	
AMB03-318	M7	03/24/10 1028	seawater							X							1	
AMB03-321	M5	03/24/10 1042	seawater				X										1	
AMB03-322	M5	03/24/10 1042	seawater						X								1	
AMB03-323	M5	03/24/10 1042	seawater							X							1	
AMB03-326	CLAMBAY	03/24/10 1131	seawater				X										1	
AMB03-327	CLAMBAY	03/24/10 1131	seawater						X								1	
AMB03-328	CLAMBAY	03/24/10 1131	seawater							X							1	
AMB03-331	M2-SURF	03/24/10 1147	seawater				X										1	
AMB03-332	M2-SURF	03/24/10 1147	seawater						X								1	
AMB03-333	M2-SURF	03/24/10 1147	seawater							X							1	
AMB03-336	M2-DEEP	03/24/10 1158	seawater				X										1	
AMB03-337	M2-DEEP	03/24/10 1158	seawater						X								1	
AMB03-338	M2-DEEP	03/24/10 1158	seawater							X							1	
AMB03-341	WP	03/24/10 1219	seawater				X										1	
AMB03-342	WP	03/24/10 1219	seawater						X								1	
AMB03-343	WP	03/24/10 1219	seawater							X							1	
AMB03-346	ILSP	03/24/10 1228	seawater				X										1	
AMB03-347	ILSP	03/24/10 1228	seawater						X								1	
AMB03-348	ILSP	03/24/10 1228	seawater							X							1	
AMB03-351	M1 SURFACE	03/24/10 1245	seawater				X										1	
AMB03-352	M1 SURFACE	03/24/10 1245	seawater						X								1	

K1002887

PROJECT ENVVEST
Project Name: Mar 2010 Ambient Monitoring
SAMPLE TEAM: Navy, Battelle
DATE: 3/25/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (July 2009)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB03-353	M1 SURFACE	03/24/10 1245	seawater							X							1	
AMB03-356	M1 DEEP	03/24/10 1252	seawater				X										1	
AMB03-357	M1 DEEP	03/24/10 1252	seawater						X								1	
AMB03-358	M1 DEEP	03/24/10 1252	seawater							X							1	
AMB03-361	SN11	03/24/10 1321	seawater				X										1	
AMB03-362	SN11	03/24/10 1321	seawater						X								1	
AMB03-363	SN11	03/24/10 1321	seawater							X							1	
AMB03-366	SN10	03/24/10 1332	seawater				X										1	
AMB03-367	SN10	03/24/10 1332	seawater						X								1	
AMB03-368	SN10	03/24/10 1332	seawater							X							1	
AMB03-371	SN08	03/24/10 1344	seawater				X										1	
AMB03-372	SN08	03/24/10 1344	seawater						X								1	
AMB03-373	SN08	03/24/10 1344	seawater							X							1	
AMB03-376	SN05	03/24/10 1354	seawater				X										1	
AMB03-377	SN05	03/24/10 1354	seawater						X								1	
AMB03-378	SN05	03/24/10 1354	seawater							X							1	
AMB03-381	SN03	03/24/10 1405	seawater				X										1	
AMB03-382	SN03	03/24/10 1405	seawater						X								1	
AMB03-383	SN03	03/24/10 1405	seawater							X							1	
AMB03-386	M3.3	03/24/10 1415	seawater				X										1	
AMB03-387	M3.3	03/24/10 1415	seawater						X								1	
AMB03-388	M3.3	03/24/10 1415	seawater							X							1	
-end-																		

Relinquished By: C. Suslick — Company: Battelle MSL — 3/25/2010 1530
Signature/Printed Name — Date/Time

TOTAL CONTAINERS = 54

Received By. 3/26/10 1010

Relinquished By: — Company:
Signature/Printed Name — Date/Time

10

PC K10-

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K10 02881

Received: 3/26/10 Opened: 3/26/10 By: ML

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number (NA)	Filed
2.6	—	284			✓
0.7	—	279			✓
0.4	—	257			✓

7. Packing material used. *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page 1 of _____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring September 2010 (AMB04)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

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Analytical raw data available upon request

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB04
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Hg	As	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**
Seawater Reporting Limit (MDL* 3.18)							**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0001	0.0267	0.0032	0.2	0.0033	0.051	0.0053
Freshwater Reporting Limit (MDL* 3.18)						--	0.00032	0.085	0.010	0.6	0.0105	0.161	0.017
AMB04-001	PS07	TME	Seawater	3106-191	09/08/10	28.8	0.00123	1.26	0.0042 Ub	10.9 b	0.0745 b	0.349 b	4.43 b
AMB04-001	PS07	DME	Seawater	3106-192	09/08/10	--	0.000564	--	0.0042 Ub	2.14 Jb	0.0739 b	0.271 b	3.69 b
AMB04-006	PS06	TME	Seawater	3106-193	09/08/10	29.1	0.00123	1.26	0.0042 Ub	15.6 b	0.0612 b	0.142 b	1.57 b
AMB04-006	PS06	DME	Seawater	3106-194	09/08/10	--	0.000447	--	0.0042 Ub	2.14 Ub	0.0608 b	0.0985 b	1.14 b
AMB04-012	PS14	TME	Seawater	3106-195	09/08/10	29.1	0.000811	1.22	0.0042 Ub	10.5 b	0.0597 b	0.216 b	1.16 b
AMB04-012	PS14	DME	Seawater	3106-196	09/08/10	--	0.000561	--	0.0042 Ub	2.14 Ub	0.0531 b	0.0718 Jb	0.857 b
AMB04-017	PS03	TME	Seawater	3106-197	09/08/10	26.2	0.00308	1.24	0.0042 Ub	8.84 b	0.0592 b	0.221 b	2.96 b
AMB04-017	PS03	DME	Seawater	3106-198	09/08/10	--	0.00130	--	0.0042 Ub	2.14 Ub	0.0557 b	0.110 b	2.21 b
AMB04-023	PS04	TME	Seawater	3106-199	09/08/10	28.3	0.00187	1.21	0.0042 Ub	10.2 b	0.0615 b	0.129 b	2.36 b
AMB04-023	PS04	DME	Seawater	3106-200	09/08/10	--	0.000669	--	0.0042 Ub	2.14 Ub	0.0595 b	0.115 b	1.88 b
AMB04-028	PS05	TME	Seawater	3106-201	09/08/10	29.0	0.00114	1.24	0.0042 Ub	10.3 b	0.0565 b	0.141 b	1.24 b
AMB04-028	PS05	DME	Seawater	3106-202	09/08/10	--	0.000318 J	--	0.0042 Ub	2.14 Ub	0.0559 b	0.115 b	0.978 b
AMB04-033	PS08	TME	Seawater	3106-203	09/08/10	28.5	0.00269	1.28	0.00684 Jb	41.1 b	0.0712 b	0.313 b	6.60 b
AMB04-033	PS08	DME	Seawater	3106-204	09/08/10	--	0.000740	--	0.0042 Ub	2.14 Ub	0.0648 b	0.139 b	4.13 b
AMB04-039	PS15	TME	Seawater	3106-205	09/08/10	29.1	0.00113	1.26	0.0042 Ub	11.2 b	0.0604 b	0.233 b	1.76 b
AMB04-039	PS15	DME	Seawater	3106-206	09/08/10	--	0.000336	--	0.0042 Ub	2.14 Ub	0.0585 b	0.101 b	1.14 b
AMB04-044	PS09	TME	Seawater	3106-207	09/08/10	26.3	0.00399	1.43	0.00501 Jb	16.7 b	0.0601 b	0.244 b	3.14 b
AMB04-044	PS09	DME	Seawater	3106-208	09/08/10	--	0.000976	--	0.0042 Ub	2.14 Ub	0.0557 b	0.146 b	1.88 b
AMB04-045	PS09DUP	TME	Seawater	3106-209	09/08/10	26.1	0.00382	1.43	0.00499 Jb	18.0 b	0.0695 b	0.260 b	3.28 b
AMB04-045	PS09DUP	DME	Seawater	3106-210	09/08/10	--	0.00108	--	0.0042 Ub	2.14 Ub	0.0572 b	0.171 b	1.84 b
AMB04-055	PS10	TME	Seawater	3106-211	09/08/10	27.7	0.000990	1.27	0.0042 Ub	5.89 Jb	0.0670 b	0.158 b	3.42 b
AMB04-055	PS10	DME	Seawater	3106-212	09/08/10	--	0.000491	--	0.0042 Ub	2.14 Ub	0.0609 b	0.110 b	2.54 b
AMB04-060	PS10.1	TME	Seawater	3106-213	09/08/10	28.5	0.000994	1.21	0.0042 Ub	7.12 b	0.0620 b	0.144 b	1.86 b
AMB04-060	PS10.1	DME	Seawater	3106-214	09/08/10	--	0.000261 J	--	0.0042 Ub	2.14 Ub	0.0617 b	0.0888 Jb	1.42 b
AMB04-065	PS11	TME	Seawater	3106-215	09/08/10	29.2	0.00140	1.21	0.0042 Ub	5.79 Jb	0.0667 b	0.143 b	3.15 b
AMB04-065	PS11	DME	Seawater	3106-216	09/08/10	--	0.000438	--	0.0042 Ub	2.14 Ub	0.0646 b	0.0827 Jb	2.36 b
AMB04-070	PS16	TME	Seawater	3106-217	09/08/10	29.4	0.000806	1.21	0.0042 Ub	7.92 b	0.0595 b	0.0868 Jb	1.02 b
AMB04-070	PS16	DME	Seawater	3106-218	09/08/10	--	0.000240 J	--	0.0042 Ub	2.14 Ub	0.0521 b	0.0540 Jb	0.756 b
AMB04-075	PS01	TME	Seawater	3106-219	09/08/10	26.1	0.00522	1.96	0.0175 b	55.1 b	0.0672 b	0.504 b	2.89 b
AMB04-075	PS01	DME	Seawater	3106-220	09/08/10	--	0.00210	--	0.00683 Jb	4.02 Jb	0.0602 b	0.311 b	1.67 b
AMB04-080	PS02	TME	Seawater	3106-221	09/08/10	27.9	0.00366	1.60	0.0042 Ub	20.5 b	0.0638 b	0.289 b	2.11 b
AMB04-080	PS02	DME	Seawater	3106-222	09/08/10	--	0.00162	--	0.0042 Ub	2.14 Ub	0.0658 b	0.240 b	1.59 b
AMB04-086	PS13	TME	Seawater	3106-223	09/08/10	29.1	0.00100	1.24	0.0042 Ub	5.24 Jb	0.0691 b	0.109 b	2.52 b
AMB04-086	PS13	DME	Seawater	3106-224	09/08/10	--	0.000412	--	0.0042 Ub	2.14 Ub	0.0625 b	0.0969 b	1.96 b
AMB04-091	M4	TME	Seawater	3106-225	09/08/10	29.1	0.00151	1.21	0.0042 Ub	44.6 b	0.0705 b	0.239 b	0.994 b

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB04
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Hg	As	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB04-091	M4	DME	Seawater	3106-226	09/08/10	--	0.000301 J	--	0.0042 Ub	2.14 Ub	0.0481 b	0.110 b	0.597 b
AMB04-097	BJ-EST	TME	Seawater	3106-227	09/08/10	28.9	0.00123	1.21	0.0042 Ub	31.3 b	0.0503 b	0.192 b	1.20 b
AMB04-097	BJ-EST	DME	Seawater	3106-228	09/08/10	--	0.000282 J	--	0.0042 Ub	2.14 Ub	0.0482 b	0.0759 Jb	0.792 b
AMB04-102	M3.1 SURFACE	TME	Seawater	3106-229	09/08/10	29.5	0.000834	1.22	0.0042 Ub	14.4 b	0.0583 b	0.156 b	0.700 b
AMB04-102	M3.1 SURFACE	DME	Seawater	3106-230	09/08/10	--	0.000244 J	--	0.0042 Ub	2.14 Ub	0.0526 b	0.108 b	0.493 b
AMB04-107	M3.1 DEEP	TME	Seawater	3106-231	09/08/10	29.7	0.00158	1.27	0.0042 Ub	21.0 b	0.0788 b	0.242 b	0.612 b
AMB04-107	M3.1 DEEP	DME	Seawater	3106-232	09/08/10	--	0.000239 J	--	0.0042 Ub	2.14 Ub	0.0616 b	0.170 b	0.434 b
AMB04-115	SN03	TME	Seawater	3106-239	09/09/10	28.9	0.00139	1.23	0.0042 Ub	17.0	0.0749 b	0.274 b	0.862 b
AMB04-115	SN03	DME	Seawater	3106-240	09/09/10	--	0.000423	--	0.0042 Ub	2.14 Ub	0.0611 b	0.158 b	0.543 b
AMB04-120	SN05	TME	Seawater	3106-241	09/09/10	28.1	0.00123	1.17	0.0042 Ub	26.0	0.0685 b	0.334 b	0.779 b
AMB04-120	SN05	DME	Seawater	3106-242	09/09/10	--	0.000342	--	0.0042 Ub	2.14 Ub	0.0651 b	0.184 b	0.495 b
AMB04-125	SN05DUP	TME	Seawater	3106-243	09/09/10	28.0	0.00119	1.18	0.0042 Ub	37.8	0.0675 b	0.290 b	0.757 b
AMB04-125	SN05DUP	DME	Seawater	3106-244	09/09/10	--	0.000327	--	0.0042 Ub	2.14 Ub	0.0582 b	0.154 b	0.465 b
AMB04-130	SN08	TME	Seawater	3106-245	09/09/10	29.5	0.000963	1.23	0.0042 Ub	17.1	0.0593 b	0.202 b	0.690 b
AMB04-130	SN08	DME	Seawater	3106-246	09/09/10	--	0.000272 J	--	0.0042 Ub	2.14 Ub	0.0514 b	0.148 b	0.505 b
AMB04-135	SN10	TME	Seawater	3106-247	09/09/10	29.2	0.000602	1.18	0.0042 Ub	5.68 Jb	0.0632 b	0.199 b	2.41 b
AMB04-135	SN10	DME	Seawater	3106-248	09/09/10	--	0.000233 J	--	0.0042 Ub	2.14 Ub	0.0671 b	0.218 b	1.80 b
AMB04-140	M3.3	TME	Seawater	3106-249	09/09/10	29.5	0.000631	1.19	0.0042 Ub	8.81	0.0572 b	0.191 b	0.693 b
AMB04-140	M3.3	DME	Seawater	3106-250	09/09/10	--	0.000236 J	--	0.0042 Ub	2.14 Ub	0.0558 b	0.176 b	0.681 b
AMB04-145	SN11	TME	Seawater	3106-251	09/09/10	29.4	0.000584	1.19	0.0042 Ub	6.35 Jb	0.0591 b	0.208 b	1.28 b
AMB04-145	SN11	DME	Seawater	3106-252	09/09/10	--	0.000286 J	--	0.0042 Ub	2.14 Ub	0.0643 b	0.199 b	1.03 b
AMB04-150	PS12	TME	Seawater	3106-253	09/09/10	29.5	0.00100	1.21	0.0042 Ub	7.78 b	0.0685 b	0.179 b	1.79 b
AMB04-150	PS12	DME	Seawater	3106-254	09/09/10	--	0.000309 J	--	0.0042 Ub	2.14 Ub	0.0724 b	0.115 b	1.39 b
AMB04-155	BM01	TME	Seawater	3106-255	09/09/10	29.8	0.000725	1.24	0.0042 Ub	11.1 b	0.0711 b	0.148 b	0.612 b
AMB04-155	BM01	DME	Seawater	3106-256	09/09/10	--	0.000210 J	--	0.0042 Ub	2.14 Ub	0.0690 b	0.126 b	0.452 b
AMB04-160	PWNLP	TME	Seawater	3106-257	09/09/10	29.6	0.000893	1.20	0.0042 Ub	17.3 b	0.0670 b	0.143 b	0.534 b
AMB04-160	PWNLP	DME	Seawater	3106-258	09/09/10	--	0.000277 J	--	0.0042 Ub	2.14 Ub	0.0660 b	0.109 b	0.413 b
AMB04-165	M6	TME	Seawater	3106-259	09/09/10	29.5	0.00106	1.15	0.0042 Ub	22.5 b	0.0611 b	0.165 b	0.576 b
AMB04-165	M6	DME	Seawater	3106-260	09/09/10	--	0.000245 J	--	0.0042 Ub	2.14 Ub	0.0517 b	0.110 b	0.390 b
AMB04-170	M8	TME	Seawater	3106-261	09/09/10	29.1	0.000969	1.18	0.0042 Ub	19.1 b	0.0494 b	0.161 b	0.527 b
AMB04-170	M8	DME	Seawater	3106-262	09/09/10	--	0.000369	--	0.0042 Ub	2.14 Ub	0.0483 b	0.117 b	0.370 b
AMB04-175	DYOTS	TME	Seawater	3106-263	09/09/10	28.9	0.000862	1.17	0.0042 Ub	20.4 b	0.0642 b	0.179 b	0.586 b
AMB04-175	DYOTS	DME	Seawater	3106-264	09/09/10	--	0.000372	--	0.0042 Ub	2.14 Ub	0.0631 b	0.123 b	0.500 b
AMB04-180	M7	TME	Seawater	3106-265	09/09/10	29.6	0.000655	1.16	0.0042 Ub	7.40 b	0.0660 b	0.153 b	2.13 b
AMB04-180	M7	DME	Seawater	3106-266	09/09/10	--	0.000459	--	0.0042 Ub	2.14 Ub	0.0598 b	0.121 b	0.404 b
AMB04-185	ILSP	TME	Seawater	3106-267	09/09/10	29.9	0.000550	1.24	0.0042 Ub	5.82 Jb	0.0764 b	0.127 b	0.469 b
AMB04-185	ILSP	DME	Seawater	3106-268	09/09/10	--	0.000264 J	--	0.0042 Ub	2.14 Ub	0.0711 b	0.140 b	0.399 b
AMB04-190	M1 SURFACE	TME	Seawater	3106-269	09/09/10	29.7	0.000531	1.13	0.0042 Ub	4.63 Jb	0.0696 b	0.149 b	0.459 b
AMB04-190	M1 SURFACE	DME	Seawater	3106-270	09/09/10	--	0.000275 J	--	0.0042 Ub	2.14 Ub	0.0663 b	0.119 b	0.366 b

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Ambient Monitoring - AMB04
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Hg	As	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB04-195	M1 DEEP	TME	Seawater	3106-271	09/09/10	29.8	0.000569	1.21	0.0042 U	2.76 Jb	0.0763 b	0.153 b	0.510 b
AMB04-195	M1 DEEP	DME	Seawater	3106-272	09/09/10	--	0.000259 J	--	0.0042 U	2.14 Ub	0.0639 b	0.123 b	0.391 b
AMB04-200	M2 SURFACE	TME	Seawater	3106-273	09/09/10	29.9	0.000558	1.28	0.0042 U	7.47	0.0821 b	0.173 b	0.610 b
AMB04-200	M2 SURFACE	DME	Seawater	3106-274	09/09/10	--	0.000353	--	0.0042 U	2.14 Ub	0.0711 b	0.150 b	0.414 b
AMB04-205	M2 DEEP	TME	Seawater	3106-275	09/09/10	29.9	0.000587	1.29	0.0042 U	17.0	0.0837 b	0.216 b	0.582 b
AMB04-205	M2 DEEP	DME	Seawater	3106-276	09/09/10	--	0.000255 J	--	0.0042 U	2.14 Ub	0.0743 b	0.140 b	0.384 b
AMB04-210	CLAM BAY	TME	Seawater	3106-277	09/09/10	29.9	0.000708	1.26	0.0042 U	13.1	0.0742 b	0.189 b	0.617 b
AMB04-210	CLAM BAY	DME	Seawater	3106-278	09/09/10	--	0.000219 J	--	0.0042 U	2.14 Ub	0.0784 b	0.236 b	0.515 b
AMB04-215	WP	TME	Seawater	3106-279	09/09/10	29.6	0.000806	1.20	0.0042 U	12.7	0.0678 b	0.249 b	0.637 b
AMB04-215	WP	DME	Seawater	3106-280	09/09/10	--	0.000263 J	--	0.0042 U	2.14 Ub	0.0649 b	0.139 b	0.440 b
AMB04-220	PS07	TME	Seawater	3106-281	09/09/10	29.4	0.000902	1.23	0.0042 U	4.77 Jb	0.0746 b	0.225 b	1.90 b
AMB04-220	PS07	DME	Seawater	3106-282	09/09/10	--	0.000380	--	0.0042 U	2.14 Ub	0.0658 b	0.155 b	1.50 b
AMB04-DD01	NPDES-18	TME	Seawater	3106-233	09/08/10	--	0.0130	2.01	0.0347 b	16.7 b	0.0907 b	0.813 b	7.52 b
AMB04-DD01	NPDES-18	DME	Seawater	3106-234	09/08/10	--	0.00304	--	0.00887 Jb	2.14 Ub	0.0875 b	0.480 b	3.49 b
AMB04-DD02	NPDES-21	TME	Freshwater	3106-235	09/08/10	--	0.00804	0.117	0.0110	22.0	0.00872	0.721	7.55
AMB04-DD02	NPDES-21	DME	Freshwater	3106-236	09/08/10	--	0.00533	--	0.0032 U	11.2	0.00785 J	0.655	5.68
EQUIPMENT BLANKS													
AMB04-FB1_090910	FiltBlk 1_090910	DME	Freshwater	3106-237	09/08/10	--	0.0000920 U	0.0267 U	0.0032 U	0.847	0.0033 U	0.051 U	0.0053 U
AMB04-FB2_090910	FiltBlk 2_090910	DME	Freshwater	3106-238	09/08/10	--	0.0000967 U		0.0032 U	0.791	0.0033 U	0.051 U	0.0053 U
AMB04-225	TME EB	TME	Freshwater	3106-283	09/09/10	--	0.000247 J	0.0267 U	0.0032 U	0.260 J	0.0033 U	0.051 U	0.0053 U
AMB04-226	DME EB	DME	Freshwater	3106-284	09/09/10	--	0.000178 J		0.0032 U	0.294 J	0.0033 U	0.051 U	0.0053 U
AMB04-227	TME EB	TME	Freshwater	3106-285	09/09/10	--	0.000168 J	0.0346 J	0.0032 U	0.2 U	0.0033 U	0.051 U	0.00655 J
AMB04-228	DME EB	DME	Freshwater	3106-286	09/09/10	--	0.000151 J		0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U

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Ambient Monitoring - AMB04
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0254**	**0.0019**	**0.0263**					
Seawater Reporting Limit (MDL* 3.18)					**0.081**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					0.0042	0.0022	0.02					
Freshwater Reporting Limit (MDL* 3.18)					0.013	0.0070	0.06					
AMB04-001	PS07	TME	Seawater	3106-191	0.683 b	0.255 b	11.6 b	092110HGA	F101510A	092010-6100	AMB04-005	S091010
AMB04-001	PS07	DME	Seawater	3106-192	0.561 b	0.0573 b	10.9 b	092110HGA	--	092010-6100	--	--
AMB04-006	PS06	TME	Seawater	3106-193	0.482 b	0.117 b	4.53 b	092110HGA	F101510A	092010-6100	AMB04-010	S091010
AMB04-006	PS06	DME	Seawater	3106-194	0.420 b	0.0207 b	4.26 b	092110HGA	--	092010-6100	--	--
AMB04-012	PS14	TME	Seawater	3106-195	0.964 b	0.0944 b	1.92 b	092110HGA	F101510A	092010-6100	AMB04-016	S091010
AMB04-012	PS14	DME	Seawater	3106-196	0.490 b	0.0199 b	1.57 b	092110HGA	--	092010-6100	--	--
AMB04-017	PS03	TME	Seawater	3106-197	1.11 b	0.161 b	4.23 b	092110HGA	F101510A	092010-6100	AMB04-021	S091010
AMB04-017	PS03	DME	Seawater	3106-198	0.543 b	0.0330 b	3.73 b	092110HGA	--	092010-6100	--	--
AMB04-023	PS04	TME	Seawater	3106-199	0.458 b	0.176 b	7.00 b	092110HGA	F101510A	092010-6100	AMB04-027	S091010
AMB04-023	PS04	DME	Seawater	3106-200	0.405 b	0.0357 b	6.72 b	092110HGA	--	092010-6100	--	--
AMB04-028	PS05	TME	Seawater	3106-201	0.440 b	0.119 b	4.33 b	092110HGA	F101510A	092010-6100	AMB04-032	S091010
AMB04-028	PS05	DME	Seawater	3106-202	0.370 b	0.0253 b	4.27 b	092110HGA	--	092010-6100	--	--
AMB04-033	PS08	TME	Seawater	3106-203	0.720 b	0.497 b	15.9 b	092110HGA	F101510A	092010-6100	AMB04-037	S091010
AMB04-033	PS08	DME	Seawater	3106-204	0.582 b	0.0516 b	14.0 b	092110HGA	--	092010-6100	--	--
AMB04-039	PS15	TME	Seawater	3106-205	1.07 b	0.111 b	3.73 b	092110HGA	F101510A	092010-6100	AMB04-043	S091010
AMB04-039	PS15	DME	Seawater	3106-206	0.535 b	0.0215 b	3.25 b	092110HGA	--	092010-6100	--	--
AMB04-044	PS09	TME	Seawater	3106-207	0.734 b	0.220 b	8.93 b	092110HGA	F101510A	092010-6100	AMB04-050	S091010
AMB04-044	PS09	DME	Seawater	3106-208	0.618 b	0.0196 b	7.65 b	092110HGA	--	092010-6100	--	--
AMB04-045	PS09DUP	TME	Seawater	3106-209	0.764 b	0.246 b	9.52 b	092110HGA	F101510A	092210-6100	AMB04-054	S091010
AMB04-045	PS09DUP	DME	Seawater	3106-210	0.646 b	0.0186 b	7.84 b	092110HGA	--	092210-6100	--	--
AMB04-055	PS10	TME	Seawater	3106-211	0.520 b	0.146 b	8.89 b	092210HGA	F101510A	092210-6100	AMB04-059	S091010
AMB04-055	PS10	DME	Seawater	3106-212	0.451 b	0.0276 b	8.16 b	092210HGA	--	092210-6100	--	--
AMB04-060	PS10.1	TME	Seawater	3106-213	0.446 b	0.0912 b	10.4 b	092210HGA	F101510A	092210-6100	AMB04-064	S091010
AMB04-060	PS10.1	DME	Seawater	3106-214	0.387 b	0.0226 b	9.77 b	092210HGA	--	092210-6100	--	--
AMB04-065	PS11	TME	Seawater	3106-215	0.472 b	0.152 b	15.7 b	092210HGA	F101510A	092210-6100	AMB04-069	S091010
AMB04-065	PS11	DME	Seawater	3106-216	0.428 b	0.0262 b	15.0 b	092210HGA	--	092210-6100	--	--
AMB04-070	PS16	TME	Seawater	3106-217	0.427 b	0.0823 b	2.05 b	092210HGA	F101510A	092210-6100	AMB04-074	S091010
AMB04-070	PS16	DME	Seawater	3106-218	0.354 b	0.0147 b	2.06 b	092210HGA	--	092210-6100	--	--
AMB04-075	PS01	TME	Seawater	3106-219	0.798 b	0.639 b	7.96 b	092210HGA	F101510A	092210-6100	AMB04-079	S091010
AMB04-075	PS01	DME	Seawater	3106-220	0.633 b	0.0640 b	5.75 b	092210HGA	--	092210-6100	--	--
AMB04-080	PS02	TME	Seawater	3106-221	0.659 b	0.244 b	5.77 b	092210HGA	F101510A	092210-6100	AMB04-085	S091010
AMB04-080	PS02	DME	Seawater	3106-222	0.644 b	0.0437 b	5.59 b	092210HGA	--	092210-6100	--	--
AMB04-086	PS13	TME	Seawater	3106-223	0.459 b	0.0794 b	4.60 b	092210HGA	F101510A	092210-6100	AMB04-090	S091010
AMB04-086	PS13	DME	Seawater	3106-224	0.437 b	0.0209 b	4.30 b	092210HGA	--	092210-6100	--	--
AMB04-091	M4	TME	Seawater	3106-225	0.543 b	0.182 b	1.92 b	092210HGA	F101510A	092010-6100	AMB04-095	S091010

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB04
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB04-091	M4	DME	Seawater	3106-226	0.365 b	0.0153 b	1.06 b	092210HGA	--	092010-6100	--	--
AMB04-097	BJ-EST	TME	Seawater	3106-227	0.492 b	0.170 b	2.35 b	092210HGA	F101510A	092210-6100	AMB04-101	S091010
AMB04-097	BJ-EST	DME	Seawater	3106-228	0.373 b	0.0172 b	1.64 b	092210HGA	--	092210-6100	--	--
AMB04-102	M3.1 SURFACE	TME	Seawater	3106-229	0.415 b	0.0863 b	1.06 b	092210HGA	F101510A	092210-6100	AMB04-106	S091010
AMB04-102	M3.1 SURFACE	DME	Seawater	3106-230	0.323 b	0.0147 b	0.886 b	092210HGA	--	092210-6100	--	--
AMB04-107	M3.1 DEEP	TME	Seawater	3106-231	0.449 b	0.0907 b	0.840 b	092310HGA	F101510A	092310-6100	AMB04-111	S091010
AMB04-107	M3.1 DEEP	DME	Seawater	3106-232	0.359 b	0.0132 b	0.631 b	092310HGA	--	092310-6100	--	--
AMB04-115	SN03	TME	Seawater	3106-239	0.685 b	0.146 b	1.88 b	092310HGA	F101510A	092310-6100	AMB04-119	S091010
AMB04-115	SN03	DME	Seawater	3106-240	0.433 b	0.0235 b	1.41 b	092310HGA	--	092310-6100	--	--
AMB04-120	SN05	TME	Seawater	3106-241	0.534 b	0.181 b	1.63 b	092310HGA	F101510A	092310-6100	AMB04-124	S091010
AMB04-120	SN05	DME	Seawater	3106-242	0.423 b	0.0263 b	1.37 b	092310HGA	--	092310-6100	--	--
AMB04-125	SN05DUP	TME	Seawater	3106-243	0.538 b	0.168 b	1.62 b	092310HGA	F101510A	092310-6100	AMB04-129	S091010
AMB04-125	SN05DUP	DME	Seawater	3106-244	0.401 b	0.0243 b	1.29 b	092310HGA	--	092310-6100	--	--
AMB04-130	SN08	TME	Seawater	3106-245	0.460 b	0.120 b	1.15 b	092310HGA	F101510A	092310-6100	AMB04-134	S091010
AMB04-130	SN08	DME	Seawater	3106-246	0.381 b	0.0195 b	1.01 b	092310HGA	--	092310-6100	--	--
AMB04-135	SN10	TME	Seawater	3106-247	0.434 b	0.0813 b	5.24 b	092410HGA	F101510A	092310-6100	AMB04-139	S091010
AMB04-135	SN10	DME	Seawater	3106-248	0.403 b	0.0215 b	4.78 b	092410HGA	--	092310-6100	--	--
AMB04-140	M3.3	TME	Seawater	3106-249	0.403 b	0.0932 b	1.25 b	092410HGA	F101510A	092310-6100	AMB04-144	S091010
AMB04-140	M3.3	DME	Seawater	3106-250	0.416 b	0.0176 b	0.994 b	092410HGA	--	092310-6100	--	--
AMB04-145	SN11	TME	Seawater	3106-251	0.539 b	0.0676 b	2.51 b	092410HGA	F101510A	092310-6100	AMB04-149	S091010
AMB04-145	SN11	DME	Seawater	3106-252	0.378 b	0.0179 b	2.49 b	092410HGA	--	092310-6100	--	--
AMB04-150	PS12	TME	Seawater	3106-253	0.394 b	0.125 b	5.21 b	092410HGA	F101510A	093010-6100	AMB04-154	S091010
AMB04-150	PS12	DME	Seawater	3106-254	0.390 b	0.0262 b	5.26 b	092410HGA	--	093010-6100	--	--
AMB04-155	BM01	TME	Seawater	3106-255	0.392 b	0.0864 b	1.06 b	092410HGA	F101510A	093010-6100	AMB04-159	S091010
AMB04-155	BM01	DME	Seawater	3106-256	0.337 b	0.0189 b	0.917 b	092410HGA	--	093010-6100	--	--
AMB04-160	PWNLP	TME	Seawater	3106-257	0.387 b	0.0913 b	0.768 b	092410HGA	F101510A	093010-6100	AMB04-164	S091010
AMB04-160	PWNLP	DME	Seawater	3106-258	0.372 b	0.0189 b	0.726 b	092410HGA	--	093010-6100	--	--
AMB04-165	M6	TME	Seawater	3106-259	0.483 b	0.146 b	0.927 b	092410HGA	F101510A	093010-6100	AMB04-169	S091010
AMB04-165	M6	DME	Seawater	3106-260	0.325 b	0.0325 b	0.702 b	092410HGA	--	093010-6100	--	--
AMB04-170	M8	TME	Seawater	3106-261	0.443 b	0.149 b	0.758 b	092410HGA	F101510A	093010-6100	AMB04-174	S091010
AMB04-170	M8	DME	Seawater	3106-262	0.321 b	0.0355 b	0.563 b	092410HGA	--	093010-6100	--	--
AMB04-175	DYOTS	TME	Seawater	3106-263	0.437 b	0.0988 b	1.16 b	092410HGA	F101510A	093010-6100	AMB04-179	S091010
AMB04-175	DYOTS	DME	Seawater	3106-264	0.398 b	0.0324 b	0.947 b	092410HGA	--	093010-6100	--	--
AMB04-180	M7	TME	Seawater	3106-265	0.392 b	0.146 b	1.91 b	092410HGA	F101510A	093010-6100	AMB04-184	S091010
AMB04-180	M7	DME	Seawater	3106-266	0.345 b	0.0195 b	0.544 b	092410HGA	--	093010-6100	--	--
AMB04-185	ILSP	TME	Seawater	3106-267	0.377 b	0.0444 b	0.645 b	092710HGA	F101510A	093010-6100	AMB04-189	S091010
AMB04-185	ILSP	DME	Seawater	3106-268	0.368 b	0.0109 b	0.700 b	092710HGA	--	093010-6100	--	--
AMB04-190	M1 SURFACE	TME	Seawater	3106-269	0.432 b	0.0327 b	0.558 b	092710HGA	F101510A	093010-6100	AMB04-194	S091010
AMB04-190	M1 SURFACE	DME	Seawater	3106-270	0.372 b	0.00932 b	0.642 b	092710HGA	--	093010-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB04
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB04-195	M1 DEEP	TME	Seawater	3106-271	0.440 b	0.0362 b	0.622 b	092710HGA	F101510A	100510-6100	AMB04-199	S091010
AMB04-195	M1 DEEP	DME	Seawater	3106-272	0.388 b	0.00899 b	0.434 b	092710HGA	--	100510-6100	--	--
AMB04-200	M2 SURFACE	TME	Seawater	3106-273	0.457 b	0.0544 b	0.629 b	092710HGA	F101510A	100510-6100	AMB04-204	S091010
AMB04-200	M2 SURFACE	DME	Seawater	3106-274	0.363 b	0.0122 b	0.816 b	092710HGA	--	100510-6100	--	--
AMB04-205	M2 DEEP	TME	Seawater	3106-275	0.769 b	0.0587 b	0.641 b	092710HGA	F101510A	100510-6100	AMB04-209	S091010
AMB04-205	M2 DEEP	DME	Seawater	3106-276	0.430 b	0.00566 Jb	0.566 b	092710HGA	--	100510-6100	--	--
AMB04-210	CLAM BAY	TME	Seawater	3106-277	0.496 b	0.0572 b	0.626 b	092710HGA	F101510A	100510-6100	AMB04-214	S091010
AMB04-210	CLAM BAY	DME	Seawater	3106-278	0.420 b	0.0103 b	0.740 b	092710HGA	F101510A	100510-6100	--	--
AMB04-215	WP	TME	Seawater	3106-279	0.829 b	0.0860 b	0.854 b	092710HGA	F101510A	100510-6100	AMB04-219	S091010
AMB04-215	WP	DME	Seawater	3106-280	0.441 b	0.0156 b	0.881 b	092710HGA	F101510A	100510-6100	--	--
AMB04-220	PS07	TME	Seawater	3106-281	0.757 b	0.0830 b	4.67 b	092710HGA	F101510A	100510-6100	AMB04-224	S091010
AMB04-220	PS07	DME	Seawater	3106-282	0.500 b	0.0231 b	4.40 b	092710HGA	F101510A	100510-6100	--	--
AMB04-DD01	NPDES-18	TME	Seawater	3106-233	2.12 b	0.484 b	34.5 b	092310HGA	F101510A	092310-6100	--	--
AMB04-DD01	NPDES-18	DME	Seawater	3106-234	1.67 b	0.0230 b	28.9 b	092310HGA	--	092310-6100	--	--
AMB04-DD02	NPDES-21	TME	Freshwater	3106-235	0.673	0.254	6.25	092310HGA	F101510A	091410-6100	--	--
AMB04-DD02	NPDES-21	DME	Freshwater	3106-236	0.558	0.0979	4.72	092310HGA	--	091410-6100	--	--
EQUIPMENT BLANKS												
AMB04-FB1_090910	FiltBlk 1_090910	DME	Freshwater	3106-237	0.0042 U	0.0022 U	0.194	092310HGA	F101510A	091410-6100	--	
AMB04-FB2_090910	FiltBlk 2_090910	DME	Freshwater	3106-238	0.00486 J	0.0022 U	0.110	092310HGA	--	091410-6100	--	
AMB04-225	TME EB	TME	Freshwater	3106-283	0.0138	0.0022 U	0.120	092710HGA	F101510A	091410-6100	--	
AMB04-226	DME EB	DME	Freshwater	3106-284	0.00587 J	0.0022 U	0.0913	092710HGA	--	091410-6100	--	
AMB04-227	TME EB	TME	Freshwater	3106-285	0.136	0.0022 U	0.357	092710HGA	F101510A	091410-6100	--	
AMB04-228	DME EB	DME	Freshwater	3106-286	0.0042 U	0.0022 U	1.12	092710HGA	--	091410-6100	--	

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Ambient Monitoring - AMB04
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
MB-1	TME	Seawater	DIBlk2_092010		0.000 U	0.360 U	0.000 U	0.0840 J	0.0328 U	0.0174 U	0.000 U	0.128	092010-6100
MB-2	TME	Seawater	DIBlk3_092010		0.000 U	0.357 U	0.000 U	0.0861 J	0.0357 J	0.0140 U	0.000 U	0.134	092010-6100
MB-3	TME	Seawater	DIBlk4_092010		0.000 U	0.353 U	0.000 U	0.0943 J	0.0572 J	0.0512 J	0.000 U	0.162	092010-6100
MEAN REAGENT BLANK		Seawater	***BMRB_092010***		**0.000**	**0.357**	**0.000**	**0.0881**	**0.0419**	**0.0275**	**0.000**	**0.141**	092010-6100
MB-4	TME	Seawater	DIBlk2_092210		0.000 U	0.328 U	0.0000 U	0.0777 J	0.0354 J	0.0121 U	0.00132 U	0.0693	092210-6100
MB-5	TME	Seawater	DIBlk3_092210		0.000 U	0.284 U	0.0000 U	0.0903 J	0.0288 U	0.0113 U	0.00062 U	0.0824	092210-6100
MB-6	TME	Seawater	DIBlk4_092210		0.000 U	0.328 U	0.0002 U	0.0898 J	0.0490 J	0.0215 U	0.00162 U	0.0854	092210-6100
MEAN REAGENT BLANK		Seawater	***BMRB_092210***		**0.000**	**0.313**	**0.0001**	**0.0859**	**0.0377**	**0.0150**	**0.00118**	**0.0790**	
MB-7	TME	Seawater	DIBlk2_092310		0.000 U	0.368 U	0.000411 U	0.0686 J	0.0411 J	0.0159 U	0.00113 U	0.0800 J	092310-6100
MB-8	TME	Seawater	DIBlk3_092310		0.000 U	0.348 U	0.000132 U	0.0705 J	0.0405 J	0.0206 U	0.000894 U	0.0919	092310-6100
MB-9	TME	Seawater	DIBlk4_092310		0.000 U	0.345 U	0.000193 U	0.0539 J	0.0406 J	0.0131 U	0.00139 U	0.0880	092310-6100
MEAN REAGENT BLANK		Seawater	***BMRB_092310***		**0.000**	**0.354**	**0.00025**	**0.0643**	**0.0407**	**0.0165**	**0.00114**	**0.0866**	
MB-10	TME	Seawater	DIBlk2_093010		0.000 U	0.468 U	0.000 U	0.131	0.0398 J	0.0322 J	0.00108 U	0.102	093010-6100
MB-11	TME	Seawater	DIBlk3_093010		0.000 U	0.501 U	0.000 U	0.137	0.0348 U	0.0402 J	0.000790 U	0.111	093010-6100
MB-12	TME	Seawater	DIBlk4_093010		0.000 U	0.490 U	0.000 U	0.101	0.0342 U	0.0219 U	0.00107 U	0.0966	093010-6100
MEAN REAGENT BLANK		Seawater	***BMRB_093010***		**0.000**	**0.486**	**0.000**	**0.123**	**0.0363**	**0.0314**	**0.00098**	**0.103**	
MB-13	TME	Seawater	DIBlk2_100510		0.0000 U	0.320 U	0.00152 J	0.0528 J	0.0396 J	0.01350 U	0.00131 U	0.0536 J	100510-6100
MB-14	TME	Seawater	DIBlk3_100510		0.0006 U	0.356 U	0.00529	0.0433 J	0.0363 J	0.01620 U	0.00114 U	0.0800 J	100510-6100
MB-15	TME	Seawater	DIBlk4_100510		0.0000 U	0.313 U	0.00000 U	0.0418 J	0.0348 U	0.00688 U	0.00089 U	0.0470 J	100510-6100
MEAN REAGENT BLANK		Seawater	***BMRB_100510***		**0.0002**	**0.330**	**0.00227**	**0.0460**	**0.0369**	**0.0122**	**0.00111**	**0.0602**	
TRM_BLK1	TME	Freshwater	TRMblk_091410		0.0032 U	0.2 U	0.0033 U	0.0879 J	0.0053 U	0.0042 U	0.0022 U	0.0499 J	091410-6100

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB04
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)		TME	Seawater	SBBlkr1_092010	0.0042 Ub	2.14 Ub	0.0618 b	0.143 b	0.283 b	0.334 b	0.00473 Jb	0.132 b	092010-6100
LCS (1)		TME	Seawater	SBLCS-r1_092010	1.78 b	1.91 Ub	1.86 b	2.03 b	2.11 b	2.16 b	1.92 b	2.09 b	092010-6100
				Percent Recovery, LCS	**89%**	**NS**	**90%**	**94%**	**91%**	**108%**	**96%**	**98%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (2)		TME	Seawater	SBBlkr1_092210	0.0042 Ub	2.14 Ub	0.0610 b	0.158 b	0.286 b	0.375 b	0.00464 Jb	0.169 b	092210-6100
LCS (2)		TME	Seawater	SBLCS-r1_092210	1.76 b	1.72 Ub	1.85 b	2.06 b	2.14 b	2.20 b	1.93 b	2.07 b	092210-6100
				Percent Recovery, LCS	**88%**	**NS**	**89%**	**95%**	**93%**	**110%**	**96%**	**95%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (3)		TME	Seawater	SBBlkr1_092310	0.0042 Ub	2.14 Ub	0.0789 b	0.120 b	0.252 b	0.358 b	0.00309 Jb	0.279 b	092310-6100
LCS (3)		TME	Seawater	SBLCS-r1_092310	1.74 b	2.14 Ub	1.94 b	2.05 b	2.09 b	2.18 b	1.91 b	2.35 b	092310-6100
				Percent Recovery, LCS	**87%**	**NS**	**93%**	**97%**	**92%**	**109%**	**95%**	**104%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (4)		TME	Seawater	SBBlkr1_093010	0.0042 Ub	2.14 Ub	0.0874 b	0.144 b	0.275 b	0.340 b	0.00332 b	0.375 b	093010-6100
LCS (4)		TME	Seawater	SBLCS-r1_093010	1.88 b	2.07 Ub	2.09 b	2.12 b	2.18 b	2.27 b	2.07 b	2.22 b	093010-6100
				Percent Recovery, LCS	**94%**	**NS**	**100%**	**99%**	**95%**	**113%**	**103%**	**92%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (5)		TME	Seawater	SBBlkr1_100510	0.0042 Ub	2.14 Ub	0.0892 b	0.145 b	0.282 b	0.354 b	0.00349 Jb	0.375 b	100510-6100
LCS (5)		TME	Seawater	SBLCS-r1_100510	1.81 b	0.39 Ub	2.05 b	1.77 b	2.08 b	2.17 b	2.02 b	2.48 b	100510-6100
				Percent Recovery, LCS	**90%**	**NS**	**98%**	**81%**	**90%**	**108%**	**101%**	**105%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	TRMblk_091410	0.0003 U	0.130 U	0.0000 U	0.0879 J	0.000 U	0.0031 U	0.0002 U	0.0499 J	091410-6100
LCS (6)		TME	Freshwater	TRM_LCS_091410	1.98	2.13	2.02	2.15	2.03	2.02	2.01	2.24	091410-6100
				Percent Recovery, LCS	**99%**	**107%**	**101%**	**103%**	**101%**	**101%**	**101%**	**109%**	

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Ambient Monitoring - AMB04
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB04-DD02	NPDES-21	DME	Freshwater	3106-236	0.0032 U	11.2	0.00785 J	0.655	5.68	0.558	0.0979	4.72	091410-6100
		DME	Freshwater	3106-236MS	4.81	16.3	5.11	5.94	10.8	5.70	5.17	10.2	091410-6100
				3106-236MSD	4.79	16.6	5.14	6.07	10.8	5.80	5.16	9.79	091410-6100
				Spiking Level	5	5	5	5	5	5	5	5	
				Percent Recovery, MS	**96%**	**102%**	**102%**	**106%**	**102%**	**103%**	**101%**	**109%**	
				Percent Recovery, MSD	**96%**	**108%**	**103%**	**108%**	**102%**	**105%**	**101%**	**101%**	
AMB04-091	M4	DME	Seawater	3106-226	0.0042 Ub	2.14 Ub	0.0481 b	0.110 b	0.597 b	0.365 b	0.0153 b	1.06 b	092010-6100
		DME	Seawater	3106-226MS	0.951 b	4.75 b	0.957 b	1.11 b	1.58 b	1.35 b	1.03 b	6.08 b	092010-6100
		DME	Seawater	3106-226MSD	0.912 b	4.13 b	0.980 b	1.08 b	1.53 b	1.28 b	0.985 b	5.77 b	092010-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**95%**	**95%**	**91%**	**100%**	**99%**	**99%**	**102%**	**100%**	
				Percent Recovery, MSD	**91%**	**83%**	**93%**	**97%**	**93%**	**91%**	**97%**	**94%**	
AMB04-102	M3.1 SURFACE	DME	Seawater	3106-230	0.0042 Ub	2.14 Ub	0.0526 b	0.108 b	0.493 b	0.323 b	0.0147 b	0.886 b	092210-6100
		DME	Seawater	3106-230MS	0.847 b	2.14 Ub	0.923 b	1.04 b	1.38 b	1.21 b	0.935 b	1.84 b	092210-6100
		DME	Seawater	3106-230MSD	0.851 b	2.14 Ub	0.921 b	1.01 b	1.41 b	1.25 b	0.947 b	1.89 b	092210-6100
				Spiking Level	1		1	1	1	1	1	1	
				Percent Recovery, MS	**85%**	**NA**	**87%**	**93%**	**89%**	**89%**	**92%**	**96%**	
				Percent Recovery, MSD	**85%**	**NA**	**87%**	**90%**	**92%**	**93%**	**93%**	**101%**	
AMB04-107	M3.1 DEEP	DME	Seawater	3106-232	0.0042 Ub	2.14 Ub	0.0614 b	0.105 b	0.394 b	0.342 b	0.0120 b	0.545 b	092310-6100
		DME	Seawater	3106-232MS	0.883 b	2.14 Ub	0.958 b	1.08 b	1.33 b	1.28 b	0.980 b	1.51 b	092310-6100
		DME	Seawater	3106-232MSD	0.908 b	2.14 Ub	0.979 b	1.12 b	1.39 b	1.34 b	1.00 b	1.59 b	092310-6100
				Spiking Level	1		1	1	1	1	1	1	
				Percent Recovery, MS	**88%**	**NA**	**90%**	**98%**	**93%**	**94%**	**97%**	**97%**	
				Percent Recovery, MSD	**91%**	**NA**	**92%**	**102%**	**99%**	**100%**	**99%**	**104%**	
AMB04-165	M6	DME	Seawater	3106-260	0.0042 Ub	2.14 Ub	0.0517 b	0.110 b	0.390 b	0.325 b	0.0325 b	0.702 b	093010-6100
		DME	Seawater	3106-260MS	0.853 b	2.14 Ub	0.956 b	1.07 b	1.30 b	1.23 b	0.993 b	1.66 b	093010-6100
		DME	Seawater	3106-260MSD	0.850 b	2.14 Ub	0.907 b	0.977 b	1.26 b	1.23 b	0.959 b	1.60 b	093010-6100
				Spiking Level	1		1	1	1	1	1	1	
				Percent Recovery, MS	**85%**	**NA**	**90%**	**96%**	**91%**	**90%**	**96%**	**96%**	
				Percent Recovery, MSD	**85%**	**NA**	**86%**	**87%**	**87%**	**90%**	**93%**	**90%**	
AMB04-195	M1 DEEP	DME	Seawater	3106-272	0.0042 Ub	2.14 Ub	0.0639 b	0.123 b	0.391 b	0.388 b	0.00899 b	0.434 b	100510-6100
		DME	Seawater	3106-272MS	0.887 b	2.14 Ub	0.954 b	1.14 b	1.36 b	1.36 b	0.983 b	1.45 b	100510-6100
		DME	Seawater	3106-272MSD	0.872 b	2.14 Ub	0.952 b	1.10 b	1.31 b	1.30 b	0.950 b	1.44 b	100510-6100
				Spiking Level	1		1	1	1	1	1	1	
				Percent Recovery, MS	**89%**	**NA**	**89%**	**102%**	**97%**	**97%**	**97%**	**102%**	
				Percent Recovery, MSD	**87%**	**NA**	**89%**	**98%**	**92%**	**91%**	**94%**	**101%**	

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360/681-4564

Ambient Monitoring - AMB04
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB04-DD02	NPDES-21	TME	Freshwater	3106-235	0.0110	22.0	0.00872	0.721	7.55	0.673	0.254	6.25	091410-6100
AMB04-DD02	NPDES-21	TME	Freshwater	3106-235R2	0.0105	22.0	0.00770	0.783	7.68	0.687	0.260	5.76	091410-6100
				Mean	0.0107	22.0	0.00821	0.752	7.61	0.680	0.257	6.00	
				RPD	**5%**	**0%**	**12%**	**8%**	**2%**	**2%**	**2%**	**8%**	
AMB04-001	PS07	TME	Seawater	3106-191	0.0042 Ub	10.9 b	0.0745 b	0.349 b	4.43 b	0.683 b	0.255 b	11.6 b	092010-6100
AMB04-001	PS07	TME	Seawater	3106-191r2	0.0042 Ub	11.6 b	0.0803 b	0.369 b	4.56 b	0.715 b	0.260 b	12.1 b	092010-6100
				Mean	NA	11.3	0.0774	0.359	4.49	0.699	0.258	11.8	
				RPD	NA	**6%**	**8%**	**6%**	**3%**	**5%**	**2%**	**4%**	
AMB04-055	PS10	TME	Seawater	3106-211	0.0042 Ub	5.89 b	0.0670 b	0.158 b	3.42 b	0.520 b	0.146 b	8.89 b	092210-6100
AMB04-055	PS10	TME	Seawater	3106-211r2	0.0042 Ub	7.12 b	0.0695 b	0.155 b	3.40 b	0.530 b	0.147 b	8.81 b	092210-6100
				Mean	NA	6.51	0.0683	0.157	3.41	0.525	0.146	8.85	
				RPD	NA	**19%**	**4%**	**2%**	**0%**	**2%**	**0%**	**1%**	
AMB04-115	SN03	TME	Seawater	3106-239	0.0042 Ub	16.6 b	0.0747 b	0.210 b	0.821 b	0.668 b	0.145 b	1.79 b	092310-6100
AMB04-115	SN03	TME	Seawater	3106-239r2	0.0042 Ub	18.2 b	0.0755 b	0.217 b	0.821 b	0.660 b	0.143 b	1.76 b	092310-6100
				Mean	NA	17.4	0.0751	0.213	0.821	0.664	0.144	1.77	
				RPD	NA	**9%**	**1%**	**3%**	**0%**	**1%**	**1%**	**2%**	
AMB04-155	BM01	TME	Seawater	3106-255	0.0042 Ub	11.1 b	0.0711 b	0.148 b	0.612 b	0.392 b	0.0864 b	1.06 b	093010-6100
AMB04-155	BM01	TME	Seawater	3106-255r2	0.0042 Ub	10.2 b	0.0763 b	0.155 b	0.617 b	0.408 b	0.0894 b	1.12 b	093010-6100
				Mean	NA	10.7	0.0737	0.152	0.614	0.400	0.0879	1.09	
				RPD	NA	**8%**	**7%**	**5%**	**1%**	**4%**	**3%**	**6%**	
AMB04-220	PS07	TME	Seawater	3106-281	0.0042 Ub	4.77 b	0.0746 b	0.225 b	1.90 b	0.757 b	0.0830 b	4.67 b	100510-6100
AMB04-220	PS07	TME	Seawater	3106-281r2	0.0042 Ub	5.34 b	0.0770 b	0.222 b	1.89 b	0.758 b	0.0818 b	4.70 b	100510-6100
				Mean	NA	5.06	0.0758	0.224	1.90	0.757	0.0824	4.68	
				RPD	NA	**11%**	**3%**	**1%**	**1%**	**0%**	**1%**	**1%**	

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Ambient Monitoring - AMB04
QC Sample Results for ICP-MS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5 (1)		TME	Seawater	CASS-5 092010	0.0042 Ub	2.14 Ub	0.0235 b	0.120 b	0.390 b	0.296 b	0.0106 b	0.635 b	092010-6100
SRM CASS-5 (2)		TME	Seawater	CASS-5 092210	0.0042 Ub	2.14 Ub	0.0274 b	0.148 b	0.410 b	0.310 b	0.00956 b	0.733 b	092210-6100
SRM CASS-5 (3)		TME	Seawater	CASS-5 092310	0.0042 Ub	2.14 Ub	0.0304 b	0.130 b	0.421 b	0.367 b	0.00989 b	0.692 b	092310-6100
SRM CASS-5 (4)		TME	Seawater	CASS-5 093010	0.0042 Ub	2.14 Ub	0.0315 b	0.142 b	0.391 b	0.307 b	0.00952 b	0.656 b	093010-6100
SRM CASS-5 (5)		TME	Seawater	CASS-5 100510	0.0042 Ub	2.14 Ub	0.0276 b	0.133 b	0.407 b	0.327 b	0.00909 b	0.757 b	100510-6100
				Certified Value	NC	NC	**0.0215**	**0.106** c	**0.38**	**0.33**	**0.011** c	**0.719**	
				PD	--	--	**9%**	**13%** c	**3%**	**10%**	**4%** c	**12%**	
				PD	--	--	**28%** &	**40%** c	**8%**	**6%**	**13%** c	**2%**	
				PD	--	--	**41%** &	**23%** c	**11%**	**11%**	**10%** c	**4%**	
				PD	--	--	**47%** &	**34%** c	**3%**	**7%**	**13%** c	**9%**	
				PD	--	--	**29%** &	**26%** c	**7%**	**1%**	**17%** c	**5%**	
SRM SLEW-2 (1)		TME	Seawater	SLEW-2 092010	0.0042 Ub	2.14 Ub	0.0201 b	0.141 b	1.41 b	0.599 b	0.0201 b	1.12 b	092010-6100
SRM SLEW-2 (2)		TME	Seawater	SLEW-2 092210	0.0042 Ub	2.14 Ub	0.0171 b	0.174 b	1.42 b	0.633 b	0.0183 b	1.02 b	092210-6100
SRM SLEW-2 (3)		TME	Seawater	SLEW-2 092310	0.0042 Ub	2.14 Ub	0.0203 b	0.168 b	1.47 b	0.662 b	0.0198 b	1.12 b	092310-6100
SRM SLEW-2 (4)		TME	Seawater	SLEW-2 093010	0.0042 Ub	2.14 Ub	0.0185 b	0.138 b	1.39 b	0.604 b	0.0203 b	1.08 b	093010-6100
SRM SLEW-2 (5)		TME	Seawater	SLEW-2 100510	0.0042 Ub	2.14 Ub	0.0165 b	0.134 b	1.41 b	0.619 b	0.0183 b	1.17 b	100510-6100
				Certified Value	NC	NC	**0.0190**	**0.169** c	**1.62**	**0.71**	**0.027** c	**1.1**	
				PD	--	--	**6%**	**16%** c	**13%**	**16%**	**25%** c	**2%**	
				PD	--	--	**10%**	**3%** c	**12%**	**11%**	**32%** c	**8%**	
				PD	--	--	**7%**	**1%** c	**9%**	**7%**	**27%** c	**2%**	
				PD	--	--	**2%**	**18%** c	**14%**	**15%**	**25%** c	**2%**	
				PD	--	--	**13%**	**21%** c	**13%**	**13%**	**32%** c	**6%**	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640 (1)		TME	Freshwater	1640_091410TRM	7.25	53.2	23.0	38.8	88.1	28.2	27.9	58.0	091410-6100
SRM 1640 (2)		TME	Freshwater	1640_092010	6.45	52.2	23.6	38.3	88.8	28.5	27.7	56.5	092010-6100
SRM 1640 (3)		TME	Freshwater	1640_092210	6.78	50.9	23.0	37.9	88.0	27.5	28.4	56.6	092210-6100
SRM 1640 (4)		TME	Freshwater	1640_092310	6.28	49.1	21.8	39.0	88.6	28.7	27.6	53.8	092310-6100
SRM 1640 (5)		TME	Freshwater	1640_093010	6.58	51.1	23.1	37.4	88.0	28.2	28.7	53.4	093010-6100
SRM 1640 (6)		TME	Freshwater	1640_100510	6.70	50.4	22.8	37.6	87.3	28.4	28.4	56.6	100510-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.4**	**27.9**	**53.2**	
				PD	**5%**	**2%**	**1%**	**0%**	**3%**	**3%**	**0%**	**9%**	
				PD	**15%**	**0%**	**3%**	**1%**	**4%**	**4%**	**1%**	**6%**	
				PD	**11%**	**2%**	**1%**	**2%**	**3%**	**0%**	**2%**	**6%**	
				PD	**18%**	**6%**	**4%**	**1%**	**4%**	**5%**	**1%**	**1%**	
				PD	**14%**	**2%**	**1%**	**3%**	**3%**	**3%**	**3%**	**0%**	
				PD	**12%**	**3%**	**0%**	**3%**	**2%**	**4%**	**2%**	**6%**	

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB04
QC Sample Results for FIAS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As		FIAS Batch ID
				Instrument:	*FIAS*		
Laboratory Achieved Detection Limits					**0.0267**		
Reporting Limit (MDL* 3.18)					**0.085**		
Method Blanks							
MB1		TME	Water	BLANK R1	0.0267	U	F101510A
MB2		TME	Water	BLANK R2	0.0267	U	F101510A
MB3		TME	Water	BLANK R3	0.0267	U	F101510A
Laboratory Control Samples							
Spiking Level					5		
LCS1		TME	Water	LCS R1	5.00		F101510A
MB1		TME	Water	BLANK R1	0.0267	U	F101510A
				Percent Recovery, LCS	**100%**		
Spiking Level					5		
LCS2		TME	Water	LCS R2	4.87		F101510A
MB2		TME	Water	BLANK R2	0.0267	U	F101510A
				Percent Recovery, LCS	**97%**		
Spiking Level					5		
LCS3		TME	Water	LCS R3	4.80		F101510A
MB3		TME	Water	BLANK R3	0.0267	U	F101510A
				Percent Recovery, LCS	**96%**		
MATRIX SPIKE RESULTS							
AMB04-023	PS04	TME	Seawater	3106-199	1.21		F101510A
AMB04-023	PS04	TME	Seawater	3106-199MS	6.25		F101510A
AMB04-023	PS04	TME	Seawater	3106-199MSD	6.34		F101510A
				Spiking Level	5		
				Percent Recovery, MS	**101%**		
				Percent Recovery, MSD	**103%**		
AMB04-125	SN05DUP	TME	Seawater	3106-243	1.18		F101510A
AMB04-125	SN05DUP	TME	Seawater	3106-243MS	6.00		F101510A
AMB04-125	SN05DUP	TME	Seawater	3106-243MSD	6.21		F101510A
				Spiking Level	5		
				Percent Recovery, MS	**96%**		
				Percent Recovery, MSD	**101%**		
AMB04-190	M1 SURFACE	TME	Seawater	3106-269	1.13		F101510A
AMB04-190	M1 SURFACE	TME	Seawater	3106-269MS	5.95		F101510A
AMB04-190	M1 SURFACE	TME	Seawater	3106-269MSD	6.02		F101510A
				Spiking Level	5		
				Percent Recovery, MS	**96%**		
				Percent Recovery, MSD	**98%**		

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Ambient Monitoring - AMB04
QC Sample Results for FIAS
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB04-033	PS08	TME	Seawater	3106-203	1.28	F101510A
AMB04-033	PS08	TME	Seawater	3106-203 R2	1.27	F101510A
				Mean	*1.27*	
				RPD	**1%**	
AMB04-115	SN03	TME	Seawater	3106-239	1.23	F101510A
AMB04-115	SN03	TME	Seawater	3106-239 R2	1.21	F101510A
				Mean	*1.22*	
				RPD	**1%**	
AMB04-210	CLAM BAY	TME	Seawater	3106-277	1.26	F101510A
AMB04-210	CLAM BAY	TME	Seawater	3106-277 R2	1.27	F101510A
				Mean	*1.27*	
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.15	F101510A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.07	F101510A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	1.07	F101510A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**4%**	
	SRM CASS-4 (2)			**PD**	**4%**	
	SRM CASS-4 (3)			**PD**	**4%**	

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Ambient Monitoring - AMB04
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
METHOD BLANKS						
MB-1	TME	Water		MB1_092010	0.0001 U	092110HGA
MB-2	TME	Water		MB2_092010	0.0001 U	092110HGA
MB-3	TME	Water		MB3_092010	0.0001 U	092110HGA
MB-4	TME	Water		MB1_092110	0.0001 U	092210HGA
MB-5	TME	Water		MB2_092110	0.0001 U	092210HGA
MB-6	TME	Water		MB3_092110	0.0001 U	092210HGA
MB-7	TME	Water		MB1_092210	0.0001 U	092310HGA
MB-8	TME	Water		MB2_092210	0.0001 U	092310HGA
MB-9	TME	Water		MB3_092210	0.0001 U	092310HGA
MB-10	TME	Water		MB1_092310	0.0001 U	092410HGA
MB-11	TME	Water		MB2_092310	0.0001 U	092410HGA
MB-12	TME	Water		MB3_092310	0.0001 U	092410HGA
MB-13	TME	Water		MB1_092410	0.0001 U	092710HGA
MB-14	TME	Water		MB2_092410	0.0001 U	092710HGA
MB-15	TME	Water		MB3_092410	0.0001 U	092710HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092010r1	0.00505	092110HGA
LCS (2)	TME	Water		OPR 092010r2	0.00523	092110HGA
LCS Blank (1)	TME	Water		BLANK 092010	0.000127 J	092110HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**103%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092110r1	0.00499	092210HGA
LCS (2)	TME	Water		OPR 092110r2	0.00502	092210HGA
LCS Blank (1)	TME	Water		BLANK092110	0.0001 U	092210HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092210r1	0.00500	092310HGA
LCS (2)	TME	Water		OPR 092210r2	0.00497	092310HGA
LCS Blank (1)	TME	Water		BLANK092210	0.000121 J	092310HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**98%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092310r1	0.00525	092410HGA
LCS (2)	TME	Water		OPR 092310r2	0.00500	092410HGA
LCS Blank (1)	TME	Water		BLANK092310	0.000142 J	092410HGA
				Percent Recovery, LCS 1	**103%**	
				Percent Recovery, LCS 2	**98%**	

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Ambient Monitoring - AMB04
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont.)						
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 092410r1	0.00511	092710HGA
LCS (2)		TME	Water	OPR 092410r2	0.00506	092710HGA
LCS Blank (1)		TME	Water	BLANK092410	0.000137 J	092710HGA
				Percent Recovery, LCS 1	**93%**	
				Percent Recovery, LCS 2	**100%**	
MATRIX SPIKE RESULTS						
AMB04-023	PS04	TME	Seawater	3106-199	0.00187	092110HGA
		TME	Seawater	3106-199MS	0.0132	092110HGA
		TME	Seawater	3106-199MSD	0.0122	092110HGA
				Spiking Level, MS	0.0109	
				Spiking Level, MSD	0.0105	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**98%**	
				RPD	**5.7%**	
AMB04-039	PS15	DME	Seawater	3106-206	0.000336	092110HGA
		DME	Seawater	3106-206MS	0.0109	092110HGA
		DME	Seawater	3106-206MSD	0.0103	092110HGA
				Spiking Level, MS	0.0102	
				Spiking Level, MSD	0.0102	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**98%**	
				RPD	**6.0%**	
AMB04-060	PS10.1	TME	Seawater	3106-213	0.000994	092210HGA
		TME	Seawater	3106-213MS	0.0119	092210HGA
		TME	Seawater	3106-213MSD	0.0121	092210HGA
				Spiking Level, MS	0.0111	
				Spiking Level, MSD	0.0111	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.8%**	
AMB04-080	PS02	DME	Seawater	3106-222	0.00162	092210HGA
		DME	Seawater	3106-222MS	0.0124	092210HGA
		DME	Seawater	3106-222MSD	0.0131	092210HGA
				Spiking Level, MS	0.0112	
				Spiking Level, MSD	0.0114	
				Percent Recovery, MS	**96%**	
				Percent Recovery, MSD	**101%**	
				RPD	**4.4%**	

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Ambient Monitoring - AMB04
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB04-107	M3.1 DEEP	DME	Seawater	3106-232	0.000239	092310HGA
		DME	Seawater	3106-232MS	0.0102	092310HGA
		DME	Seawater	3106-232MSD	0.0098	092310HGA
				Spiking Level, MS	0.0104	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**96%**	
				Percent Recovery, MSD	**92%**	
				RPD	**4.2%**	
AMB04-125	SN05DUP	TME	Seawater	3106-243	0.000271	092310HGA
		TME	Seawater	3106-243MS	0.0111	092310HGA
		TME	Seawater	3106-243MSD	0.0114	092310HGA
				Spiking Level, MS	0.01020	
				Spiking Level, MSD	0.0104	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**107%**	
				RPD	**0.8%**	
AMB04-140	M3.3	DME	Seawater	3106-250	0.000236 J	092410HGA
		DME	Seawater	3106-250MS	0.0113	092410HGA
		DME	Seawater	3106-250MSD	0.0108	092410HGA
				Spiking Level, MS	0.0110	
				Spiking Level, MSD	0.0109	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**97%**	
				RPD	**3.8%**	
AMB04-175	DYOTS	TME	Seawater	3106-263	0.000862	092410HGA
		TME	Seawater	3106-263MS	0.0115	092410HGA
		TME	Seawater	3106-263MSD	0.0119	092410HGA
				Spiking Level, MS	0.0106	
				Spiking Level, MSD	0.0109	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.9%**	
AMB04-190	M1 SURFACE	TME	Seawater	3106-269	0.000531	092710HGA
		TME	Seawater	3106-269MS	0.0111	092710HGA
		TME	Seawater	3106-269MSD	0.0111	092710HGA
				Spiking Level, MS	0.0107	
				Spiking Level, MSD	0.0105	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**101%**	
				RPD	**1.9%**	
AMB04-215	WP	DME	Seawater	3106-280	0.000263 J	092710HGA
		DME	Seawater	3106-280MS	0.0115	092710HGA
		DME	Seawater	3106-280MSD	0.0110	092710HGA
				Spiking Level, MS	0.0109	
				Spiking Level, MSD	0.0110	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**98%**	
				RPD	**5.6%**	

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Ambient Monitoring - AMB04
QC Sample Results for CVAF
ENVVEST 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB04-033	PS08	TME	Seawater	3106-203	0.000269	092110HGA
AMB04-033	PS08	TME	Seawater	3106-203r2	0.000269	092110HGA
				Mean	*0.000269*	
				RPD	**0%**	
AMB04-075	PS01	TME	Seawater	3106-219	0.00522	092210HGA
AMB04-075	PS01	TME	Seawater	3106-219r2	0.00458	092210HGA
				Mean	*0.00490*	
				RPD	**13%**	
AMB04-115	SN03	TME	Seawater	3106-239	0.00139	092310HGA
AMB04-115	SN03	TME	Seawater	3106-239r2	0.00124	092310HGA
				Mean	*0.00132*	
				RPD	**11%**	
AMB04-165	M6	TME	Seawater	3106-259	0.00106	092410HGA
AMB04-165	M6	TME	Seawater	3106-259r2	0.00100	092410HGA
				Mean	*0.00103*	
				RPD	**6%**	
AMB04-210	CLAM BAY	TME	Freshwater	3106-277	0.000708	092710HGA
AMB04-210	CLAM BAY	TME	Freshwater	3106-277r2	0.000574	092710HGA
				Mean	*0.000641*	
				RPD	**21%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 092010	1700	092110HGA
SRM 1641 (2)		TME	Freshwater	1641d 092110	1540	092210HGA
SRM 1641 (3)		TME	Freshwater	1641d 092210	1600	092310HGA
SRM 1641 (4)		TME	Freshwater	1641d 092310	1650	092310HGA
SRM 1641 (5)		TME	Freshwater	1641d 092310r2	1588	092410HGA
SRM 1641 (6)		TME	Freshwater	1641d 092410	1567	092710HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**7%**	
	SRM 1641 (2)			**PD**	**3%**	
	SRM 1641 (3)			**PD**	**1%**	
	SRM 1641 (4)			**PD**	**4%**	
	SRM 1641 (5)			**PD**	**0%**	
	SRM 1641 (6)			**PD**	**1%**	

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Ambient Monitoring - AMB04
QC Sample Results for Salinity
ENVVEST 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	Blank ICB	0.0 U	PSU	
MB2		TME	Seawater	Blank CCB1	0.0 U	PSU	
MB3		TME	Seawater	Blank CCB2	0.0 U	PSU	
MB4		TME	Seawater	Blank CCB3	0.0 U	PSU	
MB5		TME	Seawater	Blank CCB4	0.0 U	PSU	
MB6		TME	Seawater	Blank CCB5	0.0 U	PSU	
MB7		TME	Seawater	Blank CCB6	0.0 U	PSU	
MB8		TME	Seawater	Blank CCB7	0.0 U	PSU	
REPLICATE PRECISION							
AMB04-017	PS03r1	TME	Seawater	3106-197	26.2	PSU	
AMB04-017	PS03r2	TME	Seawater	3106-197r2	26.2	PSU	
				Mean	*26.2*	PSU	
				RPD	**0.0%**		
AMB04-130	SN08r1	TME	Seawater	3106-245	29.5	PSU	
AMB04-130	SN08r2	TME	Seawater	3106-245r2	29.5	PSU	
				Mean	*29.5*	PSU	
				RPD	**0.0%**		
AMB04-205	M2 DEEP r1	TME	Seawater	3106-275	29.9	PSU	
AMB04-205	M2 DEEP r2	TME	Seawater	3106-275r2	29.9	PSU	
				Mean	*29.9*	PSU	
				RPD	**0.0%**		
STANDARD REFERENCE MATERIAL							
SRM Copenhagen Water-1		TME	Seawater	Copenhagen Water (LCS) R1	34.8	PSU	
SRM Copenhagen Water-2		TME	Seawater	Copenhagen Water (LCS) R2	34.7	PSU	
SRM Copenhagen Water-3		TME	Seawater	Copenhagen Water (LCS) R3	34.8	PSU	
SRM Copenhagen Water-4		TME	Seawater	Copenhagen Water (LCS) R4	34.7	PSU	
SRM Copenhagen Water-5		TME	Seawater	Copenhagen Water (LCS) R5	34.6	PSU	
SRM Copenhagen Water-6		TME	Seawater	Copenhagen Water (LCS) R6	34.6	PSU	
SRM Copenhagen Water-7		TME	Seawater	Copenhagen Water (LCS) R7	34.6	PSU	
SRM Copenhagen Water-8		TME	Seawater	Copenhagen Water (LCS) R8	34.9	PSU	
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**1%**		
	SRM-2			**PD**	**1%**		
	SRM-3			**PD**	**1%**		
	SRM-4			**PD**	**1%**		
	SRM-5			**PD**	**1%**		
	SRM-6			**PD**	**1%**		
	SRM-7			**PD**	**1%**		
	SRM-8			**PD**	**0%**		

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Ambient Monitoring - AMB04
QC Sample Results for Salinity
ENVVEST 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
LABORATORY CONTROL SAMPLES							
LCS-1				LCS	20.3		
LCS-2				LCSr2	20.4		
LCS-3				LCSr3	20.1		
LCS-4				LCSr4	20.1		
LCS-5				LCSr5	20.2		
				TRUE VALUE	**20.0**		
	LCS-1			**% RECOVERY**	**101.5%**		
	LCS-2			**% RECOVERY**	**102.0%**		
	LCS-3			**% RECOVERY**	**100.5%**		
	LCS-4			**% RECOVERY**	**100.5%**		
	LCS-5			**% RECOVERY**	**101.0%**		
CALIBRATION RESULTS							
ICV-1				Calibration ICV	49.9	mS	
CCV-1				Calibration CCV1	50.0	mS	
CCV-2				Calibration CCV2	50.0	mS	
CCV-3				Calibration CCV3	50.1	mS	
CCV-4				Calibration CCV4	49.9	mS	
CCV-5				Calibration CCV5	50.0	mS	
CCV-6				Calibration CCV6	50.0	mS	
CCV-7				Calibration CCV7	49.8	mS	
CCV-8				Calibration CCV8	49.8	mS	
				TRUE VALUE	**50.0**	mS	
	LCS-1			**% RECOVERY**	**99.8%**		
	LCS-2			**% RECOVERY**	**100.0%**		
	LCS-3			**% RECOVERY**	**100.0%**		
	LCS-4			**% RECOVERY**	**100.2%**		
	LCS-5			**% RECOVERY**	**99.8%**		
	LCS-6			**% RECOVERY**	**100.0%**		
	LCS-7			**% RECOVERY**	**100.0%**		
	LCS-8			**% RECOVERY**	**99.6%**		
	LCS-9			**% RECOVERY**	**99.6%**		

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ENVVEST 2010_AMB04
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, September 2010 (AMB004)

PARAMETER: Total and Dissolved Metals – Al (Total only), Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks (DI water matrix)

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 09/08/10 and 09/09/10. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	09/08/10 and 09/09/10
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	09/08/10 and 09/09/10
CVAF analysis dates (Hg)	09/21/10, 09/22/10, 09/23/10, 09/24/10, 09/27/10
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	09/14/10
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	09/20/10, 09/22/10, 09/23/10, 09/30/10, 10/05/10
FIAS analysis date (As)	10/15/10

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.0101
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.161
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.02
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for nine metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013, Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water*. Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of*

METHODS: *Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples such as equipment blanks were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and qualified with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Equipment blanks were created by MSL using the same lot of bottles and filter units cleaned for AMB04. They consist of deionized water collected in the Teflon sample bottle (1L) and filtered along with the AMB04 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed for Hg by CVAF as described above for the seawater. The freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for freshwater is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg and six months for all other metals.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annual Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annual Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch. The average method blank for each batch was less than the RL for all metals except Cr and Zn. The required preconcentration procedure to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank for the analytical batch.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals except Al (not spiked into the samples). The LCS matrix is Sequim Bay Seawater carried through the preconcentration and analytical processes. The quantification of Al is not considered a chemical of concern; therefore, the spiking levels are optimized for the other metals of interest. The accuracy of Al was evaluated on matrix spikes, freshwater SRMs, and high purity standards.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion. Two different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS.

The freshwater SRM 1640 demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion.

Two seawater SRMs were prepared with each batch of preconcentrated samples (CASS-5 and SLEW-2). The certified values for Cr and Pb were less than 10 times the MDL. Therefore, the data were flagged and only used to evaluate data set accuracy. The percent differences for these metals were also flagged with a "c" indicating they meet the contingency criterion. The seawater SRMs were not certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy for these metals. The percent differences for CASS-5 were within the QC acceptance criterion with the exception of four values for Cd. The percent differences for SLEW-2 were within the QC acceptance criterion including Cd, suggesting the high recoveries measured in CASS-5 were not associated with analytical bias. Acceptable accuracy for all metals were demonstrated through multiple quality control samples.

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/9/2010
Batch: 1
Login Designee: Suslick, Lasorsa

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Project: **ENVVEST Ambient Monitoring, SEPT 2010 (AMB04)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB04-001	PS07-TME	TME	PS07	3106-191	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-001	PS07-DME	DME	PS07	3106-192	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-006	PS06-TME	TME	PS06	3106-193	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-006	PS06-DME	DME	PS06	3106-194	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-012	PS14-TME	TME	PS14	3106-195	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-012	PS14-DME	DME	PS14	3106-196	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-017	PS03-TME	TME	PS03	3106-197	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-017	PS03-DME	DME	PS03	3106-198	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-023	PS04-TME	TME	PS04	3106-199	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-023	PS04-DME	DME	PS04	3106-200	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-028	PS05-TME	TME	PS05	3106-201	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-028	PS05-DME	DME	PS05	3106-202	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-033	PS08-TME	TME	PS08	3106-203	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-033	PS08-DME	DME	PS08	3106-204	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-039	PS15-TME	TME	PS15	3106-205	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-039	PS15-DME	DME	PS15	3106-206	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-044	PS09-TME	TME	PS09	3106-207	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-044	PS09-DME	DME	PS09	3106-208	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-045	PS09DUP-TME	TME	PS09DUP	3106-209	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-045	PS09DUP-DME	DME	PS09DUP	3106-210	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-055	PS10-TME	TME	PS10	3106-211	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-055	PS10-DME	DME	PS10	3106-212	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-060	PS10.1-TME	TME	PS10.1	3106-213	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-060	PS10.1-DME	DME	PS10.1	3106-214	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-065	PS11-TME	TME	PS11	3106-215	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-065	PS11-DME	DME	PS11	3106-216	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-070	PS16-TME	TME	PS16	3106-217	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-070	PS16-DME	DME	PS16	3106-218	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-075	PS01-TME	TME	PS01	3106-219	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-075	PS01-DME	DME	PS01	3106-220	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-080	PS02-TME	TME	PS02	3106-221	WATER	PREP LAB	Total Metals, Hg	09/08/10

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
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Batch: 1
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Project: **ENVVEST Ambient Monitoring, SEPT 2010 (AMB04)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB04-080	PS02-DME	DME	PS02	3106-222	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-086	PS13-TME	TME	PS13	3106-223	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-086	PS13-DME	DME	PS13	3106-224	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-091	M4-TME	TME	M4	3106-225	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-091	M4-DME	DME	M4	3106-226	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-097	BJ-EST-TME	TME	BJ-EST	3106-227	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-097	BJ-EST-DME	DME	BJ-EST	3106-228	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-102	M3.1 SURFACE-TME	TME	M3.1 SURFACE	3106-229	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-102	M3.1 SURFACE-DME	DME	M3.1 SURFACE	3106-230	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-107	M3.1 DEEP-TME	TME	M3.1 DEEP	3106-231	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-107	M3.1 DEEP-DME	DME	M3.1 DEEP	3106-232	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-DD01	NPDES-18-TME	TME	NPDES-18	3106-233	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-DD01	NPDES-18-DME	DME	NPDES-18	3106-234	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-DD02	NPDES-21-TME	TME	NPDES-21	3106-235	WATER	PREP LAB	Total Metals, Hg	09/08/10
AMB04-DD02	NPDES-21-DME	DME	NPDES-21	3106-236	WATER	PREP LAB	Dissolved Metals	09/08/10
AMB04-FB1_090910	FiltBlk 1_090910-DME	DME	FiltBlk 1_090910	3106-237	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-FB2_090910	FiltBlk 2_090910-DME	DME	FiltBlk 2_090910	3106-238	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-005	PS07-OSAL	OSAL	PS07	3106-191	WATER	MSL	SALINITY	09/08/10
AMB04-010	PS06-OSAL	OSAL	PS06	3106-193	WATER	MSL	SALINITY	09/08/10
AMB04-016	PS14-OSAL	OSAL	PS14	3106-195	WATER	MSL	SALINITY	09/08/10
AMB04-021	PS03-OSAL	OSAL	PS03	3106-197	WATER	MSL	SALINITY	09/08/10
AMB04-027	PS04-OSAL	OSAL	PS04	3106-199	WATER	MSL	SALINITY	09/08/10
AMB04-032	PS05-OSAL	OSAL	PS05	3106-201	WATER	MSL	SALINITY	09/08/10
AMB04-037	PS08-OSAL	OSAL	PS08	3106-203	WATER	MSL	SALINITY	09/08/10
AMB04-043	PS15-OSAL	OSAL	PS15	3106-205	WATER	MSL	SALINITY	09/08/10
AMB04-050	PS09-OSAL	OSAL	PS09	3106-207	WATER	MSL	SALINITY	09/08/10
AMB04-054	PS09DUP-OSAL	OSAL	PS09DUP	3106-209	WATER	MSL	SALINITY	09/08/10
AMB04-059	PS10-OSAL	OSAL	PS10	3106-211	WATER	MSL	SALINITY	09/08/10
AMB04-064	PS10.1-OSAL	OSAL	PS10.1	3106-213	WATER	MSL	SALINITY	09/08/10
AMB04-069	PS11-OSAL	OSAL	PS11	3106-215	WATER	MSL	SALINITY	09/08/10

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
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Project: **ENVVEST Ambient Monitoring, SEPT 2010 (AMB04)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB04-074	PS16-OSAL	OSAL	PS16	3106-217	WATER	MSL	SALINITY	09/08/10
AMB04-079	PS01-OSAL	OSAL	PS01	3106-219	WATER	MSL	SALINITY	09/08/10
AMB04-085	PS02-OSAL	OSAL	PS02	3106-221	WATER	MSL	SALINITY	09/08/10
AMB04-090	PS13-OSAL	OSAL	PS13	3106-223	WATER	MSL	SALINITY	09/08/10
AMB04-095	M4-OSAL	OSAL	M4	3106-225	WATER	MSL	SALINITY	09/08/10
AMB04-101	BJ-EST-OSAL	OSAL	BJ-EST	3106-227	WATER	MSL	SALINITY	09/08/10
AMB04-106	M3.1 SURFACE-OSAL	OSAL	M3.1 SURFACE	3106-229	WATER	MSL	SALINITY	09/08/10
AMB04-111	M3.1 DEEP-OSAL	OSAL	M3.1 DEEP	3106-231	WATER	MSL	SALINITY	09/08/10

COMMENT: Metals samples stored in Prep Lab, bins: J-2-B, I-3-A, I-3-C, I-4-A; salinity samples stored in Hg Lab frig

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/10/2010
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Project: **ENVVEST Ambient Monitoring, SEPT 2010 (AMB04)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB04-115	SN03-TME	TME	SN03	3106-239	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-115	SN03-DME	DME	SN03	3106-240	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-120	SN05-TME	TME	SN05	3106-241	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-120	SN05-DME	DME	SN05	3106-242	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-125	SN05DUP-TME	TME	SN05DUP	3106-243	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-125	SN05DUP-DME	DME	SN05DUP	3106-244	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-130	SN08-TME	TME	SN08	3106-245	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-130	SN08-DME	DME	SN08	3106-246	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-135	SN10-TME	TME	SN10	3106-247	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-135	SN10-DME	DME	SN10	3106-248	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-140	M3.3-TME	TME	M3.3	3106-249	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-140	M3.3-DME	DME	M3.3	3106-250	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-145	SN11-TME	TME	SN11	3106-251	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-145	SN11-DME	DME	SN11	3106-252	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-150	PS12-TME	TME	PS12	3106-253	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-150	PS12-DME	DME	PS12	3106-254	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-155	BM01-TME	TME	BM01	3106-255	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-155	BM01-DME	DME	BM01	3106-256	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-160	PWNLP-TME	TME	PWNLP	3106-257	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-160	PWNLP-DME	DME	PWNLP	3106-258	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-165	M6-TME	TME	M6	3106-259	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-165	M6-DME	DME	M6	3106-260	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-170	M8-TME	TME	M8	3106-261	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-170	M8-DME	DME	M8	3106-262	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-175	DYOTS-TME	TME	DYOTS	3106-263	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-175	DYOTS-DME	DME	DYOTS	3106-264	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-180	M7-TME	TME	M7	3106-265	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-180	M7-DME	DME	M7	3106-266	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-185	ILSP-TME	TME	ILSP	3106-267	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-185	ILSP-DME	DME	ILSP	3106-268	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-190	M1 SURFACE-TME	TME	M1 SURFACE	3106-269	WATER	PREP LAB	Total Metals, Hg	09/09/10

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
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Project: **ENVVEST Ambient Monitoring, SEPT 2010 (AMB04)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB04-190	M1 SURFACE-DME	DME	M1 SURFACE	3106-270	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-195	M1 DEEP-TME	TME	M1 DEEP	3106-271	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-195	M1 DEEP-DME	DME	M1 DEEP	3106-272	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-200	M2 SURFACE-TME	TME	M2 SURFACE	3106-273	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-200	M2 SURFACE-DME	DME	M2 SURFACE	3106-274	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-205	M2 DEEP-TME	TME	M2 DEEP	3106-275	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-205	M2 DEEP-DME	DME	M2 DEEP	3106-276	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-210	CLAM BAY-TME	TME	CLAM BAY	3106-277	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-210	CLAM BAY-DME	DME	CLAM BAY	3106-278	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-215	WP-TME	TME	WP	3106-279	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-215	WP-DME	DME	WP	3106-280	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-220	PS07-TME	TME	PS07	3106-281	WATER	PREP LAB	Total Metals, Hg	09/09/10
AMB04-220	PS07-DME	DME	PS07	3106-282	WATER	PREP LAB	Dissolved Metals	09/09/10
AMB04-225	TME EB-TME	TME	TME EB	3106-283	WATER	PREP LAB	Total Metals, Hg	09/10/10
AMB04-226	DME EB-DME	DME	DME EB	3106-284	WATER	PREP LAB	Dissolved Metals	09/10/10
AMB04-227	TME EB-TME	TME	TME EB	3106-285	WATER	PREP LAB	Total Metals, Hg	09/10/10
AMB04-228	DME EB-DME	DME	DME EB	3106-286	WATER	PREP LAB	Dissolved Metals	09/10/10
AMB04-119	SN03-OSAL	OSAL	SN03	3106-239	WATER	MSL	SALINITY	09/09/10
AMB04-124	SN05-OSAL	OSAL	SN05	3106-241	WATER	MSL	SALINITY	09/09/10
AMB04-129	SN05DUP-OSAL	OSAL	SN05DUP	3106-243	WATER	MSL	SALINITY	09/09/10
AMB04-134	SN08-OSAL	OSAL	SN08	3106-245	WATER	MSL	SALINITY	09/09/10
AMB04-139	SN10-OSAL	OSAL	SN10	3106-247	WATER	MSL	SALINITY	09/09/10
AMB04-144	M3.3-OSAL	OSAL	M3.3	3106-249	WATER	MSL	SALINITY	09/09/10
AMB04-149	SN11-OSAL	OSAL	SN11	3106-251	WATER	MSL	SALINITY	09/09/10
AMB04-154	PS12-OSAL	OSAL	PS12	3106-253	WATER	MSL	SALINITY	09/09/10
AMB04-159	BM01-OSAL	OSAL	BM01	3106-255	WATER	MSL	SALINITY	09/09/10
AMB04-164	PWNLP-OSAL	OSAL	PWNLP	3106-257	WATER	MSL	SALINITY	09/09/10
AMB04-169	M6-OSAL	OSAL	M6	3106-259	WATER	MSL	SALINITY	09/09/10
AMB04-174	M8-OSAL	OSAL	M8	3106-261	WATER	MSL	SALINITY	09/09/10
AMB04-179	DYOTS-OSAL	OSAL	DYOTS	3106-263	WATER	MSL	SALINITY	09/09/10

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/10/2010
Batch: 2
Login Designee: Suslick, Brandenberger

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPT 2010 (AMB04)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB04-184	M7-OSAL	OSAL	M7	3106-265	WATER	MSL	SALINITY	09/09/10
AMB04-189	ILSP-OSAL	OSAL	ILSP	3106-267	WATER	MSL	SALINITY	09/09/10
AMB04-194	M1 SURFACE-OSAL	OSAL	M1 SURFACE	3106-269	WATER	MSL	SALINITY	09/09/10
AMB04-199	M1 DEEP-OSAL	OSAL	M1 DEEP	3106-271	WATER	MSL	SALINITY	09/09/10
AMB04-204	M2 SURFACE-OSAL	OSAL	M2 SURFACE	3106-273	WATER	MSL	SALINITY	09/09/10
AMB04-209	M2 DEEP-OSAL	OSAL	M2 DEEP	3106-275	WATER	MSL	SALINITY	09/09/10
AMB04-214	CLAM BAY-OSAL	OSAL	CLAM BAY	3106-277	WATER	MSL	SALINITY	09/09/10
AMB04-219	WP-OSAL	OSAL	WP	3106-279	WATER	MSL	SALINITY	09/09/10
AMB04-224	PS07-OSAL	OSAL	PS07	3106-281	WATER	MSL	SALINITY	09/09/10

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/10

Page: 1 of 1

COC Number:

Dry Dock Samples

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease		No. of containers	CP# 3106 Lab StationID	Comments
DD01	AMB04-001DD	DD NPDES~~S~~-018	9/8/10 1200	water	X	X								233/234	
~~DD02~~	-002 DD	NPDES-018	A/A												JmB 9/8/10
~~DD03~~	-003 DD														
~~DD04~~	~~-004 DD~~														
DD02	002 DD	NPDES 021	9/8/10 1200	water	X	X								235/236	
	FIHBLK1 -	090910			DISS MET									237	
	FIHBLK-2	090910 added @ MSL 9/9/10 SS			DISS MET									238	

Relinquished by:

Signature: JmBrandenberger Date: 9/8/10 Time: 1630

Printed Name: Jill m Brandenberger Company: Battelle

Received by:

Signature: C. Sudlick

Printed Name: Battelle MSL 9/9/10

Total # of Containers

Shipment Method: Hand Delivery

Shipment Method:

Sample Disposition:

Relinquished by:

Signature: Date: Time:

Printed Name: Company:

Received by:

Signature:

Printed Name:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/10

Page: 1 of 4

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
~~Mussel Watch Stations~~ AMB04

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	CF# 3106-T/D Lab StationID	Comments
	AMB04-															TOTAL Met & OSAL have Same CF# @ MSL 9/9/10
	001	PS07	9/8/10 1004	M	✓	✓								1	191 / 192	
	002		9/8/10 1006	M			✓							1		
	003			M				✓						1		
	004			M					✓					1	191	
	005			M						✓				1		
	006	PS06	9/8 1019	M	✓	✓								1	193/194	visable sheen
	007			M			✓							1		
	008			M				✓						1		
	009			M					✓					1		
	010			M						✓				1	193	
	011			M							✓			1		
	012	PS14	1032	M	✓	✓								1	195/196	
	013			M			✓							1		
	014			M				✓						1		
	015			M					✓					1		

Relinquished by: Jill Brandenberger — Signature — 9/8/10 Date — Time
Jill Brandenberger — Printed Name — Company

Received by: C. Sublett — Signature
Battelle MSL 9/9/10 — Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered — Stored overnight in Walk-in Cold
Sample Disposition: Storage

Relinquished by: — Signature — Date — Time
Printed Name — Company

Received by: — Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/2010
Page: 2 of 4
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB04

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB04)	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	~~StationID~~ (CPW 3106 T/D LAB)	Comments
	016	PS14	9/8/10 1033	M						✓				1	195	
	017	PS03	9/8/10 1046	M	✓	✓								1	197 / 198	
	018						✓							1		
	019							✓						1		
	020								✓					1		
	021									✓				1	198	
	022										✓			1		
	023	PS04	9/8/10 1101	M	✓	✓								1	199 / 200	
	024						✓							1		
	025							✓						1		
	026								✓					1		
	027									✓				1	199	
	028	PS05	9/8/10 1109	M	✓	✓								1	201 / 202	
	029						✓							1		
	030							✓						1		

Relinquished by: J m Brandenberger — Signature — 9/8/10 Date — Time — J m Brandenberger Printed Name — Company

Received by: C. Susich — Signature — Battelle MSL 9/9/10 Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivery

Sample Disposition: See pg 1

Relinquished by: Signature Date Time Printed Name Company

Received by: Signature Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/10

Page: 2 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB04

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB04 -)	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	CF# 3106- StationID	Comments
	031	PS05	9/8/10 1109	M					✓					1		
	032	PS05	↓	M						✓				1	201	Take from TSS
	033	PS08	9/8/10 1121	M	✓	✓								1	203/204	
	034	↓	↓	↓			✓							1		
	035							✓						1		
	036								✓					1		
	037									✓				1	203	
	038			↓							✓			1		
	039	PS15	9/8/10 1136	M	✓	✓								1	205/206	
	040	↓	↓	↓			✓							1		
	041							✓						1		
	042								✓					1		
	043	↓	↓	↓						✓				1	205	
	044	PS09	9/8/10 1148	↓	✓	✓								1	207/208	
	045	PS09 Dup	↓ 1148	↓	✓	✓								1	209/210	

Relinquished by: Jm Brandenberger — Signature — 9/8/10 Date — Time

Jm Brandenberger — Printed Name — Company

Relinquished by: — Signature — Date — Time

Printed Name — Company

Received by: C. Sussman — Signature

Battelle MSL 9/9/10 — Printed Name

Received by: — Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivery

Sample Disposition: See pg 1

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 9/8/10
Page: 4 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch~~ Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID (AMB04-)	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Oil&Grease	OSAL			No. of containers	StationID (CRM 3104-)	Comments
	046	PS09	9/8/10 1148	M			✓							1		
	047	↓	↓ ↓	M				✓						1		
	048	↓	↓ ↓	M					✓					1		
	049	↓	↓ ↓	M						✓				1	~~207~~ 8	
	050	PS09	↓ ↓	M							✓			1	207	
	051	PS09 DUP	9/8/10 1148	M			✓							1		
	052	↓	↓ ↓	M				✓						1		
	053	↓	↓ ↓	M					✓					1		
	054	↓	↓ ↓	M							✓			1	209	
	055	PS10	9/8/10 1207	M	✓	✓								1	211 | 212	
	056	↓	↓	M			✓							1		
	057	↓	↓	M				✓						1		
	058	↓	↓	M					✓					1		
	059	↓	↓	M							✓			1	211	

Relinquished by: _____ Signature — 9/8/10 Date — Time
Jm Brandenberger Printed Name — Company

Received by: _____ Signature
Battelle MSL 9/8/10 Printed Name

Total # of Containers
Shipment Method: Hand delivery
Shipment Method: See pg 1
Sample Disposition:

Relinquished by: _____ Signature — Date — Time
Printed Name — Company

Received by: _____ Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/10

Page: 5 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB04-														CBR 3106 LAB	
	060	PS10.1	9/8/10 1222	M	✓	✓								1	213/214	
	061	↓	↓	↓			✓							1		
	062							✓						1		
	063								✓					1		
	064	↓	↓	↓						✓				1	213	
	065	PS11	9/8/10 1231	M	✓	✓								1	215/216	
	066	↓	↓	↓			✓							1		
	067							✓						1		
	068								✓					1		
	069	↓	↓	↓						✓				1	215	
	070	PS16	9/8/10 1243	M	✓	✓								1	217/218	
	071	↓	↓	↓			✓							1		
	072							✓						1		
	073								✓					1		
	074	↓	↓	↓						✓				1	217	

Relinquished by: _____ 9/8/10
Signature Date Time

Jm Brandenberger
Printed Name Company

Received by: _____ C. Sullivan
Signature

Battelle MSL 9/9/10
Printed Name

Total # of Containers

Shipment Method: Hand delivery

Shipment Method:

Sample Disposition: Supply

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/10

Page: 6 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Sta~~tions

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB04-)	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	LAB ~~Station~~ID	Comments
	075	PS01	9/8/10 1301	M	✓	✓								1	219|220	
	076	↓	↓	↓			✓							1		
	077							✓						1		
	078								✓					1		
	079	↓	↓	↓						✓				1	29	
	080	PS02	9/8/10 1313	M	✓	✓								1	221|222	
	081	PS01	9/8/10 1301	M							✓			1		
	082	PS02	9/8/10 1315	M			✓							1		
	083	↓	↓	↓				✓						1		
	084								✓					1		
	085	↓	↓	↓						✓				1	221	
	086	PS13	9/8/10 1322		✓	✓								1	223|224	
	087	↓	↓	↓			✓							1		
	088							✓						1		
	089	↓	↓	↓					✓					1		

Relinquished by: JM Brandenberger — 9/8/10 — Signature — Date — Time

JM Brandenberger — Printed Name — Company

Received by: C. Sus — Signature

Battelle MSL 9/9/10 — Printed Name

Total # of Containers

Shipment Method: Hand Deliver

Shipment Method:

Sample Disposition: See Pg 1

Relinquished by: — Signature — Date — Time

Printed Name — Company

Received by: — Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 9/8/10
Page: 7 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB04-															
	090	PS13	9/8/10 1322	M						✓				1	223	
	091	M4	9/8/10 1334		✓	✓								1	225/226	
	092	↓	↓				✓							1		
	093							✓						1		
	094								✓					1		
	095									✓				1	225	
	096	M4	9/8/10 1334								✓			1		
	097	BJ-EST	9/8/10 1353		✓	✓								1	227/228	
	098	↓	↓				✓							1		
	099							✓						1		
	100								✓					1		
	101									✓				1	227	
	102	M3.1 Surface	9/8/10 1408		✓	✓								1	229/230	
	103	↓	↓				✓							1		
	104			↓				✓						1		

Relinquished by: _____ 9/8/10
Signature Date Time
Jm Brandenberger
Printed Name Company

Received by: _____ C. Sloan
Signature
Battelle MSL 9/8/10
Printed Name

Total # of Containers
Shipment Method: Hand delivery
Shipment Method:
Sample Disposition: See PJ1

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/8/10

Page: 3 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB-04- 105	M3.1 ~~1408~~	9/8/10 1408	M					✓							
	106	↓ ~~Surface~~	↓	M						✓					229	
	107	M3.1 Deep	9/8/10 1438	M	✓	✓									231/232	
	108	↓	↓	↓			✓									
	109							✓								
	110								✓							
	111									✓					231	
	~~112~~															

Relinquished by: _____ 9/8/10
Signature Date Time

Jim Brandenberger
Printed Name Company

Received by: _____ CSUSLEN
Signature

Battelle MSL 9/8/10
Printed Name

Total # of Containers

Shipment Method: Hand Delivery

Shipment Method: _____

Sample Disposition: See pg 1

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Robert Johnston	PSNS Project ENVVEST		Page 1 of 2
Sampling Team		Ambient Monitoring		
Organization	PSNS & IMF			
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm		

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
AMB04 - PS07	9/8 10:03	1011	NearShore Marine	47.55591° N	122.64178° W	
AMB04 - PS06	9/8 1019	1028	~~M~~ NS	47.55300° N	122.64197° W	visible sheen, firemain discharge
- PS14	9/8 1031	1040	~~M~~ NS	47.55255° N	122.64333° W	firemain flushing
- PS03	9/8 1046	1054	~~M~~ NS	47.55559° N	122.65164° W	
PS04	9/8 1100	1105	~~M~~ NS	47.55453° N	122.64764° W	
PS05	9/8 1108	1113	~~M~~ NS	47.55569° N	122.64636° W	
- PS08	9/8 1119	1128	~~M~~ NS	47.55783° N	122.63869° W	
- PS15	9/8 1134	1142	~~M~~ NS	47.55564° N	122.63676° W	
- PS09	9/8 1147	1201	~~M~~ NS	47.56001° N	122.63613° W	
- PS10	9/8 1206	1213	~~M~~ NS	47.56028° N	122.63288° W	
PS10.1	9/8 1218	1226	~~M~~ NS	47.56129° N	122.63134° W	Debris (leaves/feathers) in water on surface
PS11	9/8 1230	1235	~~M~~ NS	47.56043° N	122.62929° W	
PS16	9/8 1240	1247	~~M~~ NS	47.55871° N	122.62833° W	
PS16A	9/8 1248	1248	~~M~~ NS	47.55779° N	122.62885° W	By sea lions
PS16B	9/8 1251	1251	~~M~~ NS	47.55681° N	122.63087° W	" " "
PS01	9/8 1301	1306	~~M~~ NS	47.55376° N	122.65735° W	
PS02	9/8 1312	1316	~~M~~ NS	47.55401° N	122.65484° W	
PS13	9/8 1320	1326	~~M~~ NS	47.55196° N	122.65378° W	
M4	9/8 1334	1345	M	47.54182° N	122.66548° W	Red algae bloom
BJ-EST	9/8 1352	1359	~~M~~ NS	47.54708° N	122.62930° W	
M3.1 Surface	9/8 1406	1416	M	47.55776° N	122.61696° W	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Station Log

Sample Collector		Robert Johnson		PSNS Project ENVVEST		Page 2 of 2
Sampling Team				Ambient Monitoring		
Organization		PSNS & IMF				
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm				
StationID	9/8/10 Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
M3.1 Deep	1422	1440	M	47.56143°N	122.61586°W	
PS07-2	1457	1457	~~PS~~ NS	47.55587°N	122.64199°W	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Station Log

Sample Collector	Robert Johnston	PSNS Project ENVVEST		Page 1 of 2
Sampling Team		Ambient Monitoring		
Organization	PSNS & IMF			
Use pre-assigned id	m/dd/yy hh:mm / m/dd/yy hh:mm (NS=nearshore M=marine)			

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
AMB04-PS07	9/8 10:03	1011	~~Marine~~ NS	47.55591°N	122.64178°W	
AMB04-PS06	9/8 1019	1028	~~M~~ NS	47.55300°N	122.64197°W	visible sheen, Firemain discharge
-PS14	9/8 1031	1040	M NS	47.55255°N	122.64333°W	Firemain flushing
-PS03	9/8 1046	1054	M NS	47.55559°N	122.65164°W	
PS04	9/8 1100	1105	M NS	47.55453°N	122.64764°W	
PS05	9/8 1108	1113	~~M~~ NS	47.55569°N	122.64636°W	
-PS08	9/8 1119	1128	M NS	47.55783°N	122.63869°W	
-PS15	9/8 1134	1142	M NS	47.55564°N	122.63676°W	
-PS09	9/8 1147	1201	~~M~~ NS	47.56001°N	122.63613°W	
-PS10	9/8 1206	1213	M NS	47.56028°N	122.63288°W	
PS10.1	9/8 1218	1226	M NS	47.56129°N	122.63134°W	Debris (leaves/feathers) in water on surface
PS11	9/8 1230	1235	M NS	47.56043°N	122.62929°W	
PS16	9/8 1240	1247	M NS	47.55871°N	122.62833°W	
PS16A	9/8 1248	1248	M NS	47.55779°N	122.62885°W	By sea lions
PS16B	9/8 1251	1251	M NS	47.55681°N	122.63087°W	" "
PS01	9/8 1301	1306	M NS	47.55376°N	122.65735°W	
PS02	9/8 1312	1316	M NS	47.55401°N	122.65484°W	
PS13	9/8 1320	1326	M NS	47.55196°N	122.65378°W	
M4	9/8 1334	1345	M	47.54182°N	122.66548°W	Red algae bloom
BJ-EST	9/8 1352	1359	M NS	47.54708°N	122.62930°W	
M3.1 Surface	9/8 1406	1416	M	47.55776°N	122.61696°W	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Station Log

Sample Collector		Robert Johnston		PSNS Project ENVVEST		Page 2 of 2
Sampling Team				Ambient Monitoring		
Organization		PSNS & IMF				
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm				
StationID	9/8/10 Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
M3.1 Deep	1422	1440	~~M~~	47.56143°N	122.61586°W	
PS07-2	1457	1457	~~M~~ NS	47.55587°N	122.64199°W	resample for FC

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

SPAWAR
Systems Center San Diego

ENVIRONMENTAL SCIENCES AND
APPLIED SYSTEMS BRANCH, CODE 71750
53605 HULL STREET
SAN DIEGO, CA 92152-5000

Chain of Custody Record

Date: 8 Sep 10

Project Title/Project Number: ENVVEST AMB04		Project Leader: BOB JOHNSTON
Remarks/Air Bill: TOX Samples		Contact: GUNTHER ROSEN
Sampler(s): (Signature)		Contact Tel: (619) 890-9672
Tel: (619) 553-0886	Fax: (619) 553-6305	Email: gunther.rosen@navy.mil

Special Instructions: includes splits for PSNS Qwiklite (Teal)

Field Sample Identification	Date	Time	Matrix	Type	Temp (°C)	TOX-MYSID	TOX-KELP	SEA URCHIN TOX	TOX-MUSSEL	TOX-QWIKLITE				Initial salinity
						Requested Analyses								
AMB04-TOX-PS06	8 Sep 10	1025	SW	GRAB	15.5	X	X	X	X	X				26.8
-PS14	8 Sept 10	1037	SW	Grab	15.3	X	X	X	X	X				28.5
-PS03	8 Sept 10	1050	SW	Grab	15.9	X	X	X	X	X				26.8
PS08	8 Sept 10	1125	SW	Grab	16.5	X	X	X	X	X				26.1
-PS15	8 Sept 10	1138	SW	Grab	16.5	X	X	X	X	X				27.5
-PS09	8 Sept 10	1154	SW	Grab	15.8	X	X	X	X	X				25.7
PS01	8 Sept 10	1305	SW	Grab	16.8	X	X	X	X	X				26.8
M4	8 Sept 10	1335	SW	Grab	17.6	X	X	X	X	X				27.2
BJ-EST	8 Sept 10	1354	SW	Grab	16.9	X	X	X	X	X				27.0
M3.1	8 Sept 10	1412	SW	Grab	19.7	X	X	X	X	X				24.9
NPDES 18	8 Sep 10	1630	Effluent	Composite	4.0	X	X	X	X	X				
NPDES 21	8 Sep 10	1645	Effluent	Composite	4.0	X	X	X	X	X				

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/9/2010

Page: 1 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

CPA 3106 - T/D

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	LAB StationID	Comments
	AMB04-115	SN03	9/9/10 0904	SW	✓	✓	✓							1	~~238~~ 239/240	
	116							✓						1		
	117								✓					1		
	118									✓				1	~~S~~ ~~238~~ 239	
	119		0921		✓	✓								1	~~240~~ 241/242	
	120	SN05					✓							1		
	121							✓						1		
	122								✓					1		
	123									✓				1	~~S~~ ~~242~~ ~~240~~ 241	
	124													1	~~S~~ ~~242~~/243/244	
	125	SN05 Dup	0922		✓	✓								1		
	126						✓							1		
	127							✓						1		
	128								✓					1		
	129									✓				1	* ~~S~~ ~~242~~ 243	

Relinquished by: _____ 9/9/10
Signature Date Time
J. M. Brandenberger Battelle
Printed Name Company

Received by: C. Sullivan
Signature
Battelle MSL 9/10/10
Printed Name

Total # of Containers

Shipment Method: Hand carry

Shipment Method:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

~~S~~ W = salt water

* Started w/ wrong # ~~S~~

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/9/10

Page: 2 of 8

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB04		9/9/10												CPP 310C - T/D LAB	
	130	SN08	0934	SW	✓	✓								1	~~244~~ 245/246	
	131						✓							1		
	132							✓						1		
	133								✓					1		
	134									✓				1	~~244~~ 245	
	135	SN10	0948		✓	✓								1	246/247/248	
	136						✓							1		
	137							✓						1		
	138								✓					1		
	139									✓				1	~~246~~ 247	
	140	M3.3	0959		✓	✓								1	248/249/250	
	141						✓							1		
	142							✓						1		
	143								✓					1		
	144									✓				1	~~248~~ 249	

Relinquished by: _____ Signature — 9/9/10 Date — Time

Jill Brandenberger Printed Name — Battelle Company

Received by: _____ Signature — C. Susuki

Battelle MSL 9/10/10 Printed Name

Total # of Containers

Shipment Method: Hand carry

Shipment Method:

Relinquished by: _____ Signature — Date — Time

Printed Name — Company

Received by: _____ Signature

Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SW = Seawater

AMPLE CHAIN OF CUSTODY FORM

ate: 9/9/2010
age: 3 of 8
OC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

roject No.:
roject Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~
roject Manager: Jill Brandenberger
hone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

ab. Use nly: Lab D	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	~~Station~~ID	Comments
	AMB04		9/9/10													
	145	SW11	1009	SW	✓	✓								1	~~250~~/251/252	
	146	↓	↓	↓			✓							1		
	147							✓						1		
	148								✓					1		
	149	↓	↓							✓				1	~~250~~ 251	
	150	PS12	1025		✓	✓								1	~~252~~/253/254	
	151						✓							1		
	152							✓						1		
	153								✓					1		
	154	↓	↓							✓				1	~~252~~ 253	
	155	BM01	1059		✓	✓								1	254/255/256	
	156						✓							1		
	157							✓						1		
	158								✓					1		
	159	↓	↓	↓						✓				1	~~8~~ ~~254~~ 255	

Relinquished by: 9/9/10
Signature Date Time
Jill Brandenberger Battelle
Printed Name Company

Received by: C. Susuich
Signature
Battelle MSL 9/10/10
Printed Name

Total # of Containers
Shipment Method: Hand carry
Shipment Method:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

AMPLE CHAIN OF CUSTODY FORM

ate: 9/9/10
age: 4 of 8
OC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

roject No.:

roject Name: ENVVEST Ambient Monitoring
~~Mussel Watch Stations~~

roject Manager: Jill Brandenberger
hone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB-04		9/9/10												CB 3104 T/D	
	160	PWNLP	1118	SW	✓	✓								1	~~256~~ 257/258	
	161						✓							1		
	162							✓						1		
	163								✓					1		
	164									✓				1	~~256~~ 257	
	165	Mb	1138		✓	✓								1	~~258~~ 259/260	
	166						✓							1		
	167							✓						1		
	168								✓					1		
	169									✓				1	~~259~~ 259	
	170	M8	1205		✓	✓								1	~~260~~ 261/262	
	171						✓							1		
	172							✓						1		
	173								✓					1	CB ~~260~~ 261	
	174									✓				1		

Relinquished by: 9/9/10
Signature Date Time
Jim Brandenberger Battelle
Printed Name Company

Received by: C. Suslick
Signature
Battelle MSL 9/10/10
Printed Name

Total # of Containers
Shipment Method: Hand carry
Shipment Method:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/9/10
Page: 5 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB04

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB04-		9/9/10												Copy 3106-	
	175	DYOTS	1228	SW	✓	✓								1	~~262~~/263/264	
	176						✓							1		
	177							✓						1		
	178								✓					1		
	179									✓				1	263	
	180	M7	1240		✓	✓								1	265/266	
	181						✓							1		
	182							✓						1		
	183								✓					1		
	184									✓				1	265	
	185	ILSP	1313		✓	✓								1	267/268	
	186						✓							1		
	187							✓						1		
	188								✓					1		
	189									✓				1	267	

Relinquished by: _____ 9/9/10
Signature Date Time
Jim Brandenberger Battelle
Printed Name Company

Received by: _____
Signature
Battelle MSL 9/10/10
Printed Name

Total # of Containers
Shipment Method: Hand Carry
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/9/10
Page: 6 of 8
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB04

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB04-		9/9/10												CRM 3166 -	
	190	m1 Surface	1340	SW	✓	✓	✓							1	269/270	
	191							✓						1		
	192								✓					1		
	193									✓				1	269	
	194													1	271/272	
	195	m1 Deep	1353		✓	✓								1		
	196						✓							1		
	197							✓						1		
	198								✓					1		
	199									✓				1	271	
	200	m2 Surface	1421		✓	✓								1	273/274	
	201						✓							1		
	202							✓						1		
	203								✓					1		
	204									✓				1	273	

Relinquished by: JM Brandenberger — 9/9/10
Signature — Date — Time
JM Brandenberger — Battelle
Printed Name — Company

Received by: Glenn Gasbarian
Signature
Battelle MSL 9/10/10
Printed Name

Total # of Containers
Shipment Method: Hand carry
Shipment Method:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/9/10
Page: 7 of 8
COC Number:

~~SSC~~ Pacific
~~Bioassy~~ Testing Laboratory
Code ~~71751~~ Environmental Sciences Branch

Project No.:
Project Name: ENVVEST Ambient Monitoring
Project Manager:
Phone:

EVENT:

Address: Jill Brandenberger

Attention: ~~Gunther Rosen~~

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Testing Parameters: Toxicity Metals	Temp (°C) Total Hg	DO (mg/L) TSS	pH (units) Nuts/TOC	Salinity (ppt) DOC	Alkalinity (mg/L as CaCO3) OSAL	Hardness (mg/L as CaC	Total Chlorine (mg/L)	No. of containers	StationID	Comments
	AMB04		9/9/10												CPT 310L	
	205	mz Deep	1426	SW		✓	✓							1	275/276	
	206							✓						1		
	207								✓					1		
	208									✓				1		
	209	↓	↓								✓			1	275	
	210	CLAM BAY	1445			✓	✓							1	277/278	
	211							✓						1		
	212								✓					1		
	213									✓				1		
	214	↓	↓								✓			1	277	
	215	WP	1456			✓	✓							1	279/280	
	216							✓						1		
	217								✓					1		
	218									✓				1		
	219	↓	↓	↓								✓		1	279	

Observations, Instructions

Total # of Containers:

Relinquished by: 9/9/10
Signature Date Time
Jm Brandenberger ~~IEC~~ Battelle
Printed Name Company

Received by: Battelle MSL 9/10/10
Signature
Printed Name

Shipment Method: Hand carry
Shipment Method:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SW = Sea Water

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/9/10

Page: 8 of 8

COC Number:

~~SSC Pacific~~ BMSL

Bioassay ~~Testing~~ Laboratory

Code 71751 ~~Environmental~~ Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:

Phone:

EVENT: AMB04

Address: Jill Brandenberger

Attention: ~~Gunther Rosen~~

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Toxicity Metals	~~Temp (°C)~~ Total Hg	~~DO (mg/L)~~ TS/TSS	~~pH (units)~~ Nuts/TOC	~~Salinity (ppt)~~ DOC	~~Alkalinity (mg/L as CaCO3)~~	~~Hardness (mg/L as CaCO3)~~	~~Total Chlorine (mg/L)~~		No. of containers	StationID	Comments
	220	PSO7	1520	SW		✓	✓								1	281/282	
	221	↓	↓					✓							1		
	222								✓						1		
	223									✓					1		
	224	↓	↓								✓				1	281	
	225	TME EB1	9/10/10			✓										283	
	226	DME EB1	9/10/10			✓										284	
	227	TME EB2	↓			✓										285	
	228	DME EB2				✓										286	

CFX 3106 -

Observations, Instructions

Relinquished by: JM Brandenberger — Signature — 9/9/10 Date — Time

JM Brandenberger — Printed Name — ~~TEC~~ Battelle — Company

Received by: [signature] — Signature

Battelle MSL 9/10/10 — Printed Name

Total # of Containers

Shipment Method: Hand carry

Shipment Method:

Relinquished by: — Signature — Date — Time

Printed Name — Company

Received by: — Signature

Printed Name

Sample Disposition:

Distribution:

1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SW = Salt water

Station Log

Sample Collector	Robert Johnston	PSNS Project ENVVEST		Page 1 of 1	
Sampling Team		Ambient Monitoring			
Organization	PSNS & IMF				
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm			
AMB04 - StationID	9/9/10 Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
SN-03	0903	0909	NS	47.54646°N	122.67183°W	
SN05	0919	0928	NS	47.53153°N	122.68650°W	
SN08	0934	0940	NS	47.54059°N	122.66136°W	
SN10	0947	0953	NS	47.54113°N	122.64306°W	
m3.3	0958	1005	M	47.54748°N	122.64301°W	
SN11	1008	1015	NS	47.54358°N	122.63537°W	
PS12	1025	1030	NS	47.56046°N	122.62845°W	
BM01	1058	1102	NS	47.56321°N	122.62062°W	
PWNLP	1117	1122	NS	47.58336°N	122.64518°W	
m6	1136	1142	M	47.60025°N	122.68188°W	
m8	1204	1209	M	47.57327°N	122.67529°W	
DYOTS	1227	1233	NS	47.64183°N	122.69443°W	
m7	1240	1245	M	47.62398°N	122.69175°W	
ILSP	1313	1317	NS	47.60021°N	122.59395°W	
m1 surface	1338	1342	m	47.63362°N	122.58516°W	
m1 deep	1350	1356	m	47.63790°N	122.58551°W	
m2 Surface	1421	1436	M	47.57885°N	122.53701°W	
m2 Deep	1424	1436	m	47.58151°N	122.53766°W	
CLAM BAY	1444	1449	NS	47.57214°N	122.54640°W	
WP	1456	1500	NS	47.58452°N	122.57128°W	
PS07	1518	1522	NS	47.55560°N	122.64181°W	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Page of

Sample Collector	Mollerstuen	PSNS Project ENVVEST	
Sampling Team		Ambient Monitoring	
Organization	PSNS	Instrument:	

Use pre-assigned id	Use allowable code only	9/8/10 mm/dd/yy hh:mm										Sal.
SampleID	StationID	Date/Time	Temp	pH	Cond	Turb	DO	m Depth	Sechi Depth	Bottom Depth	Remarks/ Comments	
AMBØ4WQ*	AMBØ4-PSØ7	10:09	14.80	8.17	5.00		6.29	.7	18	33'	3.2%	
-Ø2	-PSØ6	1048	15.22	8.31	5.02		7.25	.9	17	42'	3.3	
-Ø3	-PS14	1100	15.28	8.31	5.03		7.45	1.0	13	44	3.3	
-Ø4	-PSØ3	1115	15.27	8.29	4.98		7.07	1.0	14	34	3.2	
-Ø5	-PSØ4	1129	15.22	8.25	4.95		6.87	1.0	16	39	3.2	
-Ø6	-PSØ5	1137	15.15	8.27	4.93		7.01	1.2	15	37	3.2	
-Ø7	-PSØ8	1150	14.97	8.22	5.00		6.55	1.0	17	23	3.3	
-Ø8	-PS15	1202	14.97	8.23	4.99		6.76	.9	15	43	3.2	
-Ø9	-PSØ9	1215	14.89	8.26	4.71		6.75	1.0	16	35	3.2	
-10	-PS10	1236	14.96	8.28	4.99		6.70	1.2	18	32	3.2	
-11	-PS10.1	1247	15.03	8.29	5.02		6.56	1.0	20	23	3.3	
-12	-PS11	1258	15.28	8.26	4.99		6.35	1.0	18	35	3.2	
-13	-PS16	1309	15.24	8.32	5.01		7.19	1.1	19	46	3.3	
-14	-PSØ1	1329	15.50	8.39	4.85		8.19	1.1	10	28	3.1	
-15	-PSØ2	1341	15.60	8.35	4.85		7.76	1.1	14	23	3.2	
-16	-PS13	1348	15.34	8.29	4.88		7.31	1.2	14	46	3.2	Red Tide
-17	-M4	1402	16.46	8.45	4.88		9.28	1.3	6	30	3.2	" "
-18	-BJEST	1420	16.05	8.39	4.87		8.39	1.2	12	19	3.1	
-19	-M3.1	1434	15.38	8.31	4.89		7.71	.9	13	75	3.2	
-20	-M3.1 deep	1441	14.50	8.18	5.01		6.02	24.0	13	90	3.3	
-21	M3.1 deep GF*	1500	15.15	8.26	4.89		7.07	" "	" "	90	3.2	* Water from Go-Flow
-22												

Water Quality Log

Sample Collector	Mollecstven							PSNS Project ENVVEST				
Sampling Team								Ambient Monitoring				
Organization	PSNS							Instrument:				
Use pre-assigned id	Use allowable code only	9/9/10 mm/dd/yy hh:mm						(m)	Sal	Sech:	Bottom	
SampleID	StationID	Date/Time	Temp	pH	Cond	Turbidity	DO	Depth	Remarks/ Comments			
AMB04WQ-22	AMB04-SN03	0903	14.75	8.16	4.99	0	5.79	.8	3.2	8	12	
-23	-SN05	0920	14.88	7.94	5.01	0	3.88	.7	3.3	bottom	6	
-24	-SN08	0934	15.13	8.01	4.97	0	5.02	.8	3.2	10	22	
-25	-SN10	0947	15.55	8.30	4.99	0	7.55	.7	3.3	13	28	
-26	-M3.3	0958	15.29	8.18	5.02	0	6.60	.6	3.3	12	42	
-27	-SN11	1008	15.37	8.29	5.01	0	7.33	.6	3.3	13	19	
-28	-PS12	1024	14.95	8.22	5.01	0	6.60	.8	3.3	14	28	
-29	-BM01	1058	14.80	8.18	5.04	0	6.29	.9	3.3	16	44	
-30	-PWNLP	1117	15.21	8.26	4.97	0	7.00	.8	3.3	11	20	
-31	-M6	1136	15.85	8.29	4.98	0	7.43	1.1	3.2	11	31	
-32	-M6 Deep	1142	15.26	8.21	5.03	0	6.50	9	3.3	11	31	
-33	-M8	1204	16.19	8.38	4.97	0	8.50	1.2	3.2	7	12	
-34	-DYOTS	1227	16.65	8.23	4.88	0	6.60	.8	3.2	10	12	
-35	-M7	1240	15.87	8.35	4.99	0	7.85	.6	3.3	12	73	
-36	-ILSP	1314	14.56	8.23	5.04	0	6.75	.8	3.3	16	37	
-37	-M1	1339	15.07	8.35	5.01	0	8.04	.7	3.3	15	116	
-38	-M1 deep	1341	14.18	8.14	5.06	0	5.53	24	3.3	15	117	
-39	-M1 deep GF	1401	15.06	8.20	5.05	0	6.60	NA	3.3	NA	NA	
-40	-M2	1421	13.78	8.13	5.04	0	5.61	4.6	3.3	14	70	
-41	-M2 deep	1426	13.42	8.10	5.08	0	5.17	24.2	3.3	14	70	
-42	-M2 deep GF	1430	14.21	8.12	5.06	0	6.35	NA	3.3	NA	70	
-43	CLAMBAY	1444	13.93	8.15	5.06	0	6.24	4	3.3	7	7	

Water Quality Log

Sample Collector	Mollesstuen	PSNS Project ENVVEST
Sampling Team		Ambient Monitoring
Organization		Instrument:

Use pre-assigned id	Use allowable code only	9/9/10 mm/dd/yy hh:mm							Sal	Secchi	Bottom
SampleID	StationID	Date/Time	Temp	pH	Cond	Turbidity	DO	Depth	Remarks/ Comments		
AMB04WQ-44	AMB04-WP	1456	14.55	8.23	4.98	0	6.78	3.5	3.2	12	59
-45	PS07	1518	15.34	8.33	4.96	0	7.80	3.1	3.2	12	33

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3166 Sample No(s): 191-238 Batch: 1 (AMB04)

Project Name: ENVVEST AMB MON (AMB04) Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

			Amount:	Entire sample	Half of sample
☐	☐	Filter Samples:			
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)			
☐	☐	Special instructions:			

Sample Preservation Instructions: JMB 9/10/10

See LIMS for archive/disposal information

#5
#4 4.0 6.0

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Five coolers received #3 5.8 9/8/10
#1 4.2°C #2 5.2 hand delivered directly from Sampling

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present — Seal intact? YES NO
☐	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Stored overnight in ~~Low Flow~~ Cold room 9/9/10 JMB
Comment/Remedy: _____

samples delivered on 9/8/10 2200 JMB 9/10/10

Sample condition(s): ~~Acceptable~~ Other (explain):

Container type: ~~Teflon~~ Poly ~~Glass~~ Cap. Vial Other:

Notes: added 2 filter blanks (DI Water) to NPOES CoC

Completed By: _____ Date/Time: 9/9/10 1600

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☑		Sample(s) were preserved at MSL	
Type:	☑	0.2% HNO3	Notes: Lot# 1206050
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☑	~~Refrigerate/Freeze~~	Notes: Salinity (Hg Lab)
	☐	Other	Notes:

KPC acidified samples & filtering after CoC

Completed By: _____ Date/Time: 9/9/10 1600

Storage Shelf: J-2-B, I-3-A, I-3-C, I-4-A Prep Lab

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 239 - 286 Batch: 2 - AMB04

Project Name: AMB04 ENVVEST Project Manager: JMS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Sediment WP#

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☑	☐	Special instructions: ship conventionals to CAS

Sample Preservation Instructions: TME / DME 0.290 HNO3

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) #1 5.3 #2 6.0 #3 4.3 °C (if multiple coolers, note temp. of each) #4 5.1 #5 4.8 °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: Date/Time: 9/9/10 1800

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes: #120690 KC	Lot#
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: Date/Time: 12:45 9/10/10

Storage Shelf: prep lab - Metals Hg Lab - Sed

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Batelle Marine Sciences Lab	**Service Request No.:**	K1009852
Project:	September 2010 Ambient Monitoring (AMB04)	**Date Received:**	9/10/10
Sample Matrix:	Ocean Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

69 ocean water samples were received for analysis at Columbia Analytical Services on 9/10/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Upon review of dissolved versus total organic carbon (DOC and TOC) it was noted that the dissolved results exceeded the total by as much as 1.0 mg/L Carbon in some of the samples. This may indicate that the filtration process contributed low levels of organic carbon to the samples. We have experienced this problem in the laboratory (in this case the samples were received filtered for DOC) and have found that discarding the first liquid coming through the filter alleviates this problem.

No other anomalies associated with the analysis of these samples were observed.

Approved by Mike Skelton **Date** 10/12/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Oil and Grease, Total (HEM)

Prep Method : Method
Analysis Method : 1664
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB04-011	K1009852-007	5.0	0.7	1	9/13/2010	09/13/10	ND	
AMB04-022	K1009852-014	5.0	0.7	1	9/13/2010	09/13/10	ND	
AMB04-038	K1009852-024	5.0	0.7	1	9/13/2010	09/13/10	ND	
AMB04-049	K1009852-031	5.0	0.7	1	9/13/2010	09/13/10	ND	
AMB04-081	K1009852-050	5.0	0.7	1	9/13/2010	09/13/10	ND	
AMB04-096	K1009852-060	5.0	0.7	1	9/13/2010	09/13/10	ND	
Method Blank	K1009852-MB	5.0	0.7	1	9/13/2010	09/13/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
LCS Matrix : WATER

Service Request : K1009852
Date Collected : NA
Date Received : NA
Date Prepared : 09/13/10
Date Analyzed : 09/13/10

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Duplicate Lab Control Sample
Lab Code : K1009852-LCS K1009852-DLCS Basis : NA

Analyte	Units	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Oil and Grease, Total (HEM)	mg/L	1664	60.0	60.0	55.0	55.1	92	92	78-114	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-003	K1009852-002	0.010	0.003	1	09/14/10	0.079	
AMB04-008	K1009852-005	0.010	0.003	1	09/14/10	0.062	
AMB04-014	K1009852-009	0.010	0.003	1	09/14/10	0.018	
AMB04-019	K1009852-012	0.010	0.003	1	09/14/10	0.109	
AMB04-025	K1009852-016	0.010	0.003	1	09/14/10	0.069	
AMB04-030	K1009852-019	0.010	0.003	1	09/14/10	0.032	
AMB04-035	K1009852-022	0.010	0.003	1	09/14/10	0.072	
AMB04-041	K1009852-026	0.010	0.003	1	09/14/10	0.082	
AMB04-047	K1009852-029	0.010	0.003	1	09/14/10	0.100	
AMB04-052	K1009852-033	0.010	0.003	1	09/14/10	0.091	
AMB04-057	K1009852-036	0.010	0.003	1	09/14/10	0.074	
AMB04-062	K1009852-039	0.010	0.003	1	09/14/10	0.065	
AMB04-067	K1009852-042	0.010	0.003	1	09/14/10	0.082	
AMB04-072	K1009852-045	0.010	0.003	1	09/14/10	0.026	
AMB04-077	K1009852-048	0.010	0.003	1	09/14/10	0.095	
AMB04-083	K1009852-052	0.010	0.003	1	09/14/10	0.045	
AMB04-088	K1009852-055	0.010	0.003	1	09/14/10	0.077	
AMB04-093	K1009852-058	0.010	0.003	1	09/14/10	0.011	
AMB04-099	K1009852-062	0.010	0.003	1	09/14/10	0.011	
AMB04-104	K1009852-065	0.010	0.003	1	09/14/10	0.017	
AMB04-109	K1009852-068	0.010	0.003	1	09/14/10	0.018	
Method Blank	K1009852-MB	0.010	0.003	1	09/14/10	ND	
Method Blank	K1009852-MB	0.010	0.003	1	09/14/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-003
Lab Code : K1009852-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.079	0.079	0.079	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-104
Lab Code : K1009852-065DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.017	0.015	0.016	13	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-003		Units :	mg/L
Lab Code :	K1009852-002MS	K1009852-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.079	0.266	0.270	94	96	90-112	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-104		Units :	mg/L
Lab Code :	K1009852-065MS	K1009852-065DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.017	0.220	0.221	102	102	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.7	103	90-112	
Ammonia as Nitrogen	NONE	350.1	14.3	14.7	103	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/14/2010	0.250	0.248	99
CCV1 Result	9/14/2010	0.250	0.244	98
CCV2 Result	9/14/2010	0.250	0.248	99
CCV2 Result	9/14/2010	0.250	0.244	98
CCV3 Result	9/14/2010	0.250	0.250	100
CCV4 Result	9/14/2010	0.250	0.249	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/14/2010	0.010	ND
CCB1 Result	9/14/2010	0.010	ND
CCB2 Result	9/14/2010	0.010	ND
CCB2 Result	9/14/2010	0.010	ND
CCB3 Result	9/14/2010	0.010	ND
CCB4 Result	9/14/2010	0.010	ND

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method : 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB04-003	K1009852-002	0.40	0.16	2	9/15/2010	09/23/10	1.00	
AMB04-008	K1009852-005	0.40	0.16	2	9/15/2010	09/23/10	0.93	
AMB04-014	K1009852-009	0.40	0.16	2	9/15/2010	09/23/10	0.76	
AMB04-019	K1009852-012	0.40	0.16	2	9/15/2010	09/23/10	1.02	
AMB04-025	K1009852-016	0.40	0.16	2	9/15/2010	09/23/10	0.73	
AMB04-030	K1009852-019	0.40	0.16	2	9/15/2010	09/23/10	1.02	
AMB04-035	K1009852-022	0.40	0.16	2	9/15/2010	09/23/10	0.75	
AMB04-041	K1009852-026	0.40	0.16	2	9/15/2010	09/23/10	0.81	
AMB04-047	K1009852-029	0.40	0.16	2	9/15/2010	09/23/10	0.73	
AMB04-052	K1009852-033	0.40	0.16	2	9/15/2010	09/23/10	1.14	
AMB04-057	K1009852-036	0.40	0.16	2	9/15/2010	09/23/10	0.92	
AMB04-062	K1009852-039	0.40	0.16	2	9/15/2010	09/23/10	1.16	
AMB04-067	K1009852-042	0.40	0.16	2	9/15/2010	09/23/10	0.77	
AMB04-072	K1009852-045	0.40	0.16	2	9/15/2010	09/23/10	0.79	
AMB04-077	K1009852-048	0.40	0.16	2	9/15/2010	09/23/10	1.03	
AMB04-083	K1009852-052	0.40	0.16	2	9/15/2010	09/23/10	1.00	
AMB04-088	K1009852-055	0.40	0.16	2	9/15/2010	09/23/10	1.20	
AMB04-093	K1009852-058	0.40	0.16	2	9/15/2010	09/23/10	1.94	
AMB04-099	K1009852-062	0.40	0.16	2	9/15/2010	09/23/10	0.77	
AMB04-104	K1009852-065	0.40	0.16	2	9/15/2010	09/23/10	1.66	
AMB04-109	K1009852-068	0.40	0.16	2	9/16/2010	09/17/10	0.80	
Method Blank	K1009852-MB	0.40	0.16	2	9/15/2010	09/23/10	0.43	
Method Blank	K1009852-MB	0.40	0.16	2	9/16/2010	09/17/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : 09/15/10
Date Analyzed : 09/23/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-003
Lab Code : K1009852-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.40	1.00	0.90	0.95	11	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : 09/16/10
Date Analyzed : 09/17/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-109
Lab Code : K1009852-068DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.40	0.80	0.70	0.75	13	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/15/10
		Date Analyzed :	09/23/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-003		Units :	mg/L
Lab Code :	K1009852-002MS	K1009852-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.40	25.0	50.0	1.00	26.3	55.5	101	109	75-125	8	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/16/10
		Date Analyzed :	09/17/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-109		Units :	mg/L
Lab Code :	K1009852-068MS	K1009852-068DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.40	25.0	50.0	0.80	24.9	52.0	96	102	75-125	6	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : NA
Date Received : NA
Date Prepared : 09/16/10
Date Analyzed : 09/17/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC
Lab Code : K1009898-005MS K1009898-005DMS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.40	25.0	50.0	0.80	23.6	52.0	91	102	75-125	11	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/15/10
		Date Analyzed :	09/23/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	8.58	9.24	108	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/16/10
		Date Analyzed :	09/17/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	8.58	8.44	98	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/17/2010	10.0	9.60	96
CCV2 Result	9/17/2010	10.0	10.2	102
CCV3 Result	9/17/2010	10.0	9.86	99
CCV4 Result	9/17/2010	10.0	9.80	98
CCV1 Result	9/23/2010	10.0	10.2	102
CCV2 Result	9/23/2010	10.0	9.75	98
CCV3 Result	9/23/2010	10.0	9.68	97
CCV4 Result	9/23/2010	10.0	9.68	97

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/17/2010	0.20	ND
CCB2 Result	9/17/2010	0.20	ND
CCB3 Result	9/17/2010	0.20	ND
CCB4 Result	9/17/2010	0.20	ND
CCB1 Result	9/23/2010	0.20	ND
CCB2 Result	9/23/2010	0.20	ND
CCB3 Result	9/23/2010	0.20	ND
CCB4 Result	9/23/2010	0.20	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-003	K1009852-002	0.050	0.009	1	09/20/10	0.144	
AMB04-008	K1009852-005	0.050	0.009	1	09/20/10	0.136	
AMB04-014	K1009852-009	0.050	0.009	1	09/20/10	0.054	
AMB04-019	K1009852-012	0.050	0.009	1	09/20/10	0.143	
AMB04-025	K1009852-016	0.050	0.009	1	09/20/10	0.098	
AMB04-030	K1009852-019	0.050	0.009	1	09/20/10	0.071	
AMB04-035	K1009852-022	0.050	0.009	1	09/20/10	0.122	
AMB04-041	K1009852-026	0.050	0.009	1	09/20/10	0.120	
AMB04-047	K1009852-029	0.050	0.009	1	09/20/10	0.237	
AMB04-052	K1009852-033	0.050	0.009	1	09/20/10	0.225	
AMB04-057	K1009852-036	0.050	0.009	1	09/20/10	0.131	
AMB04-062	K1009852-039	0.050	0.009	1	09/20/10	0.108	
AMB04-067	K1009852-042	0.050	0.009	1	09/20/10	0.108	
AMB04-072	K1009852-045	0.050	0.009	1	09/20/10	0.102	
AMB04-077	K1009852-048	0.050	0.009	1	09/20/10	0.148	
AMB04-083	K1009852-052	0.050	0.009	1	09/20/10	0.126	
AMB04-088	K1009852-055	0.050	0.009	1	09/20/10	0.073	
AMB04-093	K1009852-058	0.050	0.009	1	09/20/10	ND	
AMB04-099	K1009852-062	0.050	0.009	1	09/20/10	0.025	J
AMB04-104	K1009852-065	0.050	0.009	1	09/20/10	0.092	
AMB04-109	K1009852-068	0.050	0.009	1	09/20/10	0.126	
Method Blank	K1009852-MB	0.050	0.009	1	09/20/10	ND	
Method Blank	K1009852-MB	0.050	0.009	1	09/20/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/20/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-003
Lab Code : K1009852-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.144	0.142	0.143	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/20/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-041
Lab Code : K1009852-026DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.120	0.116	0.118	3	

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/20/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-003		Units :	mg/L
Lab Code :	K1009852-002MS	K1009852-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.144	2.16	2.16	101	101	86-117	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/20/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-041		Units :	mg/L
Lab Code :	K1009852-026MS	K1009852-026DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.120	2.15	2.18	102	103	86-117	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/20/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.9	101	88-110	
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.8	100	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/20/2010	2.00	1.97	99
CCV2 Result	9/20/2010	2.00	1.96	98
CCV3 Result	9/20/2010	2.00	1.98	99
CCV4 Result	9/20/2010	2.00	1.97	99
CCV5 Result	9/20/2010	2.00	1.96	98
CCV6 Result	9/20/2010	2.00	1.96	98
CCV7 Result	9/20/2010	2.00	1.96	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/20/2010	0.050	ND
CCB2 Result	9/20/2010	0.050	ND
CCB3 Result	9/20/2010	0.050	ND
CCB4 Result	9/20/2010	0.050	ND
CCB5 Result	9/20/2010	0.050	ND
CCB6 Result	9/20/2010	0.050	ND
CCB7 Result	9/20/2010	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB04-003	K1009852-002	0.010	0.004	1	9/20/2010	09/21/10	0.078	
AMB04-008	K1009852-005	0.010	0.004	1	9/20/2010	09/21/10	0.080	
AMB04-014	K1009852-009	0.010	0.004	1	9/20/2010	09/21/10	0.076	
AMB04-019	K1009852-012	0.010	0.004	1	9/20/2010	09/21/10	0.106	
AMB04-025	K1009852-016	0.010	0.004	1	9/20/2010	09/21/10	0.080	
AMB04-030	K1009852-019	0.010	0.004	1	9/20/2010	09/21/10	0.072	
AMB04-035	K1009852-022	0.010	0.004	1	9/20/2010	09/21/10	0.095	
AMB04-041	K1009852-026	0.010	0.004	1	9/20/2010	09/21/10	0.080	
AMB04-047	K1009852-029	0.010	0.004	1	9/20/2010	09/21/10	0.112	
AMB04-052	K1009852-033	0.010	0.004	1	9/20/2010	09/21/10	0.113	
AMB04-057	K1009852-036	0.010	0.004	1	9/20/2010	09/21/10	0.093	
AMB04-062	K1009852-039	0.010	0.004	1	9/20/2010	09/21/10	0.080	
AMB04-067	K1009852-042	0.010	0.004	1	9/20/2010	09/21/10	0.085	
AMB04-072	K1009852-045	0.010	0.004	1	9/20/2010	09/21/10	0.071	
AMB04-077	K1009852-048	0.010	0.004	1	9/20/2010	09/21/10	0.084	
AMB04-083	K1009852-052	0.010	0.004	1	9/20/2010	09/21/10	0.074	
AMB04-088	K1009852-055	0.010	0.004	1	9/20/2010	09/21/10	0.105	
AMB04-093	K1009852-058	0.010	0.004	1	9/20/2010	09/21/10	0.113	
AMB04-099	K1009852-062	0.010	0.004	1	9/20/2010	09/21/10	0.071	
AMB04-104	K1009852-065	0.010	0.004	1	9/20/2010	09/21/10	0.067	
AMB04-109	K1009852-068	0.010	0.004	1	9/20/2010	09/21/10	0.070	
Method Blank	K1009852-MB	0.010	0.004	1	9/20/2010	09/21/10	ND	
Method Blank	K1009852-MB	0.010	0.004	1	9/20/2010	09/21/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : WATER

Service Request : K1009852
Date Collected : NA
Date Received : NA
Date Prepared : 09/20/10
Date Analyzed : 09/21/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009827-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.019	0.019	0.019	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/20/10
		Date Analyzed :	09/21/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB04-099	Units :	mg/L
Lab Code :	K1009852-062DUP	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.071	0.071	0.071	<1	

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	09/20/10
		Date Analyzed :	09/21/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	Batch QC		Units :	mg/L
Lab Code :	K1009827-002MS	K1009827-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.10	0.500	1.00	ND	0.533	1.19	107	119	50-144	11	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/20/10
		Date Analyzed :	09/21/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-099		Units :	mg/L
Lab Code :	K1009852-062MS	K1009852-062DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Phosphorus, Total	Method	365.3	0.10	0.500	1.00	0.07	0.565	1.02	99	95	50-144	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/20/10
		Date Analyzed :	09/21/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.36	104	88-113	
Phosphorus, Total	Method	365.3	3.23	3.51	109	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/21/2010	0.500	0.515	103
CCV2 Result	9/21/2010	0.500	0.526	105
CCV3 Result	9/21/2010	0.500	0.530	106
CCV4 Result	9/21/2010	0.500	0.544	109
CCV5 Result	9/21/2010	0.500	0.543	109

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/21/2010	0.010	ND
CCB2 Result	9/21/2010	0.010	ND
CCB3 Result	9/21/2010	0.010	ND
CCB4 Result	9/21/2010	0.010	ND
CCB5 Result	9/21/2010	0.010	ND

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Solids, Total

Analysis Method : SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-002	K1009852-001	10	10	1	09/14/10	32600	
AMB04-007	K1009852-004	10	10	1	09/14/10	32900	
AMB04-013	K1009852-008	10	10	1	09/14/10	32900	
AMB04-018	K1009852-011	10	10	1	09/14/10	32300	
AMB04-024	K1009852-015	10	10	1	09/14/10	32300	
AMB04-029	K1009852-018	10	10	1	09/14/10	34600	
AMB04-034	K1009852-021	10	10	1	09/14/10	32700	
AMB04-040	K1009852-025	10	10	1	09/14/10	29800	
AMB04-046	K1009852-028	10	10	1	09/14/10	30000	
AMB04-051	K1009852-032	10	10	1	09/14/10	32600	
AMB04-056	K1009852-035	10	10	1	09/14/10	32100	
AMB04-061	K1009852-038	10	10	1	09/14/10	32700	
AMB04-066	K1009852-041	10	10	1	09/14/10	33500	
AMB04-071	K1009852-044	10	10	1	09/14/10	32500	
AMB04-076	K1009852-047	10	10	1	09/14/10	33200	
AMB04-082	K1009852-051	10	10	1	09/14/10	31900	
AMB04-087	K1009852-054	10	10	1	09/14/10	32200	
AMB04-092	K1009852-057	10	10	1	09/14/10	33900	
AMB04-098	K1009852-061	10	10	1	09/14/10	33700	
AMB04-103	K1009852-064	10	10	1	09/14/10	34600	
AMB04-108	K1009852-067	10	10	1	09/14/10	33700	
Method Blank	K1009852-MB	5.0	5.0	1	09/14/10	ND	
Method Blank	K1009852-MB	5.0	5.0	1	09/14/10	ND	
Method Blank	K1009852-MB	5.0	5.0	1	09/14/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009898-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	33000	33400	33200	1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009898-025DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	34500	34800	34700	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009898-049DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	34400	34400	34400	<1	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name :	Batch QC	Units :	mg/L
Lab Code :	K1009898-064DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	66900	33600	50300	66	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	1420	1410	99	85-115	
Solids, Total	NONE	SM 2540 B	1420	1560	110	85-115	
Solids, Total	NONE	SM 2540 B	1420	1370	96	85-115	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Solids, Total Suspended (TSS)

Analysis Method : SM 2540 D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-002	K1009852-001	5.0	5.0	1	09/13/10	6.0	
AMB04-007	K1009852-004	5.0	5.0	1	09/15/10	ND	
AMB04-013	K1009852-008	5.0	5.0	1	09/15/10	ND	
AMB04-018	K1009852-011	5.0	5.0	1	09/15/10	7.0	
AMB04-024	K1009852-015	5.0	5.0	1	09/15/10	8.5	
AMB04-029	K1009852-018	5.0	5.0	1	09/15/10	ND	
AMB04-034	K1009852-021	5.0	5.0	1	09/15/10	7.5	
AMB04-040	K1009852-025	5.0	5.0	1	09/15/10	23.5	
AMB04-046	K1009852-028	5.0	5.0	1	09/15/10	30.5	
AMB04-051	K1009852-032	5.0	5.0	1	09/15/10	26.0	
AMB04-056	K1009852-035	5.0	5.0	1	09/15/10	37.0	
AMB04-061	K1009852-038	5.0	5.0	1	09/15/10	38.5	
AMB04-066	K1009852-041	5.0	5.0	1	09/15/10	41.0	
AMB04-071	K1009852-044	5.0	5.0	1	09/15/10	12.0	
AMB04-076	K1009852-047	5.0	5.0	1	09/15/10	12.5	
AMB04-082	K1009852-051	5.0	5.0	1	09/15/10	31.0	
AMB04-087	K1009852-054	5.0	5.0	1	09/15/10	42.5	
AMB04-092	K1009852-057	5.0	5.0	1	09/15/10	26.5	
AMB04-098	K1009852-061	5.0	5.0	1	09/15/10	32.0	
AMB04-103	K1009852-064	5.0	5.0	1	09/15/10	36.0	
AMB04-108	K1009852-067	5.0	5.0	1	09/15/10	29.0	
Method Blank	K1009852-MB	5.0	5.0	1	09/13/10	ND	
Method Blank	K1009852-MB	5.0	5.0	1	09/15/10	ND	
Method Blank	K1009852-MB	5.0	5.0	1	09/13/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-071
Lab Code : K1009852-044DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	12.0	12.5	12.3	4	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-076
Lab Code : K1009852-047DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	12.5	13.0	12.8	4	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/13/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	320	298	93	80-115	
Solids, Total Suspended (TSS)	NONE	SM 2540 D	320	306	96	80-115	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	320	314	98	80-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Carbon, Dissolved Organic (DOC)

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-004	K1009852-003	1.0	0.2	2	09/28/10	2.3	
AMB04-009	K1009852-006	1.0	0.2	2	09/28/10	2.4	
AMB04-015	K1009852-010	1.0	0.2	2	09/28/10	1.9	
AMB04-020	K1009852-013	1.0	0.2	2	09/28/10	2.4	
AMB04-026	K1009852-017	1.0	0.2	2	09/28/10	2.0	
AMB04-031	K1009852-020	1.0	0.2	2	09/28/10	2.2	
AMB04-036	K1009852-023	1.0	0.2	2	09/28/10	1.6	
AMB04-042	K1009852-027	1.0	0.2	2	09/28/10	1.6	
AMB04-048	K1009852-030	1.0	0.2	2	09/28/10	2.2	
AMB04-053	K1009852-034	1.0	0.2	2	09/28/10	1.5	
AMB04-058	K1009852-037	1.0	0.2	2	09/28/10	2.0	
AMB04-063	K1009852-040	1.0	0.2	2	09/28/10	2.0	
AMB04-068	K1009852-043	1.0	0.2	2	09/28/10	2.6	
AMB04-073	K1009852-046	1.0	0.2	2	09/28/10	1.8	
AMB04-078	K1009852-049	1.0	0.2	2	09/28/10	2.6	
AMB04-084	K1009852-053	1.0	0.2	2	09/28/10	1.7	
AMB04-089	K1009852-056	1.0	0.2	2	09/28/10	1.9	
AMB04-094	K1009852-059	1.0	0.2	2	09/28/10	2.8	
AMB04-100	K1009852-063	1.0	0.2	2	09/28/10	2.0	
AMB04-105	K1009852-066	1.0	0.2	2	09/28/10	2.2	
AMB04-110	K1009852-069	1.0	0.2	2	09/28/10	1.4	
Method Blank	K1009852-MB	0.50	0.07	1	09/28/10	ND	
Method Blank	K1009852-MB	0.50	0.07	1	09/28/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/28/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-004
Lab Code : K1009852-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	2.3	2.1	2.2	9	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/28/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-110
Lab Code : K1009852-069DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	1.4	1.4	1.4	<1	

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QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/28/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-004
Lab Code : K1009852-003MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	2.3	49.6	95	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/28/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-110
Lab Code : K1009852-069MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	1.4	50.0	97	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	24.9	101	83-117	
Carbon, Total Organic	NONE	SM 5310 C	24.7	25.3	102	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/28/2010	25.0	24.7	99
CCV2 Result	9/28/2010	25.0	25.1	100
CCV3 Result	9/28/2010	25.0	25.5	102
CCV4 Result	9/28/2010	25.0	24.8	99
CCV5 Result	9/28/2010	25.0	24.9	100
CCV6 Result	9/28/2010	25.0	24.4	98
CCV7 Result	9/28/2010	25.0	24.6	98
CCV8 Result	9/28/2010	25.0	25.1	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/28/2010	0.50	ND
CCB2 Result	9/28/2010	0.50	ND
CCB3 Result	9/28/2010	0.50	ND
CCB4 Result	9/28/2010	0.50	ND
CCB5 Result	9/28/2010	0.50	ND
CCB6 Result	9/28/2010	0.50	ND
CCB7 Result	9/28/2010	0.50	ND
CCB8 Result	9/28/2010	0.50	ND

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 09/08/10
Date Received : 09/10/10

Carbon, Total Organic

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-003	K1009852-002	1.0	0.2	2	09/28/10	1.6	
AMB04-008	K1009852-005	1.0	0.2	2	09/28/10	1.4	
AMB04-014	K1009852-009	1.0	0.2	2	09/28/10	1.7	
AMB04-019	K1009852-012	1.0	0.2	2	09/28/10	2.4	
AMB04-025	K1009852-016	1.0	0.2	2	09/28/10	1.4	
AMB04-030	K1009852-019	1.0	0.2	2	09/28/10	1.3	
AMB04-035	K1009852-022	1.0	0.2	2	09/28/10	1.8	
AMB04-041	K1009852-026	1.0	0.2	2	09/28/10	1.4	
AMB04-047	K1009852-029	1.0	0.2	2	09/28/10	1.3	
AMB04-052	K1009852-033	1.0	0.2	2	09/28/10	1.3	
AMB04-057	K1009852-036	1.0	0.2	2	09/28/10	1.5	
AMB04-062	K1009852-039	1.0	0.2	2	09/28/10	1.4	
AMB04-067	K1009852-042	1.0	0.2	2	09/28/10	1.6	
AMB04-072	K1009852-045	1.0	0.2	2	09/28/10	1.3	
AMB04-077	K1009852-048	1.0	0.2	2	09/28/10	2.0	
AMB04-083	K1009852-052	1.0	0.2	2	09/28/10	1.5	
AMB04-088	K1009852-055	1.0	0.2	2	09/28/10	2.4	
AMB04-093	K1009852-058	1.0	0.2	2	09/28/10	4.0	
AMB04-099	K1009852-062	1.0	0.2	2	09/28/10	1.3	
AMB04-104	K1009852-065	1.0	0.2	2	09/28/10	1.2	
AMB04-109	K1009852-068	1.0	0.2	2	09/28/10	1.2	
Method Blank	K1009852-MB	0.50	0.07	1	09/28/10	ND	
Method Blank	K1009852-MB	0.50	0.07	1	09/28/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/8/2010
Project Number :	NA	**Date Received :**	9/10/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB04-003	Units :	mg/L
Lab Code :	K1009852-002DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.6	1.6	1.6	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009852
Date Collected : 9/8/2010
Date Received : 9/10/2010
Date Prepared : NA
Date Analyzed : 09/28/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-003
Lab Code : K1009852-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.6	50.3	97	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009852
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1009852-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	25.0	24.9	100	83-117	
Carbon, Total Organic	NONE	SM 5310 C	24.7	25.3	102	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/28/2010	25.0	25.5	102
CCV2 Result	9/28/2010	25.0	24.8	99
CCV3 Result	9/28/2010	25.0	24.9	100
CCV4 Result	9/28/2010	25.0	24.4	98
CCV5 Result	9/28/2010	25.0	24.6	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009852
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/28/2010	0.50	ND
CCB2 Result	9/28/2010	0.50	ND
CCB3 Result	9/28/2010	0.50	ND
CCB4 Result	9/28/2010	0.50	ND
CCB5 Result	9/28/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Batelle Marine Sciences Lab	**Service Request No.:**	K1009898
Project:	AMB04	**Date Received:**	9/11/10
Sample Matrix:	Sea Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty two sea water samples were received for analysis at Columbia Analytical Services on 9/11/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Suspended Solids by SM 2540 D:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Suspended Solids in sample AMB04-131 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Total Solids by SM 2540 B:
In the initial run the sample AMB04-221 did not confirm it's duplicate. The sample was reanalyzed past holding time. The reanalysis was done in duplicate and the results of the reanalysis confirmed the duplicate of the original run. The results of the duplicate are reported as the sample. No further corrective action is necessary.

TOC and DOC by SM 5310C:
The total organic carbon (TOC) was lower that the dissolved organic carbon (DOC) for many samples analyzed. This may be due to slight contamination occurring during filtration.

No other anomalies associated with the analysis of these samples were observed.

Approved by Mike Shelton **Date** 11/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Solids, Total

Analysis Method SM 2540 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-116	K1009898-001	10	10	1	09/14/10	33000	
AMB04-121	K1009898-004	10	10	1	09/14/10	32900	
AMB04-126	K1009898-007	10	10	1	09/14/10	3290	
AMB04-131	K1009898-010	10	10	1	09/14/10	33500	
AMB04-136	K1009898-013	10	10	1	09/14/10	33000	
AMB04-141	K1009898-016	10	10	1	09/14/10	35000	
AMB04-146	K1009898-019	10	10	1	09/14/10	34200	
AMB04-151	K1009898-022	10	10	1	09/14/10	34100	
AMB04-156	K1009898-025	10	10	1	09/14/10	34500	
AMB04-161	K1009898-028	10	10	1	09/14/10	33900	
AMB04-166	K1009898-031	10	10	1	09/14/10	36200	
AMB04-171	K1009898-034	10	10	1	09/14/10	34000	
AMB04-176	K1009898-037	10	10	1	09/14/10	32900	
AMB04-181	K1009898-040	10	10	1	09/14/10	34100	
AMB04-186	K1009898-043	10	10	1	09/14/10	33900	
AMB04-191	K1009898-046	10	10	1	09/14/10	33700	
AMB04-196	K1009898-049	10	10	1	09/14/10	34400	
AMB04-201	K1009898-052	10	10	1	09/14/10	34200	
AMB04-206	K1009898-055	10	10	1	09/14/10	33400	
AMB04-211	K1009898-058	10	10	1	09/14/10	33600	
AMB04-216	K1009898-061	10	10	1	09/14/10	34100	
AMB04-221	K1009898-064	10	10	1	09/14/10	33600	*
Method Blank	K1009898-MB	5.0	5.0	1	10/21/10	ND	
Method Blank	K1009898-MB	5.0	5.0	1	09/14/10	ND	
Method Blank	K1009898-MB	5.0	5.0	1	09/14/10	ND	
Method Blank	K1009898-MB	5.0	5.0	1	09/14/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-116
Lab Code : K1009898-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	33000	33400	33200	1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-156
Lab Code : K1009898-025DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	34500	34800	34700	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB04-196	Units :	mg/L
Lab Code :	K1009898-049DUP	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total	SM 2540 B	10	34400	34400	34400	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	10/21/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	1420	1480	104	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/14/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total	NONE	SM 2540 B	1420	1410	99	85-115	
Solids, Total	NONE	SM 2540 B	1420	1370	96	85-115	
Solids, Total	NONE	SM 2540 B	1420	1560	110	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-117	K1009898-002	0.010	0.003	1	09/24/10	0.081	
AMB04-122	K1009898-005	0.010	0.003	1	09/24/10	0.118	
AMB04-127	K1009898-008	0.010	0.003	1	09/24/10	0.076	
AMB04-132	K1009898-011	0.010	0.003	1	09/24/10	0.056	
AMB04-137	K1009898-014	0.010	0.003	1	09/24/10	0.046	
AMB04-142	K1009898-017	0.010	0.003	1	09/24/10	0.018	
AMB04-147	K1009898-020	0.010	0.003	1	09/24/10	0.029	
AMB04-152	K1009898-023	0.010	0.003	1	09/24/10	0.068	
AMB04-157	K1009898-026	0.010	0.003	1	09/24/10	0.054	
AMB04-162	K1009898-029	0.010	0.003	1	09/24/10	0.036	
AMB04-167	K1009898-032	0.010	0.003	1	09/24/10	0.037	
AMB04-172	K1009898-035	0.010	0.003	1	09/24/10	0.010	J
AMB04-177	K1009898-038	0.010	0.003	1	09/24/10	0.054	
AMB04-182	K1009898-041	0.010	0.003	1	09/24/10	0.016	
AMB04-187	K1009898-044	0.010	0.003	1	09/24/10	0.031	
AMB04-192	K1009898-047	0.010	0.003	1	09/24/10	0.034	
AMB04-197	K1009898-050	0.010	0.003	1	09/24/10	0.058	
AMB04-202	K1009898-053	0.010	0.003	1	09/24/10	0.029	
AMB04-207	K1009898-056	0.010	0.003	1	09/24/10	0.043	
AMB04-212	K1009898-059	0.010	0.003	1	09/24/10	0.024	
AMB04-217	K1009898-062	0.010	0.003	1	09/24/10	0.024	
AMB04-222	K1009898-065	0.010	0.003	1	09/24/10	0.039	
Method Blank	K1009898-MB	0.010	0.003	1	09/24/10	ND	
Method Blank	K1009898-MB	0.010	0.003	1	09/24/10	0.003	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/24/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-117
Lab Code : K1009898-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.081	0.082	0.082	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/24/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-197
Lab Code : K1009898-050DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.058	0.059	0.059	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/24/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-117
Lab Code : K1009898-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.200	0.081	0.277	98	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/24/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-197
Lab Code : K1009898-050MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.010	0.200	0.058	0.251	97	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/24/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-117		Units :	mg/L
Lab Code :	K1009898-002MS	K1009898-002DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.081	0.277	0.278	98	98	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/24/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-197		Units :	mg/L
Lab Code :	K1009898-050MS	K1009898-050DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	NONE	350.1	0.010	0.200	0.200	0.058	0.251	0.255	97	99	90-112	2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/24/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	13.2	92	90-112	
Ammonia as Nitrogen	NONE	350.1	14.3	14.3	100	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/24/2010	0.250	0.25	100
CCV2 Result	9/24/2010	0.250	0.25	100
CCV3 Result	9/24/2010	0.250	0.25	100
CCV4 Result	9/24/2010	0.250	0.25	100
CCV5 Result	9/24/2010	0.250	0.25	100
CCV6 Result	9/24/2010	0.250	0.24	96

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Ammonia as Nitrogen
350.1
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/24/2010	0.010	ND
CCB2 Result	9/24/2010	0.010	ND
CCB3 Result	9/24/2010	0.010	ND
CCB4 Result	9/24/2010	0.010	ND
CCB5 Result	9/24/2010	0.010	ND
CCB6 Result	9/24/2010	0.010	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Nitrogen, Total Kjeldahl (TKN)

Prep Method : Method
Analysis Method 351.4
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB04-117	K1009898-002	0.50	0.18	2	9/16/2010	09/17/10	0.78	
AMB04-122	K1009898-005	0.50	0.18	2	9/16/2010	09/17/10	0.81	
AMB04-127	K1009898-008	0.50	0.18	2	9/16/2010	09/17/10	0.59	
AMB04-132	K1009898-011	0.50	0.18	2	9/16/2010	09/17/10	0.66	
AMB04-137	K1009898-014	0.50	0.18	2	9/16/2010	09/17/10	0.66	
AMB04-142	K1009898-017	0.50	0.18	2	9/16/2010	09/17/10	0.54	
AMB04-147	K1009898-020	0.50	0.18	2	9/16/2010	09/17/10	0.52	
AMB04-152	K1009898-023	0.50	0.18	2	9/16/2010	09/17/10	0.60	
AMB04-157	K1009898-026	0.50	0.18	2	9/16/2010	09/17/10	0.64	
AMB04-162	K1009898-029	0.50	0.18	2	9/16/2010	09/17/10	0.52	
AMB04-167	K1009898-032	0.50	0.18	2	9/16/2010	09/17/10	0.66	
AMB04-172	K1009898-035	0.50	0.18	2	9/16/2010	09/17/10	0.50	
AMB04-177	K1009898-038	0.50	0.18	2	9/16/2010	09/17/10	0.81	
AMB04-182	K1009898-041	0.50	0.18	2	9/16/2010	09/17/10	0.66	
AMB04-187	K1009898-044	0.50	0.18	2	9/16/2010	09/17/10	0.83	
AMB04-192	K1009898-047	0.50	0.18	2	9/16/2010	09/17/10	0.66	
AMB04-197	K1009898-050	0.50	0.18	2	9/16/2010	09/17/10	0.83	
AMB04-202	K1009898-053	0.50	0.18	2	9/16/2010	09/17/10	0.75	
AMB04-207	K1009898-056	0.50	0.18	2	9/16/2010	09/17/10	0.59	
AMB04-212	K1009898-059	0.50	0.18	2	9/30/2010	10/04/10	0.63	
AMB04-217	K1009898-062	0.50	0.18	2	9/30/2010	10/04/10	0.75	
AMB04-222	K1009898-065	0.50	0.18	2	9/30/2010	10/04/10	0.95	
Method Blank	K1009898-MB	0.40	0.16	2	9/16/2010	09/17/10	ND	
Method Blank	K1009898-MB	0.40	0.16	2	9/30/2010	10/04/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : 09/30/10
Date Analyzed : 10/04/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-212
Lab Code : K1009898-059DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.50	0.63	0.55	0.59	14	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : 09/30/10
Date Analyzed : 10/04/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-212
Lab Code : K1009898-059MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.50	25.0	0.63	24.7	96	75-125	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/30/10
		Date Analyzed :	10/04/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-212		Units :	mg/L
Lab Code :	K1009898-059MS	K1009898-059DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.50	25.0	50.0	0.63	24.7	51.0	96	101	75-125	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : NA
Date Received : NA
Date Prepared : 09/17/10
Date Analyzed : 09/17/10

Duplicate Summary
Inorganic Parameters

Sample Name : BatchQC
Lab Code : K1009852-068DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.50	0.75	0.73	0.74	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : NA
Date Received : NA
Date Prepared : 09/16/10
Date Analyzed : 09/17/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009852-068MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.50	25.0	0.81	23.6	91	75-125	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/16/10
		Date Analyzed :	09/17/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	Batch QC		Units :	mg/L
Lab Code :	K1009852-068MS	K1009852-068DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	0.50	25.0	50.0	0.81	23.6	52.0	91	102	75-125	11	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/30/10
		Date Analyzed :	10/04/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	8.58	8.96	104	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/16/10
		Date Analyzed :	09/17/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrogen, Total Kjeldahl (TKN)	Method	351.4	8.58	8.44	98	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	10/4/2010	10.0	10.4	104
CCV2 Result	10/4/2010	10.0	10.3	103
CCV3 Result	10/4/2010	10.0	10.1	101
CCV4 Result	10/4/2010	10.0	10.3	103
CCV5 Result	10/4/2010	10.0	10.5	105
CCV1 Result	9/17/2010	10.0	9.60	96
CCV2 Result	9/17/2010	10.0	10.2	102
CCV3 Result	9/17/2010	10.0	9.86	99
CCV4 Result	9/17/2010	10.0	9.80	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Nitrogen, Total Kjeldahl (TKN)
351.4
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	10/4/2010	0.20	ND
CCB2 Result	10/4/2010	0.20	ND
CCB3 Result	10/4/2010	0.20	ND
CCB4 Result	10/4/2010	0.20	ND
CCB5 Result	10/4/2010	0.20	ND
CCB1 Result	9/17/2010	0.20	ND
CCB2 Result	9/17/2010	0.20	ND
CCB3 Result	9/17/2010	0.20	ND
CCB4 Result	9/17/2010	0.20	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-117	K1009898-002	0.050	0.009	1	09/20/10	0.155	
AMB04-122	K1009898-005	0.050	0.009	1	09/20/10	0.132	
AMB04-127	K1009898-008	0.050	0.009	1	09/20/10	0.174	
AMB04-132	K1009898-011	0.050	0.009	1	09/20/10	0.060	
AMB04-137	K1009898-014	0.050	0.009	1	09/20/10	0.035	J
AMB04-142	K1009898-017	0.050	0.009	1	09/20/10	0.053	
AMB04-147	K1009898-020	0.050	0.009	1	09/20/10	0.046	J
AMB04-152	K1009898-023	0.050	0.009	1	09/20/10	0.105	
AMB04-157	K1009898-026	0.050	0.009	1	09/20/10	0.139	
AMB04-162	K1009898-029	0.050	0.009	1	09/20/10	0.099	
AMB04-167	K1009898-032	0.050	0.009	1	09/20/10	0.027	J
AMB04-172	K1009898-035	0.050	0.009	1	09/20/10	0.012	J
AMB04-177	K1009898-038	0.050	0.009	1	09/20/10	0.051	
AMB04-182	K1009898-041	0.050	0.009	1	09/20/10	0.041	J
AMB04-187	K1009898-044	0.050	0.009	1	09/20/10	0.160	
AMB04-192	K1009898-047	0.050	0.009	1	09/20/10	0.069	
AMB04-197	K1009898-050	0.050	0.009	1	09/20/10	0.116	
AMB04-202	K1009898-053	0.050	0.009	1	09/20/10	0.235	
AMB04-207	K1009898-056	0.050	0.009	1	09/20/10	0.224	
AMB04-212	K1009898-059	0.050	0.009	1	09/20/10	0.187	
AMB04-217	K1009898-062	0.050	0.009	1	09/20/10	0.126	
AMB04-222	K1009898-065	0.050	0.009	1	09/20/10	0.089	
Method Blank	K1009898-MB	0.050	0.009	1	09/20/10	ND	
Method Blank	K1009898-MB	0.050	0.009	1	09/20/10	0.010	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/20/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-117
Lab Code : K1009898-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.155	0.155	0.155	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/20/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-172
Lab Code : K1009898-035DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.012	0.012	0.012	<1	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/20/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-117
Lab Code : K1009898-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.155	2.10	97	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/20/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-172
Lab Code : K1009898-035MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.012	2.00	100	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/20/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.8	100	88-110	
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.8	100	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/20/2010	2.00	1.95	98
CCV2 Result	9/20/2010	2.00	1.97	99
CCV3 Result	9/20/2010	2.00	1.97	99
CCV4 Result	9/20/2010	2.00	1.95	98
CCV5 Result	9/20/2010	2.00	1.95	98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Nitrate+Nitrite as Nitrogen
353.2
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/20/2010	0.050	ND
CCB2 Result	9/20/2010	0.050	ND
CCB3 Result	9/20/2010	0.050	ND
CCB4 Result	9/20/2010	0.050	ND
CCB5 Result	9/20/2010	0.050	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	09/09/10
Project Number :	NA	**Date Received :**	09/11/10
Sample Matrix :	OCEAN WATER		

Phosphorus, Total

Prep Method :	Method	Units :	mg/L
Analysis Method :	365.3	Basis :	NA
Test Notes :			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
AMB04-117	K1009898-002	0.010	0.004	1	9/22/2010	09/24/10	0.097	
AMB04-122	K1009898-005	0.010	0.004	1	9/22/2010	09/24/10	0.083	
AMB04-127	K1009898-008	0.010	0.004	1	9/22/2010	09/24/10	0.081	
AMB04-132	K1009898-011	0.010	0.004	1	9/22/2010	09/24/10	0.056	
AMB04-137	K1009898-014	0.010	0.004	1	9/22/2010	09/24/10	0.076	
AMB04-142	K1009898-017	0.010	0.004	1	9/22/2010	09/24/10	0.067	
AMB04-147	K1009898-020	0.010	0.004	1	9/22/2010	09/24/10	0.070	
AMB04-152	K1009898-023	0.010	0.004	1	9/22/2010	09/24/10	0.079	
AMB04-157	K1009898-026	0.010	0.004	1	9/22/2010	09/24/10	0.078	
AMB04-162	K1009898-029	0.010	0.004	1	9/22/2010	09/24/10	0.071	
AMB04-167	K1009898-032	0.010	0.004	1	9/22/2010	09/24/10	0.071	
AMB04-172	K1009898-035	0.010	0.004	1	9/22/2010	09/24/10	0.059	
AMB04-177	K1009898-038	0.010	0.004	1	9/22/2010	09/24/10	0.078	
AMB04-182	K1009898-041	0.010	0.004	1	9/22/2010	09/24/10	0.071	
AMB04-187	K1009898-044	0.010	0.004	1	9/22/2010	09/24/10	0.072	
AMB04-192	K1009898-047	0.010	0.004	1	9/22/2010	09/24/10	0.070	
AMB04-197	K1009898-050	0.010	0.004	1	9/22/2010	09/24/10	0.081	
AMB04-202	K1009898-053	0.010	0.004	1	9/22/2010	09/24/10	0.077	
AMB04-207	K1009898-056	0.010	0.004	1	9/22/2010	09/24/10	0.076	
AMB04-212	K1009898-059	0.010	0.004	1	9/22/2010	09/24/10	0.076	
AMB04-217	K1009898-062	0.010	0.004	1	9/22/2010	09/24/10	0.070	
AMB04-222	K1009898-065	0.010	0.004	1	9/22/2010	09/24/10	0.082	
Method Blank	K1009898-MB	0.010	0.004	1	9/22/2010	09/24/10	ND	
Method Blank	K1009898-MB	0.010	0.004	1	9/22/2010	09/24/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : 09/22/10
Date Analyzed : 09/24/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-132
Lab Code : K1009898-011DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.056	0.066	0.061	16	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/22/10
		Date Analyzed :	09/24/10

Duplicate Summary
Inorganic Parameters

Sample Name :	AMB04-217	Units :	mg/L
Lab Code :	K1009898-062DUP	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.070	0.074	0.072	6	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/22/10
		Date Analyzed :	09/24/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	AMB04-132	Units :	mg/L
Lab Code :	K1009898-011MS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	0.056	0.469	83	50-144	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/22/10
		Date Analyzed :	09/24/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	AMB04-217	Units :	mg/L
Lab Code :	K1009898-062MS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	0.010	0.500	0.070	0.446	75	50-144	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/22/10
		Date Analyzed :	09/24/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-132		Units :	mg/L
Lab Code :	K1009898-011MS	K1009898-011DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.056	0.469	0.792	83	74	50-144	11	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/22/10
		Date Analyzed :	09/24/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name :	AMB04-217		Units :	mg/L
Lab Code :	K1009898-062MS	K1009898-062DMS	Basis :	NA
Test Notes :				

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Spike Recovery MS	Spike Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phosphorus, Total	Method	365.3	0.020	0.500	1.00	0.070	0.446	0.812	75	74	50-144	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	09/22/10
		Date Analyzed :	09/24/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	3.23	3.47	107	88-113	
Phosphorus, Total	Method	365.3	3.23	3.49	108	88-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/24/2010	0.500	0.512	102
CCV2 Result	9/24/2010	0.500	0.543	109
CCV3 Result	9/24/2010	0.500	0.533	107
CCV4 Result	9/24/2010	0.500	0.544	109
CCV5 Result	9/24/2010	0.500	0.523	105

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Phosphorus, Total
365.3
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/24/2010	0.010	ND
CCB2 Result	9/24/2010	0.010	ND
CCB3 Result	9/24/2010	0.010	ND
CCB4 Result	9/24/2010	0.010	0.005 J
CCB5 Result	9/24/2010	0.010	0.006 J

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Solids, Total Suspended (TSS)

Analysis Method : SM 2540 D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-116	K1009898-001	5.0	5.0	1	09/15/10	9.5	
AMB04-121	K1009898-004	5.0	5.0	1	09/15/10	17.0	
AMB04-126	K1009898-007	5.0	5.0	1	09/15/10	13.5	
AMB04-131	K1009898-010	5.0	5.0	1	09/15/10	8.0	
AMB04-136	K1009898-013	5.0	5.0	1	09/15/10	7.0	
AMB04-141	K1009898-016	5.0	5.0	1	09/15/10	7.0	
AMB04-146	K1009898-019	5.0	5.0	1	09/15/10	6.0	
AMB04-151	K1009898-022	5.0	5.0	1	09/15/10	7.0	
AMB04-156	K1009898-025	5.0	5.0	1	09/15/10	6.5	
AMB04-161	K1009898-028	5.0	5.0	1	09/15/10	6.0	
AMB04-166	K1009898-031	5.0	5.0	1	09/15/10	32.5	
AMB04-171	K1009898-034	5.0	5.0	1	09/15/10	34.0	
AMB04-176	K1009898-037	5.0	5.0	1	09/15/10	34.5	
AMB04-181	K1009898-040	5.0	5.0	1	09/15/10	16.0	
AMB04-186	K1009898-043	5.0	5.0	1	09/15/10	32.5	
AMB04-191	K1009898-046	5.0	5.0	1	09/15/10	32.5	
AMB04-196	K1009898-049	5.0	5.0	1	09/15/10	10.5	
AMB04-201	K1009898-052	5.0	5.0	1	09/15/10	9.5	
AMB04-206	K1009898-055	5.0	5.0	1	09/15/10	38.0	
AMB04-211	K1009898-058	5.0	5.0	1	09/15/10	37.0	
AMB04-216	K1009898-061	5.0	5.0	1	09/15/10	35.0	
AMB04-221	K1009898-064	5.0	5.0	1	09/15/10	40.0	
Method Blank	K1009898-MB	5.0	5.0	1	09/15/10	ND	
Method Blank	K1009898-MB	5.0	5.0	1	09/15/10	ND	
Method Blank	K1009898-MB	5.0	5.0	1	09/15/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009650-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	13.5	15.0	14.3	10	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009852-044DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	12.0	12.5	12.3	4	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009852-047DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	12.5	13.0	12.8	4	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-131
Lab Code : K1009898-010DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	8.0	36.5	22.3	128	*

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-166
Lab Code : K1009898-031DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Suspended (TSS)	SM 2540 D	5.0	32.5	35.0	33.8	7	

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QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/15/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Suspended (TSS)	NONE	SM 2540 D	320	304	95	80-115	
Solids, Total Suspended (TSS)	NONE	SM 2540 D	320	314	98	80-115	
Solids, Total Suspended (TSS)	NONE	SM 2540 D	320	320	100	80-115	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Carbon, Dissolved Organic (DOC)

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-118	K1009898-003	1.0	0.2	2	09/28/10	3.0	
AMB04-123	K1009898-006	1.0	0.2	2	09/28/10	1.7	
AMB04-128	K1009898-009	1.0	0.2	2	09/28/10	2.0	
AMB04-133	K1009898-012	1.0	0.2	2	09/28/10	1.4	
AMB04-138	K1009898-015	1.0	0.2	2	09/28/10	2.1	
AMB04-143	K1009898-018	1.0	0.2	2	09/28/10	1.3	
AMB04-148	K1009898-021	1.0	0.2	2	09/28/10	2.0	
AMB04-153	K1009898-024	1.0	0.2	2	09/28/10	2.0	
AMB04-158	K1009898-027	1.0	0.2	2	09/28/10	1.6	
AMB04-163	K1009898-030	1.0	0.2	2	09/28/10	1.6	
AMB04-168	K1009898-033	1.0	0.2	2	09/29/10	2.1	
AMB04-173	K1009898-036	1.0	0.2	2	09/29/10	2.0	
AMB04-178	K1009898-039	1.0	0.2	2	09/29/10	1.8	
AMB04-183	K1009898-042	1.0	0.2	2	09/29/10	2.6	
AMB04-188	K1009898-045	1.0	0.2	2	09/29/10	1.7	
AMB04-193	K1009898-048	1.0	0.2	2	09/29/10	2.1	
AMB04-198	K1009898-051	1.0	0.2	2	09/29/10	1.7	
AMB04-203	K1009898-054	1.0	0.2	2	09/29/10	1.4	
AMB04-208	K1009898-057	1.0	0.2	2	09/29/10	1.4	
AMB04-213	K1009898-060	1.0	0.2	2	09/29/10	1.6	
AMB04-218	K1009898-063	1.0	0.2	2	09/29/10	1.6	
AMB04-223	K1009898-066	1.0	0.2	2	09/29/10	2.0	
Method Blank	K1009898-MB	0.50	0.07	1	09/29/10	ND	
Method Blank	K1009898-MB	0.50	0.07	1	09/28/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009852-003DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	2.3	2.1	2.2	9	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009852-069DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	1.4	1.4	1.4	<1	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/29/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-168
Lab Code : K1009898-033DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	2.1	2.1	2.1	<1	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/28/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1009852-003MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	2.3	49.6	95	85-108	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	Batch QC	Units :	mg/L
Lab Code :	K1009852-069MS	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	1.4	50.0	97	85-108	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/29/10

Matrix Spike Summary
Inorganic Parameters

Sample Name :	AMB04-168	Units :	mg/L
Lab Code :	K1009898-033MS	Basis :	NA
Test Notes :			

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	50.0	2.1	52.0	100	85-108	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/28/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	NONE	SM 5310 C	24.7	25.3	102	83-117	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/29/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Dissolved Organic (DOC)	NONE	SM 5310 C	24.7	25.9	105	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Carbon, Dissolved Organic (DOC)
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/28/2010	25.0	24.7	99
CCV2 Result	9/28/2010	25.0	25.1	100
CCV3 Result	9/28/2010	25.0	25.5	102
CCV4 Result	9/28/2010	25.0	24.8	99
CCV5 Result	9/28/2010	25.0	24.9	100
CCV6 Result	9/28/2010	25.0	24.4	98
CCV7 Result	9/28/2010	25.0	24.6	98
CCV8 Result	9/28/2010	25.0	25.1	100
CCV1 Result	9/29/2010	25.0	25.3	101
CCV2 Result	9/29/2010	25.0	24.7	99
CCV3 Result	9/29/2010	25.0	25.1	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Carbon, Dissolved Organic (DOC)
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/28/2010	0.50	ND
CCB2 Result	9/28/2010	0.50	ND
CCB3 Result	9/28/2010	0.50	ND
CCB4 Result	9/28/2010	0.50	ND
CCB5 Result	9/28/2010	0.50	ND
CCB6 Result	9/28/2010	0.50	ND
CCB7 Result	9/28/2010	0.50	ND
CCB8 Result	9/28/2010	0.50	ND
CCB1 Result	9/29/2010	0.50	ND
CCB2 Result	9/29/2010	0.50	ND
CCB3 Result	9/29/2010	0.50	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 09/09/10
Date Received : 09/11/10

Carbon, Total Organic

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB04-117	K1009898-002	1.0	0.2	2	09/29/10	1.5	
AMB04-122	K1009898-005	1.0	0.2	2	09/29/10	1.6	
AMB04-127	K1009898-008	1.0	0.2	2	09/29/10	1.4	
AMB04-132	K1009898-011	1.0	0.2	2	09/29/10	1.4	
AMB04-137	K1009898-014	1.0	0.2	2	09/29/10	1.5	
AMB04-142	K1009898-017	1.0	0.2	2	09/29/10	1.3	
AMB04-147	K1009898-020	1.0	0.2	2	09/29/10	1.4	
AMB04-152	K1009898-023	1.0	0.2	2	09/29/10	1.2	
AMB04-157	K1009898-026	1.0	0.2	2	09/29/10	1.3	
AMB04-162	K1009898-029	1.0	0.2	2	09/29/10	1.4	
AMB04-167	K1009898-032	1.0	0.2	2	09/29/10	1.6	
AMB04-172	K1009898-035	1.0	0.2	2	09/29/10	1.4	
AMB04-177	K1009898-038	1.0	0.2	2	09/29/10	1.6	
AMB04-182	K1009898-041	1.0	0.2	2	09/29/10	2.2	
AMB04-187	K1009898-044	1.0	0.2	2	09/29/10	1.2	
AMB04-192	K1009898-047	1.0	0.2	2	09/29/10	1.5	
AMB04-197	K1009898-050	1.0	0.2	2	09/29/10	1.2	
AMB04-202	K1009898-053	1.0	0.2	2	09/29/10	0.9	J
AMB04-207	K1009898-056	1.0	0.2	2	09/29/10	1.1	
AMB04-212	K1009898-059	1.0	0.2	2	09/29/10	1.2	
AMB04-217	K1009898-062	1.0	0.2	2	09/29/10	1.2	
AMB04-222	K1009898-065	1.0	0.2	2	09/29/10	1.6	
Method Blank	K1009898-MB	0.50	0.07	1	09/29/10	ND	
Method Blank	K1009898-MB	0.50	0.07	1	09/29/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	9/9/2010
Project Number :	NA	**Date Received :**	9/11/2010
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/29/10

Duplicate Summary
Inorganic Parameters

Sample Name : AMB04-117
Lab Code : K1009898-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	1.5	1.4	1.5	7	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project Name : Sept 2010 Ambient Monitoring (AMB04)
Project Number : NA
Sample Matrix : OCEAN WATER

Service Request : K1009898
Date Collected : 9/9/2010
Date Received : 9/11/2010
Date Prepared : NA
Date Analyzed : 09/29/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : AMB04-117
Lab Code : K1009898-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	50.0	1.5	48.8	95	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Battelle Marine Sciences Lab	**Service Request :**	K1009898
Project Name :	Sept 2010 Ambient Monitoring (AMB04)	**Date Collected :**	NA
Project Number :	NA	**Date Received :**	NA
Sample Matrix :	OCEAN WATER	**Date Prepared :**	NA
		Date Analyzed :	09/29/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Laboratory Control Sample	Units :	mg/L
Lab Code :	K1009898-LCS	Basis :	NA

Test Notes :

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	25.3	102	83-117	
Carbon, Total Organic	NONE	SM 5310 C	24.7	25.9	105	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION VERIFICATION (CCV)

	Date Analyzed	True Value	Measured Value	Percent Recovery
CCV1 Result	9/29/2010	25.0	24.7	99
CCV2 Result	9/29/2010	25.0	25.1	100
CCV3 Result	9/29/2010	25.0	24.9	100
CCV4 Result	9/29/2010	25.0	24.2	97
CCV5 Result	9/29/2010	25.0	24.9	100
CCV5 Result	9/29/2010	25.0	24.5	98
CCV6 Result	9/29/2010	25.0	24.4	98
CCV7 Result	9/29/2010	25.0	24.6	98
CCV8 Result	9/29/2010	25.0	25.1	100

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Battelle Marine Sciences Lab
Project : Sept 2010 Ambient Monitoring (AMB04)

Service Request : K1009898
Date Collected : NA
Date Received : NA

Carbon, Total Organic
SM 5310 C
Units: mg/L

CONTINUING CALIBRATION BLANK (CCB)

	Date Analyzed	MRL	Blank Value
CCB1 Result	9/29/2010	0.50	ND
CCB2 Result	9/29/2010	0.50	ND
CCB3 Result	9/29/2010	0.50	ND
CCB4 Result	9/29/2010	0.50	ND
CCB5 Result	9/29/2010	0.50	ND
CCB5 Result	9/29/2010	0.50	ND
CCB6 Result	9/29/2010	0.50	ND
CCB7 Result	9/29/2010	0.50	ND
CCB8 Result	9/29/2010	0.50	ND

K1009852

PROJECT ENVVEST
Project Name: Sept 2010 Ambient Monitoring (AMB04)
SAMPLE TEAM: Navy, Battelle
DATE: 9/9/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (August 2010)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB04-002	PS07	09/08/10 1006	seawater				X										1	
AMB04-003	PS07	09/08/10 1006	seawater						X								1	
AMB04-004	PS07	09/08/10 1006	seawater							X							1	
AMB04-007	PS06	09/08/10 1019	seawater				X										1	
AMB04-008	PS06	09/08/10 1019	seawater						X								1	
AMB04-009	PS06	09/08/10 1019	seawater							X							1	
AMB04-011	PS06	09/08/10 1019	seawater								X						1	
AMB04-013	PS14	09/08/10 1032	seawater				X										1	
AMB04-014	PS14	09/08/10 1032	seawater						X								1	
AMB04-015	PS14	09/08/10 1032	seawater							X							1	
AMB04-018	PS03	09/08/10 1046	seawater				X										1	
AMB04-019	PS03	09/08/10 1046	seawater						X								1	
AMB04-020	PS03	09/08/10 1046	seawater							X							1	
AMB04-022	PS03	09/08/10 1046	seawater								X						1	
AMB04-024	PS04	09/08/10 1101	seawater				X										1	
AMB04-025	PS04	09/08/10 1101	seawater						X								1	
AMB04-026	PS04	09/08/10 1101	seawater							X							1	
AMB04-029	PS05	09/08/10 1109	seawater				X										1	
AMB04-030	PS05	09/08/10 1109	seawater						X								1	
AMB04-031	PS05	09/08/10 1109	seawater							X							1	
AMB04-034	PS08	09/08/10 1121	seawater				X										1	
AMB04-035	PS08	09/08/10 1121	seawater						X								1	
AMB04-036	PS08	09/08/10 1121	seawater							X							1	
AMB04-038	PS08	09/08/10 1121	seawater								X						1	
AMB04-040	PS15	09/08/10 1136	seawater				X										1	
AMB04-041	PS15	09/08/10 1136	seawater						X								1	
AMB04-042	PS15	09/08/10 1136	seawater							X							1	
AMB04-046	PS09	09/08/10 1148	seawater				X										1	
AMB04-047	PS09	09/08/10 1148	seawater						X								1	
AMB04-048	PS09	09/08/10 1148	seawater							X							1	
AMB04-049	PS09	09/08/10 1148	seawater								X						1	
AMB04-051	PS09DUP	09/08/10 1148	seawater				X										1	

Rec'd 9/10/10 0915 SAN

K1009852

PROJECT ENVVEST
Project Name: Sept 2010 Ambient Monitoring (AMB04)
SAMPLE TEAM: Navy, Battelle
DATE: 9/9/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (August 2010)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB04-052	PS09DUP 10	09/08/10 1148	seawater						X								1	
AMB04-053	PS09DUP	09/08/10 1148	seawater							X							1	
AMB04-056	PS10	09/08/10 1207	seawater				X										1	
AMB04-057	PS10 11	09/08/10 1207	seawater						X								1	
AMB04-058	PS10	09/08/10 1207	seawater							X							1	
AMB04-061	PS10.1	09/08/10 1222	seawater				X										1	
AMB04-062	PS10.1 12	09/08/10 1222	seawater						X								1	
AMB04-063	PS10.1	09/08/10 1222	seawater							X							1	
AMB04-066	PS11	09/08/10 1231	seawater				X										1	
AMB04-067	PS11 13	09/08/10 1231	seawater						X								1	
AMB04-068	PS11	09/08/10 1231	seawater							X							1	
AMB04-071	PS16	09/08/10 1243	seawater				X										1	
AMB04-072	PS16 14	09/08/10 1243	seawater						X								1	
AMB04-073	PS16	09/08/10 1243	seawater							X							1	
AMB04-076	PS01 ✓	09/08/10 1301	seawater				X										1	
AMB04-077	PS01 15	09/08/10 1301	seawater						X								1	
AMB04-078	PS01	09/08/10 1301	seawater							X							1	
AMB04-081	PS01	09/08/10 1301	seawater								X						1	
AMB04-082	PS02	09/08/10 1315	seawater				X										1	
AMB04-083	PS02 16	09/08/10 1315	seawater						X								1	
AMB04-084	PS02	09/08/10 1315	seawater							X							1	
AMB04-087	PS13	09/08/10 1322	seawater				X										1	
AMB04-088	PS13 17	09/08/10 1322	seawater						X								1	
AMB04-089	PS13	09/08/10 1322	seawater							X							1	
AMB04-092	M4 ✓	09/08/10 1334	seawater				X										1	
AMB04-093	M4	09/08/10 1334	seawater						X								1	
AMB04-094	M4 18	09/08/10 1334	seawater							X							1	
AMB04-096	M4	09/08/10 1334	seawater								X						1	
AMB04-098	BJ-EST	09/08/10 1353	seawater				X										1	
AMB04-099	BJ-EST 19	09/08/10 1353	seawater						X								1	
AMB04-100	BJ-EST	09/08/10 1353	seawater							X							1	
AMB04-103	M3.1 SURFACE	09/08/10 1408	seawater				X										1	

Rec'd 9/10/10 0915 SK

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K1009852

PROJECT ENVVEST
Project Name: Sept 2010 Ambient Monitoring (AMB04)
SAMPLE TEAM: Navy, Battelle
DATE: 9/9/2010
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (August 2010)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB04-104	M3.1 SURFACE	09/08/10 1408	seawater						X								1	
AMB04-105	M3.1 SURFACE	09/08/10 1408	seawater							X							1	
AMB04-108	M3.1 DEEP	09/08/10 1438	seawater				X										1	
AMB04-109	M3.1 DEEP	09/08/10 1438	seawater						X								1	
AMB04-110	M3.1 DEEP	09/08/10 1438	seawater							X							1	

Total: 69

Relinquished By: C. Suslick — Company: Battelle MSL — 9/9/2010
Signature/Printed Name — Date/Time

Relinquished By: — Company:
Signature/Printed Name — Date/Time

Rec'd 9/10/10 0915

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC PD

Client / Project: Battelle Service Request K10 9852

Received: 9/10/10 Opened: 9/10/10 By: SJC

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
4.5	7.9	223		7962 2966 5448	
4.1	7.0	225		" " 5418	
4.9	N/a	223		" " 5297	

7. Packing material used. (*Inserts*) *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

PROJECT ENVVEST
Project Name: Sept 2010 Ambient Monitoring (AMB04)
SAMPLE TEAM: Navy, Battelle
DATE: 9/10/2010
Laboratory: Columbia Analytical Batch 2 of

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP (August 2010)

KCD9898

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB04-116	SN03	09/09/10 0904	seawater				X										1	
AMB04-117	SN03	09/09/10 0904	seawater						X								1	
AMB04-118	SN03	09/09/10 0904	seawater							X							1	
AMB04-121	SN05	09/09/10 0921	seawater				X										1	
AMB04-122	SN05	09/09/10 0921	seawater						X								1	
AMB04-123	SN05	09/09/10 0921	seawater							X							1	
AMB04-126	SN05DUP	09/09/10 0922	seawater				X										1	
AMB04-127	SN05DUP	09/09/10 0922	seawater						X								1	
AMB04-128	SN05DUP	09/09/10 0922	seawater							X							1	
AMB04-131	SN08	09/09/10 0934	seawater				X										1	
AMB04-132	SN08	09/09/10 0934	seawater						X								1	
AMB04-133	SN08	09/09/10 0934	seawater							X							1	
AMB04-136	SN10	09/09/10 0948	seawater				X										1	
AMB04-137	SN10	09/09/10 0948	seawater						X								1	
AMB04-138	SN10	09/09/10 0948	seawater							X							1	
AMB04-141	M3.3	09/09/10 0959	seawater				X										1	
AMB04-142	M3.3	09/09/10 0959	seawater						X								1	
AMB04-143	M3.3	09/09/10 0959	seawater							X							1	
AMB04-146	SN11	09/09/10 1009	seawater				X										1	
AMB04-147	SN11	09/09/10 1009	seawater						X								1	
AMB04-148	SN11	09/09/10 1009	seawater							X							1	
AMB04-151	PS12	09/09/10 1025	seawater				X										1	
AMB04-152	PS12	09/09/10 1025	seawater						X								1	
AMB04-153	PS12	09/09/10 1025	seawater							X							1	
AMB04-156	BM01	09/09/10 1059	seawater				X										1	
AMB04-157	BM01	09/09/10 1059	seawater						X								1	
AMB04-158	BM01	09/09/10 1059	seawater							X							1	
AMB04-161	PWNLP	09/09/10 1118	seawater				X										1	
AMB04-162	PWNLP	09/09/10 1118	seawater						X								1	
AMB04-163	PWNLP	09/09/10 1118	seawater							X							1	
AMB04-166	M6	09/09/10 1138	seawater				X										1	
AMB04-167	M6	09/09/10 1138	seawater						X								1	

Rec'd 9/11/10 0830

PROJECT ENVVEST Project Name: Sept 2010 Ambient Monitoring (AMB04) SAMPLE TEAM: Navy, Battelle DATE: 9/10/2010 Laboratory: Columbia Analytical	CHAIN OF CUSTODY FORM Testing Parameters per QAPP (August 2010)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	COMMENTS
AMB04-168	M6	09/09/10 1138	seawater							X							1	
AMB04-171	M8	09/09/10 1205	seawater				X										1	
AMB04-172	M8	09/09/10 1205	seawater						X								1	
AMB04-173	M8	09/09/10 1205	seawater							X							1	
AMB04-176	DYOTS	09/09/10 1228	seawater				X										1	
AMB04-177	DYOTS	09/09/10 1228	seawater						X								1	
AMB04-178	DYOTS	09/09/10 1228	seawater							X							1	
AMB04-181	M7	09/09/10 1240	seawater				X										1	
AMB04-182	M7	09/09/10 1240	seawater						X								1	
AMB04-183	M7	09/09/10 1240	seawater							X							1	
AMB04-186	ILSP	09/09/10 1313	seawater				X										1	
AMB04-187	ILSP	09/09/10 1313	seawater						X								1	
AMB04-188	ILSP	09/09/10 1313	seawater							X							1	
AMB04-191	M1 SURFACE	09/09/10 1340	seawater				X										1	
AMB04-192	M1 SURFACE	09/09/10 1340	seawater						X								1	
AMB04-193	M1 SURFACE	09/09/10 1340	seawater							X							1	
AMB04-196	M1 DEEP	09/09/10 1353	seawater				X										1	
AMB04-197	M1 DEEP	09/09/10 1353	seawater						X								1	
AMB04-198	M1 DEEP	09/09/10 1353	seawater							X							1	
AMB04-201	M2 SURFACE	09/09/10 1421	seawater				X										1	
AMB04-202	M2 SURFACE	09/09/10 1421	seawater						X								1	
AMB04-203	M2 SURFACE	09/09/10 1421	seawater							X							1	
AMB04-206	M2 DEEP	09/09/10 1426	seawater				X										1	
AMB04-207	M2 DEEP	09/09/10 1426	seawater						X								1	
AMB04-208	M2 DEEP	09/09/10 1426	seawater							X							1	
AMB04-211	CLAM BAY	09/09/10 1445	seawater				X										1	
AMB04-212	CLAM BAY	09/09/10 1445	seawater						X								1	
AMB04-213	CLAM BAY	09/09/10 1445	seawater							X							1	
AMB04-216	WP	09/09/10 1456	seawater				X										1	
AMB04-217	WP	09/09/10 1456	seawater						X								1	
AMB04-218	WP	09/09/10 1456	seawater							X							1	
AMB04-221	PS07	09/09/10 1522	seawater				X										1	

K1009898

Rec'd 9/11/10 0930

PROJECT ENVVEST				CHAIN OF CUSTODY FORM																
Project Name: Sept 2010 Ambient Monitoring (AMB04)																				
SAMPLE TEAM:	Navy, Battelle																			
DATE:	9/10/2010																			
Laboratory:	Columbia Analytical			Testing Parameters per QAPP (August 2010)																
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metal		Oceanographic Salinity		No. of containers	**COMMENTS**
AMB04-222	PS07	09/09/10 1522	seawater						X								1	
AMB04-223	PS07	09/09/10 1522	seawater							X							1	
																Total:	66	

KD098498

Relinquished By:	Company: Battelle MSL
C. Suslick	9/10/2010
Signature/Printed Name	Date/Time

Relinquished By:	Company: CAS
R. Katzenmeyer	
Signature/Printed Name	Date/Time

Recd 9/11/10 0930

10

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC PD

Client / Project: Battelle Service Request K10 9898

Received: 9-11-10 Opened: 9-11-10 By: RC

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
4. If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
2.6	NA	291	2 of 3	7939 0213 8950	
3.9	NA	305	1 of 3	7939 0213 8927	
3.8	NA	274	3 of 3	7939 0213 9086	

5. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
6. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
7. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring November 2010 (AMB05)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

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Analytical raw data available upon request

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	Collection MSL Code	Collection Date	Salinity	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)							**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--	0.0001	0.0267	0.0032	0.2	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--	0.00032	0.085	0.010	0.6	0.0105	0.161
AMB05 DD-001	PSNS019	TME	Seawater	3106-287	11/16/10	--	0.00541	1.51	0.0265 b	14.3 b	0.0989 b	3.86 b
AMB05 DD-001	PSNS019	DME	Seawater	3106-288	11/16/10	--	0.00160	--	0.00760 Jb	2.14 Ub	0.0912 b	0.731 b
AMB05 DD-006	PSNS018	TME	Seawater	3106-289	11/16/10	--	0.00914	1.86	0.0218 b	14.2 b	0.0812 b	0.567 b
AMB05 DD-006	PSNS018	DME	Seawater	3106-290	11/16/10	--	0.00383	--	0.0151 b	2.14 Ub	0.0717 b	0.367 b
AMB05 DD-010	PSNS021	TME	Freshwater	3106-291	11/16/10	--	0.0186	0.769	0.0032 U	21.9	0.0117	2.72
AMB05 DD-011	PSNS021	DME	Freshwater	3106-292	11/16/10	--	0.0123	--	0.0032 U	11.8	0.0109	2.47
AMB05-001	PS07	TME	Seawater	3106-293	11/16/10	30.5	0.000747	1.35	0.0042 Ub	6.25 Jb	0.0838 b	0.268 b
AMB05-001	PS07	DME	Seawater	3106-294	11/16/10	--	0.000374	--	0.0042 Ub	2.14 Ub	0.0735 b	0.156 b
AMB05-006	PS06	TME	Seawater	3106-295	11/16/10	30.0	0.00143	1.38	0.00461 Jb	13.1 b	0.0812 b	0.236 b
AMB05-006	PS06	DME	Seawater	3106-296	11/16/10	--	0.000722	--	0.0042 Ub	2.14 Ub	0.0825 b	0.155 b
AMB05-011	PS14	TME	Seawater	3106-297	11/16/10	30.2	0.000805	1.36	0.0042 Ub	10.1 b	0.0773 b	0.248 b
AMB05-011	PS14	DME	Seawater	3106-298	11/16/10	--	0.000327	--	0.0042 Ub	2.14 Ub	0.0757 b	0.157 b
AMB05-016	PS03	TME	Seawater	3106-299	11/16/10	29.7	0.00419	1.31	0.0042 Ub	4.64 Jb	0.0814 b	0.182 b
AMB05-016	PS03	DME	Seawater	3106-300	11/16/10	--	0.00151	--	0.0042 Ub	2.14 Ub	0.0763 b	0.173 b
AMB05-021	PS04	TME	Seawater	3106-301	11/16/10	30.0	0.000719	1.32	0.0042 Ub	10.2 b	0.0832 b	0.200 b
AMB05-021	PS04	DME	Seawater	3106-302	11/16/10	--	0.000206 J	--	0.0042 Ub	2.14 Ub	0.0695 b	0.159 b
AMB05-026	PS05	TME	Seawater	3106-303	11/16/10	30.5	0.00139	1.38	0.0042 Ub	28.1 b	0.0920 b	0.200 b
AMB05-026	PS05	DME	Seawater	3106-304	11/16/10	--	0.000191 J	--	0.0042 Ub	2.14 Ub	0.0885 b	0.0829 Jb
AMB05-031	PS08	TME	Seawater	3106-305	11/16/10	30.0	0.000627	1.37	0.0042 Ub	3.96 Jb	0.0905 b	0.140 b
AMB05-031	PS08	DME	Seawater	3106-306	11/16/10	--	0.000270 J	--	0.0119 Jb	2.14 Ub	0.0903 b	0.166 b
AMB05-036	PS15	TME	Seawater	3106-307	11/16/10	30.3	0.000445	1.34	0.0042 Ub	8.35 b	0.0839 b	0.162 b
AMB05-036	PS15	DME	Seawater	3106-308	11/16/10	--	0.000150 J	--	0.0042 Ub	2.14 Ub	0.0870 b	0.109 b
AMB05-041	PS09	TME	Seawater	3106-309	11/16/10	28.1	0.00173	1.38	0.0042 Ub	12.9 b	0.0817 b	0.227 b
AMB05-041	PS09	DME	Seawater	3106-310	11/16/10	--	0.000544	--	0.0042 Ub	2.14 Ub	0.0848 b	0.153 b
AMB05-046	PS10	TME	Seawater	3106-311	11/16/10	28.9	0.000885	1.38	0.0042 Ub	4.40 Jb	0.0898 b	0.159 b
AMB05-046	PS10	DME	Seawater	3106-312	11/16/10	--	0.000407	--	0.0042 Ub	2.14 Ub	0.0928 b	0.213 b
AMB05-051	PS10.1	TME	Seawater	3106-313	11/16/10	30.7	0.000870	1.39	0.0042 Ub	9.89 b	0.0929 b	0.152 b
AMB05-051	PS10.1	DME	Seawater	3106-314	11/16/10	--	0.000380	--	0.0042 Ub	2.14 Ub	0.0829 b	0.180 b
AMB05-056	PS11	TME	Seawater	3106-315	11/16/10	30.5	0.000934	1.32	0.0042 Ub	10.3 b	0.0864 b	0.146 b
AMB05-056	PS11	DME	Seawater	3106-316	11/16/10	--	0.000217 J	--	0.0042 Ub	2.14 Ub	0.0956 b	0.131 b
AMB05-061	PS16	TME	Seawater	3106-317	11/16/10	30.5	0.000702	1.35	0.0042 Ub	16.4 b	0.0876 b	0.152 b
AMB05-061	PS16	DME	Seawater	3106-318	11/16/10	--	0.000240 J	--	0.0042 Ub	2.14 Ub	0.0818 b	0.104 b
AMB05-066	PS01	TME	Seawater	3106-319	11/16/10	29.8	0.00176	1.40	0.00593 Jb	15.7 b	0.0965 b	0.214 b
AMB05-066	PS01	DME	Seawater	3106-320	11/16/10	--	0.000634	--	0.0042 Ub	2.14 Ub	0.0861 b	0.207 b
AMB05-071	PS01DUP	TME	Seawater	3106-321	11/16/10	--	0.00157	1.41	0.0042 Ub	18.6 b	0.0955 b	0.210 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	Collection MSL Code	Collection Date	Salinity	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB05-071	PS01DUP	DME	Seawater	3106-322	11/16/10	--	0.000610	--	0.0042 Ub	2.14 Ub	0.0851 b	0.194 b
AMB05-072	PS02	TME	Seawater	3106-323	11/16/10	29.8	0.00146	1.36	0.0042 Ub	12.3 b	0.0922 b	0.275 b
AMB05-072	PS02	DME	Seawater	3106-324	11/16/10	--	0.000568	--	0.0042 Ub	2.14 Ub	0.0868 b	0.150 b
AMB05-077	M3.1	TME	Seawater	3106-325	11/16/10	30.6	0.000651	1.39	0.0042 Ub	17.6 b	0.0807 b	0.286 b
AMB05-077	M3.1	DME	Seawater	3106-326	11/16/10	--	0.000260 J	--	0.0042 Ub	2.14 Ub	0.0724 b	0.163 b
AMB05-081	M3.1 DEEP	TME	Seawater	3106-327	11/16/10	30.5	0.000915	1.37	0.0042 Ub	16.5 b	0.0872 b	0.189 b
AMB05-081	M3.1 DEEP	DME	Seawater	3106-328	11/16/10	--	0.000239 J	--	0.0042 Ub	2.14 Ub	0.0916 b	0.151 b
AMB05-087	PS12	TME	Seawater	3106-329	11/16/10	30.4	0.000559	1.33	0.0042 Ub	9.80 b	0.0890 b	0.163 b
AMB05-087	PS12	DME	Seawater	3106-330	11/16/10	--	0.000250 J	--	0.0042 Ub	2.14 Ub	0.0831 b	0.106 b
AMB05-092	BJEST	TME	Seawater	3106-331	11/16/10	29.2	0.000923	1.31	0.0042 Ub	26.0 b	0.0841 b	0.215 b
AMB05-092	BJEST	DME	Seawater	3106-332	11/16/10	--	0.000357	--	0.0042 Ub	2.14 Ub	0.0853 b	0.150 b
AMB05-097	M4	TME	Seawater	3106-333	11/16/10	30.3	0.00118	1.30	0.0042 Ub	28.4 b	0.0900 b	0.186 b
AMB05-097	M4	DME	Seawater	3106-334	11/16/10	--	0.000316 J	--	0.0042 Ub	2.14 Ub	0.0850 b	0.139 b
AMB05-102	PS13	TME	Seawater	3106-335	11/16/10	31.0	0.00145	1.33	0.0042 Ub	19.4 b	0.0998 b	0.173 b
AMB05-102	PS13	DME	Seawater	3106-336	11/16/10	--	0.000240 J	--	0.0042 Ub	2.14 Ub	0.0844 b	0.114 b
AMB05-501	PS07	TME	Seawater	3106-337	11/18/10	30.2	0.000911	1.31	0.0042 Ub	12.2 b	0.0899 b	0.259 b
AMB05-501	PS07	DME	Seawater	3106-338	11/18/10	--	0.000582	--	0.0042 Ub	2.14 Ub	0.0914 b	0.101 b
AMB05-506	PS01	TME	Seawater	3106-339	11/18/10	28.9	0.00282	1.36	0.00849 Jb	112 b	0.0979 b	0.399 b
AMB05-506	PS01	DME	Seawater	3106-340	11/18/10	--	0.000711	--	0.0042 Ub	2.14 Ub	0.0867 b	0.287 b
AMB05-511	SN03	TME	Seawater	3106-341	11/18/10	29.7	0.00182	1.34	0.0042 Ub	34.6 b	0.0991 b	0.207 b
AMB05-511	SN03	DME	Seawater	3106-342	11/18/10	--	0.000157 J	--	0.0042 Ub	2.14 Ub	0.0755 b	0.159 b
AMB05-516	SN05	TME	Seawater	3106-343	11/18/10	28.3	0.00142	1.25	0.0042 Ub	55.1 b	0.0868 b	0.451 b
AMB05-516	SN05	DME	Seawater	3106-344	11/18/10	--	0.000303 J	--	0.0042 Ub	2.14 Ub	0.0798 b	0.198 b
AMB05-521	SN08	TME	Seawater	3106-345	11/18/10	30.0	0.00118	1.30	0.0042 Ub	35.0 b	0.0937 b	0.251 b
AMB05-521	SN08	DME	Seawater	3106-346	11/18/10	--	0.000220 J	--	0.0042 Ub	2.14 Ub	0.0761 b	0.357 b
AMB05-526	M4	TME	Seawater	3106-347	11/18/10	30.2	0.000915	1.30	0.0042 Ub	24.2 b	0.0842 b	0.192 b
AMB05-526	M4	DME	Seawater	3106-348	11/18/10	--	0.000267 J	--	0.0042 Ub	2.14 Ub	0.0741 b	0.227 b
AMB05-531	SN10	TME	Seawater	3106-349	11/18/10	30.0	0.000830	1.32	0.0042 Ub	27.3 b	0.0815 b	0.274 b
AMB05-531	SN10	DME	Seawater	3106-350	11/18/10	--	0.000290 J	--	0.0042 Ub	2.14 Ub	0.0816 b	0.225 b
AMB05-536	SN11	TME	Seawater	3106-351	11/18/10	30.3	0.000714	1.35	0.0042 Ub	19.2 b	0.0839 b	0.361 b
AMB05-536	SN11	DME	Seawater	3106-352	11/18/10	--	0.000211 J	--	0.0042 Ub	2.14 Ub	0.0803 b	0.157 b
AMB05-541	PS12	TME	Seawater	3106-353	11/18/10	30.2	0.00107	1.35	0.0042 Ub	19.2 b	0.0892 b	0.232 b
AMB05-541	PS12	DME	Seawater	3106-354	11/18/10	--	0.000352	--	0.0042 Ub	2.14 Ub	0.0821 b	0.149 b
AMB05-546	PWNLP	TME	Seawater	3106-355	11/18/10	30.6	0.000823	1.27	0.0042 Ub	23.1 b	0.0819 b	0.258 b
AMB05-546	PWNLP	DME	Seawater	3106-356	11/18/10	--	0.000347	--	0.0042 Ub	2.14 Ub	0.0725 b	0.113 b
AMB05-551	M6	TME	Seawater	3106-357	11/18/10	30.3	0.00100	1.27	0.0042 Ub	26.7 b	0.0842 b	0.265 b
AMB05-551	M6	DME	Seawater	3106-358	11/18/10	--	0.000290 J	--	0.0042 Ub	2.14 Ub	0.0783 b	0.162 b
AMB05-556	M8	TME	Seawater	3106-359	11/18/10	30.0	0.00103	1.29	0.0042 Ub	34.8 b	0.0830 b	0.299 b
AMB05-556	M8	DME	Seawater	3106-360	11/18/10	--	0.000188 J	--	0.0042 Ub	2.14 Ub	0.0684 b	0.183 b

BATTELLE MARINE SCIENCE LABORATORIES
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360/681-4564

Ambient Monitoring - AMB05
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB05-561	DYOTS	TME	Seawater	3106-361	11/18/10	29.7	0.00154	1.27	0.0042 Ub	67.1 b	0.0783 b	0.541 b
AMB05-561	DYOTS	DME	Seawater	3106-362	11/18/10	--	0.000227 J	--	0.0042 Ub	2.14 Ub	0.0189 b	0.165 b
AMB05-566	POPISP	TME	Seawater	3106-363	11/18/10	30.6	0.000622	1.38	0.0042 Ub	23.4 b	0.0798 b	0.243 b
AMB05-566	POPISP	DME	Seawater	3106-364	11/18/10	--	0.000150 J	--	0.0042 Ub	2.14 Ub	0.0798 b	0.139 b
AMB05-571	M1	TME	Seawater	3106-365	11/18/10	30.6	0.000534	1.32	0.0042 Ub	19.2 b	0.0855 b	0.285 b
AMB05-571	M1	DME	Seawater	3106-366	11/18/10	--	0.000247 J	--	0.0042 Ub	2.14 Ub	0.0827 b	0.224 b
AMB05-576	M1 DEEP	TME	Seawater	3106-367	11/18/10	30.6	0.000595	1.32	0.0042 Ub	15.8 b	0.0872 b	0.274 b
AMB05-576	M1 DEEP	DME	Seawater	3106-368	11/18/10	--	0.000227 J	--	0.0042 Ub	2.14 Ub	0.0794 b	0.0840 Jb
AMB05-581	WP	TME	Seawater	3106-369	11/18/10	30.5	0.000734	1.35	0.0042 Ub	26.0 b	0.0856 b	0.258 b
AMB05-581	WP	DME	Seawater	3106-370	11/18/10	--	0.000258 J	--	0.0042 Ub	2.14 Ub	0.0859 b	0.190 b
AMB05-582	WP DUP	TME	Seawater	3106-371	11/18/10	--	0.000719	1.33	0.0042 Ub	20.9 b	0.0873 b	0.282 b
AMB05-582	WP DUP	DME	Seawater	3106-372	11/18/10	--	0.000217 J	--	0.0042 Ub	2.14 Ub	0.0844 b	0.147 b
AMB05-587	CLAM BAY	TME	Seawater	3106-373	11/18/10	30.5	0.000762	1.35	0.0042 Ub	48.3 b	0.0836 b	0.210 b
AMB05-587	CLAM BAY	DME	Seawater	3106-374	11/18/10	--	0.000354	--	0.0042 Ub	2.14 Ub	0.0797 b	0.116 b
AMB05-592	M2	TME	Seawater	3106-375	11/18/10	30.8	0.000480	1.38	0.0042 Ub	23.4 b	0.0838 b	0.183 b
AMB05-592	M2	DME	Seawater	3106-376	11/18/10	--	0.000315 J	--	0.0042 Ub	2.14 Ub	0.0836 b	0.0940 b
AMB05-597	M2 DEEP	TME	Seawater	3106-377	11/18/10	30.8	0.000493	1.41	0.0042 Ub	18.4 b	0.0877 b	0.185 b
AMB05-597	M2 DEEP	DME	Seawater	3106-378	11/18/10	--	0.000223 J	--	0.0042 Ub	2.14 Ub	0.0857 b	0.0960 b
AMB05-602	PS08	TME	Seawater	3106-379	11/18/10	30.1	0.000988	1.30	0.0042 Ub	17.4 b	0.0904 b	0.358 b
AMB05-602	PS08	DME	Seawater	3106-380	11/18/10	--	0.000334	--	0.0042 Ub	2.14 Ub	0.0956 b	0.304 b
AMB05-603	PS08 DUP	TME	Seawater	3106-381	11/18/10	--	0.00124	1.31	0.0042 Ub	21.0 b	0.0870 b	0.235 b
AMB05-603	PS08 DUP	DME	Seawater	3106-382	11/18/10	--	0.000355	--	0.0042 Ub	2.14 Ub	0.0858 b	0.121 b
AMB05-608	PS09	TME	Seawater	3106-383	11/18/10	27.1	0.00136	1.35	0.0042 Ub	21.4 b	0.0829 b	0.198 b
AMB05-608	PS09	DME	Seawater	3106-384	11/18/10	--	0.000516	--	0.0042 Ub	2.14 Ub	0.0797 b	0.184 b
AMB05-609	PS09 DUP	TME	Seawater	3106-385	11/18/10	--	0.00169	1.30	0.0042 Ub	23.0 b	0.0829 b	0.212 b
AMB05-609	PS09 DUP	DME	Seawater	3106-386	11/18/10	--	0.000614	--	0.0042 Ub	2.14 Ub	0.0729 b	0.164 b
EQUIPMENT BLANKS												
AMB05-614	EB1_111910	TME	Freshwater	3106-387	11/19/10	--	0.0001 U	0.0267 U	0.0032 U	0.2 U	0.0033 U	0.180
AMB05-614	EB1_111910	DME	Freshwater	3106-388	11/19/10	--	0.0001 U	--	0.0032 U	0.441 J	0.0033 U	0.153 J
AMB05-615	EB2_111910	TME	Freshwater	3106-389	11/19/10	--	0.0001 U	0.0267 U	0.0032 U	0.311 J	0.0033 U	0.155 J
AMB05-615	EB2_111910	DME	Freshwater	3106-390	11/19/10	--	0.000115 J	--	0.0032 U	0.248 J	0.0033 U	0.051 U

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0351**	**0.0019**	**0.0263**					
Seawater Reporting Limit (MDL* 3.18)					**0.11**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					0.0053	0.0022	0.02					
Freshwater Reporting Limit (MDL* 3.18)					0.017	0.0070	0.06					
AMB05 DD-001	PSNS019	TME	Seawater	3106-287	2.33 b	0.139 b	30.6 b	120310HGA	F011611A	121610-6100	--	--
AMB05 DD-001	PSNS019	DME	Seawater	3106-288	1.43 b	0.0195 b	27.0 b	120310HGA	--	121610-6100	--	--
AMB05 DD-006	PSNS018	TME	Seawater	3106-289	3.73 b	0.190 b	24.5 b	120310HGA	F011611A	121610-6100	--	--
AMB05 DD-006	PSNS018	DME	Seawater	3106-290	2.28 b	0.00910 b	20.1 b	120310HGA	--	121610-6100	--	--
AMB05 DD-010	PSNS021	TME	Freshwater	3106-291	9.34	0.812	6.24	112910HGA	F011611A	112310-6100	--	--
AMB05 DD-011	PSNS021	DME	Freshwater	3106-292	7.44	0.345	6.20	112910HGA	--	112310-6100	--	--
AMB05-001	PS07	TME	Seawater	3106-293	2.35 b	0.0529 b	6.11 b	120310HGA	F011611A	121610-6100	AMB05-005	120310SAI
AMB05-001	PS07	DME	Seawater	3106-294	1.79 b	0.00910 b	5.65 b	120310HGA	--	121610-6100		--
AMB05-006	PS06	TME	Seawater	3106-295	1.85 b	0.0907 b	7.55 b	120310HGA	F011611A	121610-6100	AMB05-010	120310SAI
AMB05-006	PS06	DME	Seawater	3106-296	1.38 b	0.0183 b	7.38 b	120310HGA	--	121610-6100		--
AMB05-011	PS14	TME	Seawater	3106-297	1.91 b	0.0718 b	4.21 b	120310HGA	F011611A	121610-6100	AMB05-015	120310SAI
AMB05-011	PS14	DME	Seawater	3106-298	1.54 b	0.0219 b	4.25 b	120310HGA	--	121610-6100		--
AMB05-016	PS03	TME	Seawater	3106-299	2.19 b	0.0861 b	4.86 b	120310HGA	F011611A	121610-6100	AMB05-020	120310SAI
AMB05-016	PS03	DME	Seawater	3106-300	1.79 b	0.0252 b	4.74 b	120310HGA	--	121610-6100		--
AMB05-021	PS04	TME	Seawater	3106-301	2.42 b	0.0707 b	6.50 b	120310HGA	F011611A	121610-6100	AMB05-025	120310SAI
AMB05-021	PS04	DME	Seawater	3106-302	1.72 b	0.00817 b	5.78 b	120310HGA	--	121610-6100	--	--
AMB05-026	PS05	TME	Seawater	3106-303	1.82 b	0.261 b	4.41 b	120310HGA	F011611A	010511-6100	AMB05-030	120310SAI
AMB05-026	PS05	DME	Seawater	3106-304	1.13 b	0.0120 b	4.50 b	120310HGA	--	010511-6100		--
AMB05-031	PS08	TME	Seawater	3106-305	4.00 b	0.0592 b	10.8 b	120310HGA	F011611A	010511-6100	AMB05-035	120310SAI
AMB05-031	PS08	DME	Seawater	3106-306	3.38 b	0.0161 b	10.7 b	120310HGA	--	010511-6100		--
AMB05-036	PS15	TME	Seawater	3106-307	2.76 b	0.0658 b	5.29 b	120310HGA	F011611A	010511-6100	AMB05-040	120310SAI
AMB05-036	PS15	DME	Seawater	3106-308	2.20 b	0.00951 b	5.10 b	120310HGA	--	010511-6100		--
AMB05-041	PS09	TME	Seawater	3106-309	2.61 b	0.0926 b	9.59 b	120610HGA	F011611A	010511-6100	AMB05-045	120310SAI
AMB05-041	PS09	DME	Seawater	3106-310	1.97 b	0.0287 b	9.34 b	120610HGA	--	010511-6100		--
AMB05-046	PS10	TME	Seawater	3106-311	3.37 b	0.0581 b	10.1 b	120610HGA	F011611A	010511-6100	AMB05-050	120310SAI
AMB05-046	PS10	DME	Seawater	3106-312	2.92 b	0.0193 b	10.6 b	120610HGA	--	010511-6100	--	--
AMB05-051	PS10.1	TME	Seawater	3106-313	2.60 b	0.0874 b	11.5 b	120610HGA	F011611A	010511-6100	AMB05-055	120310SAI
AMB05-051	PS10.1	DME	Seawater	3106-314	2.03 b	0.0216 b	10.6 b	120610HGA	--	010511-6100		--
AMB05-056	PS11	TME	Seawater	3106-315	2.27 b	0.210 b	9.05 b	120610HGA	F011611A	010511-6100	AMB05-060	120310SAI
AMB05-056	PS11	DME	Seawater	3106-316	1.86 b	0.0618 b	8.70 b	120610HGA	--	010511-6100		--
AMB05-061	PS16	TME	Seawater	3106-317	0.907 b	0.0855 b	1.65 b	120610HGA	F011611A	010511-6100	AMB05-065	120310SAI
AMB05-061	PS16	DME	Seawater	3106-318	0.656 b	0.00489 Jb	1.55 b	120610HGA	--	010511-6100		--
AMB05-066	PS01	TME	Seawater	3106-319	2.31 b	0.126 b	4.24 b	120610HGA	F011611A	010511-6100	AMB05-070	120310SAI
AMB05-066	PS01	DME	Seawater	3106-320	1.68 b	0.0185 b	3.79 b	120610HGA	--	010511-6100	--	--
AMB05-071	PS01DUP	TME	Seawater	3106-321	2.26 b	0.125 b	3.84 b	120610HGA	F011611A	010711-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Cu**	**Pb**	**Zn**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB05-071	PS01DUP	DME	Seawater	3106-322	1.57 b	0.0304 b	3.49 b	120610HGA	--	010711-6100	--	--
AMB05-072	PS02	TME	Seawater	3106-323	2.80 b	0.104 b	5.94 b	120610HGA	F011611A	010711-6100	AMB05-076	120310SAI
AMB05-072	PS02	DME	Seawater	3106-324	2.10 b	0.0122 b	5.60 b	120610HGA	--	010711-6100	--	--
AMB05-077	M3.1	TME	Seawater	3106-325	0.786 b	0.0709 b	1.40 b	120610HGA	F011611A	121610-6100	AMB05-081	120310SAI
AMB05-077	M3.1	DME	Seawater	3106-326	0.604 b	0.00541 Jb	1.03 b	120610HGA	--	121610-6100		--
AMB05-081	M3.1 DEEP	TME	Seawater	3106-327	0.772 b	0.0953 b	1.30 b	120710HGA	F011611A	010511-6100	AMB05-086	120310SAI
AMB05-081	M3.1 DEEP	DME	Seawater	3106-328	0.559 b	0.00522 Jb	1.19 b	120710HGA	--	010511-6100		--
AMB05-087	PS12	TME	Seawater	3106-329	1.62 b	0.0586 b	5.23 b	120710HGA	F011611A	010711-6100	AMB05-091	120310SAI
AMB05-087	PS12	DME	Seawater	3106-330	1.25 b	0.00901 b	4.94 b	120710HGA	--	010711-6100		--
AMB05-092	BJEST	TME	Seawater	3106-331	1.30 b	0.114 b	2.84 b	120710HGA	F011611A	010711-6100	AMB05-096	120310SAI
AMB05-092	BJEST	DME	Seawater	3106-332	0.950 b	0.0290 b	2.80 b	120710HGA	--	010711-6100		--
AMB05-097	M4	TME	Seawater	3106-333	0.841 b	0.140 b	1.56 b	120710HGA	F011611A	010711-6100	AMB05-101	120310SAI
AMB05-097	M4	DME	Seawater	3106-334	0.830 b	0.00831 b	1.38 b	120710HGA	--	010711-6100	--	--
AMB05-102	PS13	TME	Seawater	3106-335	1.62 b	0.110 b	3.44 b	120710HGA	F011611A	010711-6100	AMB05-106	120310SAI
AMB05-102	PS13	DME	Seawater	3106-336	1.15 b	0.0130 b	3.05 b	120710HGA	--	010711-6100		--
AMB05-501	PS07	TME	Seawater	3106-337	4.10 b	0.0978 b	6.01 b	120710HGA	F011611A	010711-6100	AMB05-505	120310SAI
AMB05-501	PS07	DME	Seawater	3106-338	3.07 b	0.0125 b	5.27 b	120710HGA	--	010711-6100		--
AMB05-506	PS01	TME	Seawater	3106-339	1.77 b	0.697 b	5.85 b	120710HGA	F011611A	010711-6100	AMB05-510	120310SAI
AMB05-506	PS01	DME	Seawater	3106-340	0.891 b	0.0467 b	4.43 b	120710HGA	--	010711-6100		--
AMB05-511	SN03	TME	Seawater	3106-341	0.979 b	0.172 b	1.91 b	120710HGA	F011611A	010711-6100	AMB05-515	120310SAI
AMB05-511	SN03	DME	Seawater	3106-342	0.626 b	0.00931 b	1.42 b	120710HGA	--	010711-6100		--
AMB05-516	SN05	TME	Seawater	3106-343	0.899 b	0.205 b	2.07 b	120710HGA	F011611A	010711-6100	AMB05-520	120310SAI
AMB05-516	SN05	DME	Seawater	3106-344	0.498 b	0.0190 b	1.52 b	120710HGA	--	010711-6100	--	--
AMB05-521	SN08	TME	Seawater	3106-345	1.04 b	0.175 b	2.53 b	120710HGA	F011611A	011011-6100	AMB05-525	120310SAI
AMB05-521	SN08	DME	Seawater	3106-346	0.852 b	0.0248 b	2.06 b	120710HGA	--	011011-6100		--
AMB05-526	M4	TME	Seawater	3106-347	0.959 b	0.139 b	1.93 b	120810HGA	F011611A	011011-6100	AMB05-530	120310SAI
AMB05-526	M4	DME	Seawater	3106-348	0.628 b	0.0164 b	1.66 b	120810HGA	--	011011-6100		--
AMB05-531	SN10	TME	Seawater	3106-349	1.91 b	0.147 b	3.90 b	120810HGA	F011611A	011011-6100	AMB05-535	120310SAI
AMB05-531	SN10	DME	Seawater	3106-350	1.37 b	0.0190 b	3.90 b	120810HGA	--	011011-6100		--
AMB05-536	SN11	TME	Seawater	3106-351	1.22 b	0.0965 b	4.21 b	120810HGA	F011611A	011011-6100	AMB05-540	120310SAI
AMB05-536	SN11	DME	Seawater	3106-352	0.862 b	0.00648 b	3.84 b	120810HGA	--	011011-6100		--
AMB05-541	PS12	TME	Seawater	3106-353	2.32 b	0.183 b	7.18 b	120810HGA	F011611A	011011-6100	AMB05-545	120310SAI
AMB05-541	PS12	DME	Seawater	3106-354	1.55 b	0.0120 b	6.47 b	120810HGA	--	011011-6100	--	--
AMB05-546	PWNLP	TME	Seawater	3106-355	0.810 b	0.102 b	2.22 b	120810HGA	F011611A	011011-6100	AMB05-550	120310SAI
AMB05-546	PWNLP	DME	Seawater	3106-356	0.501 b	0.00801 b	1.70 b	120810HGA	--	011011-6100		--
AMB05-551	M6	TME	Seawater	3106-357	0.681 b	0.123 b	1.85 b	120810HGA	F011611A	011011-6100	AMB05-555	120310SAI
AMB05-551	M6	DME	Seawater	3106-358	0.526 b	0.0342 b	1.70 b	120810HGA	--	011011-6100		--
AMB05-556	M8	TME	Seawater	3106-359	0.748 b	0.178 b	1.50 b	120810HGA	F011611A	011011-6100	AMB05-560	120310SAI
AMB05-556	M8	DME	Seawater	3106-360	0.593 b	0.0204 b	1.24 b	120810HGA	--	011011-6100		--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Sample ID - Salinity	Salinity Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB05-561	DYOTS	TME	Seawater	3106-361	0.845 b	0.236 b	2.18 b	120810HGA	F011611A	011011-6100	AMB05-565	120310SAI
AMB05-561	DYOTS	DME	Seawater	3106-362	0.433 b	0.00377 b	0.416 b	120810HGA	--	011011-6100		--
AMB05-566	POPISP	TME	Seawater	3106-363	0.656 b	0.0856 b	1.03 b	120810HGA	F011611A	011011-6100	AMB05-570	120310SAI
AMB05-566	POPISP	DME	Seawater	3106-364	0.498 b	0.00405 Jb	0.868 b	120810HGA	--	011011-6100	--	--
AMB05-571	M1	TME	Seawater	3106-365	0.646 b	0.0996 b	1.04 b	121310HGA	F011611A	011211-6100	AMB05-575	120310SAI
AMB05-571	M1	DME	Seawater	3106-366	0.382 b	0.00357 Jb	1.08 b	121310HGA	--	011211-6100		--
AMB05-576	M1 DEEP	TME	Seawater	3106-367	0.718 b	0.0685 b	0.987 b	121310HGA	F011611A	011211-6100	AMB05-580	120310SAI
AMB05-576	M1 DEEP	DME	Seawater	3106-368	0.384 b	0.00334 Jb	0.672 b	121310HGA	--	011211-6100		--
AMB05-581	WP	TME	Seawater	3106-369	0.938 b	0.0871 b	0.987 b	121310HGA	F011611A	011211-6100	AMB05-586	120310SAI
AMB05-581	WP	DME	Seawater	3106-370	0.503 b	0.0232 b	1.04 b	121310HGA	--	011211-6100	--	--
AMB05-582	WP DUP	TME	Seawater	3106-371	0.799 b	0.0951 b	1.31 b	121310HGA	F011611A	011211-6100	--	--
AMB05-582	WP DUP	DME	Seawater	3106-372	0.473 b	0.00585 Jb	1.06 b	121310HGA	--	011211-6100	--	--
AMB05-587	CLAM BAY	TME	Seawater	3106-373	0.539 b	0.0861 b	0.850 b	121310HGA	F011611A	011211-6100	AMB05-591	120310SAI
AMB05-587	CLAM BAY	DME	Seawater	3106-374	0.378 b	0.00421 Jb	0.845 b	121310HGA	--	011211-6100		--
AMB05-592	M2	TME	Seawater	3106-375	0.533 b	0.0424 b	0.528 b	121310HGA	F011611A	011211-6100	AMB05-596	120310SAI
AMB05-592	M2	DME	Seawater	3106-376	0.366 b	0.0019 Ub	0.389 b	121310HGA	--	011211-6100	--	--
AMB05-597	M2 DEEP	TME	Seawater	3106-377	0.547 b	0.0508 b	0.674 b	121310HGA	F011611A	011211-6100	AMB05-601	120310SAI
AMB05-597	M2 DEEP	DME	Seawater	3106-378	0.368 b	0.0019 Ub	0.423 b	121310HGA	--	011211-6100		--
AMB05-602	PS08	TME	Seawater	3106-379	4.30 b	0.213 b	7.84 b	121310HGA	F011611A	011211-6100	AMB05-607	120310SAI
AMB05-602	PS08	DME	Seawater	3106-380	6.86 b	0.0236 b	8.47 b	121310HGA	--	011211-6100	--	--
AMB05-603	PS08 DUP	TME	Seawater	3106-381	3.29 b	0.192 b	5.42 b	121310HGA	F011611A	011211-6100	--	--
AMB05-603	PS08 DUP	DME	Seawater	3106-382	2.04 b	0.0359 b	6.34 b	121310HGA	--	011211-6100	--	--
AMB05-608	PS09	TME	Seawater	3106-383	5.10 b	0.149 b	10.2 b	121510HGA	F011611A	011211-6100	AMB05-613	120310SAI
AMB05-608	PS09	DME	Seawater	3106-384	3.85 b	0.0139 b	9.58 b	121510HGA	--	011211-6100	--	--
AMB05-609	PS09 DUP	TME	Seawater	3106-385	5.26 b	0.156 b	12.9 b	121510HGA	F011611A	011211-6100	--	--
AMB05-609	PS09 DUP	DME	Seawater	3106-386	3.87 b	0.0154 b	11.6 b	121510HGA	--	011211-6100	--	--
EQUIPMENT BLANKS												
AMB05-614	EB1_111910	TME	Freshwater	3106-387	0.0343	0.00307 J	0.0519 J	112910HGA	F011611A	112310-6100		
AMB05-614	EB1_111910	DME	Freshwater	3106-388	0.0280	0.0220 U	0.159	112910HGA	--	112310-6100	--	--
AMB05-615	EB2_111910	TME	Freshwater	3106-389	0.0053 U	0.0220 U	0.180	112910HGA	F011611A	112310-6100		
AMB05-615	EB2_111910	DME	Freshwater	3106-390	0.0495	0.0220 U	0.0697	112910HGA	--	112310-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
QC Sample Results for ICP-MS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.0070	0.06	
METHOD BLANKS												
MB-1		TME	Seawater	DIBlk2_121610	0.000 U	0.327 U	0.000 U	0.0360 J	0.0367 J	0.00155 U	0.101	121610-6100
MB-2		TME	Seawater	DIBlk3_121610	0.000 U	0.354 U	0.000 U	0.0461 J	0.0380 J	0.00162 U	0.129	121610-6100
MB-3		TME	Seawater	DIBlk4_121610	0.000 U	0.320 U	0.000 U	0.0322 J	0.0304 U	0.00117 U	0.102	121610-6100
MB-4		TME	Seawater	DIBlk5_121610	0.000 U	0.376 U	0.000 U	0.0242 U	0.0404 J	0.00128 U	0.135	121610-6100
MEAN REAGENT BLANK			**Seawater**	***BMRB_121610***	**0.000 U**	**0.344 U**	**0.000 U**	**0.0346 J**	**0.0364 J**	**0.00141 U**	**0.117**	**121610-6100**
MB-5		TME	Seawater	DIBlk2_010511	0.000 U	0.527 U	0.000 U	0.0726 J	0.0597 J	0.00133 U	0.156	010511-6100
MB-6		TME	Seawater	DIBlk3_010511	0.000 U	0.479 U	0.000 U	0.0452 J	0.0498 J	0.00136 U	0.131	010511-6100
MB-7		TME	Seawater	DIBlk4_010511	0.000 U	0.529 U	0.000 U	0.0625 J	0.0611 J	0.00177 U	0.122	010511-6100
MEAN REAGENT BLANK			**Seawater**	***BMRB_010511***	**0.000 U**	**0.512 U**	**0.000 U**	**0.0601 J**	**0.0569 J**	**0.00149 U**	**0.136**	**010511-6100**
MB-8		TME	Seawater	DIBlk2_010711	0.000 U	0.492 U	0.000 U	0.0390 J	0.0469 J	0.00221 J	0.117	010711-6100
MB-9		TME	Seawater	DIBlk3_010711	0.000 U	0.471 U	0.000 U	0.0055 U	0.0296 U	0.00122 U	0.148	010711-6100
MB-10		TME	Seawater	DIBlk4_010711	0.000 U	0.534 U	0.000 U	0.0323 J	0.0465 J	0.00193 J	0.132	010711-6100
MEAN REAGENT BLANK			**Seawater**	***BMRB_010711***	**0.000 U**	**0.499 U**	**0.000 U**	**0.0256 J**	**0.0410 J**	**0.00179 U**	**0.132**	**010711-6100**
MB-11		TME	Seawater	DIBlk2_011011	0.000 U	0.435 U	0.000 U	0.0572 J	0.0427 J	0.00120 U	0.148	011011-6100
MB-12		TME	Seawater	DIBlk3_011011	0.000 U	0.487 U	0.0009 U	0.0681 J	0.0535 J	0.00123 U	0.192	011011-6100
MB-13		TME	Seawater	DIBlk4_011011	0.000 U	0.381 U	0.0006 U	0.0575 J	0.0581 J	0.00330 J	0.145	011011-6100
MEAN REAGENT BLANK			**Seawater**	***BMRB_011011***	**0.000 U**	**0.434 U**	**0.0006 U**	**0.0609 J**	**0.0514 J**	**0.00191 J**	**0.162**	**011011-6100**
MB-14		TME	Seawater	DIBlk1_011211	0.000 U	0.467 U	0.000 U	0.0647 J	0.0387 J	0.00116 U	0.112	011211-6100
MB-15		TME	Seawater	DIBlk2_011211	0.000 U	0.468 U	0.000 U	0.0777 J	0.0361 J	0.00164 U	0.110	011211-6100
MB-16		TME	Seawater	DIBlk3_011211	0.000 U	0.494 U	0.000 U	0.0720 J	0.0415 J	0.00106 U	0.0995	011211-6100
MB-17		TME	Seawater	DIBlk4_011211	0.000 U	0.564 U	0.000 U	0.0777 J	0.0443 J	0.00170 U	0.190	011211-6100
MB-18		TME	Seawater	DIBlk5_011211	0.000 U	0.487 U	0.000 U	0.0548 J	0.0295 U	0.00124 U	0.109	011211-6100
MB-19		TME	Seawater	DIBlk7_011211	0.000 U	0.652 U	0.000 U	0.0789 J	0.0510 J	0.00131 U	0.119	011211-6100
MEAN REAGENT BLANK			**Seawater**	***BMRB_011211***	**0.000 U**	**0.522 U**	**0.000 U**	**0.0710 J**	**0.0402 J**	**0.00135 U**	**0.123**	**011211-6100**
TRM_BLK1		TME	Freshwater	TRMblk1_112310	0.000 U	0.135 U	0.000 U	0.033 U	0.001 U	0.000 U	0.0802	112310-6100
TRM_BLK2		TME	Freshwater	TRMblk2_112310	0.000 U	0.180 U	0.000 U	0.046 U	0.000 U	0.000 U	0.0200 U	112310-6100

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB05
QC Sample Results for ICP-MS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)		TME	Seawater	SBBlkr1_121610	0.0042 Ub	2.14 Ub	0.0787 b	0.148 b	0.297 b	0.00336 Jb	0.322 b	121610-6100
LCS (1)		TME	Seawater	SBLCS-r1_121610	1.78 b	2.03 b	1.83 b	2.22 b	2.24 b	1.94 b	2.15 b	121610-6100
				Percent Recovery, LCS	**89%**	**101%**	**88%**	**103%**	**97%**	**97%**	**92%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (2)		TME	Seawater	SBBlkr1_010511	0.0042 Ub	2.14 Ub	0.0861 b	0.157 b	0.307 b	0.00346 Jb	0.369 b	010511-6100
LCS (2)		TME	Seawater	SBLCS-r1_010511	1.82 b	1.67 b	1.91 b	1.99 b	2.05 b	2.04 b	2.16 b	010511-6100
				Percent Recovery, LCS	**91%**	**83%**	**91%**	**92%**	**87%**	**102%**	**90%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (3)		TME	Seawater	SBBlkr1_010711	0.0042 Ub	2.14 Ub	0.0817 b	0.129 b	0.269 b	0.00223 Jb	0.253 b	010711-6100
LCS (3)		TME	Seawater	SBLCS-r1_010711	1.77 b	2.21 b	1.93 b	2.14 b	2.10 b	1.96 b	2.22 b	010711-6100
				Percent Recovery, LCS	**88%**	**111%**	**92%**	**101%**	**92%**	**98%**	**98%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (4)		TME	Seawater	SBBlkr1_011011	0.0042 Ub	2.14 Ub	0.0776 b	0.152 b	0.295 b	0.00295 Jb	0.275 b	011011-6100
LCS (4)		TME	Seawater	SBLCS-r1_011011	1.94 b	1.97 b	1.99 b	2.18 b	2.24 b	2.06 b	2.34 b	011011-6100
				Percent Recovery, LCS	**97%**	**98%**	**96%**	**101%**	**97%**	**103%**	**103%**	
Spiking Level					**2**	**NA**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (5)		TME	Seawater	SBBlkr1_011211	0.0042 Ub	2.14 Ub	0.0719 b	0.107 b	0.324 b	0.0125 b	0.217 b	011211-6100
LCS (5)		TME	Seawater	SBLCS-r1_011211	1.80 b	2.07 b	1.98 b	2.12 b	2.14 b	2.11 b	2.24 b	011211-6100
				Percent Recovery, LCS	**90%**	**NA**	**95%**	**101%**	**91%**	**105%**	**101%**	
Spiking Level					**2**	**NA**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (6)		TME	Seawater	SBBlkr2_011211	0.0042 Ub	2.14 Ub	0.0816 b	0.149 b	0.271 b	0.00445 Jb	0.236 b	011211-6100
LCS (6)		TME	Seawater	SBLCS-r2_011211	1.84 b	1.24 b	1.99 b	2.17 b	2.11 b	2.11 b	2.27 b	011211-6100
				Percent Recovery, LCS	**92%**	**NA**	**95%**	**101%**	**92%**	**105%**	**102%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	TRMblk1_112310	0.003 U	0.200 U	0.003 U	0.051 U	0.005 U	0.002 U	0.0802	112310-6100
LCS (7)		TME	Freshwater	TRM_LCS_112310	1.96	2.26	1.99	1.99	1.98	2.02	2.06	112310-6100
				Percent Recovery, LCS	**98%**	**113%**	**100%**	**100%**	**99%**	**101%**	**99%**	

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Ambient Monitoring - AMB05
QC Sample Results for ICP-MS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB05 DD-011	PSNS021	DME	Freshwater	3106-292	0.0032 U	11.8	0.0109	2.47	7.44	0.345	6.20	112310-6100
		DME	Freshwater	3106-292 MS	8.47	20.9	9.71	12.3	16.4	11.3	15.5	112310-6100
				3106-292 MSD	8.55	21.1	9.71	12.4	16.3	11.3	15.3	112310-6100
				Spiking Level	10	10	10	10	10	10	10	
				Percent Recovery, MS	**85%**	**91%**	**97%**	**98%**	**90%**	**110%**	**93%**	
				Percent Recovery, MSD	**86%**	**93%**	**97%**	**99%**	**89%**	**110%**	**91%**	
AMB05-077	M3.1	DME	Seawater	3106-326	0.0042 Ub	2.14 Ub	0.0724 b	0.163 b	0.604 b	0.00541 Jb	1.03 b	121610-6100
		DME	Seawater	3106-326MS	4.74 b	4.34 b	4.56 b	5.45 b	5.62 b	4.89 b	6.00 b	121610-6100
		DME	Seawater	3106-326MSD	4.75 b	4.27 b	4.52 b	5.49 b	5.64 b	4.91 b	5.95 b	121610-6100
				Spiking Level	5	5	5	5	5	5	5	
				Percent Recovery, MS	**95%**	**87%**	**90%**	**106%**	**100%**	**98%**	**99%**	
				Percent Recovery, MSD	**95%**	**85%**	**89%**	**106%**	**101%**	**98%**	**98%**	
AMB05-081	M3.1 DEEP	DME	Seawater	3106-328	0.0042 Ub	2.14 Ub	0.0916 b	0.151 b	0.559 b	0.00522 Jb	1.19 b	010511-6100
		DME	Seawater	3106-328MS	0.936 b	2.14 Ub	1.02 b	1.06 b	1.48 b	1.03 b	2.12 b	010511-6100
		DME	Seawater	3106-328MSD	0.928 b	2.14 Ub	1.03 b	1.08 b	1.49 b	1.04 b	2.16 b	010511-6100
				Spiking Level	1	NA	1	1	1	1	1	
				Percent Recovery, MS	**94%**	**NA**	**93%**	**91%**	**92%**	**102%**	**93%**	
				Percent Recovery, MSD	**93%**	**NA**	**94%**	**93%**	**93%**	**103%**	**97%**	
AMB05-097	M4	DME	Seawater	3106-334	0.0042 Ub	2.14 Ub	0.0850 b	0.139 b	0.830 b	0.00831 b	1.38 b	010711-6100
		DME	Seawater	3106-334MS	4.30 b	2.38 Jb	4.55 b	5.15 b	5.39 b	4.83 b	6.14 b	010711-6100
		DME	Seawater	3106-334MSD	4.28 b	2.90 Jb	4.59 b	4.99 b	5.34 b	4.82 b	5.86 b	010711-6100
				Spiking Level	5	NA	5	5	5	5	5	
				Percent Recovery, MS	**86%**	**NA**	**89%**	**100%**	**91%**	**96%**	**95%**	
				Percent Recovery, MSD	**86%**	**NA**	**90%**	**97%**	**90%**	**96%**	**90%**	
AMB05-526	M4	DME	Seawater	3106-348	0.0042 Ub	2.14 Ub	0.0741 b	0.227 b	0.628 b	0.0164 b	1.66 b	011011-6100
		DME	Seawater	3106-348MS	0.973 b	1.32 b	0.979 b	1.26 b	1.66 b	1.04 b	2.69 b	011011-6100
		DME	Seawater	3106-348MSD	0.890 b	1.11 b	0.939 b	1.19 b	1.54 b	0.972 b	2.49 b	011011-6100
				Spiking Level	1	NA	1	1	1	1	1	
				Percent Recovery, MS	**97%**	**NA**	**91%**	**103%**	**103%**	**102%**	**103%**	
				Percent Recovery, MSD	**89%**	**NA**	**87%**	**96%**	**91%**	**96%**	**83%**	
AMB05-571	M1	DME	Seawater	3106-366	0.0042 Ub	2.14 Ub	0.0827 b	0.224 b	0.382 b	0.00357 Jb	1.08 b	011211-6100
		DME	Seawater	3106-366MS	0.900 b	3.88 Jb	4.62 b	5.00 b	5.03 b	4.99 b	5.43 b	011211-6100
		DME	Seawater	3106-366MSD	0.838 b	3.92 Jb	4.77 b	5.11 b	5.13 b	5.13 b	5.61 b	011211-6100
				Spiking Level	1	NA	5	5	5	5	5	
				Percent Recovery, MS	**90%**	**NA**	**91%**	**96%**	**93%**	**100%**	**87%**	
				Percent Recovery, MSD	**84%**	**NA**	**94%**	**98%**	**95%**	**103%**	**91%**	

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Ambient Monitoring - AMB05
QC Sample Results for ICP-MS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS cont.												
AMB05-597	M2 DEEP	DME	Seawater	3106-378	0.0042 Ub	2.14 Ub	0.0857 b	0.0960 b	0.368 b	0.0019 Ub	0.423 b	011211-6100
		DME	Seawater	3106-378MS	0.842 b	2.14 Ub	1.00 b	1.06 b	1.29 b	0.990 b	1.42 b	011211-6100
		DME	Seawater	3106-378MSD	0.848 b	2.14 Ub	0.979 b	1.06 b	1.26 b	0.968 b	1.42 b	011211-6100
				Spiking Level	1	NA	1	1	1	1	1	
				Percent Recovery, MS	**84%**	**NA**	**91%**	**96%**	**92%**	**99%**	**99%**	
				Percent Recovery, MSD	**85%**	**NA**	**89%**	**96%**	**89%**	**97%**	**99%**	
REPLICATE PRECISION												
AMB05 DD-010	PSNS021	TME	Freshwater	3106-291	0.0032 U	21.9	0.0117	2.72	9.34	0.812	6.24	112310-6100
AMB05 DD-010	PSNS021	TME	Freshwater	3106-291R2	0.0032 U	20.1	0.0127	2.64	9.21	0.832	6.25	112310-6100
				Mean	NA	21.0	0.0122	2.68	9.28	0.822	6.25	
				RPD	NA	**9%**	**8%**	**3%**	**1%**	**2%**	**0%**	
AMB05-001	PS07	TME	Seawater	3106-293	0.0042 Ub	6.25 Jb	0.0838 b	0.268 b	2.35 b	0.0529 b	6.11 b	121610-6100
AMB05-001	PS07	TME	Seawater	3106-293R2	0.0042 Ub	6.85 b	0.0844 b	0.279 b	2.42 b	0.0550 b	6.08 b	121610-6100
				Mean	NA	6.55 Jb	0.0841 b	0.274 b	2.39 b	0.0539 b	6.10 b	
				RPD	NA	**9%**	**1%**	**4%**	**3%**	**4%**	**0%**	
AMB05-026	PS05	TME	Seawater	3106-303	0.0042 Ub	28.1 b	0.0920 b	0.200 b	1.82 b	0.261 b	4.41 b	010511-6100
AMB05-026	PS05	TME	Seawater	3106-303R2	0.0042 Ub	30.1 b	0.0860 b	0.207 b	1.77 b	0.286 b	4.16 b	010511-6100
				Mean	NA	29.1 b	0.0890 b	0.203 b	1.80 b	0.273 b	4.29 b	
				RPD	NA	**7%**	**7%**	**3%**	**3%**	**9%**	**6%**	
AMB05-072	PS02	TME	Seawater	3106-323	0.0042 Ub	12.3 b	0.0922 b	0.275 b	2.80 b	0.104 b	5.94 b	010711-6100
AMB05-072	PS02	TME	Seawater	3106-323R2	0.0042 Ub	12.3 b	0.0914 b	0.245 b	2.84 b	0.106 b	5.93 b	010711-6100
				Mean	NA	12.3 b	0.0918 b	0.260 b	2.82 b	0.105 b	5.93 b	
				RPD	NA	**0%**	**1%**	**12%**	**1%**	**2%**	**0%**	
AMB05-531	SN10	TME	Seawater	3106-349	0.0042 Ub	27.3 b	0.0815 b	0.274 b	1.91 b	0.147 b	3.90 b	011011-6100
AMB05-531	SN10	TME	Seawater	3106-349R2	0.0042 Ub	27.7 b	0.0758 b	0.258 b	1.92 b	0.147 b	3.81 b	011011-6100
				Mean	NA	27.5 b	0.0786 b	0.266 b	1.91 b	0.147 b	3.85 b	
				RPD	NA	**1%**	**7%**	**6%**	**1%**	**0%**	**2%**	
AMB05-587	CLAM BAY	TME	Seawater	3106-373	0.0042 Ub	48.3 b	0.0836 b	0.210 b	0.539 b	0.0861 b	0.850 b	011211-6100
AMB05-587	CLAM BAY	TME	Seawater	3106-373R2	0.0042 Ub	49.3 b	0.0833 b	0.209 b	0.580 b	0.0907 b	0.810 b	011211-6100
				Mean	NA	48.8 b	0.0834 b	0.210 b	0.559 b	0.0884 b	0.830 b	
				RPD	NA	**2%**	**0%**	**0%**	**7%**	**5%**	**5%**	
AMB05-608	PS09	TME	Seawater	3106-383	0.0042 Ub	21.4 b	0.0829 b	0.198 b	5.10 b	0.149 b	10.2 b	011211-6100
AMB05-608	PS09	TME	Seawater	3106-383R2	0.0042 Ub	21.4 b	0.0839 b	0.187 b	5.07 b	0.148 b	9.98 b	011211-6100
				Mean	NA	21.4 b	0.0834 b	0.193 b	5.08 b	0.148 b	10.1 b	
				RPD	NA	**0%**	**1%**	**6%**	**1%**	**1%**	**2%**	

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Ambient Monitoring - AMB05
QC Sample Results for ICP-MS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater												
SRM SLEW-2 (1)		TME	Seawater	SLEW-2 121610	0.0042 Ub	2.14 Ub	0.0188 b	0.171 b	1.41 b	0.0193 b	1.06 b	121610-6100
SRM SLEW-2 (2)		TME	Seawater	SLEW-2 010511	0.0042 Ub	2.14 Ub	0.0213 b	0.152 b	1.41 b	0.0199 b	1.28 b	010511-6100
SRM SLEW-2 (3)		TME	Seawater	SLEW-2 010711	0.0042 Ub	2.14 Ub	0.0211 b	0.147 b	1.43 b	0.0190 b	1.11 b	010711-6100
SRM SLEW-2 (4)		TME	Seawater	SLEW-2 011011	0.0042 Ub	2.14 Ub	0.0175 b	0.158 b	1.49 b	0.0205 b	1.21 b	011011-6100
SRM SLEW-2 (5)		TME	Seawater	SLEW-2 011211R1	0.0042 Ub	2.14 Ub	0.0196 b	0.146 b	1.40 b	0.0196 b	1.08 b	011211-6100
SRM SLEW-2 (6)		TME	Seawater	SLEW-2 011211R2	0.0042 Ub	2.14 Ub	0.0186 b	0.146 b	1.36 b	0.0197 b	1.06 b	011211-6100
				Certified Value	NC	NC	**0.0190**	**0.169**	**1.62**	**0.027** c	**1.1**	
				PD	**--**	**--**	**1%**	**1%**	**13%**	**29%** c	**3%**	
				PD	**--**	**--**	**12%**	**10%**	**13%**	**26%** c	**17%**	
				PD	**--**	**--**	**11%**	**13%**	**12%**	**30%** c	**1%**	
				PD	**--**	**--**	**8%**	**6%**	**8%**	**24%** c	**10%**	
				PD	**--**	**--**	**3%**	**14%**	**14%**	**27%** c	**2%**	
				PD	**--**	**--**	**2%**	**14%**	**16%**	**27%** c	**4%**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640 (1)		TME	Freshwater	1640_112310TRM	6.78	48.6	22.8	36.5	84.3	28.0	55.1	112310-6100
SRM 1640 (2)		TME	Freshwater	1640_121610	6.89	46.8	22.6	35.3	84.0	28.3	52.2	121610-6100
SRM 1640 (3)		TME	Freshwater	1640_010511	6.88	51.0	23.3	37.0	88.0	28.7	56.2	010511-6100
SRM 1640 (4)		TME	Freshwater	1640_010711	6.66	54.2	23.3	35.9	86.1	28.5	55.7	010711-6100
SRM 1640 (5)		TME	Freshwater	1640_011011	6.73	49.7	23.5	37.2	88.9	28.2	56.9	011011-6100
SRM 1640 (6)		TME	Freshwater	1640_011211	6.52	52.8	23.7	38.1	87.1	29.0	55.1	011211-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.9**	**53.2**	
				PD	**11%**	**7%**	**0%**	**5%**	**1%**	**0%**	**4%**	
				PD	**10%**	**10%**	**1%**	**9%**	**1%**	**1%**	**2%**	
				PD	**10%**	**2%**	**2%**	**4%**	**3%**	**3%**	**6%**	
				PD	**13%**	**4%**	**2%**	**7%**	**1%**	**2%**	**5%**	
				PD	**12%**	**4%**	**3%**	**4%**	**4%**	**1%**	**7%**	
				PD	**14%**	**2%**	**4%**	**1%**	**2%**	**4%**	**4%**	

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Ambient Monitoring - AMB05
QC Sample Results for CVAF
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
METHOD BLANKS						
MB-1	TME		Water	MB1_112910	0.0001 U	112910HGA
MB-2	TME		Water	MB2_112910	0.0001 U	112910HGA
MB-3	TME		Water	MB3_112910	0.0001 U	112910HGA
MB-4	TME		Water	MB1_120310	0.0001 U	120310HGA
MB-5	TME		Water	MB2_120310	0.0001 U	120310HGA
MB-6	TME		Water	MB3_120310	0.0001 U	120310HGA
MB-7	TME		Water	MB1_120610	0.0001 U	120610HGA
MB-8	TME		Water	MB2_120610	0.0001 U	120610HGA
MB-9	TME		Water	MB3_120610	0.0001 U	120610HGA
MB-10	TME		Water	MB1_120710	0.0001 U	120710HGA
MB-11	TME		Water	MB2_120710	0.0001 U	120710HGA
MB-12	TME		Water	MB3_120710	0.0001 U	120710HGA
MB-13	TME		Water	MB1_120810	0.0001 U	120810HGA
MB-14	TME		Water	MB2_120810	0.0001 U	120810HGA
MB-15	TME		Water	MB3_120810	0.0001 U	120810HGA
MB-16	TME		Water	MB1_121310	0.0001 U	121310HGA
MB-17	TME		Water	MB2_121310	0.0001 U	121310HGA
MB-18	TME		Water	MB3_121310	0.0001 U	121310HGA
MB-19	TME		Water	MB1_121510	0.0001 U	121510HGA
MB-20	TME		Water	MB2_121510	0.0001 U	121510HGA
MB-21	TME		Water	MB3_121510	0.0001 U	121510HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 112710 run1	0.00465	112910HGA
LCS (2)	TME		Water	OPR 112710 run2	0.00466	112910HGA
LCS Blank (1)	TME		Water	Blank 112710	0.0001 U	112910HGA
				Percent Recovery, LCS 1	**94%**	
				Percent Recovery, LCS 2	**94%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 120210 run1	0.00508	120310HGA
LCS (2)	TME		Water	OPR 120210 run2	0.00435	120310HGA
LCS Blank (1)	TME		Water	BLANK 120210	0.0001 U	120310HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**88%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 120310 run1	0.00504	120610HGA
LCS (2)	TME		Water	OPR 120310 run2	0.00511	120610HGA
LCS Blank (1)	TME		Water	BLANK 120310	0.0001 U	120610HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**103%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 120610 run1	0.00503	120710HGA
LCS (2)	TME		Water	OPR 120610 run2	0.00521	120710HGA
LCS Blank (1)	TME		Water	BLANK 120610	0.0001 U	120710HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**105%**	

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Ambient Monitoring - AMB05
QC Sample Results for CVAF
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont.)						
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 120710 run1	0.00494	120810HGA
LCS (2)		TME	Water	OPR 120710 run2	0.00519	120810HGA
LCS Blank (1)		TME	Water	BLANK 120710	0.000135 J	120810HGA
				Percent Recovery, LCS 1	**97%**	
				Percent Recovery, LCS 2	**102%**	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 121010 run1	0.00509	121310HGA
LCS (2)		TME	Water	OPR 121010 run2	0.00513	121310HGA
LCS Blank (1)		TME	Water	BLANK 121010	0.000103 J	121310HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 121410 run1	0.00476	121510HGA
LCS (2)		TME	Water	OPR 121410 run2	0.00486	121510HGA
LCS Blank (1)		TME	Water	BLANK 121410	0.0001 U	121510HGA
				Percent Recovery, LCS 1	**96%**	
				Percent Recovery, LCS 2	**98%**	
MATRIX SPIKE RESULTS						
AMB05 DD-011	PSNS021	DME	Freshwater	3106-292	0.0123	112910HGA
AMB05 DD-011	PSNS021	DME	Freshwater	3106-292MS	0.0306	112910HGA
AMB05 DD-011	PSNS021	DME	Freshwater	3106-292MSD	0.0322	112910HGA
				Spiking Level, MS	0.0200	
				Spiking Level, MSD	0.0199	
				Percent Recovery, MS	**92%**	
				Percent Recovery, MSD	**100%**	
				RPD	**8.7%**	
AMB05-006	PS06	DME	Seawater	3106-296	0.000722	120310HGA
AMB05-006	PS06	DME	Seawater	3106-296MS	0.00922	120310HGA
AMB05-006	PS06	DME	Seawater	3106-296MSD	0.00861	120310HGA
				Spiking Level, MS	0.00832	
				Spiking Level, MSD	0.00821	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**96%**	
				RPD	**6.3%**	
AMB05-021	PS04	TME	Seawater	3106-301	0.000719	120310HGA
AMB05-021	PS04	TME	Seawater	3106-301MS	0.00850	120310HGA
AMB05-021	PS04	TME	Seawater	3106-301MSD	0.00888	120310HGA
				Spiking Level, MS	0.00767	
				Spiking Level, MSD	0.00771	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**106%**	
				RPD	**4.2%**	

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Ambient Monitoring - AMB05
QC Sample Results for CVAF
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB05-056	PS11	TME	Seawater	3106-315	0.000934	120610HGA
AMB05-056	PS11	TME	Seawater	3106-315MS	0.00856	120610HGA
AMB05-056	PS11	TME	Seawater	3106-315MSD	0.00844	120610HGA
				Spiking Level, MS	0.00761	
				Spiking Level, MSD	0.00745	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.6%**	
AMB05-066	PS01	DME	Seawater	3106-320	0.000634	120610HGA
AMB05-066	PS01	DME	Seawater	3106-320MS	0.00834	120610HGA
AMB05-066	PS01	DME	Seawater	3106-320MSD	0.00873	120610HGA
				Spiking Level, MS	0.00781	
				Spiking Level, MSD	0.00792	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**102%**	
				RPD	**3.4%**	
AMB05-092	BJEST	TME	Seawater	3106-331	0.000923	120710HGA
AMB05-092	BJEST	TME	Seawater	3106-331MS	0.00946	120710HGA
AMB05-092	BJEST	TME	Seawater	3106-331MSD	0.00903	120710HGA
				Spiking Level, MS	0.00814	
				Spiking Level, MSD	0.0079	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1.9%**	
AMB05-102	PS13	DME	Seawater	3106-336	0.00240	120710HGA
AMB05-102	PS13	DME	Seawater	3106-336MS	0.00875	120710HGA
AMB05-102	PS13	DME	Seawater	3106-336MSD	0.00837	120710HGA
				Spiking Level, MS	0.00820	
				Spiking Level, MSD	0.00799	
				Percent Recovery, MS	**77%**	
				Percent Recovery, MSD	**75%**	
				RPD	**3.7%**	
AMB05-536	SN11	TME	Seawater	3106-351	0.000714	120810HGA
AMB05-536	SN11	TME	Seawater	3106-351MS	0.00877	120810HGA
AMB05-536	SN11	TME	Seawater	3106-351MSD	0.00939	120810HGA
				Spiking Level, MS	0.00847	
				Spiking Level, MSD	0.00858	
				Percent Recovery, MS	**95%**	
				Percent Recovery, MSD	**101%**	
				RPD	**5.9%**	

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Ambient Monitoring - AMB05
QC Sample Results for CVAF
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB05-561	DYOTS	DME	Seawater	3106-362	0.000227 J	120810HGA
AMB05-561	DYOTS	DME	Seawater	3106-362MS	0.00843	120810HGA
AMB05-561	DYOTS	DME	Seawater	3106-362MSD	0.00871	120810HGA
				Spiking Level, MS	0.00817	
				Spiking Level, MSD	0.00847	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**100%**	
				RPD	**0.2%**	
AMB05-581	WP	TME	Seawater	3106-369	0.000734	121310HGA
AMB05-581	WP	TME	Seawater	3106-369MS	0.00922	121310HGA
AMB05-581	WP	TME	Seawater	3106-369MSD	0.00819	121310HGA
				Spiking Level, MS	0.00836	
				Spiking Level, MSD	0.00792	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**94%**	
				RPD	**7.8%**	
AMB05-602	PS08	DME	Seawater	3106-380	0.000334	121310HGA
AMB05-602	PS08	DME	Seawater	3106-380MS	0.00837	121310HGA
AMB05-602	PS08	DME	Seawater	3106-380MSD	0.00845	121310HGA
				Spiking Level, MS	0.00810	
				Spiking Level, MSD	0.00810	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.0%**	
AMB05-608	PS09	DME	Seawater	3106-384	0.000516	121510HGA
AMB05-608	PS09	DME	Seawater	3106-384MS	0.00967	121510HGA
AMB05-608	PS09	DME	Seawater	3106-384MSD	0.00932	121510HGA
				Spiking Level, MS	0.00910	
				Spiking Level, MSD	0.00897	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**98%**	
				RPD	**2.4%**	

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Ambient Monitoring - AMB05
QC Sample Results for CVAF
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB05 DD-010	PSNS021	TME	Freshwater	3106-291	0.0186	112910HGA
AMB05 DD-010	PSNS021	TME	Freshwater	3106-291r2	0.0176	112910HGA
				Mean	*0.0181*	
				RPD	**6%**	
AMB05 DD-001	PSNS019	TME	Seawater	3106-287	0.00541	120310HGA
AMB05 DD-001	PSNS019	TME	Seawater	3106-287r2	0.00513	120310HGA
				Mean	*0.00527*	
				RPD	**5%**	
AMB05-077	M3.1	TME	Seawater	3106-325	0.000651	120610HGA
AMB05-077	M3.1	TME	Seawater	3106-325r2	0.000591	120610HGA
				Mean	*0.00062*	
				RPD	**10%**	
AMB05-097	M4	TME	Seawater	3106-333	0.00118	120710HGA
AMB05-097	M4	TME	Seawater	3106-333r2	0.00112	120710HGA
				Mean	*0.00115*	
				RPD	**5%**	
AMB05-546	PWNLP	TME	Seawater	3106-355	0.000823	120810HGA
AMB05-546	PWNLP	TME	Seawater	3106-355r2	0.000839	120810HGA
				Mean	*0.000831*	
				RPD	**2%**	
AMB05-587	CLAM BAY	TME	Seawater	3106-373	0.000762	121310HGA
AMB05-587	CLAM BAY	TME	Seawater	3106-373r2	0.000856	121310HGA
				Mean	*0.000809*	
				RPD	**12%**	
AMB05-608	PS09	TME	Seawater	3106-383	0.00136	121510HGA
AMB05-608	PS09	TME	Seawater	3106-383r2	0.00135	121510HGA
				Mean	*0.00135*	
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 112709	1547	112910HGA
SRM 1641 (2)		TME	Freshwater	1641d 120210	1712	120310HGA
SRM 1641 (3)		TME	Freshwater	1641d 120310	1587	120610HGA
SRM 1641 (4)		TME	Freshwater	1641d 120610	1585	120710HGA
SRM 1641 (5)		TME	Freshwater	1641d 120710	1665	120810HGA
SRM 1641 (6)		TME	Freshwater	1641d 121010	1607	121310HGA
SRM 1641 (7)		TME	Freshwater	1641d 121409	1629	121510HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**3%**	
	SRM 1641 (2)			**PD**	**8%**	
	SRM 1641 (3)			**PD**	**0%**	
	SRM 1641 (4)			**PD**	**0%**	
	SRM 1641 (5)			**PD**	**5%**	
	SRM 1641 (6)			**PD**	**1%**	
	SRM 1641 (7)			**PD**	**2%**	

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Ambient Monitoring - AMB05
QC Sample Results for FIAS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As		FIAS Batch ID
				Instrument:	*FIAS*		
Laboratory Achieved Detection Limits					**0.0267**		
Reporting Limit (MDL* 3.18)					**0.085**		
Method Blanks							
MB1		TME	Water	BLANK R1	0.0267	U	F011611A
MB2		TME	Water	BLANK R2	0.0267	U	F011611A
MB3		TME	Water	BLANK R3	0.0321	J	F011611A
Laboratory Control Samples							
Spiking Level					5		
LCS1		TME	Water	LCS R1	5.05		F011611A
MB1		TME	Water	BLANK R1	0.0267	U	F011611A
				Percent Recovery, LCS	**101%**		
Spiking Level					5		
LCS2		TME	Water	LCS R2	5.02		F011611A
MB2		TME	Water	BLANK R2	0.0267	U	F011611A
				Percent Recovery, LCS	**100%**		
Spiking Level					5		
LCS3		TME	Water	LCS R3	4.89		F011611A
MB3		TME	Water	BLANK R3	0.0321	J	F011611A
				Percent Recovery, LCS	**97%**		
MATRIX SPIKE RESULTS							
AMB05-021	PS04	TME	Seawater	3106-301	1.32		F011611A
AMB05-021	PS04	TME	Seawater	3106-301MS	6.32		F011611A
AMB05-021	PS04	TME	Seawater	3106-301MSD	6.31		F011611A
				Spiking Level	5		
				Percent Recovery, MS	**100%**		
				Percent Recovery, MSD	**100%**		
AMB05-081	M3.1 DEEP	TME	Seawater	3106-327	1.37		F011611A
AMB05-081	M3.1 DEEP	TME	Seawater	3106-327MS	6.35		F011611A
AMB05-081	M3.1 DEEP	TME	Seawater	3106-327MSD	6.31		F011611A
				Spiking Level	5		
				Percent Recovery, MS	**100%**		
				Percent Recovery, MSD	**99%**		
AMB05-576	M1 DEEP	TME	Seawater	3106-367	1.32		F011611A
AMB05-576	M1 DEEP	TME	Seawater	3106-367MS	6.18		F011611A
AMB05-576	M1 DEEP	TME	Seawater	3106-367MSD	6.20		F011611A
				Spiking Level	5		
				Percent Recovery, MS	**97%**		
				Percent Recovery, MSD	**98%**		

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Ambient Monitoring - AMB05
QC Sample Results for FIAS
ENVVEST November 2010
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB05 DD-010	PSNS021	TME	Seawater	3106-291	0.77	F011611A
AMB05 DD-010	PSNS021	TME	Seawater	3106-291 R2	0.78	F011611A
				Mean	*0.77*	
				RPD	**1%**	
AMB05-501	PS07	TME	Seawater	3106-337	1.31	F011611A
AMB05-501	PS07	TME	Seawater	3106-337 R2	1.31	F011611A
				Mean	*1.31*	
				RPD	**0%**	
AMB05-597	M2 DEEP	TME	Seawater	3106-377	1.41	F011611A
AMB05-597	M2 DEEP	TME	Seawater	3106-377 R2	1.33	F011611A
				Mean	*1.37*	
				RPD	**6%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.12	F011611A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.06	F011611A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	1.06	F011611A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**1%**	
	SRM CASS-4 (2)			**PD**	**4%**	
	SRM CASS-4 (3)			**PD**	**4%**	

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Ambient Monitoring - AMB05
QC Sample Results for Salinity
ENVVEST November 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	Blank ICB	0.0 U	PSU	120310SAL
MB2		TME	Seawater	Blank CCB1	0.0 U	PSU	120310SAL
MB3		TME	Seawater	Blank CCB2	0.0 U	PSU	120310SAL
MB4		TME	Seawater	Blank CCB3	0.0 U	PSU	120310SAL
MB5		TME	Seawater	Blank CCB4	0.0 U	PSU	120310SAL
REPLICATE PRECISION							
AMB05-050	PS10	TME	Seawater	3106-311	28.9	PSU	120310SAL
AMB05-050	PS10	TME	Seawater	3106-311r2	28.8	PSU	120310SAL
				Mean	*28.9*	PSU	
				RPD	**0.3%**		
AMB05-101	M4	TME	Seawater	3106-333	30.3	PSU	120310SAL
AMB05-101	M4	TME	Seawater	3106-333r2	30.2	PSU	120310SAL
				Mean	*30.3*	PSU	
				RPD	**0.3%**		
AMB05-545	PS12	TME	Seawater	3106-353	30.2	PSU	120310SAL
AMB05-545	PS12	TME	Seawater	3106-353r2	30.1	PSU	120310SAL
				Mean	*30.2*	PSU	
				RPD	**0.3%**		
AMB05-596	M2	TME	Seawater	3106-375	30.8	PSU	120310SAL
AMB05-596	M2	TME	Seawater	3106-375r2	30.7	PSU	120310SAL
				Mean	*30.8*	PSU	
				RPD	**0.3%**		
AMB05-613	PS09	TME	Seawater	3106-383	27.1	PSU	120310SAL
AMB05-613	PS09	TME	Seawater	3106-383r2	27.1	PSU	120310SAL
				Mean	*27.1*	PSU	
				RPD	**0.0%**		
STANDARD REFERENCE MATERIAL							
SRM Copenhagen Water-1		TME	Seawater	Copenhagen Water (LCS) R1	35.2	PSU	120310SAL
SRM Copenhagen Water-2		TME	Seawater	Copenhagen Water (LCS) R2	35.0	PSU	120310SAL
SRM Copenhagen Water-3		TME	Seawater	Copenhagen Water (LCS) R3	34.9	PSU	120310SAL
SRM Copenhagen Water-4		TME	Seawater	Copenhagen Water (LCS) R4	34.9	PSU	120310SAL
SRM Copenhagen Water-5		TME	Seawater	Copenhagen Water (LCS) R5	34.9	PSU	120310SAL
				Certified Value	**34.99**	PSU	
SRM-1				**PD**	**1%**		
SRM-2				**PD**	**0%**		
SRM-3				**PD**	**0%**		
SRM-4				**PD**	**0%**		
SRM-5				**PD**	**0%**		

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB05
QC Sample Results for Salinity
ENVVEST November 2010

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
LABORATORY CONTROL SAMPLES							
LCS-1				LCS	20.3	PSU	120310SAL
LCS-2				LCSr2	20.3	PSU	120310SAL
LCS-3				LCSr3	20.3	PSU	120310SAL
LCS-4				LCSr4	20.2	PSU	120310SAL
LCS-5				LCSr5	20.2	PSU	120310SAL
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**101.5%**		
	LCS-2			**% RECOVERY**	**101.5%**		
	LCS-3			**% RECOVERY**	**101.5%**		
	LCS-4			**% RECOVERY**	**101.0%**		
	LCS-5			**% RECOVERY**	**101.0%**		
CALIBRATION RESULTS							
ICV-1				Calibration ICV	49.9	mS	120310SAL
CCV-1				Calibration CCV1	50.0	mS	120310SAL
CCV-2				Calibration CCV2	50.1	mS	120310SAL
CCV-3				Calibration CCV3	49.9	mS	120310SAL
CCV-4				Calibration CCV4	50.0	mS	120310SAL
CCV-5				Calibration CCV5	49.9	mS	120310SAL
CCV-6				Calibration CCV6	50.1	mS	120310SAL
CCV-7				Calibration CCV7	50.1	mS	120310SAL
CCV-8				Calibration CCV8	50.1	mS	120310SAL
CCV-9				Calibration CCV9	50.0	mS	120310SAL
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**99.8%**		
	CCV-1			**% RECOVERY**	**100.0%**		
	CCV-2			**% RECOVERY**	**100.2%**		
	CCV-3			**% RECOVERY**	**99.8%**		
	CCV-4			**% RECOVERY**	**100.0%**		
	CCV-5			**% RECOVERY**	**99.8%**		
	CCV-6			**% RECOVERY**	**100.2%**		
	CCV-7			**% RECOVERY**	**100.2%**		
	CCV-8			**% RECOVERY**	**100.2%**		
	CCV-9			**% RECOVERY**	**100.0%**		

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ENVVEST AMB05_November 2010
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, November 2010 (AMB05)

PARAMETER: Total and Dissolved Metals – Al (Total only), Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks (DI water matrix)

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 11/16/10 and 11/18/10. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	11/16/10 and 11/18/10
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	11/16/10 and 11/18/10
CVAF analysis dates (Hg)	11/29/10, 12/03/10, 12/06/10, 12/07/10, 12/08/10, 12/13/10, and 12/15/10
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	11/23/10
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	12/16/10, 01/05/11, 01/07/11, 01/10/11, 01/12/11
FIAS analysis date (As)	01/16/11

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.0101
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.161
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.02
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for nine metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013, Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water*. Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of*

METHODS: *Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples such as equipment blanks were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and qualified with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Equipment blanks were created by MSL using the same lot of bottles and filter units cleaned for AMB05. They consist of deionized water collected in the Teflon sample bottle (1L) and filtered along with the AMB05 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed for Hg by CVAF as described above for the seawater. The freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for freshwater is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg and six months for all other metals.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annual Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annual Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch. The average method blank for each batch was less than the RL for all metals except Zn. The required preconcentration procedure to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank for the analytical batch. No data required this qualification.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals except Al (not spiked into the samples). The LCS matrix is Sequim Bay Seawater carried through the preconcentration and analytical processes. The quantification of Al is not considered a chemical of concern; therefore, the spiking levels are optimized for the other metals of interest. The accuracy of Al was evaluated on matrix spikes, freshwater SRMs, and high purity standards.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion. Two different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS.

The freshwater SRM 1640 demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion.

The estuarine SRM SLEW-2 was prepared with each batch of preconcentrated samples. The certified value for Pb was less than the RL and not appropriate for data validation. The percent differences were also flagged with a "c" indicating they meet the contingency criterion. The seawater SRM was not certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy for these metals. The percent differences were within the QC acceptance criterion for all other metals.

SAMPLE LOGIN

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Date Received: 11/17/2010
Batch: 9
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Project: **ENVVEST Ambient Monitoring, November 2010 (AMB05)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB05 DD-001	PSNS019	3106-287	FW	PREP LAB	Total Metals, Hg	11/16/10
AMB05 DD-001	PSNS019	3106-288	FW	PREP LAB	Dissolved Metals	11/16/10
AMB05 DD-006	PSNS018	3106-289	FW	PREP LAB	Total Metals, Hg	11/16/10
AMB05 DD-006	PSNS018	3106-290	FW	PREP LAB	Dissolved Metals	11/16/10
AMB05 DD-010	PSNS021	3106-291	FW	PREP LAB	Total Metals, Hg	11/16/10
AMB05 DD-011	PSNS021	3106-292	FW	PREP LAB	Dissolved Metals	11/16/10
AMB05-001	PS07	3106-293	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-001	PS07	3106-294	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-006	PS06	3106-295	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-006	PS06	3106-296	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-011	PS14	3106-297	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-011	PS14	3106-298	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-016	PS03	3106-299	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-016	PS03	3106-300	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-021	PS04	3106-301	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-021	PS04	3106-302	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-026	PS05	3106-303	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-026	PS05	3106-304	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-031	PS08	3106-305	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-031	PS08	3106-306	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-036	PS15	3106-307	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-036	PS15	3106-308	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-041	PS09	3106-309	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-041	PS09	3106-310	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-046	PS10	3106-311	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-046	PS10	3106-312	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-051	PS10.1	3106-313	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-051	PS10.1	3106-314	WATER	PREP LAB	Dissolved Metals	11/16/10

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, November 2010 (AMB05)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB05-056	PS11	3106-315	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-056	PS11	3106-316	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-061	PS16	3106-317	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-061	PS16	3106-318	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-066	PS01	3106-319	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-066	PS01	3106-320	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-071	PS01DUP	3106-321	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-071	PS01DUP	3106-322	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-072	PS02	3106-323	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-072	PS02	3106-324	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-077	M3.1	3106-325	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-077	M3.1	3106-326	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-081	M3.1 DEEP	3106-327	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-082	M3.1 DEEP	3106-328	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-087	PS12	3106-329	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-087	PS12	3106-330	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-092	BJEST	3106-331	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-092	BJEST	3106-332	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-097	M4	3106-333	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-097	M4	3106-334	WATER	PREP LAB	Dissolved Metals	11/16/10
AMB05-102	PS13	3106-335	WATER	PREP LAB	Total Metals, Hg	11/16/10
AMB05-102	PS13	3106-336	WATER	PREP LAB	Dissolved Metals	11/16/10

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, November 2010 (AMB05)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB05-005	PS07	3106-293	WATER	MSL	SALINITY	11/16/10
AMB05-010	PS06	3106-295	WATER	MSL	SALINITY	11/16/10
AMB05-015	PS14	3106-297	WATER	MSL	SALINITY	11/16/10
AMB05-020	PS03	3106-299	WATER	MSL	SALINITY	11/16/10
AMB05-025	PS04	3106-301	WATER	MSL	SALINITY	11/16/10
AMB05-030	PS05	3106-303	WATER	MSL	SALINITY	11/16/10
AMB05-035	PS08	3106-305	WATER	MSL	SALINITY	11/16/10
AMB05-040	PS15	3106-307	WATER	MSL	SALINITY	11/16/10
AMB05-045	PS09	3106-309	WATER	MSL	SALINITY	11/16/10
AMB05-050	PS10	3106-311	WATER	MSL	SALINITY	11/16/10
AMB05-055	PS10.1	3106-313	WATER	MSL	SALINITY	11/16/10
AMB05-060	PS11	3106-315	WATER	MSL	SALINITY	11/16/10
AMB05-065	PS16	3106-317	WATER	MSL	SALINITY	11/16/10
AMB05-070	PS01	3106-319	WATER	MSL	SALINITY	11/16/10
AMB05-076	PS02	3106-323	WATER	MSL	SALINITY	11/16/10
AMB05-081	M3.1	3106-325	WATER	MSL	SALINITY	11/16/10
AMB05-086	M3.1 DEEP	3106-327	WATER	MSL	SALINITY	11/16/10
AMB05-091	PS12	3106-329	WATER	MSL	SALINITY	11/16/10
AMB05-096	BJEST	3106-331	WATER	MSL	SALINITY	11/16/10
AMB05-101	M4	3106-333	WATER	MSL	SALINITY	11/16/10
AMB05-106	PS13	3106-335	WATER	MSL	SALINITY	11/16/10

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, November 2010 (AMB05)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB05-501	PS07	3106-337	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-501	PS07	3106-338	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-506	PS01	3106-339	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-506	PS01	3106-340	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-511	SN03	3106-341	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-511	SN03	3106-342	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-516	SN05	3106-343	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-516	SN05	3106-344	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-521	SN08	3106-345	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-521	SN08	3106-346	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-526	M4	3106-347	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-526	M4	3106-348	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-531	SN10	3106-349	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-531	SN10	3106-350	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-536	SN11	3106-351	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-536	SN11	3106-352	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-541	PS12	3106-353	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-541	PS12	3106-354	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-546	PWNLP	3106-355	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-546	PWNLP	3106-356	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-551	M6	3106-357	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-551	M6	3106-358	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-556	M8	3106-359	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-556	M8	3106-360	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-561	DYOTS	3106-361	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-561	DYOTS	3106-362	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-566	POPISP	3106-363	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-566	POPISP	3106-364	WATER	PREP LAB	Dissolved Metals	11/18/10

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 11/19/2010
Batch: 9
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, November 2010 (AMB05)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB05-571	M1	3106-365	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-571	M1	3106-366	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-576	M1 DEEP	3106-367	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-576	M1 DEEP	3106-368	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-581	WP	3106-369	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-581	WP	3106-370	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-582	WP DUP	3106-371	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-582	WP DUP	3106-372	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-587	CLAM BAY	3106-373	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-587	CLAM BAY	3106-374	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-592	M2	3106-375	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-592	M2	3106-376	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-597	M2 DEEP	3106-377	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-597	M2 DEEP	3106-378	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-602	PS08	3106-379	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-602	PS08	3106-380	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-603	PS08 DUP	3106-381	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-603	PS08 DUP	3106-382	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-608	PS09	3106-383	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-608	PS09	3106-384	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-609	PS09 DUP	3106-385	WATER	PREP LAB	Total Metals, Hg	11/18/10
AMB05-609	PS09 DUP	3106-386	WATER	PREP LAB	Dissolved Metals	11/18/10
AMB05-614	EB1_111910	3106-387	WATER	PREP LAB	Total Metals, Hg	11/19/10
AMB05-614	EB1_111910	3106-388	WATER	PREP LAB	Dissolved Metals	11/19/10
AMB05-615	EB2_111910	3106-389	WATER	PREP LAB	Total Metals, Hg	11/19/10
AMB05-615	EB2_111910	3106-390	WATER	PREP LAB	Dissolved Metals	11/19/10

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 11/19/2010
Batch: 9
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, November 2010 (AMB05)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB05-505	PS07	3106-337	WATER	MSL	SALINITY	11/18/10
AMB05-510	PS01	3106-339	WATER	MSL	SALINITY	11/18/10
AMB05-515	SN03	3106-341	WATER	MSL	SALINITY	11/18/10
AMB05-520	SN05	3106-343	WATER	MSL	SALINITY	11/18/10
AMB05-525	SN08	3106-345	WATER	MSL	SALINITY	11/18/10
AMB05-530	M4	3106-347	WATER	MSL	SALINITY	11/18/10
AMB05-535	SN10	3106-349	WATER	MSL	SALINITY	11/18/10
AMB05-540	SN11	3106-351	WATER	MSL	SALINITY	11/18/10
AMB05-545	PS12	3106-353	WATER	MSL	SALINITY	11/18/10
AMB05-550	PWNLP	3106-355	WATER	MSL	SALINITY	11/18/10
AMB05-555	M6	3106-357	WATER	MSL	SALINITY	11/18/10
AMB05-560	M8	3106-359	WATER	MSL	SALINITY	11/18/10
AMB05-565	DYOTS	3106-361	WATER	MSL	SALINITY	11/18/10
AMB05-570	POPISP	3106-363	WATER	MSL	SALINITY	11/18/10
AMB05-575	M1	3106-365	WATER	MSL	SALINITY	11/18/10
AMB05-580	M1 DEEP	3106-367	WATER	MSL	SALINITY	11/18/10
AMB05-586	WP	3106-369	WATER	MSL	SALINITY	11/18/10
AMB05-591	CLAM BAY	3106-373	WATER	MSL	SALINITY	11/18/10
AMB05-596	M2	3106-375	WATER	MSL	SALINITY	11/18/10
AMB05-601	M2 DEEP	3106-377	WATER	MSL	SALINITY	11/18/10
AMB05-607	PS08	3106-379	WATER	MSL	SALINITY	11/18/10
AMB05-613	PS09	3106-383	WATER	MSL	SALINITY	11/18/10

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/2010
Page: 1 of 1
COC Number:

SSC-Pacific
Bioassay Testing Laboratory
Code 71751 Environmental Sciences Branch

(1)

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:
Phone:

EVENT:

JMB 11/15/10

PNNL

Address: 1529 West Sequim Bay Rd, Sequim, WA 98382

Attention: ~~Gunther Rosen~~ Jill Brandenberger

Observations, Instructions

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Toxicity	Temp (°C) TSS/TS	DO (mg/L) Nutrients	pH (units) DOC	Salinity (ppt) O:I/Grease	Alkalinity (mg/L as CaCO	Hardness (mg/L as CaC	Total Chlorine(mg/L)	Total/Diss Metals	No. of containers	StationID	Comments
	AMB05 DO-001	PSNS 019	11/16/2010 1200	FW	WA									X		287/288	24 hour composite
	-002	PSNS 019					X										
	-003	PSNS 019						X									
	-004	PSNS 019							X								
	-005	PSNS 019								X							
	-006	PSNS 018 (A)												X		289/290	OF 18A (pumpwell 5)
	-007	PSNS 018 (A)					X										
	-008	PSNS 018						X									
	-009	PSNS 018							X								
	-010	PSNS 018								X							
	-011	PSNS 021												X		291/292	
	-012	PSNS 021					X										
	-013	PSNS 021						X									
	-014	PSNS 021							X								
	-015	PSNS 021								X							

Relinquished by:
JMB — 11/16/2010 — sampler
Signature — Date — Time
Jim Brandenberger — ~~IEC~~
Printed Name — Company

Received by:
11/17/10
Signature
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand carry

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/2010
Page: 2 of
COC Number: COC AMB05

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

(2)

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (11/16/2010)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106X Comments
	AMB05-001	PS07-TME	09:16:14	NS	X	X									PS07	293/294
	AMB05-002	PS07-TSS	09:16	NS			X									
	AMB05-003	PS07-NUT	09:16	NS				X								
	AMB05-004	PS07-DOC	09:16	NS					X							
	AMB05-005	PS07-OSAL	09:16	NS						X						293
	AMB05-006	PS06-TME	09:26:23	NS	X	X									PS06	295/296
	AMB05-007	PS06-TSS	09:26	NS			X								PS06	
	AMB05-008	PS06-NUT	09:26	NS				X							PS06	
	AMB05-009	PS06-DOC	09:26	NS					X						PS06	
	AMB05-010	PS06-OSAL	09:26	NS						X					PS06	295/298
	AMB05-011	PS14-TME	09:35:15	NS	X	X									PS14	291 more algae at site
	AMB05-012	PS14-TSS	09:35	NS			X								PS14	
	AMB05-013	PS14-NUT	09:35	NS				X							PS14	
	AMB05-014	PS14-DOC	09:35	NS					X						PS14	
	AMB05-015	PS14-OSAL	09:35	NS						X					PS14	291

Relinquished by: JM Brandenberger — Signature — 11/16/10 Date — PNNL Company — Time

Received by: Signature — 11/17/10 Date — MSL Company — Time

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____ Signature — Date — Time
_____ Printed Name — Company

Received by: _____ Signature
_____ Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/10

Page: 2 of _____

COC Number: COC AMB05

(3)

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (11/16/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106- Comments
	AMB05-016	PS03 - TME	09:48:43	NS	X	X									PS03	299/300
	AMB05-017	PS03 - TSS	09:48	NS			X								PS03	
	AMB05-018	PS03 - NUT	09:48	NS				X							PS03	
	AMB05-019	PS03 - DOC	09:48	NS					X						PS03	
	AMB05-020	PS03 - OSAL	09:48	NS						X					PS03	299
	AMB05-021	PS04 - TME	10:04:58	NS	X	X									PS04	301/302
	AMB05-022	PS04 - TSS	10:04:58	NS			X								PS04	
	AMB05-023	PS04 - NUT	10:04	NS				X							PS04	
	AMB05-024	PS04 - DOC	10:04	NS					X						PS04	
	AMB05-025	PS04 - OSAL	10:04	NS						X					PS04	301
	AMB05-026	PS05 - TME	10:11:52	NS	X	X									PS05	303/304 Tug boat operations
	AMB05-027	PS05 - TSS	10:11	NS			X								PS05	
	AMB05-028	PS05 - NUT	10:11	NS				X							PS05	
	AMB05-029	PS05 - DOC	10:11	NS					X						PS05	
	AMB05-030	PS05 - OSAL	10:11	NS						X					PS05	~~303~~ 303

Relinquished by: _____ 11/16/10
Signature Date Time
Jm Brandenberger PNNL
Printed Name Company

Received by: _____ 11/17/10
Signature
C. Sullivan MSL
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/10
Page: 3 of _____
COC Number: COCAMB05

(4)

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time (11/10/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05-031	PS08 - TME	10:23:00	NS	X	X									PS08	305/306
	AMB05-032	PS08 - TSS	10:23	NS			X								PS08	
	AMB05-033	PS08 - NUT	10:23	NS				X							PS08	
	AMB05-034	PS08 - DOC	10:23	NS					X						PS08	
	AMB05-035	PS08 - OSAL	10:23	NS						X					PS08	305
	AMB05-036	PS15 - TME	10:33:51	NS	X	X									PS15	307/308
	AMB05-037	PS15 - TSS	10:33	NS			X								PS15	
	AMB05-038	PS15 - NUT	10:33	NS				X							PS15	
	AMB05-039	PS15 - DOC	10:33	NS					X						PS15	
	AMB05-040	PS15 - OSAL	10:33	NS						X					PS15	307
	AMB05-041	PS09 - TME	10:45:21	NS	X	X									PS09	309/310
	AMB05-042	PS09 - TSS	10:45	NS			X								PS09	
	AMB05-043	PS09 - NUT	10:45	NS				X							PS09	
	AMB05-044	PS09 - DOC	10:45	NS					X						PS09	
	AMB05-045	PS09 - OSAL	10:45	NS						X					PS09	309

Relinquished by:
Signature: [signature] Date: 11/16/10 Time:
Printed Name: Jim Brandenberger Company: PNNL

Received by:
Signature: [signature] Date: 11/17/10
Printed Name: C. Sussman Company: MSL

Total # of Containers:
Shipment Method:
Shipment Method: Hand Carry
Sample Disposition:

Relinquished by:
Signature: _____ Date: _____ Time: _____
Printed Name: _____ Company: _____

Received by:
Signature: _____
Printed Name: _____

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/2010
Page: 4 of
COC Number: AMB05

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

(5)

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3100- Comments
	AMB05-046	PS10 - TME	11:00:32	NS	X	X									PS10	311/312
	-047	PS10 - TSS	11:00	NS			X								PS10	
	-048	PS10 - NUT	11:00	NS				X							PS10	
	-049	PS10 - DOC	11:00	NS					X						PS10	
	-050	PS10 - OSAL	11:00	NS						X					PS10	311
	-051	PS10.1 - TME	11:14	NS	X	X									PS10.1	313/314
	-052	- TSS					X									
	-053	- NUT						X								
	-054	- DOC							X							
	-055	- OSAL								X						313
	-056	PS11 - TME	1125		X	X									PS11	315/316
	-057	- TSS					X									
	058	- NUT						X								
	-059	- DOC							X							
	-060	- OSAL								X						315

Relinquished by: 11/16/10
Signature Date Time
Jm Brandenberger PNNL
Printed Name Company

Received by: 11/17/10
Signature
C. Sullivan MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carry
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/10

Page: 5 of

COC Number: AMB05

(6)

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05-061	PS16-TME	1136	~~W~~ SW	X	X								1	PS16	317|318
	062	-TSS					X							1		
	063	-NUT						X						1		
	064	-DOC							X					1		
	065	-OSAL								X				1		317
	066	PS01-TME	1152		X	X								1	PS01	319|320
	067	-TSS					X							1		
	068	-NUT						X						1		
	069	-DOC							X					1		
	070	-OSAL								X				1		319
	071	PS01DUP-TME			X	X								1	PS01 Dup	321|322
	072	PS02 -TME	1208		X	X								1	PS02	323|324
	073	-TSS					X							1		
	074	-NUT						X						1		
	075	-DOC							X					1		

Relinquished by:
Signature: [signature] Date: 11/16/10 Time:
Printed Name: Jill Brandenberger Company: PNNL

Received by:
Signature: [signature] Date: 11/17/10 Time:
Printed Name: C. Sullivan Company: MSL

Total # of Containers:

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/16/10

Page: 6 of _____

COC Number: AMB05

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

(1)

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Observations, Instructions 3106 Comments
	AMB05-076	PS02-OSAL	1208	SW						X				1	PS02	323
	-077	M3.1-TME	1225		X	X								1	M3.1	325/326
	-078	-TSS					X							1		
	-079	-NUT						X						1		
	-080	-DOC							X					1		
	-081	-OSAL								X				1		325
	-082	M3.1 Deep-TME	1244		X	X								1	M3.1 Deep	327/328
	-083	NUT						X						1		
	-084	TSS					X							1		
	-085	DOC							X					1		
	-086	OSAL								X				1		327
	-087	PS12-TME	1300		X	X								1	PS12	329/330
	-088	-TSS					X							1		
	-089	-NUT						X						1		
	-090	-DOC							X					1		

Relinquished by: _____ 11/16/10
Signature Date Time
Jill Brandenberger PNNL
Printed Name Company

Received by: _____ 11/17/10
Signature
C. Gustin MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

(9)

SAMPLE CHAIN OF CUSTODY FORM
Date: 11/16/10
Page: 7 of _____
COC Number: AMB05

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Testing Parameters: Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Observations, Instructions: 3106 / Comments
	AMB05-091	PS12 - OSAL	1300	SW						X				1	PS12	329
	AMB05-092	BJEST - TME	1317		X	X								1	BJEST	331 | 332
	-093	- TSS					X							1		
	-094	- NUT						X						1		
	-095	- DOC							X					1		
	-096	- OSAL								X				1		331
	M4 -097	M-4 - TME	1335		X	X								1	M4	333 | 334
	-098	- TSS					X							1		
	-099	- NUT						X						1		
	-100	- DOC							X					1		
	-101	- OSAL								X				1		333
	PS13-102	PS13 - TME	1346		X	X								1	PS13	335 | 336
	-103	- TSS					X							1		
	-104	- NUT						X						1		
	-105	- DOC							X					1		

Relinquished by:
11/16/10
Signature Date Time
JM Brandenberger PNNL
Printed Name Company

Received by:
11/17/10
Signature
MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 4/16/10

Page: 5 of _____

COC Number: AMB05

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106- Comments
	AMB05-106	PS13-OSAL	1346	SW						X				1	PS13	335

Relinquished by: _____ 4/16/10
Signature Date Time

Jim Brandenberger PNNL
Printed Name Company

Received by: _____ 11/19/10
Signature

C. Sussman MSL
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

Johnston, Brandenberger, Rosen, Young, Tompkins, Bell

Station Log

Sample Collector	Johnston/Bell	PSNS Project ENVVEST		Page 1 of 1
Sampling Team	PSNS ENVVEST	Ambient Monitoring	AMB05	
Organization	Code 106.32			Bremerton Tides
Use pre-assigned id	Nov. 16, 2010 m/dd/yy hh:mm	m/dd/yy hh:mm		

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
AMB05-PS07	09:11:05	09:22:10	NS	47.55566°	122.64179°	
PS06	09:23:40	09:32:09	NS	47.55300°	122.64216°	
PS14	09:33:57	09:42:47	NS	47.55251°	122.64338°	Mire Algae at this site
PS03	09:47:51	09:57:08	NS	47.55589°	122.66168°	
PS04	10:00:39	10:08:12	NS	47.56449°	122.64752°	
PS05	10:10:45	10:17:01	NS	47.55602°	122.64649°	Tug boat operations
PS08	10:22:17	10:30:36	NS	47.55789°	122.63884°	
PS15	10:32:51	10:40:30	NS	47.55589°	122.63650°	
PS09	10:44:25	10:53:37	NS	47.56004°	122.63601°	
PS10	10:59:11	11:06:45	NS	47.56042°	122.63290°	
PS10.1	10:13	11:19	NS	47.56119°N	122.63113°W	
PS11	1124	1134	NS	47.56034°N	122.62918°W	
B16	1135	1143	NS	47.55856°N	122.62835°W	
PS01	1150	1202	NS	47.55371°N	122.65719°W	lots of jelly fish-tight at silver [78 seallons on barrier from Pier 7 to Pier 3] -jellies
PS02	1206	1213	NS	47.55450°N	122.65456°W	
M3.1	1221	1239	M	47.55886°N	122.61544°W	
M3.1 Deep	1240	1252	M	47.56153°N	122.61385°W	No thermcline sample at 6M
PS12	1300	1307	NS	47.56051°N	122.62847°W	
BJEST	1315	1325	NS	47.54420°N	122.62709°W	
M4	1333	1342	M	47.54492°N	122.66461°W	
PS13	1345	1351	NS	47.55177	122.65355	
PS01B	1403	1405	NS	47.55581	122.64119	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Johnston, Brandenberger, Rosen, Young, Tompkins		PSNS Project ENVVEST
Sampling Team	PSNS&IMF c/106.32		Ambient Monitoring: AMB 05
Organization			Instrument: Horiba

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	mg/L	C	m	%		S/m2	g/m3	ft	ft	
SampleID	StationID	Date/Time	DO	Temp	Probe Depth	Salinity	pH	Cond	Density ~~Turb~~	Sechi Depth	Bottom Depth	Remarks/ Comments
AMB05 ~~PS07~~	~~AMB05~~ PS07	11/16/10 0910	6.22	11.78	0.4	3.3	7.82	5.09	25.0	18.5	39	calm/clear
-PS06	AMB05 PS06	11/16/10 0924	6.8	11.68	0.4	3.2	7.82	5.02	24.6	20.0	54	
-PS14	PS14	11/16/10 0935	7.10	11.55	0.3	3.3	7.84	5.06	24.9	21.5	50	Greenish Algae in water
-PS03	PS03	0950	6.9	11.71	0.3	3.3	7.84	5.06	24.8	17.0	28	
-PS04	PS04	1005	6.82	11.83	.4	3.3	7.85	5.09	25.0	17.5	44	
-PS05	PS04	1012	6.92	11.79	.3	3.3	7.83	5.08	24.9	15.25	40	More marky than PS04
-PS08	PS08	1023	6.88	11.71	.4	3.3	7.83	5.09	25.0	Bottom	18	
-PS15	PS15	1035	6.90	11.96	0.4	3.3	7.82	5.08	24.9	19.25	53	
PS09	PS09	1045	6.80	12.03	0.3	3.2	7.84	4.96	24.3	17.75	47	algae in water
PS10	PS10	1100	6.93	11.44	.3	3.2	7.85	5.02	24.4	19.5	49	
PS10.1	PS10.1	1115	6.76	11.~~78~~	0.4	3.3	~~7.86~~	5.05	24.8	17.0	31	
PS11	PS11	1123	6.53	11.87	0.5	3.3	7.86	5.08	~~24.8~~ 24.3	24.3	44	
PS16	PS16	1136	6.88	11.84	0.5	3.3	7.86	5.11	25.1	17.0	58	15 sea lions nearby
PS01	PS01	1155	6.72	11.78	0.2	3.3	7.80	5.10	25.0	15.0	35	
PS02	PS02	1210	6.37	11.80	1.6	3.2	7.82	4.94	~~24.3~~ 24.3	14	~~29~~ 29	
M3.1	M3.1	1225	6.36	11.86	1.3	3.3	7.85	5.10	25.1	17	113	
M3.1	M3.1 Deep		6.23	11.88	13.5	3.3	7.83	5.14	25.3			
M3.1	M3.1 Nisqually	1252	7.33	12.14		3.3	7.87	5.12	25.1			
PS12	PS12	1305	6.65	11.89	2.0	3.3	7.83	5.01	24.7	20	36	
BEST	BEST	1317	7.~~91~~	11.83	1.9	3.3	7.24	5.06	24.9	bottom	9	
M4		1320	6.83	11.~~91~~	1.7	3.3	7.84	5.08	24.9	11.5	42.8	
PS17	PS17	1342	6.34	11.~~96~~	1.8	3.3	7.84	5.09	24.9	14.3	54.2	
~~PS RTE~~			6.82	11.97	1.6	3.3	7.85	5.~~09~~	24.~~9~~	19.0	~~1~~	

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10

Page: 1 of 9

COC Number:

AMB05 B no "B"

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (use AMB05-)	Sample Lable	Collection Date/Time (11/18/10)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID (CF#3106 JMB 11/19/10)	Comments
	AMB05-501	PS07B- TME	0840	SW	X	X									PS07B	337/338
	AMB05-502	PS07B- TSS	↓	SW			X								↓	
	AMB05-503	PS07B- NUT		SW				X								
	-504	PS07B- DOC		SW					X							
	-505	PS07B- OSAL	↓	SW						X					↓	337
	-506	PS01 - TME	0908	SW	X	X									PS01	339/340
	-507	PS01 - TSS	↓	SW			X								↓	
	-508	PS01 - NUT		SW				X								
	-509	PS01 - DOC		SW					X							
	-510	PS01 - OSAL	↓	SW						X					↓	339
	AMB05-511	SN03 - TME	0917	SW	X	X									SN03	341/342
	-512	SN03 - TSS	↓	SW			X								↓	
	-513	SN03 - NUT		SW				X								
	-514	SN03 - DOC		SW					X							
	-515	SN03 - OSAL	↓	SW						X					↓	341

Relinquished by: _____ 11/18/10 1600
Signature Date Time
Jill Brandenberger PNNL
Printed Name Company

Received by: _____ 11/19/10
Signature
C Sullivan MSL
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand carry

Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 11/18/2010
Page: 2 of 9
COC Number:

AMB05 B no "B" 116

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Observations, Instructions / Comments
	AMB05-516	SNO5 - TME	0937	SW	X	X									SNO5	343/344
	517	- TSS		SW			X									
	518	- NUT		SW				X								
	519	- DOC		SW					X							
	520	- OSAL		SW						X						343
	AMB05 521	SNO5 - TME	0943		X	X									SNO5	345/346
	522	- TSS					X									
	523	- NUT						X								
	524	- DOC							X							
	525	- OSAL								X						345
	526	MULTI B - TME	0951		X	X									MULTI B	347/348
	527	- TSS					X								TMP 11/19/10	
	528	- NUT						X								
	529	- DOC							X							
	530	- OSAL								X						347

Relinquished by:
Signature: Jon Brandenberger
Printed Name: Jon Brandenberger
Date: 11/18/10
Company: PNNL
Time: 1600

Received by:
Signature: C Susun
Printed Name: MSL
Date: 11/19/10

Relinquished by:
Signature:
Printed Name:
Date:
Company:
Time:

Received by:
Signature:
Printed Name:

Total # of Containers
Shipment Method:
Shipment Method: Handcarry
Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10
Page: 3 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05-531	SN10 - TME	1000	SW	X	X									SN10	349/350
	532	TSS					X									
	533	NUT						X								
	534	DOC							X							
	535	OSAL								X					349	
	536	SN11 TME	1019		X	X									SN11	351/352
	537	TSS					X									
	538	NUT						X								
	539	DOC							X							
	540	OSAL								X					351	
	541	PS12B TME	1033		X	X									PS12B	353/354
	542	TSS					X									11/19/10
	543	NUT						X								
	544	DOC							X							
	545	OSAL								X					353	

Relinquished by:
JM Brandenberger — Signature
11/18/10 — Date
1600 — Time
JM Brandenberger — Printed Name
PWNL — Company

Received by:
Signature
11/19/10
MSL — Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carry

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10
Page: 4 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106' Comments
	AMB05-546	PWNLP-TME	1048	SW	X	X									PWNLP	355/356
	547	TSS					X									
	548	NUT						X								
	549	DOC							X							
	550	OSAL								X					355	
	551	MB TME	1100		X	X									MB	357/358
	552	TSS					X									
	553	NUT						X								
	554	DOC							X							
	555	OSAL								X					357	
	556	MB TME	1124		X	X									MB	359/360
	557	TSS					X									
	558	NUT						X								
	559	DOC							X							
	560	OSAL								X					359	

Relinquished by:
Signature: [signature] Date: 11/18/10 Time: 1600
Printed Name: Jim Brandenberger Company: PNNL

Received by:
Signature: [signature] 11/19/10
Printed Name: C. Gosslin MSL

Total # of Containers:
Shipment Method:
Shipment Method: Hand carry

Relinquished by:
Signature: Date: Time:
Printed Name: Company:

Received by:
Signature:
Printed Name:

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10

Page: 5 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB05-561	DIO TS-TME	1212	SW	X	X									DIO TS	361/362
	562	TSS					X									
	563	NUT						X								
	564	DOC							X							
	565	OSAL								X						361
	566	POPISP TME	1248		X	X									POPISP	363/364
	567	TSS					X									
	568	NUT						X								
	569	DOC							X							
	570	OSAL								X						363
	571	M2 TME	1305		X	X									M2	365/366 M1
	572	TSS					X									
	573	NUT						X								
	574	DOC							X							
	575	OSAL								X						365

Relinquished by: _____ 11/18/10 1600
Signature Date Time
JM Brandenberger PNNL
Printed Name Company

Received by: _____ 11/19/10
Signature
C. Sullivan MSL
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: HandCarry

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10

Page: 6 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05-576	M1 DEEP TMC	1305	SW	X	X									m1 deep	367/368
	577	M1 DEEP -TSS					X									
	578	-NUT						X								
	579	-DOC							X							
	580	-OSAL								X						367

Relinquished by:
Signature: JM Brandenberger — Date: 11/18/10 — Time: 1600
Printed Name: JM Brandenberger — Company: PNNL

Received by:
Signature: [illegible] — Date: 11/19/10
Printed Name: C. SVSLICK — MSL

Total # of Containers

Shipment Method: Hand carry

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10
Page: 7 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05 5[illegible]	[illegible] - TME	1350	SW	X	X									WP	369/370 WP
	5825[illegible]	WP DUP - TME DUP			X	X										371/372 WP DUP
	5835[illegible]	WP - TSS					X									WP
	5845[illegible]	WP - NUT						X								
	585 58[illegible]	- DOC							X							
	586 58[illegible]	- OSAL								X						369
	587 58[illegible]	[illegible] - TME	1412		X	X									[illegible]	373/374
	588 58[illegible]	CLAM BAY - TSS					X								CLAM BAY	
	589 58[illegible]	- NUT						X								
	590 585	- DOC							X							
	591 58[illegible]	- OSAL								X						373
	592 58[illegible]	M2 - TME	1421		X	X									M2	375/376
	593 58[illegible]	- TSS					X									
	594 58[illegible]	- NUT						X								
	595 58[illegible]	- DOC							X							

Relinquished by:
[signature] 11/18/10 1600
Signature Date Time
JM Brandenberger 1600
Printed Name Company

Received by:
[signature] 11/19/10
Signature
C. Sugnet MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10

Page: 9 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05 596	M2 OSAL	1421	SW						X					M2	375
	597	M2 Deep TMET	1420		X	X									M2 Deep	377/378
	598	TSS					X									
	599	NUT						X								
	600	DOC							X							
	601	OSAL								X						377
	602	PS08 TMET	1501		X	X									PS08	379/380
	603	PS08 DUP TMET			X	X										381/382
	604	PS08 TSS					X									
	605	NUT						X								
	606	DOC							X							
	607	OSAL								X						379
	608	PS09 TMET	1518		X	X									PS09	383/384
	609	PS09 DUP TMET			X	X										385/386
	610	PS09 TSS					X									

Relinquished by: 11/18/10 1600
Signature Date Time
Jim Brandenberger PNNL
Printed Name Company

Received by: 11/19/10
Signature
C. Sutton MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: HandCarry

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 11/18/10

Page: 9 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	3106 Comments
	AMB05 611	P509 NUT	1518	SW				X							P509	
	612	DOC							X							
	613	OSAL								X						383

Relinquished by: _____ 11/18/10 PNWL
Signature Date Time

Jm Brandenberger PNWL
Printed Name Company

Received by: _____ 11/19/10
Signature

C. Sullivan MSL
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CUSTODY RECORD

(SOP# MSL-A-001 & MSL-A-002)

Date: 11/19/10

Battelle
. . . Putting Technology To Work
Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST AMB05
Project Manager: J Brandenberger
Phone Number: —
Shipment Method: Hand Carry (Created in Lab)
Preservation:

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Metals — Time/DME					Laboratory ID	Observations/Comments
1	AMB05 - 614	11/19/10 1200	DI WAT	1 ea.	X	EB1-111910				3106-387/388	Created/Hand
2	AMB05 - 615	11/19/10 1205	DI WAT	1 ea.	X	EB2-111910				3106-389/390	@ MSL
3											
4											EQP BLANKS
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company: PNNL	Received By:	Company: MSL
Signature/Printed Name	Date/Time: 11/19/10 1200	Signature/Printed Name: C. Susuki	Date/Time: 11/19/10 1230
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

Distribution: White - Laboratory, Project Files Yellow - Laboratory, Client Pink - Sampler

Water Quality Log

Sample Collector	Mollerstuen, Eric	PSNS Project ENVVEST
Sampling Team	C/106.3 PSNS&IMF c/106.32	Ambient Monitoring:
Organization	PSNS + IMF	Instrument: Horiba

Use pre-assigned id	Use allowable code only	11/18/2010 mm/dd/yy hh:mm	mg/L	C	m	%		S/m2		ft	ft	
SampleID	StationID	Date/Time	DO	Temp	Probe Depth	Salinity	pH	Cond	Turb	Sechi Depth	Bottom Depth	Remarks/ Comments
AMBØSB-S01	PSØ7	0840	7.85	10.99	0.5	3.2	7.80	5.03	24.7	16	42	
AMBØSB-S02	PSØ1	0908	6.89	10.95	0.5	3.1	7.77	4.91	23.9	10	34	
AMBØS-S03	SN03	0917	6.91	11.62	0.5	3.3	7.76	5.08	25.0	8	21.7	
-S04	SN05	0934	6.27	11.19	0.5	3.1	7.67	4.93	23.9	6	7.1	
-S05	SN08	0945	7.64	10.94	0.6	3.2	7.78	5.00	24.6	9	24.5	
-S06	MM	0953	6.89	11.14	0.5	3.2	7.80	5.16	24.6	11	40	
-S07	SN10	1008	6.55	10.83	0.5	3.2	7.79	4.99	24.5	bottom	9	
-S08	SN11	1021	7.41	11.34	0.2	3.3	7.79	5.10	25.1	14	24.6	
B-S09	PS12	1035	7.24	11.46	0.9	3.3	7.79	5.06	24.9	10	35	84 Sea Lions on barge
-S10	PWNLP	1047	7.68	11.39	0.7	3.3	7.81	5.07	24.9	bottom	10.7	
-S11	M6	1107	7.62	11.17	0.7	3.3	7.82	5.09	25.0	11	40.9	
-S12	M8	1127	7.52	10.90	0.9	3.2	7.79	5.04	24.8	9	20	
-S13	DIOTS	1213	8.08	10.64	0.8	3.2	7.87	5.02	24.7	8	22	
-S14	PopISP	1240	7.10	11.64	0.8	3.3	7.79	5.10	25.1	14	46	
-S15	M1	1305	6.50	11.65	9.0	3.3	7.79	5.11	25.1	13	126	
-S16	M1 Deep	1312	6.69	11.66	10.1	3.3	7.78	5.11	25.1	bottom		
-S17	WP	1350	7.07	11.58	0.7	3.3	7.82	5.10	25.1	15	57	
-S18	CLAM BAY	1413	6.77	11.59	0.7	33	7.88	5.11	25.1	bottom	9	
-S19	M2	1425	6.86	11.71	0.6	3.3	7.80	5.15	25.3	15	77	
-S20	M2 Deep	1427	6.25	11.70	9.0	3.3	7.78	5.15	25.3			
-S21	PSØ8	1501	7.51	10.95	0.7	3.2	7.85	5.01	24.6	14	32	
-S22	PSØ9	1514	7.30	11.40	0.5	3.2	7.83	4.94	bottom	15	47	

Sample Collector	Johnston, Brandenburg, Miller, Tompkins			PSNS Project ENVVEST		Page 1 of 1
Sampling Team				Ambient Monitoring		
Organization	C/106.32					Bremerton Tides
Use pre-assigned id	11/18/10 m/dd/yy hh:mm	n/dd/yy hh:mm				High 0551 10.ft; Low 1151 2.9ft
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
AMB05B-PS07	0839	0847	NS	47 55580°	122.64179°	
AMB05B-PS01	0907	0911	NS	47.55383°	122 65748°	
AMB05-SN03	0916	0927	NS	47.54703°	122.67038°	
SN05	0933	0938	NS	47 53200	122 68679	
SN08	0943	0947	NS	.54045°	122 .66298°	
M4	0954	0959	M	.54 [illegible]	66 211	
SN10	1006	1014	NS	.54185	.64 32	
SN11	1019	1025	NS	.54362	.63534	
B-PS12	1033	1038	NS	.56044	62843	84 Sea Lions on Security barrier
PWNLP	1047	1055	NS	47. 58276	122. 64355	
M6	1106	1113	M	47. 60126	122. 68304	
M8	1123	1136	M	57355	67620	
DIOTS	1142	1219	NS	64157	69374	
POPIST	1247	1255	NS	60040	59378	
M1	1304	1317	M	63646	58495	10m deep sample
WP	1346	1359	NS	58455	57130	
CLAM BAY	1406	1418	NS	57140	54883	
M2	1421	1430	NS	57998	53787	5.5m M2 deep
PS08	1500	1510	NS	55713	63877	
PS09	1513	1520	NS	55983	63564	

Station Type Codes: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 287-336 Batch: 9

Project Name: AMB05 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
☐	☒	Navy-type Project (requires high-level sample tracking procedures)
☐	☒	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☒	☐	Filter Samples: *Amount:* Entire sample / Half of sample
☐	☒	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☒	☐	Special instructions: send conventional to CAS

Sample Preservation Instructions: ~~0.5%~~ 0.2% HNO3 JMB 11/17/10

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present — Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) — 4.9, 5.8°C; 6.0, 4.5°C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Comment/Remedy:

Sample condition(s): Acceptable / Other (explain):

Container type: Teflon / Poly / Glass / Cap. Vial / Other:

Notes:

Completed By: JMB Date/Time: 11/16/10 1900

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐		Complete pH check required for project (use pH meter and record on pH Record form)		
☑		Sample(s) were preserved at MSL		
Type:	☑	0.2% HNO3	Notes: ~~1.0~~ 1.20	Lot# 1206090
	☐	0.5% HCl (Hg samples)	Notes:	Lot#
	☐	Refrigerate/Freeze	Notes:	
	☐	Other	Notes:	

Completed By: JMB Date/Time: 11/16/10

Storage Shelf: L-5-A, L-5-B, L-2-B

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): Batch: 10

Project Name: SL0001 AMB05 Day 2 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
	✓	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

✓		Filter Samples:	Amount: Entire sample (Half of sample)
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
✓		Special instructions:	

Sample Preservation Instructions: 0.2% HNO_3

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
✓			Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL?

#1/6.2 #3/2.0 °C #5/4.6 #2/4.9 #4/2.0°C

Comment/Remedy:

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes:

Completed By: JMB Date/Time: 11/18/10 1750

SAMPLE PRESERVATION

		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
		Complete pH check required for project (use pH meter and record on pH Record form)	
✓		Sample(s) were preserved at MSL	
Type:	✓	0.2% HNO3	Notes: Optima Lot# 1602090
		0.5% HCl (Hg samples)	Notes: Lot#
		Refrigerate/Freeze	Notes:
		Other	Notes:

Completed By: JMB Date/Time: 11/19/10

Storage Shelf: Prep Lab (Assort Shelves)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring	**Date Received:**	11/18/10
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Seventy-five water samples were received for analysis at Columbia Analytical Services on 11/18/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Kjeldahl Nitrogen by EPA Method 351.4:

The matrix spike recovery of TKN for sample AMB05 DD-003 PSN019MS was outside control criteria because of suspected matrix interference. The sample was re-extracted and re-analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

Dissolved Organic Carbon by Standard Method 5310 C:

The matrix spike recovery of Dissolved Organic Carbon for sample AMB05DD-009 PSNS018 was outside control criteria. The matrix spike was reanalyzed and confirmed the original results. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** _____

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-003 PSNS019	K1012978-002	**0.258**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05 DD-008 PSNS018	K1012978-006	**0.234**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05 DD-013 PSNS021	K1012978-010	ND	U	0.010	0.003	1	NA	11/24/10 09:26	
AMB05-003 PS07	K1012978-014	**0.067**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-008 PS06	K1012978-017	**0.069**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-013 PS14	K1012978-020	**0.062**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-018 PS03	K1012978-023	**0.093**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-023 PS04	K1012978-026	**0.059**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-028 PS05	K1012978-029	**0.056**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-033 PS08	K1012978-032	**0.080**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-038 PS15	K1012978-035	**0.054**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-043 PS09	K1012978-038	**0.075**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-048 PS10	K1012978-041	**0.078**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-053 PS10.1	K1012978-044	**0.065**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-058 PS11	K1012978-047	**0.055**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-063 PS16	K1012978-050	**0.044**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-068 PS01	K1012978-053	**0.081**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-074 PS02	K1012978-056	**0.061**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-079 M3.1	K1012978-059	**0.038**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-084 M3.1 DEEP	K1012978-062	**0.043**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-089 PS12	K1012978-065	**0.062**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-094 BJEST	K1012978-068	**0.051**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-099 M4	K1012978-071	**0.069**		0.010	0.003	1	NA	11/24/10 09:26	
AMB05-104 PS13	K1012978-074	**0.060**		0.010	0.003	1	NA	11/24/10 09:26	
Method Blank	K1012978-MB1	ND	U	0.010	0.003	1	NA	11/24/10 09:26	
Method Blank	K1012978-MB2	**0.008**	J	0.010	0.003	1	NA	11/24/10 09:26	
Method Blank	K1012978-MB3	**0.009**	J	0.010	0.003	1	NA	11/24/10 09:26	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/24/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-003 PSNS019DUP Duplicate Sample K1012978-002DUP2 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.258	0.261	0.260	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/24/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB05 DD-003 PSNS019MS Matrix Spike K1012978-002MS1			AMB05 DD-003 PSNS019DMS Duplicate Matrix Spike K1012978-002DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.258	0.469	0.200	105	0.469	0.200	106	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/24/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	14.1	14.3	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/24/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	14.2	14.3	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/24/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1012978-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	14.1	14.3	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	226717	KQ1012986-23	11/24/10 09:26	0.250	0.269	108	90 - 110
CCV2	226717	KQ1012986-24	11/24/10 09:26	0.250	0.264	105	90 - 110
CCV3	226717	KQ1012986-25	11/24/10 09:26	0.250	0.263	105	90 - 110
CCV4	226717	KQ1012986-26	11/24/10 09:26	0.250	0.258	103	90 - 110
CCV5	226717	KQ1012986-27	11/24/10 09:26	0.250	0.260	104	90 - 110
CCV6	226717	KQ1012986-28	11/24/10 09:26	0.250	0.262	105	90 - 110
CCV7	226717	KQ1012986-29	11/24/10 09:26	0.250	0.261	104	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	226717	KQ1012986-16	11/24/10 09:26	0.010	ND	U
CCB2	226717	KQ1012986-17	11/24/10 09:26	0.010	ND	U
CCB3	226717	KQ1012986-18	11/24/10 09:26	0.010	ND	U
CCB4	226717	KQ1012986-19	11/24/10 09:26	0.010	ND	U
CCB5	226717	KQ1012986-20	11/24/10 09:26	0.010	ND	U
CCB6	226717	KQ1012986-21	11/24/10 09:26	0.010	ND	U
CCB7	226717	KQ1012986-22	11/24/10 09:26	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/16/10
Sample Matrix:	Ocean Water	**Date Received:**	11/18/10
		Units:	mg/L
Analysis Method:	353.2	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-003 PSNS019	K1012978-002	**0.273**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05 DD-008 PSNS018	K1012978-006	**0.593**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05 DD-013 PSNS021	K1012978-010	**0.224**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-003 PS07	K1012978-014	**0.330**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-008 PS06	K1012978-017	**0.320**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-013 PS14	K1012978-020	**0.326**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-018 PS03	K1012978-023	**0.339**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-023 PS04	K1012978-026	**0.328**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-028 PS05	K1012978-029	**0.329**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-033 PS08	K1012978-032	**0.335**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-038 PS15	K1012978-035	**0.325**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-043 PS09	K1012978-038	**0.353**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-048 PS10	K1012978-041	**0.361**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-053 PS10.1	K1012978-044	**0.329**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-058 PS11	K1012978-047	**0.325**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-063 PS16	K1012978-050	**0.324**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-068 PS01	K1012978-053	**0.349**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-074 PS02	K1012978-056	**0.390**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-079 M3.1	K1012978-059	**0.324**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-084 M3.1 DEEP	K1012978-062	**0.345**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-089 PS12	K1012978-065	**0.328**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-094 BJEST	K1012978-068	**0.315**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-099 M4	K1012978-071	**0.307**		0.050	0.009	1	NA	11/29/10 10:04	
AMB05-104 PS13	K1012978-074	**0.323**		0.050	0.009	1	NA	11/29/10 10:04	
Method Blank	K1012978-MB1	ND	U	0.050	0.009	1	NA	11/29/10 10:04	
Method Blank	K1012978-MB2	ND	U	0.050	0.009	1	NA	11/29/10 10:04	
Method Blank	K1012978-MB3	ND	U	0.050	0.009	1	NA	11/29/10 10:04	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/29/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-003 PSNS019DUP Duplicate Sample K1012978-002DUP2 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.273	0.270	0.271	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/29/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-079 M3.1
Lab Code: K1012978-059

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-079 M3.1DUP Duplicate Sample K1012978-059DUP6 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.324	0.325	0.325	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/29/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB05 DD-003 PSNS019MS Matrix Spike K1012978-002MS1			AMB05 DD-003 PSNS019DMS Duplicate Matrix Spike K1012978-002DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.273	2.35	2.00	104	2.33	2.00	103	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/29/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-079 M3.1
Lab Code: K1012978-059

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB05-079 M3.1MS Matrix Spike K1012978-059MS4			AMB05-079 M3.1DMS Duplicate Matrix Spike K1012978-059DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.324	2.37	2.00	102	2.38	2.00	103	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1012978-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	226956	KQ1013062-24	11/29/10 10:04	2.00	2.00	100	90 - 110
CCV2	226956	KQ1013062-25	11/29/10 10:04	2.00	1.99	100	90 - 110
CCV3	226956	KQ1013062-26	11/29/10 10:04	2.00	2.00	100	90 - 110
CCV4	226956	KQ1013062-27	11/29/10 10:04	2.00	2.00	100	90 - 110
CCV5	226956	KQ1013062-28	11/29/10 10:04	2.00	1.99	100	90 - 110
CCV6	226956	KQ1013062-29	11/29/10 10:04	2.00	1.99	99	90 - 110
CCV7	226956	KQ1013062-30	11/29/10 10:04	2.00	2.00	100	90 - 110
CCV8	226956	KQ1013062-31	11/29/10 10:04	2.00	1.99	99	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	226956	KQ1013062-16	11/29/10 10:04	0.050	ND	U
CCB2	226956	KQ1013062-17	11/29/10 10:04	0.050	ND	U
CCB3	226956	KQ1013062-18	11/29/10 10:04	0.050	ND	U
CCB4	226956	KQ1013062-19	11/29/10 10:04	0.050	ND	U
CCB5	226956	KQ1013062-20	11/29/10 10:04	0.050	ND	U
CCB6	226956	KQ1013062-21	11/29/10 10:04	0.050	ND	U
CCB7	226956	KQ1013062-22	11/29/10 10:04	0.050	ND	U
CCB8	226956	KQ1013062-23	11/29/10 10:04	0.050	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/16/10
Sample Matrix:	Ocean Water	**Date Received:**	11/18/10
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-005 PSNS019	K1012978-004	ND	U	5.0	0.8	1	11/22/10	11/22/10 08:00	
AMB05 DD-010 PSNS018	K1012978-008	ND	U	5.0	0.8	1	11/22/10	11/22/10 08:00	
AMB05 DD-015 PSNS021	K1012978-012	ND	U	5.0	0.8	1	11/22/10	11/22/10 08:00	
Method Blank	K1012978-MB1	ND	U	5.0	0.8	1	11/22/10	11/22/10 08:00	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS1			Duplicate Lab Control Sample K1012978-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	1664	48.6	60.0	81	55.6	60.0	93	78 - 114	13	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/16/10
Sample Matrix:	Ocean Water	**Date Received:**	11/18/10
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-003 PSNS019	K1012978-002	**0.145**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05 DD-008 PSNS018	K1012978-006	**0.193**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05 DD-013 PSNS021	K1012978-010	**0.843**		0.020	0.008	2	11/30/10	12/1/10 10:45	
AMB05-003 PS07	K1012978-014	**0.131**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-008 PS06	K1012978-017	**0.103**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-013 PS14	K1012978-020	**0.096**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-018 PS03	K1012978-023	**0.114**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-023 PS04	K1012978-026	**0.097**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-028 PS05	K1012978-029	**0.102**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-033 PS08	K1012978-032	**0.10**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-038 PS15	K1012978-035	**0.095**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-043 PS09	K1012978-038	**0.108**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-048 PS10	K1012978-041	**0.110**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-053 PS10.1	K1012978-044	**0.137**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-058 PS11	K1012978-047	**0.094**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-063 PS16	K1012978-050	**0.088**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-068 PS01	K1012978-053	**0.108**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-074 PS02	K1012978-056	**0.101**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-079 M3.1	K1012978-059	**0.094**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-084 M3.1 DEEP	K1012978-062	**0.092**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-089 PS12	K1012978-065	**0.096**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-094 BJEST	K1012978-068	**0.095**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-099 M4	K1012978-071	**0.095**		0.010	0.004	1	11/30/10	12/1/10 10:45	
AMB05-104 PS13	K1012978-074	**0.101**		0.010	0.004	1	11/30/10	12/1/10 10:45	
Method Blank	K1012978-MB1	ND	U	0.010	0.004	1	11/30/10	12/1/10 10:45	
Method Blank	K1012978-MB2	ND	U	0.010	0.004	1	11/30/10	12/1/10 10:45	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-013 PSNS021
Lab Code: K1012978-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-013 PSNS021DUP Duplicate Sample K1012978-010DUP3 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.020	0.008	0.843	0.829	0.836	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-104 PS13
Lab Code: K1012978-074

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-104 PS13DUP Duplicate Sample K1012978-074DUP11 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.101	0.100	0.101	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05 DD-013 PSNS021
Lab Code: K1012978-010

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB05 DD-013 PSNS021MS Matrix Spike K1012978-010MS3			AMB05 DD-013 PSNS021DMS Duplicate Matrix Spike K1012978-010DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.843	1.32	0.500	96	1.86	1.00	102	50 - 144	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-104 PS13
Lab Code: K1012978-074

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB05-104 PS13MS Matrix Spike K1012978-074MS7			AMB05-104 PS13DMS Duplicate Matrix Spike K1012978-074DMS7					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.101	0.509	0.500	82	0.891	1.00	79	50 - 144	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 12/ 1/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1012978-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	1.99	1.87	106	88 - 113

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 12/ 1/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	2.01	1.87	108	88 - 113

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227524	KQ1013203-08	12/1/10 10:45	0.500	0.496	99	90 - 110
CCV2	227524	KQ1013203-09	12/1/10 10:45	0.500	0.497	99	90 - 110
CCV3	227524	KQ1013203-10	12/1/10 10:45	0.500	0.500	100	90 - 110
CCV4	227524	KQ1013203-11	12/1/10 10:45	0.500	0.500	100	90 - 110
CCV5	227524	KQ1013203-12	12/1/10 10:45	0.500	0.501	100	90 - 110
CCV6	227524	KQ1013203-13	12/1/10 10:45	0.500	0.495	99	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227524	KQ1013203-01	12/1/10 10:45	0.010	ND	U
CCB2	227524	KQ1013203-02	12/1/10 10:45	0.010	ND	U
CCB3	227524	KQ1013203-03	12/1/10 10:45	0.010	ND	U
CCB4	227524	KQ1013203-04	12/1/10 10:45	0.010	ND	U
CCB5	227524	KQ1013203-05	12/1/10 10:45	0.010	ND	U
CCB6	227524	KQ1013203-06	12/1/10 10:45	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/16/10
Sample Matrix:	Ocean Water	**Date Received:**	11/18/10
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-003 PSNS019	K1012978-002	**0.93**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05 DD-008 PSNS018	K1012978-006	**1.01**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05 DD-013 PSNS021	K1012978-010	**0.75**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-003 PS07	K1012978-014	**0.77**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-008 PS06	K1012978-017	**1.11**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-013 PS14	K1012978-020	**0.83**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-018 PS03	K1012978-023	**2.08**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-023 PS04	K1012978-026	**0.69**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-028 PS05	K1012978-029	**0.85**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-033 PS08	K1012978-032	**0.89**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-038 PS15	K1012978-035	**0.83**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-043 PS09	K1012978-038	**0.81**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-048 PS10	K1012978-041	**1.11**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-053 PS10.1	K1012978-044	**0.89**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-058 PS11	K1012978-047	**0.69**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-063 PS16	K1012978-050	**0.81**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-068 PS01	K1012978-053	**0.91**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-074 PS02	K1012978-056	**1.05**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-079 M3.1	K1012978-059	**0.69**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-084 M3.1 DEEP	K1012978-062	**1.15**		0.67	0.24	2	11/29/10	11/30/10 10:15	
AMB05-089 PS12	K1012978-065	**0.83**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-094 BJEST	K1012978-068	**0.85**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-099 M4	K1012978-071	**0.92**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-104 PS13	K1012978-074	**0.92**		0.67	0.24	2	11/30/10	12/1/10 10:35	
Method Blank	K1012978-MB1	ND	U	0.20	0.14	2	11/29/10	11/30/10 10:15	
Method Blank	K1012978-MB2	ND	U	0.20	0.14	2	11/30/10	12/1/10 10:35	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/30/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-003 PSNS019DUP Duplicate Sample K1012978-002DUP2 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	0.67	0.24	0.93	0.87	0.900	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-089 PS12
Lab Code: K1012978-065

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-089 PS12DUP Duplicate Sample K1012978-065DUP8 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	0.67	0.24	0.83	0.83	0.833	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/30/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB05 DD-003 PSNS019MS Matrix Spike K1012978-002MS1				AMB05 DD-003 PSNS019DMS Duplicate Matrix Spike K1012978-002DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	0.93	21.1	33.3	61	*	41.3	66.7	61	*	75 - 125	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-089 PS12
Lab Code: K1012978-065

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB05-089 PS12MS Matrix Spike K1012978-065MS5			AMB05-089 PS12DMS Duplicate Matrix Spike K1012978-065DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	0.83	33.7	33.3	99	74.0	66.7	110	75 - 125	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/30/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	9.20	8.58	107	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 12/ 1/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	8.76	8.58	102	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227221	KQ1013131-05	11/30/10 10:15	10.0	10.1	101	90 - 110
CCV2	227221	KQ1013131-06	11/30/10 10:15	10.0	10.1	101	90 - 110
CCV3	227221	KQ1013131-07	11/30/10 10:15	10.0	10.1	101	90 - 110
CCV4	227221	KQ1013131-08	11/30/10 10:15	10.0	10.1	101	90 - 110
CCV5	227431	KQ1013171-13	12/1/10 10:35	10.0	9.88	99	90 - 110
CCV6	227431	KQ1013171-14	12/1/10 10:35	10.0	9.62	96	90 - 110
CCV7	227431	KQ1013171-15	12/1/10 10:35	10.0	9.82	98	90 - 110
CCV8	227431	KQ1013171-16	12/1/10 10:35	10.0	9.82	98	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227221	KQ1013131-01	11/30/10 10:15	0.20	ND	U
CCB2	227221	KQ1013131-02	11/30/10 10:15	0.20	ND	U
CCB3	227221	KQ1013131-03	11/30/10 10:15	0.20	ND	U
CCB4	227221	KQ1013131-04	11/30/10 10:15	0.20	ND	U
CCB5	227431	KQ1013171-09	12/1/10 10:35	0.20	ND	U
CCB6	227431	KQ1013171-10	12/1/10 10:35	0.20	ND	U
CCB7	227431	KQ1013171-11	12/1/10 10:35	0.20	ND	U
CCB8	227431	KQ1013171-12	12/1/10 10:35	0.20	ND	U

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-003 PSNS019	K1012978-002	**1.0**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05 DD-008 PSNS018	K1012978-006	**1.2**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05 DD-013 PSNS021	K1012978-010	**4.2**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-003 PS07	K1012978-014	**1.3**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-008 PS06	K1012978-017	**0.9**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-013 PS14	K1012978-020	**1.1**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-018 PS03	K1012978-023	**1.2**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-023 PS04	K1012978-026	**1.0**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-028 PS05	K1012978-029	**1.1**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-033 PS08	K1012978-032	**0.9**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-038 PS15	K1012978-035	**0.9**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-043 PS09	K1012978-038	**1.0**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-048 PS10	K1012978-041	**1.2**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-053 PS10.1	K1012978-044	**1.1**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-058 PS11	K1012978-047	**1.2**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-063 PS16	K1012978-050	**0.9**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-068 PS01	K1012978-053	**1.1**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-074 PS02	K1012978-056	**1.0**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-079 M3.1	K1012978-059	**0.9**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-084 M3.1 DEEP	K1012978-062	**0.9**	J	1.0	0.2	2	NA	11/23/10 20:45	
AMB05-089 PS12	K1012978-065	**1.0**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-094 BJEST	K1012978-068	**1.5**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-099 M4	K1012978-071	**1.4**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-104 PS13	K1012978-074	**1.2**		1.0	0.2	2	NA	11/23/10 20:45	
Method Blank	K1012978-MB1	ND	U	0.50	0.07	1	NA	11/23/10 20:45	
Method Blank	K1012978-MB2	ND	U	0.50	0.07	1	NA	11/23/10 20:45	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/23/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-003 PSNS019DUP Duplicate Sample K1012978-002DUP2 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0	0.9 J	0.944	13	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/23/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-094 BJEST
Lab Code: K1012978-068

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-094 BJESTDUP Duplicate Sample K1012978-068DUP9 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.5	1.4	1.44	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/23/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05 DD-003 PSNS019
Lab Code: K1012978-002

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB05 DD-003 PSNS019MS
Matrix Spike
K1012978-002MS4

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.0	52.1	50.0	102	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/23/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-094 BJEST
Lab Code: K1012978-068

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB05-094 BJESTMS
Matrix Spike
K1012978-068MS8

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.5	48.8	50.0	95	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/23/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	24.7	24.7	100	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/23/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1012978-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	23.5	24.7	95	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	226601	KQ1013312-10	11/23/10 20:45	25.0	24.1	96	90 - 110
CCV2	226601	KQ1013312-11	11/23/10 20:45	25.0	24.1	97	90 - 110
CCV3	226601	KQ1013312-12	11/23/10 20:45	25.0	24.1	96	90 - 110
CCV4	226601	KQ1013312-13	11/23/10 20:45	25.0	24.4	98	90 - 110
CCV5	226601	KQ1013312-14	11/23/10 20:45	25.0	24.2	97	90 - 110
CCV6	226601	KQ1013312-15	11/23/10 20:45	25.0	24.0	96	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	226601	KQ1013312-16	11/23/10 20:45	0.50	ND	U
CCB2	226601	KQ1013312-17	11/23/10 20:45	0.50	ND	U
CCB3	226601	KQ1013312-18	11/23/10 20:45	0.50	ND	U
CCB4	226601	KQ1013312-19	11/23/10 20:45	0.50	ND	U
CCB5	226601	KQ1013312-20	11/23/10 20:45	0.50	ND	U
CCB6	226601	KQ1013312-21	11/23/10 20:45	0.50	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/16/10
Sample Matrix:	Ocean Water	**Date Received:**	11/18/10
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-004 PSNS019	K1012978-003	**2.0**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05 DD-009 PSNS018	K1012978-007	**2.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05 DD-014 PSNS021	K1012978-011	**4.3**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-004 PS07	K1012978-015	**1.4**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-009 PS06	K1012978-018	**2.0**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-014 PS14	K1012978-021	**1.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-019 PS03	K1012978-024	**2.0**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-024 PS04	K1012978-027	**1.3**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-029 PS05	K1012978-030	**2.1**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-034 PS08	K1012978-033	**1.8**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-039 PS15	K1012978-036	**1.8**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-044 PS09	K1012978-039	**1.4**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-049 PS10	K1012978-042	**1.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-054 PS10.1	K1012978-045	**2.4**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-059 PS11	K1012978-048	**1.1**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-064 PS16	K1012978-051	**1.9**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-069 PS01	K1012978-054	**2.1**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-075 PS02	K1012978-057	**1.3**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-080 M3.1	K1012978-060	**1.8**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-085 M3.1 DEEP	K1012978-063	**2.3**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-090 PS12	K1012978-066	**2.7**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-095 BJEST	K1012978-069	**2.9**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-100 M4	K1012978-072	**1.4**		1.0	0.2	2	NA	11/23/10 20:45	
AMB05-105 PS13	K1012978-075	**2.5**		1.0	0.2	2	NA	12/3/10 16:49	
Method Blank	K1012978-MB1	**0.11**	J	0.50	0.07	1	NA	11/23/10 20:45	
Method Blank	K1012978-MB2	ND	U	0.50	0.07	1	NA	12/1/10 19:01	
Method Blank	K1012978-MB3	ND	U	0.50	0.07	1	NA	12/1/10 19:01	
Method Blank	K1012978-MB4	ND	U	0.50	0.07	1	NA	12/3/10 16:49	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-009 PSNS018
Lab Code: K1012978-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-009 PSNS018DUP Duplicate Sample K1012978-007DUP6 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.2	2.1	2.13	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 3/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-105 PS13
Lab Code: K1012978-075

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-105 PS13DUP Duplicate Sample K1012978-075DUP16 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.5	2.2	2.37	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1013104-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1013104-003DUP17 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.1	2.2	2.18	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 1/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05 DD-009 PSNS018
Lab Code: K1012978-007

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB05 DD-009 PSNS018MS
Matrix Spike
K1012978-007MS5

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec		% Rec Limits
Carbon, Dissolved Organic (DOC)	2.2	42.0	50.0	80	*	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 12/ 3/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-105 PS13
Lab Code: K1012978-075

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB05-105 PS13MS
Matrix Spike
K1012978-075MS11

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Carbon, Dissolved Organic (DOC)	2.5	40.5	50.0	76	*	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/23/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1012978-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	23.6	24.7	96	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	226600	KQ1013311-03	11/23/10 20:45	25.0	24.1	96	90 - 110
CCV2	226600	KQ1013311-04	11/23/10 20:45	25.0	23.9	96	90 - 110
CCV3	226600	KQ1013311-05	11/23/10 20:45	25.0	24.1	97	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1012978
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	226600	KQ1013311-06	11/23/10 20:45	0.50	ND	U
CCB2	226600	KQ1013311-07	11/23/10 20:45	0.50	ND	U
CCB3	226600	KQ1013311-08	11/23/10 20:45	0.50	ND	U

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10

Analysis Method: SM 2540 B

Units: mg/L
Basis: NA

Solids, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-002 PSNS019	K1012978-001	**27700**		10	10	1	NA	11/19/10 00:00	
AMB05 DD-007 PSNS018	K1012978-005	**19900**		10	10	1	NA	11/19/10 00:00	
AMB05 DD-012 PSNS021	K1012978-009	**835**		10	10	1	NA	11/19/10 00:00	
AMB05-002 PS07	K1012978-013	**31700**		10	10	1	NA	11/19/10 00:00	
AMB05-007 PS06	K1012978-016	**31500**		10	10	1	NA	11/19/10 00:00	
AMB05-012 PS14	K1012978-019	**31800**		10	10	1	NA	11/19/10 00:00	
AMB05-017 PS03	K1012978-022	**31500**		10	10	1	NA	11/19/10 00:00	
AMB05-022 PS04	K1012978-025	**32400**		10	10	1	NA	11/19/10 00:00	
AMB05-027 PS05	K1012978-028	**32000**		10	10	1	NA	11/19/10 00:00	
AMB05-032 PS08	K1012978-031	**32000**		10	10	1	NA	11/19/10 00:00	
AMB05-037 PS15	K1012978-034	**32200**		10	10	1	NA	11/19/10 00:00	
AMB05-042 PS09	K1012978-037	**29600**		10	10	1	NA	11/19/10 00:00	
AMB05-047 PS10	K1012978-040	**31500**		10	10	1	NA	11/19/10 00:00	
AMB05-052 PS10.1	K1012978-043	**32100**		10	10	1	NA	11/19/10 00:00	
AMB05-057 PS11	K1012978-046	**32200**		10	10	1	NA	11/19/10 00:00	
AMB05-062 PS16	K1012978-049	**32800**		10	10	1	NA	11/19/10 00:00	
AMB05-067 PS01	K1012978-052	**32700**		10	10	1	NA	11/19/10 00:00	
AMB05-073 PS02	K1012978-055	**31900**		10	10	1	NA	11/19/10 00:00	
AMB05-078 M3.1	K1012978-058	**32100**		10	10	1	NA	11/19/10 00:00	
AMB05-083 M3.1 DEEP	K1012978-061	**32300**		10	10	1	NA	11/19/10 00:00	
AMB05-088 PS12	K1012978-064	**32200**		10	10	1	NA	11/19/10 00:00	
AMB05-093 BJEST	K1012978-067	**31100**		10	10	1	NA	11/19/10 00:00	
AMB05-098 M4	K1012978-070	**32800**		10	10	1	NA	11/19/10 00:00	
AMB05-103 PS13	K1012978-073	**32000**		10	10	1	NA	11/19/10 00:00	
Method Blank	K1012978-MB1	ND	U	5.0	5.0	1	NA	11/19/10 09:30	
Method Blank	K1012978-MB2	ND	U	5.0	5.0	1	NA	11/19/10 00:00	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05 DD-002 PSNS019
Lab Code: K1012978-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05 DD-002 PSNS019DUP Duplicate Sample K1012978-001DUP1 Result	Average	RPD	RPD Limit
Solids, Total	SM 2540 B	10	10	27700	27800	27800	<1	10

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-088 PS12
Lab Code: K1012978-064

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-088 PS12DUP Duplicate Sample K1012978-064DUP7 Result	Average	RPD	RPD Limit
Solids, Total	SM 2540 B	10	10	32200	32500	32300	<1	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-103 PS13
Lab Code: K1012978-073

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-103 PS13DUP Duplicate Sample K1012978-073DUP10 Result	Average	RPD	RPD Limit
Solids, Total	SM 2540 B	10	10	32000	33100	32600	4	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/19/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total	SM 2540 B	1330	1420	94	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/19/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total	SM 2540 B	1350	1420	95	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1012978
Project:	ENVVEST: November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/16/10
Sample Matrix:	Ocean Water	**Date Received:**	11/18/10
		Units:	mg/L
Analysis Method:	SM 2540 D	**Basis:**	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05 DD-002 PSNS019	K1012978-001	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05 DD-007 PSNS018	K1012978-005	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05 DD-012 PSNS021	K1012978-009	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-002 PS07	K1012978-013	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-007 PS06	K1012978-016	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-012 PS14	K1012978-019	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-017 PS03	K1012978-022	5.5		5.0	5.0	1	NA	11/19/10 04:30	
AMB05-022 PS04	K1012978-025	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-027 PS05	K1012978-028	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-032 PS08	K1012978-031	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-037 PS15	K1012978-034	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-042 PS09	K1012978-037	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-047 PS10	K1012978-040	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-052 PS10.1	K1012978-043	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-057 PS11	K1012978-046	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-062 PS16	K1012978-049	5.0		5.0	5.0	1	NA	11/19/10 04:30	
AMB05-067 PS01	K1012978-052	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-073 PS02	K1012978-055	5.5		5.0	5.0	1	NA	11/19/10 04:30	
AMB05-078 M3.1	K1012978-058	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-083 M3.1 DEEP	K1012978-061	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-088 PS12	K1012978-064	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-093 BJEST	K1012978-067	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-098 M4	K1012978-070	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
AMB05-103 PS13	K1012978-073	6.0		5.0	5.0	1	NA	11/19/10 04:30	
Method Blank	K1012978-MB1	ND	U	5.0	5.0	1	NA	11/19/10 04:30	
Method Blank	K1012978-MB2	ND	U	5.0	5.0	1	NA	11/19/10 04:30	

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-017 PS03
Lab Code: K1012978-022

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-017 PS03DUP Duplicate Sample K1012978-022DUP4 Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	5.0	5.0	5.5	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.
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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-047 PS10
Lab Code: K1012978-040

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-047 PS10DUP Duplicate Sample K1012978-040DUP5 Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	5.0	5.0	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Collected: 11/16/10
Date Received: 11/18/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-103 PS13
Lab Code: K1012978-073

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-103 PS13DUP Duplicate Sample K1012978-073DUP10 Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	5.0	5.0	6.0	7.0	6.50	15	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/19/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total Suspended (TSS)	SM 2540 D	320	320	100	80 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1012978
Date Analyzed: 11/19/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1012978-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total Suspended (TSS)	SM 2540 D	314	320	98	80 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Received:**	11/20/10
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Sixty-six water samples were received for analysis at Columbia Analytical Services on 11/20/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Dissolved Organic Carbon by SM 5310 C:
The matrix spike recovery of Dissolved Organic Carbon for sample AMB05-504 PA07 was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 1-4-11

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/10
Sample Matrix:	Ocean Water	**Date Received:**	11/20/10
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-503 PS07	K1013104-002	**0.083**		0.010	0.003	1	NA	12/2/10 15:40	
AMB05-508 PS01	K1013104-005	**0.084**		0.010	0.003	1	NA	12/2/10 15:40	
AMB05-513 SN03	K1013104-008	**0.157**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-518 SN05	K1013104-011	**0.126**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-523 SN08	K1013104-014	**0.086**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-528 M4	K1013104-017	**0.087**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-533 SN10	K1013104-020	**0.079**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-538 SN11	K1013104-023	**0.072**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-543 PS12	K1013104-026	**0.119**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-548 PWNLP	K1013104-029	**0.061**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-553 M6	K1013104-032	**0.082**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-558 M8	K1013104-035	**0.119**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-563 DYOTS	K1013104-038	**0.108**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-568 POPISP	K1013104-041	**0.039**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-573 M1	K1013104-044	**0.062**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-578 M1 DEEP	K1013104-047	**0.065**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-584 WP	K1013104-050	**0.037**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-589 CLAM BAY	K1013104-053	**0.028**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-594 M2	K1013104-056	**0.024**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-599 M2 DEEP	K1013104-059	**0.011**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-605 PS08	K1013104-062	**0.077**		0.010	0.003	1	NA	12/2/10 14:20	
AMB05-611 PS09	K1013104-065	**0.091**		0.010	0.003	1	NA	12/2/10 14:20	
Method Blank	K1013104-MB1	ND	U	0.010	0.003	1	NA	12/2/10 14:20	
Method Blank	K1013104-MB2	ND	U	0.010	0.003	1	NA	12/2/10 15:40	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-503 PS07
Lab Code: K1013104-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-503 PS07DUP Duplicate Sample K1013104-002DUP2 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.083	0.083	0.0829	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-513 SN03
Lab Code: K1013104-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-513 SN03DUP Duplicate Sample K1013104-008DUP5 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.157	0.172	0.165	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-503 PS07
Lab Code: K1013104-002

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB05-503 PS07MS Matrix Spike K1013104-002MS1			AMB05-503 PS07DMS Duplicate Matrix Spike K1013104-002DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.083	0.290	0.200	103	0.290	0.200	104	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-513 SN03
Lab Code: K1013104-008

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB05-513 SN03MS Matrix Spike K1013104-008MS4			AMB05-513 SN03DMS Duplicate Matrix Spike K1013104-008DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.157	0.364	0.200	104	0.364	0.200	104	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 2/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	14.0	14.3	98	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 2/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	14.1	14.3	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227644	KQ1013240-11	12/2/10 14:20	0.250	0.239	95	90 - 110
CCV2	227644	KQ1013240-12	12/2/10 14:20	0.250	0.242	97	90 - 110
CCV3	227644	KQ1013240-13	12/2/10 14:20	0.250	0.240	96	90 - 110
CCV4	227644	KQ1013240-14	12/2/10 14:20	0.250	0.241	96	90 - 110
CCV5	227644	KQ1013240-15	12/2/10 14:20	0.250	0.241	96	90 - 110
CCV6	227650	KQ1013244-08	12/2/10 15:40	0.250	0.240	96	90 - 110
CCV7	227650	KQ1013244-09	12/2/10 15:40	0.250	0.240	96	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227644	KQ1013240-06	12/2/10 14:20	0.010	ND	U
CCB2	227644	KQ1013240-07	12/2/10 14:20	0.010	ND	U
CCB3	227644	KQ1013240-08	12/2/10 14:20	0.010	ND	U
CCB4	227644	KQ1013240-09	12/2/10 14:20	0.010	ND	U
CCB5	227644	KQ1013240-10	12/2/10 14:20	0.010	ND	U
CCB6	227650	KQ1013244-06	12/2/10 15:40	0.010	ND	U
CCB7	227650	KQ1013244-07	12/2/10 15:40	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/10
Sample Matrix:	Ocean Water	**Date Received:**	11/20/10
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-503 PS07	K1013104-002	**0.86**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-508 PS01	K1013104-005	**0.76**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-513 SN03	K1013104-008	**1.02**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-518 SN05	K1013104-011	**1.17**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-523 SN08	K1013104-014	**1.15**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-528 M4	K1013104-017	**0.99**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-533 SN10	K1013104-020	**0.93**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-538 SN11	K1013104-023	**0.89**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-543 PS12	K1013104-026	**1.18**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-548 PWNLP	K1013104-029	**0.91**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-553 M6	K1013104-032	**1.30**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-558 M8	K1013104-035	**1.08**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-563 DYOTS	K1013104-038	**1.01**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-568 POPISP	K1013104-041	**0.97**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-573 M1	K1013104-044	**1.13**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-578 M1 DEEP	K1013104-047	**1.09**		0.67	0.24	2	11/30/10	12/1/10 10:35	
AMB05-584 WP	K1013104-050	**0.95**		0.67	0.24	2	12/ 2/10	12/6/10 09:15	
AMB05-589 CLAM BAY	K1013104-053	**1.11**		0.67	0.24	2	12/ 2/10	12/6/10 09:15	
AMB05-594 M2	K1013104-056	**1.08**		0.67	0.24	2	12/ 2/10	12/6/10 09:15	
AMB05-599 M2 DEEP	K1013104-059	**0.75**		0.67	0.24	2	12/ 2/10	12/6/10 09:15	
AMB05-605 PS08	K1013104-062	**0.90**		0.67	0.24	2	12/ 2/10	12/6/10 09:15	
AMB05-611 PS09	K1013104-065	**0.99**		0.67	0.24	2	12/ 2/10	12/6/10 09:15	
Method Blank	K1013104-MB1	ND	U	0.20	0.14	2	11/30/10	12/1/10 10:35	
Method Blank	K1013104-MB2	ND	U	0.20	0.14	2	12/ 2/10	12/6/10 09:15	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 6/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-584 WP
Lab Code: K1013104-050

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-584 WPDUP Duplicate Sample K1013104-050DUP6 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	0.67	0.24	0.95	0.85	0.897	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 6/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-584 WP
Lab Code: K1013104-050

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

Analyte Name	Sample Result	AMB05-584 WPMS Matrix Spike K1013104-050MS5 Result	Spike Amount	% Rec	AMB05-584 WPDMS Duplicate Matrix Spike K1013104-050DMS5 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	0.95	37.7	33.3	110	76.7	66.7	114	75 - 125	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 1/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	8.76	8.58	102	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 6/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1013104-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	9.44	8.58	110	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227431	KQ1013171-13	12/1/10 10:35	10.0	9.88	99	90 - 110
CCV2	227431	KQ1013171-14	12/1/10 10:35	10.0	9.62	96	90 - 110
CCV3	227431	KQ1013171-15	12/1/10 10:35	10.0	9.82	98	90 - 110
CCV4	227431	KQ1013171-16	12/1/10 10:35	10.0	9.82	98	90 - 110
CCV5	227989	KQ1013356-04	12/6/10 09:15	10.0	10.0	100	90 - 110
CCV6	227989	KQ1013356-05	12/6/10 09:15	10.0	10.2	102	90 - 110
CCV7	227989	KQ1013356-06	12/6/10 09:15	10.0	10.4	104	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227431	KQ1013171-09	12/1/10 10:35	0.20	ND	U
CCB2	227431	KQ1013171-10	12/1/10 10:35	0.20	ND	U
CCB3	227431	KQ1013171-11	12/1/10 10:35	0.20	ND	U
CCB4	227431	KQ1013171-12	12/1/10 10:35	0.20	ND	U
CCB5	227989	KQ1013356-01	12/6/10 09:15	0.20	ND	U
CCB6	227989	KQ1013356-02	12/6/10 09:15	0.20	ND	U
CCB7	227989	KQ1013356-03	12/6/10 09:15	0.20	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/10
Sample Matrix:	Ocean Water	**Date Received:**	11/20/10
		Units:	mg/L
Analysis Method:	353.2	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-503 PS07	K1013104-002	**0.335**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-508 PS01	K1013104-005	**0.331**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-513 SN03	K1013104-008	**0.347**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-518 SN05	K1013104-011	**0.345**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-523 SN08	K1013104-014	**0.308**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-528 M4	K1013104-017	**0.318**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-533 SN10	K1013104-020	**0.313**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-538 SN11	K1013104-023	**0.314**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-543 PS12	K1013104-026	**0.332**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-548 PWNLP	K1013104-029	**0.313**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-553 M6	K1013104-032	**0.309**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-558 M8	K1013104-035	**0.287**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-563 DYOTS	K1013104-038	**0.291**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-568 POPISP	K1013104-041	**0.322**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-573 M1	K1013104-044	**0.306**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-578 M1 DEEP	K1013104-047	**0.317**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-584 WP	K1013104-050	**0.327**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-589 CLAM BAY	K1013104-053	**0.334**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-594 M2	K1013104-056	**0.348**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-599 M2 DEEP	K1013104-059	**0.354**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-605 PS08	K1013104-062	**0.330**		0.050	0.009	1	NA	11/29/10 13:37	
AMB05-611 PS09	K1013104-065	**0.349**		0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013104-MB1	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013104-MB2	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013104-MB3	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013104-MB4	ND	U	0.050	0.009	1	NA	11/29/10 13:37	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/29/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-503 PS07
Lab Code: K1013104-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-503 PS07DUP Duplicate Sample K1013104-002DUP2 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.335	0.323	0.329	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/29/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-589 CLAM BAY
Lab Code: K1013104-053

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-589 CLAM BAYDUP Duplicate Sample K1013104-053DUP7 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.334	0.333	0.333	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/29/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-503 PS07
Lab Code: K1013104-002

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	AMB05-503 PS07MS Matrix Spike K1013104-002MS1 Result	Spike Amount	% Rec	AMB05-503 PS07DMS Duplicate Matrix Spike K1013104-002DMS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.335	2.36	2.00	101	2.38	2.00	102	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/29/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-589 CLAM BAY
Lab Code: K1013104-053

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	AMB05-589 CLAM BAYMS Matrix Spike K1013104-053MS6 Result	Spike Amount	% Rec	AMB05-589 CLAM BAYDMS Duplicate Matrix Spike K1013104-053DMS6 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.334	2.38	2.00	102	2.40	2.00	103	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1013104-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1013104-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.7	14.8	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227201	KQ1013127-34	11/29/10 13:37	2.00	1.99	99	90 - 110
CCV2	227201	KQ1013127-35	11/29/10 13:37	2.00	1.99	99	90 - 110
CCV3	227201	KQ1013127-36	11/29/10 13:37	2.00	1.99	99	90 - 110
CCV4	227201	KQ1013127-37	11/29/10 13:37	2.00	1.98	99	90 - 110
CCV5	227201	KQ1013127-38	11/29/10 13:37	2.00	2.00	100	90 - 110
CCV6	227201	KQ1013127-39	11/29/10 13:37	2.00	1.99	100	90 - 110
CCV7	227201	KQ1013127-40	11/29/10 13:37	2.00	1.99	99	90 - 110
CCV8	227201	KQ1013127-41	11/29/10 13:37	2.00	1.99	99	90 - 110
CCV9	227201	KQ1013127-42	11/29/10 13:37	2.00	2.01	101	90 - 110
CCV10	227201	KQ1013127-43	11/29/10 13:37	2.00	2.00	100	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227201	KQ1013127-24	11/29/10 13:37	0.050	ND	U
CCB2	227201	KQ1013127-25	11/29/10 13:37	0.050	ND	U
CCB3	227201	KQ1013127-26	11/29/10 13:37	0.050	ND	U
CCB4	227201	KQ1013127-27	11/29/10 13:37	0.050	ND	U
CCB5	227201	KQ1013127-28	11/29/10 13:37	0.050	ND	U
CCB6	227201	KQ1013127-29	11/29/10 13:37	0.050	ND	U
CCB7	227201	KQ1013127-30	11/29/10 13:37	0.050	ND	U
CCB8	227201	KQ1013127-31	11/29/10 13:37	0.050	ND	U
CCB9	227201	KQ1013127-32	11/29/10 13:37	0.050	ND	U
CCB10	227201	KQ1013127-33	11/29/10 13:37	0.050	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/10
Sample Matrix:	Ocean Water	**Date Received:**	11/20/10
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-503 PS07	K1013104-002	**0.088**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-508 PS01	K1013104-005	**0.098**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-513 SN03	K1013104-008	**0.128**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-518 SN05	K1013104-011	**0.095**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-523 SN08	K1013104-014	**0.101**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-528 M4	K1013104-017	**0.094**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-533 SN10	K1013104-020	**0.093**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-538 SN11	K1013104-023	**0.093**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-543 PS12	K1013104-026	**0.096**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-548 PWNLP	K1013104-029	**0.093**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-553 M6	K1013104-032	**0.092**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-558 M8	K1013104-035	**0.092**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-563 DYOTS	K1013104-038	**0.091**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-568 POPISP	K1013104-041	**0.089**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-573 M1	K1013104-044	**0.093**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-578 M1 DEEP	K1013104-047	**0.089**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-584 WP	K1013104-050	**0.087**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-589 CLAM BAY	K1013104-053	**0.087**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-594 M2	K1013104-056	**0.088**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-599 M2 DEEP	K1013104-059	**0.086**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-605 PS08	K1013104-062	**0.098**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
AMB05-611 PS09	K1013104-065	**0.108**		0.010	0.004	1	12/ 1/10	12/2/10 15:00	
Method Blank	K1013104-MB1	ND	U	0.010	0.004	1	12/ 1/10	12/2/10 15:00	
Method Blank	K1013104-MB2	ND	U	0.010	0.004	1	12/ 1/10	12/2/10 15:00	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-513 SN03
Lab Code: K1013104-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-513 SN03DUP Duplicate Sample K1013104-008DUP5 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.128	0.131	0.130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-611 PS09
Lab Code: K1013104-065

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-611 PS09DUP Duplicate Sample K1013104-065DUP11 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.108	0.107	0.108	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-513 SN03
Lab Code: K1013104-008

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB05-513 SN03MS Matrix Spike K1013104-008MS4			AMB05-513 SN03DMS Duplicate Matrix Spike K1013104-008DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.128	0.494	0.500	73	0.937	1.00	81	50 - 144	10	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 2/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-611 PS09
Lab Code: K1013104-065

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB05-611 PS09MS Matrix Spike K1013104-065MS7			AMB05-611 PS09DMS Duplicate Matrix Spike K1013104-065DMS7					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.108	0.486	0.500	76	0.904	1.00	80	50 - 144	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 2/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1013104-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	1.97	1.87	105	88 - 113

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 2/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	1.87	1.87	100	88 - 113

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1013104
Project: November 2010 Ambient Monitoring (AMB05)

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227645	KQ1013241-06	12/2/10 15:00	0.500	0.473	95	90 - 110
CCV2	227645	KQ1013241-07	12/2/10 15:00	0.500	0.475	95	90 - 110
CCV3	227645	KQ1013241-08	12/2/10 15:00	0.500	0.474	95	90 - 110
CCV4	227645	KQ1013241-09	12/2/10 15:00	0.500	0.472	94	90 - 110
CCV5	227645	KQ1013241-10	12/2/10 15:00	0.500	0.467	93	90 - 110

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Service Request: K1013104

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227645	KQ1013241-01	12/2/10 15:00	0.010	ND	U
CCB2	227645	KQ1013241-02	12/2/10 15:00	0.010	ND	U
CCB3	227645	KQ1013241-03	12/2/10 15:00	0.010	ND	U
CCB4	227645	KQ1013241-04	12/2/10 15:00	0.010	ND	U
CCB5	227645	KQ1013241-05	12/2/10 15:00	0.010	ND	U

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10

Analysis Method: SM 2540 B

Units: mg/L
Basis: NA

Solids, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-502 PS07	K1013104-001	**31500**		20	20	1	NA	11/22/10 00:00	
AMB05-507 PS01	K1013104-004	**30100**		20	20	1	NA	11/22/10 00:00	
AMB05-512 SN03	K1013104-007	**32000**		20	20	1	NA	11/22/10 00:00	
AMB05-517 SN05	K1013104-010	**30000**		20	20	1	NA	11/22/10 00:00	
AMB05-522 SN08	K1013104-013	**32800**		20	20	1	NA	11/22/10 00:00	
AMB05-527 M4	K1013104-016	**31800**		20	20	1	NA	11/22/10 00:00	
AMB05-532 SN10	K1013104-019	**33100**		20	20	1	NA	11/22/10 00:00	
AMB05-537 SN11	K1013104-022	**32200**		20	20	1	NA	11/22/10 00:00	
AMB05-542 PS12	K1013104-025	**32000**		20	20	1	NA	11/22/10 00:00	
AMB05-547 PWNLP	K1013104-028	**32200**		20	20	1	NA	11/22/10 00:00	
AMB05-552 M6	K1013104-031	**33100**		20	20	1	NA	11/22/10 00:00	
AMB05-557 M8	K1013104-034	**32500**		20	20	1	NA	11/22/10 00:00	
AMB05-562 DYOTS	K1013104-037	**33000**		20	20	1	NA	11/22/10 00:00	
AMB05-567 POPISP	K1013104-040	**33400**		20	20	1	NA	11/22/10 00:00	
AMB05-572 M1	K1013104-043	**32300**		20	20	1	NA	11/22/10 00:00	
AMB05-577 M1 DEEP	K1013104-046	**32900**		20	20	1	NA	11/22/10 00:00	
AMB05-583 WP	K1013104-049	**32500**		20	20	1	NA	11/22/10 00:00	
AMB05-588 CLAM BAY	K1013104-052	**33600**		20	20	1	NA	11/22/10 00:00	
AMB05-593 M2	K1013104-055	**32900**		20	20	1	NA	11/22/10 00:00	
AMB05-598 M2 DEEP	K1013104-058	**33000**		20	20	1	NA	11/22/10 00:00	
AMB05-604 PS08	K1013104-061	**32300**		20	20	1	NA	11/22/10 00:00	
AMB05-610 PS09	K1013104-064	**29500**		20	20	1	NA	11/22/10 00:00	
Method Blank	K1013104-MB1	ND	U	5.0	5.0	1	NA	11/22/10 09:15	
Method Blank	K1013104-MB2	ND	U	5.0	5.0	1	NA	11/22/10 00:00	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/22/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-502 PS07
Lab Code: K1013104-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-502 PS07DUP Duplicate Sample K1013104-001DUP1 Result	Average	RPD	RPD Limit
Solids, Total	SM 2540 B	20	20	31500	32500	32000	3	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/22/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-604 PS08
Lab Code: K1013104-061

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-604 PS08DUP Duplicate Sample K1013104-061DUP9 Result	Average	RPD	RPD Limit
Solids, Total	SM 2540 B	20	20	32300	31800	32100	2	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/22/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-610 PS09
Lab Code: K1013104-064

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-610 PS09DUP Duplicate Sample K1013104-064DUP10 Result	Average	RPD	RPD Limit
Solids, Total	SM 2540 B	20	20	29500	29900	29700	1	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total	SM 2540 B	1380	1420	97	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total	SM 2540 B	1420	1420	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/10
Sample Matrix:	Ocean Water	**Date Received:**	11/20/10
		Units:	mg/L
Analysis Method:	SM 2540 D	**Basis:**	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-502 PS07	K1013104-001	**7.0**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-507 PS01	K1013104-004	**9.5**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-512 SN03	K1013104-007	**5.5**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-517 SN05	K1013104-010	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-522 SN08	K1013104-013	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-527 M4	K1013104-016	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-532 SN10	K1013104-019	**6.0**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-537 SN11	K1013104-022	**5.0**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-542 PS12	K1013104-025	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-547 PWNLP	K1013104-028	**6.0**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-552 M6	K1013104-031	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-557 M8	K1013104-034	**5.0**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-562 DYOTS	K1013104-037	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-567 POPISP	K1013104-040	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-572 M1	K1013104-043	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-577 M1 DEEP	K1013104-046	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-583 WP	K1013104-049	**5.5**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-588 CLAM BAY	K1013104-052	**7.0**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-593 M2	K1013104-055	**5.5**		5.0	5.0	1	NA	11/22/10 10:30	
AMB05-598 M2 DEEP	K1013104-058	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-604 PS08	K1013104-061	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
AMB05-610 PS09	K1013104-064	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
Method Blank	K1013104-MB1	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
Method Blank	K1013104-MB2	ND	U	5.0	5.0	1	NA	11/22/10 10:30	
Method Blank	K1013104-MB3	ND	U	5.0	5.0	1	NA	11/22/10 10:30	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/22/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-512 SN03
Lab Code: K1013104-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-512 SN03DUP Duplicate Sample K1013104-007DUP4 Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	5.0	5.0	5.5	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 11/22/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-593 M2
Lab Code: K1013104-055

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-593 M2DUP Duplicate Sample K1013104-055DUP8 Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	5.0	5.0	5.5	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total Suspended (TSS)	SM 2540 D	314	320	98	80 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total Suspended (TSS)	SM 2540 D	324	320	101	80 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1013104-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Solids, Total Suspended (TSS)	SM 2540 D	334	320	104	80 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/10
Sample Matrix:	Ocean Water	**Date Received:**	11/20/10
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB05-504 PS07	K1013104-003	**2.1**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-509 PS01	K1013104-006	**2.3**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-514 SN03	K1013104-009	**1.6**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-519 SN05	K1013104-012	**2.1**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-524 SN08	K1013104-015	**2.7**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-529 M4	K1013104-018	**3.3**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-534 SN10	K1013104-021	**1.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-539 SN11	K1013104-024	**1.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-544 PS12	K1013104-027	**1.1**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-549 PWNLP	K1013104-030	**1.4**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-554 M6	K1013104-033	**1.7**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-559 M8	K1013104-036	**1.9**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-564 DYOTS	K1013104-039	**2.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-569 POPISP	K1013104-042	**1.1**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-574 M1	K1013104-045	**1.2**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-579 M1 DEEP	K1013104-048	**2.0**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-585 WP	K1013104-051	**1.5**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-590 CLAM BAY	K1013104-054	**1.4**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-595 M2	K1013104-057	**1.9**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-600 M2 DEEP	K1013104-060	**2.7**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-606 PS08	K1013104-063	**1.5**		1.0	0.2	2	NA	12/1/10 19:01	
AMB05-612 PS09	K1013104-066	**1.1**		1.0	0.2	2	NA	12/1/10 19:01	
Method Blank	K1013104-MB1	ND	U	0.50	0.07	1	NA	12/1/10 19:01	
Method Blank	K1013104-MB2	ND	U	0.50	0.07	1	NA	12/1/10 19:01	
Method Blank	K1013104-MB3	ND	U	0.50	0.07	1	NA	12/7/10 19:01	

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB05-504 PS07
Lab Code: K1013104-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB05-504 PS07DUP Duplicate Sample K1013104-003DUP3 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.1	2.2	2.18	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 1/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1012978-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1012978-007DUP2 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.2	2.1	2.13	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 1/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1012978-007

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

Batch QCMS
Matrix Spike
K1012978-007MS1

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec		% Rec Limits
Carbon, Dissolved Organic (DOC)	2.2	42.0	50.0	80	*	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 7/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1012978-007

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

Batch QCMS
Matrix Spike
K1012978-007MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Carbon, Dissolved Organic (DOC)	2.2	26.4	50.0	48	*	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 7/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-504 PS07
Lab Code: K1013104-003

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB05-504 PS07MS
Matrix Spike
K1013104-003MS10

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec		% Rec Limits
Carbon, Dissolved Organic (DOC)	2.1	33.0	50.0	62	*	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Collected: 11/18/10
Date Received: 11/20/10
Date Analyzed: 12/ 1/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB05-504 PS07
Lab Code: K1013104-003

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB05-504 PS07MS
Matrix Spike
K1013104-003MS9

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Carbon, Dissolved Organic (DOC)	2.1	39.8	50.0	75	*	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 1/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1013104-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	24.6	24.7	100	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 1/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1013104-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	24.2	24.7	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean Water

Service Request: K1013104
Date Analyzed: 12/ 7/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1013104-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	23.9	24.7	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Service Request: K1013104

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	227475	KQ1013313-09	12/1/10 19:01	25.0	24.8	99	90 - 110
CCV2	227475	KQ1013313-10	12/1/10 19:01	25.0	24.4	98	90 - 110
CCV3	227475	KQ1013313-11	12/1/10 19:01	25.0	25.4	102	90 - 110
CCV4	227475	KQ1013313-12	12/1/10 19:01	25.0	25.1	100	90 - 110
CCV5	227475	KQ1013313-13	12/1/10 19:01	25.0	25.3	101	90 - 110
CCV6	227475	KQ1013313-14	12/1/10 19:01	25.0	24.4	97	90 - 110
CCV7	230347	KQ1014098-04	12/7/10 19:01	25.0	24.5	98	90 - 110
CCV8	230347	KQ1014098-05	12/7/10 19:01	25.0	26.3	105	90 - 110

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Service Request: K1013104

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	227475	KQ1013313-15	12/1/10 19:01	0.50	ND	U
CCB2	227475	KQ1013313-16	12/1/10 19:01	0.50	ND	U
CCB3	227475	KQ1013313-17	12/1/10 19:01	0.50	ND	U
CCB4	227475	KQ1013313-18	12/1/10 19:01	0.50	ND	U
CCB5	227475	KQ1013313-19	12/1/10 19:01	0.50	ND	U
CCB6	227475	KQ1013313-20	12/1/10 19:01	0.50	ND	U
CCB7	230347	KQ1014098-02	12/7/10 19:01	0.50	ND	U
CCB8	230347	KQ1014098-03	12/7/10 19:01	0.50	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1013104
Project:	November 2010 Ambient Monitoring (AMB05)	**Date Collected:**	11/18/2010
Sample Matrix:	Ocean water	**Date Received:**	11/20/2010

Carbon, Total Organic

Prep Method:	NONE	Units:	mg/L (ppm)
Analysis Method:	SM 5310 C	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
AMB05-503 PS07	K1013104-002	1.0	0.2	2	12/3/2010	1.2	
AMB05-508 PS01	K1013104-005	1.0	0.2	2	12/3/2010	1.2	
AMB05-513 SN03	K1013104-008	1.0	0.2	2	12/3/2010	1.8	
AMB05-518 SN05	K1013104-011	1.0	0.2	2	12/3/2010	1.3	
AMB05-523 SN08	K1013104-014	1.0	0.2	2	12/3/2010	1.5	
AMB05-528 M4	K1013104-017	1.0	0.2	2	12/3/2010	1.2	
AMB05-533 SN10	K1013104-020	1.0	0.2	2	12/3/2010	1.2	
AMB05-538 SN11	K1013104-023	1.0	0.2	2	12/3/2010	1.3	
AMB05-543 PS12	K1013104-026	1.0	0.2	2	12/3/2010	1.1	
AMB05-548 PWNLP	K1013104-029	1.0	0.2	2	12/3/2010	1.1	
AMB05-553 M6	K1013104-032	1.0	0.2	2	12/3/2010	1.0	J
AMB05-558 M8	K1013104-035	1.0	0.2	2	12/3/2010	1.0	
AMB05-563 DYOTS	K1013104-038	1.0	0.2	2	12/3/2010	1.1	
AMB05-568 POPISP	K1013104-041	1.0	0.2	2	12/3/2010	0.9	J
AMB05-573 M1	K1013104-044	1.0	0.2	2	12/3/2010	1.0	
AMB05-578 M1 DEEP	K1013104-047	1.0	0.2	2	12/3/2010	0.9	J
AMB05-584 WP	K1013104-050	1.0	0.2	2	12/3/2010	0.9	J
AMB05-589 CLAM BAY	K1013104-053	1.0	0.2	2	12/3/2010	1.1	
AMB05-594 M2	K1013104-056	1.0	0.2	2	12/3/2010	1.0	J
AMB05-599 M2 DEEP	K1013104-059	1.0	0.2	2	12/3/2010	0.9	J
AMB05-605 PS08	K1013104-062	1.0	0.2	2	12/3/2010	1.3	
AMB05-611 PS09	K1013104-065	1.0	0.2	2	12/3/2010	1.2	
Method Blank	K1013104-MB	0.50	0.07	1	12/3/2010	ND	
Method Blank	K1013104-MB	0.50	0.07	1	12/3/2010	ND	

1A/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/3/2010

Duplicate Summary
Inorganic Parameters

Sample Name: Batch QC
Lab Code: K101298-075DUP
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	2.5	2.2	2.4	13	

DUP/020597p

K1013104wet.mk1 - DUP 1/3/2011

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean water

Service Request: K1013104
Date Collected: 11/18/2010
Date Received: 11/20/2010
Date Extracted: NA
Date Analyzed: 12/3/2010

Duplicate Summary
Inorganic Parameters

Sample Name: AMB05-503 PS07
Lab Code: K1013104-002DUP
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	1.2	1.0	1.1	18	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean water

Service Request: K1013104
Date Collected: 11/18/2010
Date Received: 11/20/2010
Date Extracted: NA
Date Analyzed: 12/3/2010

Matrix Spike Summary
Inorganic Parameters

Sample Name: AMB05-503 PS07
Lab Code: K1013104-002MS
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	1.0	50.0	1.2	44.7	87	83-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
Sample Matrix: Ocean water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/3/2010

Matrix Spike Summary
Inorganic Parameters

Sample Name: Batch QC
Lab Code: K1012978-075MS
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C		50.0	1.2	44.7	87	83-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
LCS Matrix: Ocean water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/3/2010

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name: Lab Control Sample
Lab Code: K1013104-LCS
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	25.0	24.9	100	83-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)
LCS Matrix: Ocean water

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/3/2010

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name: Lab Control Sample
Lab Code: K1013104-LCS
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	25.0	25.3	101	83-113	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: November 2010 Ambient Monitoring (AMB05)

Service Request: K1013104
Date Collected: NA
Date Received: NA
Date Analyzed: 12/3/2010

Carbon, Total Organic
EPA Method 5310 C
Units: mg/L (ppm)

CONTINUING CALIBRATION VERIFICATION (CCV)

	True Value	Measured Value	Percent Recovery
CCV 1 Result	25.0	24.6	98
CCV 2 Result	25.0	25.3	101
CCV 3 Result	25.0	25.2	101
CCV 4 Result	25.0	25.4	102
CCV 5 Result	25.0	25.6	102

CONTINUING CALIBRATION BLANK (CCB)

	MRL	Blank Value
CCB 1 Result	0.50	ND
CCB 2 Result	0.50	ND
CCB 3 Result	0.50	ND
CCB 4 Result	0.50	ND
CCB 5 Result	0.50	ND

K1012978

PROJECT ENVVEST Project Name: November 2010 Ambient Monitoring (AMB05) SAMPLE TEAM: Navy, Battelle DATE: 11/17/2010 Laboratory: Columbia Analytical	CHAIN OF CUSTODY FORM Testing Parameters per QAPP (August 2010)

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB05 DD-002	PSNS019	11/16/10 1200	water				X										1	
AMB05 DD-003	PSNS019	11/16/10 1200	water						X								1	
AMB05 DD-004	PSNS019	11/16/10 1200	water							X							1	
AMB05 DD-005	PSNS019	11/16/10 1200	water								X						1	
AMB05 DD-007	PSNS018	11/16/10 1200	water				X										1	
AMB05 DD-008	PSNS018	11/16/10 1200	water						X								1	
AMB05 DD-009	PSNS018	11/16/10 1200	water							X							1	
AMB05 DD-010	PSNS018	11/16/10 1200	water								X						1	
AMB05 DD-012	PSNS021	11/16/10 1200	water				X										1	
AMB05 DD-013	PSNS021	11/16/10 1200	water						X								1	
AMB05 DD-014	PSNS021	11/16/10 1200	water							X							1	
AMB05 DD-015	PSNS021	11/16/10 1200	water								X						1	
AMB05-002	PS07	11/16/10 0916	seawater				X										1	
AMB05-003	PS07	11/16/10 0916	seawater						X								1	
AMB05-004	PS07	11/16/10 0916	seawater							X							1	
AMB05-007	PS06	11/16/10 0926	seawater				X										1	
AMB05-008	PS06	11/16/10 0926	seawater						X								1	
AMB05-009	PS06	11/16/10 0926	seawater							X							1	
AMB05-012	PS14	11/16/10 0935	seawater				X										1	
AMB05-013	PS14	11/16/10 0935	seawater						X								1	
AMB05-014	PS14	11/16/10 0935	seawater							X							1	
AMB05-017	PS03	11/16/10 0948	seawater				X										1	
AMB05-018	PS03	11/16/10 0948	seawater						X								1	
AMB05-019	PS03	11/16/10 0948	seawater							X							1	

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SOP#: MSL-A-001

K1012978

PROJECT ENVVEST Project Name: November 2010 Ambient Monitoring (AMB05) SAMPLE TEAM: Navy, Battelle DATE: 11/17/2010 Laboratory: Columbia Analytical				CHAIN OF CUSTODY FORM Testing Parameters per QAPP (August 2010)														
AMB05-022	PS04	11/16/10 1004	seawater				X										1	
AMB05-023	PS04	11/16/10 1004	seawater						X								1	
AMB05-024	PS04	11/16/10 1004	seawater							X							1	
AMB05-027	PS05	11/16/10 1011	seawater				X										1	
AMB05-028	PS05	11/16/10 1011	seawater						X								1	
AMB05-029	PS05	11/16/10 1011	seawater							X							1	
AMB05-032	PS08	11/16/10 1023	seawater				X										1	
AMB05-033	PS08	11/16/10 1023	seawater						X								1	
AMB05-034	PS08	11/16/10 1023	seawater							X							1	
AMB05-037	PS15	11/16/10 1033	seawater				X										1	
AMB05-038	PS15	11/16/10 1033	seawater						X								1	
AMB05-039	PS15	11/16/10 1033	seawater							X							1	
AMB05-042	PS09	11/16/10 1045	seawater				X										1	
AMB05-043	PS09	11/16/10 1045	seawater						X								1	
AMB05-044	PS09	11/16/10 1045	seawater							X							1	
AMB05-047	PS10	11/16/10 1100	seawater				X										1	
AMB05-048	PS10	11/16/10 1100	seawater						X								1	
AMB05-049	PS10	11/16/10 1100	seawater							X							1	
AMB05-052	PS10.1	11/16/10 1114	seawater				X										1	
AMB05-053	PS10.1	11/16/10 1114	seawater						X								1	
AMB05-054	PS10.1	11/16/10 1114	seawater							X							1	
AMB05-057	PS11	11/16/10 1125	seawater				X										1	
AMB05-058	PS11	11/16/10 1125	seawater						X								1	
AMB05-059	PS11	11/16/10 1125	seawater							X							1	
AMB05-062	PS16	11/16/10 1136	seawater				X										1	
AMB05-063	PS16	11/16/10 1136	seawater						X								1	
AMB05-064	PS16	11/16/10 1136	seawater							X							1	
AMB05-067	PS01	11/16/10 1152	seawater				X										1	
AMB05-068	PS01	11/16/10 1152	seawater						X								1	
AMB05-069	PS01	11/16/10 1152	seawater							X							1	
AMB05-073	PS02	11/16/10 1208	seawater				X										1	
AMB05-074	PS02	11/16/10 1208	seawater						X								1	
AMB05-075	PS02	11/16/10 1208	seawater							X							1	
AMB05-078	M3.1	11/16/10 1225	seawater				X										1	
AMB05-079	M3.1	11/16/10 1225	seawater						X								1	

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K1012978

PROJECT ENVVEST Project Name: November 2010 Ambient Monitoring (AMB05) SAMPLE TEAM: Navy, Battelle DATE: 11/17/2010 Laboratory: Columbia Analytical				**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP (August 2010)														
AMB05-080	M3.1	11/16/10 1225	seawater							X							1	
AMB05-083	M3.1 DEEP	11/16/10 1244	seawater				X										1	
AMB05-084	M3.1 DEEP	11/16/10 1244	seawater						X								1	
AMB05-085	M3.1 DEEP	11/16/10 1244	seawater							X							1	
AMB05-088	PS12	11/16/10 1300	seawater				X										1	
AMB05-089	PS12	11/16/10 1300	seawater						X								1	
AMB05-090	PS12	11/16/10 1300	seawater							X							1	
AMB05-093	BJEST	11/16/10 1317	seawater				X										1	
AMB05-094	BJEST	11/16/10 1317	seawater						X								1	
AMB05-095	BJEST	11/16/10 1317	seawater							X							1	
AMB05-098	M4	11/16/10 1335	seawater				X										1	
AMB05-099	M4	11/16/10 1335	seawater						X								1	
AMB05-100	M4	11/16/10 1335	seawater							X							1	
AMB05-103	PS13	11/16/10 1346	seawater				X										1	
AMB05-104	PS13	11/16/10 1346	seawater						X								1	
AMB05-105	PS13	11/16/10 1346	seawater							X							1	

Total: 75

10

Relinquished By: C. Suslick	Company: Battelle MSL
Signature/Printed Name	11/17/2010 Date/Time

Relinquished By:	Company:
Signature/Printed Name	Date/Time

Received: 11/18/10 0950 CAS

Columbia Analytical Services, Inc. PC_____
Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K10* 12978

Received: 11/18/10 Opened: 11/18/10 By: MK

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.0	—	289		0225	✓
2.6		294		0122	
3.4		293			

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
PSNS 019	500 ml H_2SO_4				x	H_2SO_4	1 ml	47050	MK	1115

*Notes, Discrepancies, & Resolutions:*_____

K1013104

PROJECT ENVVEST				CHAIN OF CUSTODY FORM																
Project Name: November 2010 Ambient Monitoring (AMB05)																				
SAMPLE TEAM:	Navy, Battelle																			
DATE:	11/19/2010																			
Laboratory:	Columbia Analytical																			
				Testing Parameters per QAPP (August 2010)																
Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY		Total Suspended Solids/TS		Nutrients (TP, TKN, NH4, NO3+NO2) + TOC	DOC	Oil and Grease		Total/Dissolved (at lab) Metals		Oceanographic Salinity		No. of containers	COMMENTS
AMB05-502	PS07	11/18/10 0840	seawater				X										1	
AMB05-503	PS07	11/18/10 0840	seawater						X								1	
AMB05-504	PS07	11/18/10 0840	seawater							X							1	
AMB05-507	PS01	11/18/10 0908	seawater				X										1	
AMB05-508	PS01	11/18/10 0908	seawater						X								1	
AMB05-509	PS01	11/18/10 0908	seawater							X							1	
AMB05-512	SN03	11/18/10 0917	seawater				X										1	
AMB05-513	SN03	11/18/10 0917	seawater						X								1	
AMB05-514	SN03	11/18/10 0917	seawater							X							1	
AMB05-517	SN05	11/18/10 0934	seawater				X										1	
AMB05-518	SN05	11/18/10 0934	seawater						X								1	
AMB05-519	SN05	11/18/10 0934	seawater							X							1	
AMB05-522	SN08	11/18/10 0943	seawater				X										1	
AMB05-523	SN08	11/18/10 0943	seawater						X								1	
AMB05-524	SN08	11/18/10 0943	seawater							X							1	
AMB05-527	M4	11/18/10 0954	seawater				X										1	
AMB05-528	M4	11/18/10 0954	seawater						X								1	
AMB05-529	M4	11/18/10 0954	seawater							X							1	
AMB05-532	SN10	11/18/10 1006	seawater				X										1	
AMB05-533	SN10	11/18/10 1006	seawater						X								1	
AMB05-534	SN10	11/18/10 1006	seawater							X							1	
AMB05-537	SN11	11/18/10 1019	seawater				X										1	
AMB05-538	SN11	11/18/10 1019	seawater						X								1	
AMB05-539	SN11	11/18/10 1019	seawater							X							1	

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K1013104

PROJECT ENVVEST Project Name: November 2010 Ambient Monitoring (AMB05) SAMPLE TEAM: Navy, Battelle DATE: 11/19/2010 Laboratory: Columbia Analytical				CHAIN OF CUSTODY FORM Testing Parameters per QAPP (August 2010)														
AMB05-542	PS12	11/18/10 1033	seawater				X										1	
AMB05-543	PS12	11/18/10 1033	seawater						X								1	
AMB05-544	PS12	11/18/10 1033	seawater							X							1	
AMB05-547	PWNLP	11/18/10 1048	seawater				X										1	
AMB05-548	PWNLP	11/18/10 1048	seawater						X								1	
AMB05-549	PWNLP	11/18/10 1048	seawater							X							1	
AMB05-552	M6	11/18/10 1106	seawater				X										1	
AMB05-553	M6	11/18/10 1106	seawater						X								1	
AMB05-554	M6	11/18/10 1106	seawater							X							1	
AMB05-557	M8	11/18/10 1124	seawater				X										1	
AMB05-558	M8	11/18/10 1124	seawater						X								1	
AMB05-559	M8	11/18/10 1124	seawater							X							1	
AMB05-562	DYOTS	11/18/10 1212	seawater				X										1	
AMB05-563	DYOTS	11/18/10 1212	seawater						X								1	
AMB05-564	DYOTS	11/18/10 1212	seawater							X							1	
AMB05-567	POPISP	11/18/10 1248	seawater				X										1	
AMB05-568	POPISP	11/18/10 1248	seawater						X								1	
AMB05-569	POPISP	11/18/10 1248	seawater							X							1	
AMB05-572	M1	11/18/10 1305	seawater				X										1	
AMB05-573	M1	11/18/10 1305	seawater						X								1	
AMB05-574	M1	11/18/10 1305	seawater							X							1	
AMB05-577	M1 DEEP	11/18/10 1305	seawater				X										1	
AMB05-578	M1 DEEP	11/18/10 1305	seawater						X								1	
AMB05-579	M1 DEEP	11/18/10 1305	seawater							X							1	
AMB05-583	WP	11/18/10 1350	seawater				X										1	
AMB05-584	WP	11/18/10 1350	seawater						X								1	
AMB05-585	WP	11/18/10 1350	seawater							X							1	
AMB05-588	CLAM BAY	11/18/10 1412	seawater				X										1	
AMB05-589	CLAM BAY	11/18/10 1412	seawater						X								1	
AMB05-590	CLAM BAY	11/18/10 1412	seawater							X							1	
AMB05-593	M2	11/18/10 1421	seawater				X										1	
AMB05-594	M2	11/18/10 1421	seawater						X								1	
AMB05-595	M2	11/18/10 1421	seawater							X							1	
AMB05-598	M2 DEEP	11/18/10 1426	seawater				X										1	
AMB05-599	M2 DEEP	11/18/10 1426	seawater						X								1	

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K1013104

PROJECT ENVVEST Project Name: November 2010 Ambient Monitoring (AMB05) SAMPLE TEAM: Navy, Battelle DATE: 11/19/2010 Laboratory: Columbia Analytical				CHAIN OF CUSTODY FORM Testing Parameters per QAPP (August 2010)														
AMB05-600	M2 DEEP	11/18/10 1426	seawater							X							1	
AMB05-604	PS08	11/18/10 1501	seawater				X										1	
AMB05-605	PS08	11/18/10 1501	seawater						X								1	
AMB05-606	PS08	11/18/10 1501	seawater							X							1	
AMB05-610	PS09	11/18/10 1518	seawater				X										1	
AMB05-611	PS09	11/18/10 1518	seawater						X								1	
AMB05-612	PS09	11/18/10 1518	seawater							X							1	
-end-																		

Total: 66

Relinquished By: C. Suslick	Company: Battelle MSL
Signature/Printed Name	11/19/2010 Date/Time

Shipped via FedEx on blue ice

Relinquished By:	Company:
Signature/Printed Name	Date/Time

Received: 10/20/10 0815 CAS

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 4z

Client / Project: Battelle Service Request K10 13104

Received: 11/20/10 Opened: 11/20/10 By: MA

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
1.0	—	297	/	7964 7174 3090	✓
3.9	—	287		7964 7174 2830	✓
1.6	—	280		7964 7174 2954	✓

7. Packing material used. *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Analytical Chemistry Data Package

Revised 7/11/11 to include TOC/DOC data.

Project: ENVVEST Ambient Monitoring March 2011 (AMB06)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

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Analytical raw data available upon request

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Analytical raw data available upon request

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB06
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.50**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)								**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--		0.0001	0.0267	0.0032	0.2	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--		0.00032	0.085	0.010	0.6	0.0105	0.161
AMB06-001	PS07	TME	Seawater	3106-391	03/22/11	27.7	2.39	0.00101	1.23	0.0042 Ub	12.8 b	0.0903 b	0.281 b
AMB06-001	PS07	DME	Seawater	3106-392	03/22/11	--	--	0.000596	--	0.0042 Ub	2.14 Ub	0.0877 b	0.151 b
AMB06-007	PS06	TME	Seawater	3106-393	03/22/11	27.7	1.23	0.000755	1.21	0.0042 Ub	14.3 b	0.0870 b	0.375 b
AMB06-007	PS06	DME	Seawater	3106-394	03/22/11	--	--	0.000354	--	0.0042 Ub	2.14 Ub	0.0883 b	0.167 b
AMB06-013	PS14	TME	Seawater	3106-395	03/22/11	27.9	1.29	0.000776	1.24	0.0042 Ub	19.5 b	0.0801 b	0.208 b
AMB06-013	PS14	DME	Seawater	3106-396	03/22/11	--	--	0.000312 J	--	0.0042 Ub	2.14 Ub	0.0829 b	0.181 b
AMB06-019	PS03	TME	Seawater	3106-397	03/22/11	27.1	2.15	0.00340	1.26	0.0042 Ub	10.6 b	0.0856 b	0.253 b
AMB06-019	PS03	DME	Seawater	3106-398	03/22/11	--	--	0.00158	--	0.0042 Ub	2.14 Ub	0.0864 b	0.201 b
AMB06-020	PS03DUP	TME	Seawater	3106-399	03/22/11	--	--	0.00390	1.21	0.0042 Ub	9.03 b	0.0885 b	0.302 b
AMB06-020	PS03DUP	DME	Seawater	3106-400	03/22/11	--	--	0.00179	--	0.0042 Ub	2.14 Ub	0.0877 b	0.218 b
AMB06-028	PS04	TME	Seawater	3106-401	03/22/11	27.3	0.847	0.000981	1.20	0.0042 Ub	11.9 b	0.0807 b	0.229 b
AMB06-028	PS04	DME	Seawater	3106-402	03/22/11	--	--	0.000428	--	0.0042 Ub	2.14 Ub	0.0877 b	0.164 b
AMB06-034	PS05	TME	Seawater	3106-403	03/22/11	27.3	0.927	0.000958	1.22	0.0042 Ub	13.1 b	0.0913 b	0.259 b
AMB06-034	PS05	DME	Seawater	3106-404	03/22/11	--	--	0.000542	--	0.0042 Ub	2.14 Ub	0.0849 b	0.176 b
AMB06-040	PS08	TME	Seawater	3106-405	03/22/11	27.8	1.20	0.000751	1.27	0.0042 Ub	13.7 b	0.0887 b	0.228 b
AMB06-040	PS08	DME	Seawater	3106-406	03/22/11	--	--	0.000469	--	0.0042 Ub	2.14 Ub	0.0849 b	0.160 b
AMB06-046	PS15	TME	Seawater	3106-407	03/22/11	28.1	1.10	0.000780	1.21	0.0042 Ub	13.5 b	0.0807 b	0.208 b
AMB06-046	PS15	DME	Seawater	3106-408	03/22/11	--	--	0.000319 J	--	0.0042 Ub	2.14 Ub	0.0800 b	0.187 b
AMB06-054	PS09	TME	Seawater	3106-409	03/22/11	26.5	1.11	0.00192	1.30	0.0042 Ub	23.2 b	0.0840 b	0.314 b
AMB06-054	PS09	DME	Seawater	3106-410	03/22/11	--	--	0.000833	--	0.0042 Ub	2.14 Ub	0.0805 b	0.149 b
AMB06-060	PS10	TME	Seawater	3106-411	03/22/11	27.3	0.924	0.00133	1.23	0.0042 Ub	17.5 b	0.0845 b	0.188 b
AMB06-060	PS10	DME	Seawater	3106-412	03/22/11	--	--	0.000553	--	0.0042 Ub	2.14 Ub	0.0862 b	0.121 b
AMB06-066	PS10.1	TME	Seawater	3106-413	03/22/11	27.8	1.85	0.000916	1.23	0.0042 Ub	17.8 b	0.0805 b	0.188 b
AMB06-066	PS10.1	DME	Seawater	3106-414	03/22/11	--	--	0.000416	--	0.0042 Ub	2.14 Ub	0.0784 b	0.117 b
AMB06-072	PS11	TME	Seawater	3106-415	03/22/11	28.0	1.48	0.000994	1.19	0.0042 Ub	11.7 b	0.0826 b	0.172 b
AMB06-072	PS11	DME	Seawater	3106-416	03/22/11	--	--	0.000313 J	--	0.0042 Ub	2.14 Ub	0.0785 b	0.0965 b
AMB06-078	PS16	TME	Seawater	3106-417	03/22/11	28.4	3.42	0.00208	1.24	0.0042 Ub	64.4 b	0.0831 b	0.267 b
AMB06-078	PS16	DME	Seawater	3106-418	03/22/11	--	--	0.000245 J	--	0.0042 Ub	2.14 Ub	0.0769 b	0.110 b
AMB06-084	PS01	TME	Seawater	3106-419	03/22/11	26.2	1.82	0.00469	1.60	0.0191 b	99.6 b	0.0936 b	0.473 b
AMB06-084	PS01	DME	Seawater	3106-420	03/22/11	--	--	0.00167	--	0.00812 Jb	2.14 Ub	0.0920 b	0.268 b
AMB06-090	PS02	TME	Seawater	3106-421	03/22/11	27.5	1.84	0.00172	1.34	0.0042 Ub	27.5 b	0.0842 b	0.278 b
AMB06-090	PS02	DME	Seawater	3106-422	03/22/11	--	--	0.000570	--	0.0042 Ub	2.14 Ub	0.0828 b	0.159 b
AMB06-098	M4	TME	Seawater	3106-423	03/22/11	27.8	2.02	0.000814	1.18	0.0042 Ub	37.4 b	0.0827 b	0.204 b
AMB06-098	M4	DME	Seawater	3106-424	03/22/11	--	--	0.000354	--	0.0042 Ub	2.14 Ub	0.0814 b	0.134 b
AMB06-104	BJ-EST	TME	Seawater	3106-425	03/22/11	27.2	3.86	0.00213	1.25	0.0042 Ub	259 b	0.0792 b	0.693 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB06
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB06-104	BJ-EST	DME	Seawater	3106-426	03/22/11	--	--	0.000292 J	--	0.0042 Ub	3.42 Jb	0.0712 b	0.202 b
AMB06-110	M3.1 SURFACE	TME	Seawater	3106-427	03/22/11	28.1	1.94	0.00113	1.19	0.0042 Ub	28.0 b	0.0865 b	0.270 b
AMB06-110	M3.1 SURFACE	DME	Seawater	3106-428	03/22/11	--	--	0.000336	--	0.0042 Ub	2.14 Ub	0.0857 b	0.147 b
AMB06-116	M3.1 DEEP	TME	Seawater	3106-429	03/22/11	28.2	1.74	0.000741	1.22	0.0042 Ub	21.5 b	0.0810 b	0.190 b
AMB06-116	M3.1 DEEP	DME	Seawater	3106-430	03/22/11	--	--	0.000322	--	0.0042 Ub	2.14 Ub	0.0797 b	0.102 b
AMB06-122	PS12	TME	Seawater	3106-431	03/22/11	27.9	12.9	0.00544	1.33	0.00594 Jb	153 b	0.103 b	0.556 b
AMB06-122	PS12	DME	Seawater	3106-432	03/22/11	--	--	0.000416	--	0.0042 Ub	2.14 Ub	0.0912 b	0.123 b
AMB06-128	PS07B	TME	Seawater	3106-433	03/22/11	28.7	2.49	0.00165	1.20	0.0042 Ub	34.1 b	0.0870 b	0.186 b
AMB06-128	PS07B	DME	Seawater	3106-434	03/22/11	--	--	0.000506	--	0.0042 Ub	2.14 Ub	0.0844 b	0.105 b
AMB06-134	PS07DUP	TME	Seawater	3106-435	03/22/11	--	2.76	0.00132	1.18	0.0042 Ub	25.6 b	0.0827 b	0.180 b
AMB06-134	PS07DUP	DME	Seawater	3106-436	03/22/11	--	--	0.000466	--	0.0042 Ub	2.14 Ub	0.0815 b	0.117 b
AMB06DD-005	OF18	TME	Seawater	3106-437	03/22/11	--	1.39	0.0125	1.52	0.0203 b	16.0 b	0.0926 b	0.597 b
AMB06DD-005	OF18	DME	Seawater	3106-438	03/22/11	--	--	0.00634	--	0.0175 b	2.14 Ub	0.0851 b	0.363 b
AMB06DD-011	OF19	TME	Seawater	3106-439	03/22/11	--	2.75	0.00481	1.39	0.0156 b	57.2 b	0.0989 b	4.73 b
AMB06DD-011	OF19	DME	Seawater	3106-440	03/22/11	--	--	0.00163	--	0.0126 Jb	2.14 Ub	0.0939 b	0.185 b
AMB06DD-017	OF21	TME	Freshwater	3106-441	03/22/11	--	3.12	0.130	1.34	0.0100 J	40.3	0.0210	3.32
AMB06DD-017	OF21	DME	Freshwater	3106-442	03/22/11	--	--	0.00857	--	0.0042 U	8.82	0.0111	3.42
AMB06-300	M6	TME	Seawater	3106-451	03/23/11	27.5	1.34	0.000707	1.12	0.0042 Ub	22.5 b	0.0801 b	0.171 b
AMB06-300	M6	DME	Seawater	3106-452	03/23/11	--	--	0.000293 J	--	0.0042 Ub	2.00 Jb	0.0760 b	0.117 b
AMB06-306	M8	TME	Seawater	3106-453	03/23/11	27.4	1.67	0.000699	1.13	0.0042 Ub	19.8 b	0.0875 b	0.166 b
AMB06-306	M8	DME	Seawater	3106-454	03/23/11	--	--	0.000358	--	0.0042 Ub	2.14 Ub	0.0830 b	0.121 b
AMB06-312	M7	TME	Seawater	3106-455	03/23/11	27.1	1.59	0.000672	1.11	0.0042 Ub	23.5 b	0.0796 b	0.194 b
AMB06-312	M7	DME	Seawater	3106-456	03/23/11	--	--	0.000285 J	--	0.0042 Ub	2.12 Jb	0.0805 b	0.176 b
AMB06-318	DYOTS	TME	Seawater	3106-457	03/23/11	26.7	1.20	0.000696	1.13	0.0042 Ub	26.2 b	0.0806 b	0.208 b
AMB06-318	DYOTS	DME	Seawater	3106-458	03/23/11	--	--	0.000267 J	--	0.0042 Ub	2.79 Jb	0.0779 b	0.139 b
AMB06-324	BM01	TME	Seawater	3106-459	03/23/11	28.1	2.03	0.000820	1.17	0.0042 Ub	39.2 b	0.0866 b	0.190 b
AMB06-324	BM01	DME	Seawater	3106-460	03/23/11	--	--	0.000219 J	--	0.0042 Ub	2.14 Ub	0.0798 b	0.113 b
AMB06-330	WP	TME	Seawater	3106-461	03/23/11	28.2	2.77	0.000694	1.20	0.0042 Ub	18.3 b	0.0834 b	0.194 b
AMB06-330	WP	DME	Seawater	3106-462	03/23/11	--	--	0.000254 J	--	0.0042 Ub	2.14 Ub	0.0801 b	0.110 b
AMB06-336	M2	TME	Seawater	3106-463	03/23/11	29.0	1.66	0.000642	1.22	0.0042 Ub	29.2 b	0.0840 b	0.160 b
AMB06-336	M2	DME	Seawater	3106-464	03/23/11	--	--	0.000215 J	--	0.0042 Ub	2.14 Ub	0.0861 b	0.116 b
AMB06-342	M2 DEEP	TME	Seawater	3106-465	03/23/11	29.1	2.07	0.000574	1.27	0.0042 Ub	22.6 b	0.0900 b	0.245 b
AMB06-342	M2 DEEP	DME	Seawater	3106-466	03/23/11	--	--	0.000254 J	--	0.0042 Ub	2.14 Ub	0.0815 b	0.217 b
AMB06-348	CLMBAY	TME	Seawater	3106-467	03/23/11	28.1	2.32	0.000825	1.20	0.0042 Ub	70.7 b	0.0817 b	0.285 b
AMB06-348	CLMBAY	DME	Seawater	3106-468	03/23/11	--	--	0.000346	--	0.0042 Ub	2.77 Jb	0.0793 b	0.135 b
AMB06-354	ILSP	TME	Seawater	3106-469	03/23/11	28.6	1.29	0.000505	1.19	0.0042 Ub	15.5 b	0.0865 b	0.202 b
AMB06-354	ILSP	DME	Seawater	3106-470	03/23/11	--	--	0.000216 J	--	0.0042 Ub	2.14 Ub	0.0810 b	0.133 b
AMB06-360	M1	TME	Seawater	3106-471	03/23/11	28.6	1.67	0.000458	1.26	0.0042 Ub	16.6 b	0.0857 b	0.203 b
AMB06-360	M1	DME	Seawater	3106-472	03/23/11	--	--	0.000333	--	0.0042 Ub	2.14 Ub	0.0847 b	0.119 b

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360/681-4564

Ambient Monitoring - AMB06
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB06-366	M1 DEEP	TME	Seawater	3106-473	03/23/11	28.7	2.05	0.000514	1.18	0.0042 Ub	10.6 b	0.0904 b	0.166 b
AMB06-366	M1 DEEP	DME	Seawater	3106-474	03/23/11	--	--	0.000227 J	--	0.0042 Ub	2.14 Ub	0.0856 b	0.117 b
AMB06-375	SN03	TME	Seawater	3106-475	03/23/11	27.8	1.07	0.000837	1.18	0.0042 Ub	16.5 b	0.0888 b	0.233 b
AMB06-375	SN03	DME	Seawater	3106-476	03/23/11	--	--	0.000268 J	--	0.0042 Ub	2.14 Ub	0.0902 b	0.259 b
AMB06-376	SN03DUP	TME	Seawater	3106-477	03/23/11	--	--	0.00111	1.17	0.00449 Jb	27.9 b	0.0933 b	0.228 b
AMB06-376	SN03DUP	DME	Seawater	3106-478	03/23/11	--	--	0.000247 J	--	0.0042 Ub	2.14 Ub	0.0823 b	0.180 b
AMB06-382	SN05	TME	Seawater	3106-479	03/23/11	16.6	7.51	0.00215	0.937	0.0042 Ub	259 b	0.0666 b	0.843 b
AMB06-382	SN05	DME	Seawater	3106-480	03/23/11	--	--	0.000495	--	0.0042 Ub	4.34 Jb	0.0734 b	0.310 b
AMB06-383	SN05DUP	TME	Seawater	3106-481	03/23/11	--	--	0.00239	0.797	0.0042 Ub	243 b	0.0518 b	1.02 b
AMB06-383	SN05DUP	DME	Seawater	3106-482	03/23/11	--	--	0.000426	--	0.0042 Ub	5.43 Jb	0.0493 b	0.454 b
AMB06-389	SN08	TME	Seawater	3106-483	03/23/11	27.7	2.66	0.000875	1.14	0.0042 Ub	44.7 b	0.0840 b	0.232 b
AMB06-389	SN08	DME	Seawater	3106-484	03/23/11	--	--	0.000214 J	--	0.0042 Ub	2.14 Ub	0.0838 b	0.141 b
AMB06-397	SN10	TME	Seawater	3106-485	03/23/11	27.0	3.08	0.00140	1.12	0.0042 Ub	77.4 b	0.0886 b	0.378 b
AMB06-397	SN10	DME	Seawater	3106-486	03/23/11	--	--	0.000314 J	--	0.0042 Ub	2.14 Ub	0.0832 b	0.151 b
AMB06-403	SN11	TME	Seawater	3106-487	03/23/11	23.1	1.85	0.000869	1.13	0.0042 Ub	43.4 b	0.0835 b	0.316 b
AMB06-403	SN11	DME	Seawater	3106-488	03/23/11	--	--	0.000328	--	0.0042 Ub	3.44 Jb	0.0862 b	0.170 b
AMB06-409	M3.3	TME	Seawater	3106-489	03/23/11	27.5	1.20	0.000568	1.12	0.0042 Ub	19.5 b	0.0881 b	0.192 b
AMB06-409	M3.3	DME	Seawater	3106-490	03/23/11	--	--	0.000400	--	0.0042 Ub	2.14 Ub	0.0829 b	0.139 b
AMB06-415	PS13	TME	Seawater	3106-491	03/23/11	28.0	1.11	0.000627	1.12	0.0042 Ub	13.5 b	0.0896 b	0.199 b
AMB06-415	PS13	DME	Seawater	3106-492	03/23/11	--	--	0.000367	--	0.0042 Ub	2.14 Ub	0.0828 b	0.129 b
EQUIPMENT BLANKS													
AMB06-EB01	EB01_032311	TME	Freshwater	3106-443	03/23/11	--	--	0.000102 J	0.0267 U	0.0032 U	0.2 U	0.0033 U	0.051 U
AMB06-EB01	EB01_032311	DME	Freshwater	3106-444	03/23/11	--	--	0.000255 J	--	0.0032 U	0.2 U	0.0033 U	0.051 U
AMB06-EB01_032411	EB01_032411	TME	Freshwater	3106-447	03/24/11	--	--	0.000331	0.0267 U	0.0032 U	0.2 U	0.0033 U	0.051 U
AMB06-EB01_032411	EB01_032411	DME	Freshwater	3106-448	03/24/11	--	--	0.000185 J	--	0.0032 U	0.311 J	0.0033 U	0.051 U

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Ambient Monitoring - AMB06
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0351**	**0.0254**	**0.0019**	**0.0263**					
Seawater Reporting Limit (MDL* 3.18)					**0.11**	**0.081**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					0.0053	0.0042	0.0022	0.02					
Freshwater Reporting Limit (MDL* 3.18)					0.017	0.013	0.0070	0.06					
AMB06-001	PS07	TME	Seawater	3106-391	1.62 b	0.623 b	0.0889 b	5.22 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-001	PS07	DME	Seawater	3106-392	1.21 b	0.545 b	0.00832 b	4.89 b	033111HGA	--	040811-6100	--	--
AMB06-007	PS06	TME	Seawater	3106-393	1.49 b	0.545 b	0.0596 b	4.22 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-007	PS06	DME	Seawater	3106-394	1.16 b	0.484 b	0.00648 b	4.07 b	033111HGA	--	040811-6100	--	--
AMB06-013	PS14	TME	Seawater	3106-395	1.41 b	0.515 b	0.0610 b	4.13 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-013	PS14	DME	Seawater	3106-396	1.15 b	0.618 b	0.00624 b	4.06 b	033111HGA	--	040811-6100	--	--
AMB06-019	PS03	TME	Seawater	3106-397	1.65 b	0.571 b	0.0898 b	4.13 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-019	PS03	DME	Seawater	3106-398	1.32 b	0.561 b	0.0138 b	3.85 b	033111HGA	--	040811-6100	--	--
AMB06-020	PS03DUP	TME	Seawater	3106-399	1.75 b	0.624 b	0.167 b	4.38 b	033111HGA	F041311A	040811-6100	--	--
AMB06-020	PS03DUP	DME	Seawater	3106-400	1.36 b	0.692 b	0.0163 b	4.31 b	033111HGA	--	040811-6100	--	--
AMB06-028	PS04	TME	Seawater	3106-401	2.85 b	0.529 b	0.0649 b	7.96 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-028	PS04	DME	Seawater	3106-402	2.31 b	0.472 b	0.00922 b	7.65 b	033111HGA	--	040811-6100	--	--
AMB06-034	PS05	TME	Seawater	3106-403	1.76 b	0.782 b	0.120 b	7.13 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-034	PS05	DME	Seawater	3106-404	1.41 b	0.519 b	0.0262 b	6.88 b	033111HGA	--	040811-6100	--	--
AMB06-040	PS08	TME	Seawater	3106-405	1.85 b	0.570 b	0.0692 b	5.08 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-040	PS08	DME	Seawater	3106-406	1.36 b	0.506 b	0.00576 Jb	4.57 b	033111HGA	--	040811-6100	--	--
AMB06-046	PS15	TME	Seawater	3106-407	1.21 b	0.563 b	0.0615 b	3.61 b	033111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-046	PS15	DME	Seawater	3106-408	0.959 b	0.493 b	0.00569 Jb	3.40 b	033111HGA	--	040811-6100	--	--
AMB06-054	PS09	TME	Seawater	3106-409	2.71 b	1.64 b	0.106 b	8.87 b	033111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-054	PS09	DME	Seawater	3106-410	2.01 b	0.942 b	0.00736 b	8.38 b	033111HGA	--	041111-6100	--	--
AMB06-060	PS10	TME	Seawater	3106-411	2.32 b	1.16 b	0.0799 b	8.63 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-060	PS10	DME	Seawater	3106-412	1.90 b	0.621 b	0.00856 b	8.36 b	040111HGA	--	041111-6100	--	--
AMB06-066	PS10.1	TME	Seawater	3106-413	1.87 b	0.648 b	0.0787 b	7.66 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-066	PS10.1	DME	Seawater	3106-414	1.49 b	0.536 b	0.00679 b	7.52 b	040111HGA	--	041111-6100	--	--
AMB06-072	PS11	TME	Seawater	3106-415	2.14 b	0.619 b	0.0736 b	8.05 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-072	PS11	DME	Seawater	3106-416	1.67 b	0.557 b	0.00896 b	6.52 b	040111HGA	--	041111-6100	--	--
AMB06-078	PS16	TME	Seawater	3106-417	2.05 b	0.688 b	0.332 b	6.45 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-078	PS16	DME	Seawater	3106-418	1.11 b	0.509 b	0.0174 b	5.48 b	040111HGA	--	041111-6100	--	--
AMB06-084	PS01	TME	Seawater	3106-419	2.21 b	0.861 b	0.555 b	5.83 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-084	PS01	DME	Seawater	3106-420	1.07 b	0.632 b	0.0159 b	4.35 b	040111HGA	--	041111-6100	--	--
AMB06-090	PS02	TME	Seawater	3106-421	1.49 b	0.645 b	0.142 b	3.55 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-090	PS02	DME	Seawater	3106-422	1.04 b	0.561 b	0.00966 b	3.15 b	040111HGA	--	041111-6100	--	--
AMB06-098	M4	TME	Seawater	3106-423	0.860 b	0.555 b	0.0866 b	1.89 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-098	M4	DME	Seawater	3106-424	0.641 b	0.473 b	0.00732 b	1.63 b	040111HGA	--	041111-6100	--	--
AMB06-104	BJ-EST	TME	Seawater	3106-425	1.51 b	1.22 b	0.313 b	3.33 b	040111HGA	F041311A	041111-6100	032311sal	032411T

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB06
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB06-104	BJ-EST	DME	Seawater	3106-426	0.716 b	0.673 b	0.00916 b	1.84 b	040111HGA	--	041111-6100	--	--
AMB06-110	M3.1 SURFACE	TME	Seawater	3106-427	0.892 b	0.687 b	0.0734 b	1.92 b	040111HGA	F041311A	040811-6100	032311sal	032411T
AMB06-110	M3.1 SURFACE	DME	Seawater	3106-428	0.696 b	0.463 b	0.00512 Jb	1.67 b	040111HGA	--	040811-6100	--	--
AMB06-116	M3.1 DEEP	TME	Seawater	3106-429	0.751 b	0.545 b	0.0682 b	1.62 b	040111HGA	F041311A	041111-6100	032311sal	032411T
AMB06-116	M3.1 DEEP	DME	Seawater	3106-430	0.546 b	0.436 b	0.00555 Jb	1.42 b	040111HGA	--	041111-6100	--	--
AMB06-122	PS12	TME	Seawater	3106-431	3.15 b	1.39 b	0.950 b	10.1 b	040411HGA	F041311A	041211-6100	032311sal	032411T
AMB06-122	PS12	DME	Seawater	3106-432	1.11 b	0.719 b	0.0210 b	7.26 b	040411HGA	--	041211-6100	--	--
AMB06-128	PS07B	TME	Seawater	3106-433	2.01 b	0.663 b	0.203 b	7.00 b	040411HGA	F041311A	041211-6100	032411sal	032411T
AMB06-128	PS07B	DME	Seawater	3106-434	1.33 b	0.559 b	0.0125 b	6.26 b	040411HGA	--	041211-6100	--	--
AMB06-134	PS07DUP	TME	Seawater	3106-435	1.72 b	0.607 b	0.130 b	5.99 b	040411HGA	F041311A	041211-6100	--	--
AMB06-134	PS07DUP	DME	Seawater	3106-436	1.23 b	0.524 b	0.00994 b	5.40 b	040411HGA	--	041211-6100	--	--
AMB06DD-005	OF18	TME	Seawater	3106-437	8.90 b	2.71 b	0.431 b	36.1 b	040411HGA	F041311A	041211-6100	--	--
AMB06DD-005	OF18	DME	Seawater	3106-438	5.03 b	2.08 b	0.00424 Jb	30.1 b	040411HGA	--	041211-6100	--	--
AMB06DD-011	OF19	TME	Seawater	3106-439	6.63 b	18.4 b	0.253 b	32.0 b	040411HGA	F041311A	041211-6100	--	--
AMB06DD-011	OF19	DME	Seawater	3106-440	3.90 b	4.89 b	0.00504 Jb	25.8 b	040411HGA	--	041211-6100	--	--
AMB06DD-017	OF21	TME	Freshwater	3106-441	13.4	3.18	1.26	10.1	040411HGA	F041311A	040611-6100	--	--
AMB06DD-017	OF21	DME	Freshwater	3106-442	2.55	2.59	0.101	3.66	040411HGA	--	040611-6100	--	--
AMB06-300	M6	TME	Seawater	3106-451	0.671 b	0.555 b	0.0453 b	1.34 b	040411HGA	F041311A	041211-6100	032411sal	032411T
AMB06-300	M6	DME	Seawater	3106-452	0.516 b	0.443 b	0.00555 Jb	1.18 b	040411HGA	--	041211-6100	--	--
AMB06-306	M8	TME	Seawater	3106-453	0.696 b	0.606 b	0.0677 b	1.50 b	040411HGA	F041311A	041211-6100	032411sal	032411T
AMB06-306	M8	DME	Seawater	3106-454	0.540 b	0.467 b	0.0101 b	1.36 b	040411HGA	--	041211-6100	--	--
AMB06-312	M7	TME	Seawater	3106-455	0.661 b	0.621 b	0.0417 b	1.42 b	040611HGA	F041311A	041211-6100	032411sal	032411T
AMB06-312	M7	DME	Seawater	3106-456	0.567 b	0.489 b	0.00428 Jb	1.37 b	040611HGA	--	041211-6100	--	--
AMB06-318	DYOTS	TME	Seawater	3106-457	0.683 b	0.597 b	0.0543 b	1.74 b	040611HGA	F041311A	041211-6100	032411sal	032411T
AMB06-318	DYOTS	DME	Seawater	3106-458	0.541 b	0.483 b	0.00641 b	1.46 b	040611HGA	--	041211-6100	--	--
AMB06-324	BM01	TME	Seawater	3106-459	0.657 b	0.499 b	0.0897 b	1.45 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-324	BM01	DME	Seawater	3106-460	0.467 b	0.409 b	0.00454 Jb	1.13 b	040611HGA	--	041311-6100	--	--
AMB06-330	WP	TME	Seawater	3106-461	0.629 b	0.760 b	0.0556 b	1.22 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-330	WP	DME	Seawater	3106-462	0.465 b	0.410 b	0.00814 b	1.47 b	040611HGA	--	041311-6100	--	--
AMB06-336	M2	TME	Seawater	3106-463	0.523 b	0.485 b	0.0571 b	0.814 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-336	M2	DME	Seawater	3106-464	0.466 b	0.437 b	0.00347 Jb	0.782 b	040611HGA	--	041311-6100	--	--
AMB06-342	M2 DEEP	TME	Seawater	3106-465	0.629 b	0.884 b	0.0591 b	1.00 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-342	M2 DEEP	DME	Seawater	3106-466	0.643 b	1.28 b	0.0220 b	0.829 b	040611HGA	--	041311-6100	--	--
AMB06-348	CLMBAY	TME	Seawater	3106-467	0.683 b	0.598 b	0.0808 b	1.11 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-348	CLMBAY	DME	Seawater	3106-468	0.469 b	0.441 b	0.00343 Jb	0.908 b	040611HGA	--	041311-6100	--	--
AMB06-354	ILSP	TME	Seawater	3106-469	0.592 b	0.806 b	0.0336 b	1.10 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-354	ILSP	DME	Seawater	3106-470	0.485 b	0.435 b	0.00570 Jb	0.958 b	040611HGA	--	041311-6100	--	--
AMB06-360	M1	TME	Seawater	3106-471	0.563 b	0.807 b	0.0319 b	1.06 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-360	M1	DME	Seawater	3106-472	0.470 b	0.475 b	0.00378 Jb	1.07 b	040611HGA	--	041311-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB06
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Cu**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB06-366	M1 DEEP	TME	Seawater	3106-473	0.580 b	0.468 b	0.0368 b	1.19 b	040611HGA	F041311A	041311-6100	032411sal	032411T
AMB06-366	M1 DEEP	DME	Seawater	3106-474	0.496 b	0.431 b	0.00769 b	1.09 b	040611HGA	--	041311-6100	--	--
AMB06-375	SN03	TME	Seawater	3106-475	0.818 b	0.894 b	0.0709 b	2.12 b	040811HGA	F041311A	041311-6100	032411sal	032411T
AMB06-375	SN03	DME	Seawater	3106-476	0.766 b	1.08 b	0.0128 b	2.11 b	040811HGA	--	041311-6100	--	--
AMB06-376	SN03DUP	TME	Seawater	3106-477	0.897 b	0.627 b	0.113 b	2.15 b	040811HGA	F041311A	041311-6100	--	--
AMB06-376	SN03DUP	DME	Seawater	3106-478	0.593 b	0.608 b	0.0122 b	1.75 b	040811HGA	--	041311-6100	--	--
AMB06-382	SN05	TME	Seawater	3106-479	1.18 b	1.01 b	0.254 b	2.19 b	040811HGA	F041311A	041411-6100	032411sal	032411T
AMB06-382	SN05	DME	Seawater	3106-480	0.591 b	0.535 b	0.00676 b	1.51 b	040811HGA	--	041411-6100	--	--
AMB06-383	SN05DUP	TME	Seawater	3106-481	1.23 b	0.945 b	0.282 b	2.11 b	040811HGA	F041311A	041411-6100	--	--
AMB06-383	SN05DUP	DME	Seawater	3106-482	0.522 b	0.497 b	0.00496 Jb	1.19 b	040811HGA	--	041411-6100	--	--
AMB06-389	SN08	TME	Seawater	3106-483	1.19 b	0.659 b	0.0941 b	2.23 b	040811HGA	F041311A	041411-6100	032411sal	032411T
AMB06-389	SN08	DME	Seawater	3106-484	0.863 b	0.482 b	0.00692 b	2.09 b	040811HGA	--	041411-6100	--	--
AMB06-397	SN10	TME	Seawater	3106-485	1.71 b	0.854 b	0.282 b	5.49 b	040811HGA	F041311A	041411-6100	032411sal	032411T
AMB06-397	SN10	DME	Seawater	3106-486	1.35 b	0.500 b	0.0304 b	5.25 b	040811HGA	--	041411-6100	--	--
AMB06-403	SN11	TME	Seawater	3106-487	1.12 b	0.789 b	0.0913 b	2.85 b	040811HGA	F041311A	041411-6100	032411sal	032411T
AMB06-403	SN11	DME	Seawater	3106-488	0.850 b	0.539 b	0.00771 b	2.84 b	040811HGA	--	041411-6100	--	--
AMB06-409	M3.3	TME	Seawater	3106-489	1.16 b	0.535 b	0.0549 b	3.34 b	040811HGA	F041311A	041411-6100	032411sal	032411T
AMB06-409	M3.3	DME	Seawater	3106-490	0.941 b	0.460 b	0.00512 Jb	3.06 b	040811HGA	--	041411-6100	--	--
AMB06-415	PS13	TME	Seawater	3106-491	1.13 b	0.591 b	0.0526 b	3.20 b	040811HGA	F041311A	041411-6100	032411sal	032411T
AMB06-415	PS13	DME	Seawater	3106-492	0.900 b	0.579 b	0.00673 b	3.38 b	040811HGA	--	041411-6100	--	--
EQUIPMENT BLANKS													
AMB06-EB01	EB01_032311	TME	Freshwater	3106-443	0.0053 U	0.0042 U	0.0022 U	0.0329 JB	040411HGA	F041311A	32811-6100	--	--
AMB06-EB01	EB01_032311	DME	Freshwater	3106-444	0.0053 U	0.0042 U	0.0022 U	0.229 B	040411HGA	--	32811-6100	--	--
AMB06-EB01_032411	EB01_032411	TME	Freshwater	3106-447	0.00704 J	0.0042 U	0.0022 U	0.0840 B	040411HGA	F041311A	32811-6100	--	--
AMB06-EB01_032411	EB01_032411	DME	Freshwater	3106-448	0.0180 J	0.0158	0.0022 U	0.185	040411HGA	--	32811-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB06
QC Sample Results for ICP-MS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
MB-1	TME	Seawater	DIBlk1_040811		0.002 U	0.376 U	0.00042 U	0.0582 J	0.0549 J	0.0241 U	0.00147 U	0.123	040811-6100
MB-2	TME	Seawater	DIBlk1_040811		0.000 U	0.372 U	0.00001 U	0.0584 J	0.0508 J	0.0135 U	0.00144 U	0.118	040811-6100
MB-3	TME	Seawater	DIBlk1_040811		0.001 U	0.386 U	0.00059 U	0.0667 J	0.0480 J	0.0164 U	0.00122 U	0.168	040811-6100
MEAN REAGENT BLANK		Seawater	***BMRB_040811***		**0.001** U	**0.378** U	**0.000** U	**0.0611** J	**0.0512** J	**0.0180** U	**0.00138** U	**0.136**	040811-6100
MB-5	TME	Seawater	DIBlk1_041111		0.000 U	0.406 U	0.00040 U	0.0539 J	0.0435 J	0.0166 U	0.00185 U	0.169	041111-6100
MB-6	TME	Seawater	DIBlk2_041111		0.000 U	0.423 U	0.00093 U	0.0698 J	0.0512 J	0.0309 J	0.00160 U	0.158	041111-6100
MB-7	TME	Seawater	DIBlk3_041111		0.000 U	0.469 U	0.00107 U	0.0757 J	0.0621 J	0.0227 U	0.00176 U	0.161	041111-6100
MEAN REAGENT BLANK		Seawater	***BMRB_041111***		**0.000** U	**0.433** U	**0.00080** U	**0.0665** J	**0.0523** J	**0.0234** U	**0.00174** U	**0.163**	041111-6100
MB-8	TME	Seawater	DIBlk1_041211		0.000 U	0.404 U	0.00000 U	0.0599 J	0.0432 J	0.0168 U	0.00092 U	0.139	041211-6100
MB-9	TME	Seawater	DIBlk2_041211		0.000 U	0.384 U	0.00003 U	0.0537 J	0.0471 J	0.0167 U	0.00125 U	0.129	041211-6100
MB-10	TME	Seawater	DIBlk3_041211		0.000 U	0.419 U	0.00064 U	0.0518 J	0.0486 J	0.0208 U	0.00131 U	0.131	041211-6100
MEAN REAGENT BLANK		Seawater	***BMRB_041211***		**0.000** U	**0.402** U	**0.00022** U	**0.0551** J	**0.0463** J	**0.0181** U	**0.00116** U	**0.133**	041211-6100
MB-11	TME	Seawater	DIBlk1_041311		0.001 U	0.524 U	0.00000 U	0.110	0.0453 J	0.0142 U	0.00156 U	0.143	041311-6100
MB-12	TME	Seawater	DIBlk2_041311		0.001 U	0.428 U	0.00055 U	0.101	0.0416 J	0.0218 U	0.00161 U	0.126	041311-6100
MB-13	TME	Seawater	DIBlk3_041311		0.000 U	0.425 U	0.00000 U	0.114	0.0386 J	0.0228 U	0.00119 U	0.128	041311-6100
MEAN REAGENT BLANK		Seawater	***BMRB_041311***		**0.001** U	**0.459** U	**0.00018** U	**0.108**	**0.0418** J	**0.0196** U	**0.00145** U	**0.132**	041311-6100
MB-14	TME	Seawater	DIBlk1_041411		0.000 U	0.459 U	0.00000 U	0.0869 J	0.0556 J	0.0198 U	0.00368 J	0.114	041411-6100
MB-15	TME	Seawater	DIBlk2_041411		0.000 U	0.483 U	0.00024 U	0.0949	0.0542 J	0.0231 U	0.00188 U	0.110	041411-6100
MB-16	TME	Seawater	DIBlk3_041411		0.000 U	0.465 U	0.00085 U	0.0992	0.0582 J	0.0391 J	0.00161 U	0.115	041411-6100
MEAN REAGENT BLANK		Seawater	***BMRB_041411***		**0.000** U	**0.469** U	**0.00036** U	**0.0937**	**0.0560** J	**0.0273** J	**0.00239** U	**0.113**	041411-6100
TRM_BLK1	TME	Freshwater	TRMblk1_032811		0.0032 U	0.223 J	0.0033 U	0.051 U	0.0053 U	0.00543 J	0.0022 U	0.0701	032811-6100
TRM_BLK2	TME	Freshwater	TRMblk1_040611		0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.140	040611-6100
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	--	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (1)	TME	Seawater	SBBlkr1_040811		0.0042 Ub	2.14 Ub	0.0790 b	0.165 b	0.291 b	0.387 b	0.0019 Ub	0.319 b	040811-6100
LCS (1)	TME	Seawater	SBLCS-r1_040811		1.81 b	2.14 Ub	1.82 b	2.08 b	2.13 b	2.24 b	1.90 b	2.21 b	040811-6100
				Percent Recovery, LCS	**90%**	NA	**87%**	**96%**	**92%**	**93%**	**95%**	**95%**	
Spiking Level					**2**	--	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (2)	TME	Seawater	SBBlkr1_041111		0.0042 Ub	2.14 Ub	0.0798 b	0.125 b	0.304 b	0.376 b	0.00203 b	0.309 b	041111-6100
LCS (2)	TME	Seawater	SBLCS-r1_041111		1.99 b	2.14 Ub	1.94 b	2.05 b	2.32 b	2.42 b	2.11 b	2.32 b	041111-6100
				Percent Recovery, LCS	**99%**	NA	**93%**	**96%**	**101%**	**102%**	**105%**	**100%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB06
QC Sample Results for ICP-MS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES cont.													
Spiking Level					**2**	--	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (3)		TME	Seawater	SBBlkr1_041211	0.0042 Ub	2.14 Ub	0.0782 b	0.0989 b	0.253 b	0.375 b	0.00131 b	0.283 b	041211-6100
LCS (3)		TME	Seawater	SBLCS-r1_041211	1.85 b	2.14 Ub	1.99 b	1.93 b	2.19 b	2.31 b	2.05 b	2.30 b	041211-6100
				Percent Recovery, LCS	**92%**	NA	**96%**	**92%**	**97%**	**116%**	**102%**	**101%**	
Spiking Level					**2**	--	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (4)		TME	Seawater	SBBlkr1_041311	0.0042 Ub	2.14 Ub	0.0798 b	0.108 b	0.259 b	0.365 b	0.00195 b	0.291 b	041311-6100
LCS (4)		TME	Seawater	SBLCS-r1_041311	1.76 b	2.14 Ub	1.81 b	2.02 b	2.06 b	2.18 b	1.90 b	2.14 b	041311-6100
				Percent Recovery, LCS	**88%**	NA	**87%**	**96%**	**90%**	**109%**	**95%**	**92%**	
Spiking Level					**2**	--	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank (5)		TME	Seawater	SBBlkr1_041411	0.0042 Ub	2.14 Ub	0.0848 b	0.157 b	0.286 b	0.460 b	0.00117 b	0.414 b	041411-6100
LCS (5)		TME	Seawater	SBLCS-r1_041411	1.60 b	2.14 Ub	1.75 b	2.03 b	2.00 b	2.11 b	1.80 b	2.10 b	041411-6100
				Percent Recovery, LCS	**80%**	NA	**83%**	**93%**	**86%**	**83%**	**90%**	**84%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	TRMblk1_032811	0.0032 U	0.223 J	0.0033 U	0.051 U	0.0053 U	0.00543 J	0.0022 U	0.0701	032811-6100
LCS (7)		TME	Freshwater	TRM_LCS_032811	1.98	2.34	2.01	1.96	2.04	2.03	2.05	2.23	032811-6100
				Percent Recovery, LCS	**99%**	**106%**	**101%**	**98%**	**102%**	**101%**	**103%**	**108%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK2		TME	Freshwater	TRMblk1_040611	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.140	040611-6100
LCS (8)		TME	Freshwater	TRM_LCS_040611	2.03	2.20	2.03	1.94	2.13	2.05	2.09	2.13	040611-6100
				Percent Recovery, LCS	**102%**	**100%**	**102%**	**97%**	**107%**	**102%**	**105%**	**100%**	
MATRIX SPIKE RESULTS													
AMB06-EB01	EB01_032311	DME	Freshwater	3106-444	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.229	032811-6100
		DME	Freshwater	3106-444MS	4.94	5.34	4.98	4.91	5.21	5.19	5.12	5.11	032811-6100
				3106-444MSD	5.11	5.36	5.11	5.02	5.20	5.17	5.14	5.25	032811-6100
				Spiking Level	5	5	5	5	5	5	5	5	
				Percent Recovery, MS	**99%**	**107%**	**100%**	**98%**	**104%**	**104%**	**102%**	**98%**	
				Percent Recovery, MSD	**102%**	**107%**	**102%**	**100%**	**104%**	**103%**	**103%**	**100%**	
AMB06DD-017	OF21	DME	Freshwater	3106-442	0.0042 U	8.82	0.0111	3.42	2.55	2.59	0.101	3.66	040611-6100
		DME	Freshwater	3106-442MS	9.43	19.0	10.1	13.6	12.3	12.3	11.0	13.8	040611-6100
		DME	Freshwater	3106-442MSD	9.32	18.1	10.1	13.2	11.9	11.8	10.8	13.5	040611-6100
				Spiking Level	10	10	10	10	10	10	10	10	
				Percent Recovery, MS	**94%**	**102%**	**101%**	**102%**	**98%**	**97%**	**109%**	**101%**	
				Percent Recovery, MSD	**93%**	**93%**	**101%**	**98%**	**94%**	**92%**	**107%**	**98%**	
AMB06-110	43.1 SURFAC	DME	Seawater	3106-428	0.0042 Ub	2.14 Ub	0.0857 b	0.147 b	0.696 b	0.463 b	0.00512 Jb	1.67 b	040811-6100
		DME	Seawater	3106-428MS	0.937 b	2.34 Jb	0.967 b	1.16 b	1.58 b	1.40 b	1.01 b	6.46 b	040811-6100
		DME	Seawater	3106-428MSD	0.884 b	2.14 Ub	0.910 b	1.12 b	1.54 b	1.36 b	0.938 b	6.30 b	040811-6100
				Spiking Level	1	NA	1	1	1	1	1	5	
				Percent Recovery, MS	**94%**	NA	**88%**	**101%**	**88%**	**94%**	**100%**	**96%**	
				Percent Recovery, MSD	**88%**	NA	**82%**	**97%**	**84%**	**90%**	**93%**	**93%**	

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Ambient Monitoring - AMB06
QC Sample Results for ICP-MS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS cont.													
AMB06-116	M3.1 DEEP	DME	Seawater	3106-430	0.0042 Ub	2.14 Ub	0.0797 b	0.102 b	0.546 b	0.436 b	0.00555 Jb	1.42 b	041111-6100
		DME	Seawater	3106-430MS	0.982 b	2.32 Jb	1.03 b	1.06 b	1.58 b	1.47 b	1.05 b	2.44 b	041111-6100
		DME	Seawater	3106-430MSD	0.936 b	2.18 Jb	1.01 b	1.02 b	1.54 b	1.42 b	1.02 b	2.34 b	041111-6100
				Spiking Level	1	NA	1	1	1	1	1	1	
				Percent Recovery, MS	**98%**	**NA**	**95%**	**96%**	**103%**	**103%**	**104%**	**102%**	
				Percent Recovery, MSD	**94%**	**NA**	**93%**	**92%**	**99%**	**98%**	**101%**	**92%**	
AMB06-306	M8	DME	Seawater	3106-454	0.0042 Ub	2.14 Ub	0.0832 b	0.176 b	0.586 b	0.485 b	0.0113 b	1.49 b	041211-6100
		DME	Seawater	3106-454MS	0.890 b	2.37 Jb	1.06 b	1.01 b	1.51 b	1.46 b	1.00 b	6.04 b	041211-6100
		DME	Seawater	3106-454MSD	0.935 b	2.33 Jb	1.05 b	1.02 b	1.49 b	1.43 b	1.02 b	5.86 b	041211-6100
				Spiking Level	1	NA	1	1	1	1	1	5	
				Percent Recovery, MS	**89%**	NA	**98%**	**84%**	**93%**	**98%**	**99%**	**91%**	
				Percent Recovery, MSD	**93%**	NA	**97%**	**85%**	**91%**	**95%**	**101%**	**87%**	
AMB06-336	M2	DME	Seawater	3106-464	0.0042 Ub	2.14 Ub	0.0861 b	0.116 b	0.466 b	0.437 b	0.00347 Jb	0.782 b	041311-6100
		DME	Seawater	3106-464MS	0.869 b	2.14 Ub	0.951 b	1.08 b	1.31 b	1.33 b	0.978 b	1.62 b	041311-6100
		DME	Seawater	3106-464MSD	0.885 b	2.14 Ub	0.969 b	1.06 b	1.32 b	1.34 b	0.980 b	1.64 b	041311-6100
				Spiking Level	1	NA	1	1	1	1	1	1	
				Percent Recovery, MS	**87%**	NA	**86%**	**97%**	**84%**	**89%**	**97%**	**84%**	
				Percent Recovery, MSD	**89%**	NA	**88%**	**95%**	**85%**	**90%**	**98%**	**86%**	
AMB06-409	M3.3	DME	Seawater	3106-490	0.0042 Ub	2.14 Ub	0.0829 b	0.139 b	0.941 b	0.460 b	0.00512 Jb	3.06 b	041411-6100
		DME	Seawater	3106-490MS	0.881 b	2.64 J	1.02 b	1.21 b	1.91 b	1.47 b	1.04 b	8.11 b	041411-6100
		DME	Seawater	3106-490MSD	0.837 b	2.66 J	1.02 b	1.22 b	1.87 b	1.44 b	0.998 b	8.00 b	041411-6100
				Spiking Level	1	NA	1	1	1	1	1	5	
				Percent Recovery, MS	**88%**	NA	**94%**	**107%**	**97%**	**101%**	**103%**	**101%**	
				Percent Recovery, MSD	**84%**	NA	**94%**	**108%**	**93%**	**98%**	**99%**	**99%**	
REPLICATE PRECISION													
AMB06-EB01	EB01_032311	TME	Freshwater	3106-443	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.0329 J	032811-6100
				3106-443r2	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.0396 J	032811-6100
				Mean	NA	NA	NA	NA	NA	NA	NA	0.0363 *J*	
				RPD	NA	NA	NA	NA	NA	NA	NA	**18%**	
AMB06DD-017	OF21	TME	Freshwater	3106-441	0.0100 J	40.3	0.0210	3.32	13.4	3.18	1.26	10.1	040611-6100
				3106-441r2	0.0114 J	43.8	0.0207	3.24	14.1	3.34	1.29	10.7	040611-6100
				Mean	0.0107 *J*	42.1	0.0209	3.28	13.8	3.26	1.28	10.4	
				RPD	**13%**	**8%**	**1%**	**2%**	**5%**	**5%**	**2%**	**6%**	
AMB06-007	PS06	TME	Seawater	3106-393	0.0042 Ub	14.3 b	0.0870 b	0.375 b	1.49 b	0.545 b	0.0596 b	4.22 b	040811-6100
				3106-393r2	0.0042 Ub	14.4 b	0.0883 b	0.241 b	1.50 b	0.540 b	0.0582 b	4.33 b	040811-6100
				Mean	*NA*	*14.4 b*	*0.0876 b*	*0.308 b*	*1.49 b*	*0.543 b*	*0.0589 b*	*4.28 b*	
				RPD	NA	**1%**	**1%**	**44%** *	**1%**	**1%**	**2%**	**3%**	

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360/681-4564

Ambient Monitoring - AMB06
QC Sample Results for ICP-MS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION cont.													
AMB06-060	PS10	TME	Seawater	3106-411	0.0042 Ub	17.5 b	0.0845 b	0.188 b	2.32 b	1.16 b	0.0799 b	8.63 b	041111-6100
				3106-411r2	0.0042 Ub	17.0 b	0.0871 b	0.194 b	2.33 b	1.16 b	0.0821 b	8.60 b	041111-6100
				Mean	*NA*	*17.2 b*	*0.0858 b*	*0.191 b*	*2.32 b*	*1.16 b*	*0.0810 b*	*8.61 b*	
				RPD	NA	**3%**	**3%**	**3%**	**0%**	**0%**	**3%**	**0%**	
AMB06-122	PS12	TME	Seawater	3106-431	0.00594 Jb	153 b	0.103 b	0.611 b	3.20 b	1.41 b	0.951 b	10.2 b	041211-6100
				3106-431r2	0.00507 Jb	159 b	0.0965 b	0.573 b	3.16 b	1.35 b	0.925 b	9.84 b	041211-6100
				Mean	*0.00551 Jb*	*156 b*	*0.0998 b*	*0.592 b*	*3.18 b*	*1.38 b*	*0.938 b*	*10.0 b*	
				RPD	**16%**	**4%**	**7%**	**6%**	**1%**	**4%**	**3%**	**4%**	
AMB06-324	BM01	TME	Seawater	3106-459	0.0042 Ub	39.2 b	0.0866 b	0.190 b	0.657 b	0.499 b	0.0897 b	1.45 b	041311-6100
				3106-459r2	0.0042 Ub	41.0 b	0.0839 b	0.199 b	0.662 b	0.506 b	0.0884 b	1.36 b	041311-6100
				Mean	*NA*	*40.1 b*	*0.0853 b*	*0.194 b*	*0.660 b*	*0.503 b*	*0.0891 b*	*1.40 b*	
				RPD	NA	**4%**	**3%**	**5%**	**1%**	**1%**	**1%**	**6%**	
AMB06-389	SN08	TME	Seawater	3106-483	0.0042 Ub	44.7 b	0.0840 b	0.232 b	1.19 b	0.659 b	0.0941 b	2.23 b	041411-6100
				3106-483r2	0.0042 Ub	44.4 b	0.0885 b	0.261 b	1.20 b	0.661 b	0.0935 b	2.40 b	041411-6100
				Mean	*NA*	*44.6 b*	*0.0863 b*	*0.247 b*	*1.20 b*	*0.660 b*	*0.0938 b*	*2.31 b*	
				RPD	NA	**1%**	**5%**	**12%**	**1%**	**0%**	**1%**	**7%**	
STANDARD REFERENCE MATERIAL, Seawater													
SRM SLEW-2 (1)		TME	Seawater	SLEW-2 040811	0.0042 Ub	2.14 Ub	0.0230 b	0.193 b	1.46 b	0.656 b	0.0204 b	1.22 b	040811-6100
SRM SLEW-2 (2)		TME	Seawater	SLEW-2 041111	0.0042 Ub	2.14 Ub	0.0192 b	0.145 b	1.48 b	0.646 b	0.0204 b	1.14 b	041111-6100
SRM SLEW-2 (3)		TME	Seawater	SLEW-2 041211	0.0042 Ub	2.14 Ub	0.0227 b	0.157 b	1.50 b	0.686 b	0.0201 b	1.23 b	041211-6100
SRM SLEW-2 (4)		TME	Seawater	SLEW-2 041311	0.0042 Ub	2.14 Ub	0.0193 b	0.152 b	1.36 b	0.611 b	0.0189 b	1.06 b	041311-6100
SRM SLEW-2 (5)		TME	Seawater	SLEW-2 041411	0.0042 Ub	2.14 Ub	0.0181 b	0.127 b	1.30 b	0.583 b	0.0174 b	1.08 b	041411-6100
				Certified Value	NC	NC	**0.0190**	**0.169**	**1.62**	**0.71**	**0.027**	**1.1**	
				PD	--	--	**21%** &	**14%**	**10%**	**7%**	**24%** c	**11%**	
				PD	--	--	**1%**	**14%**	**9%**	**9%**	**25%** c	**3%**	
				PD	--	--	**19%**	**7%**	**7%**	**3%**	**25%** c	**12%**	
				PD	--	--	**2%**	**10%**	**16%**	**14%**	**30%** c	**4%**	
				PD	--	--	**5%**	**25%** &	**20%**	**18%**	**36%** c	**2%**	

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Ambient Monitoring - AMB06
QC Sample Results for ICP-MS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640 (1)		TME	Freshwater	TRM 1640_032811	7.13	53.3	23.4	37.6	88.0	28.3	28.2	57.9	032811-6100
SRM 1640 (2)		TME	Freshwater	TRM 1640_040611	7.11	54.9	23.1	36.7	89.7	28.8	29.1	56.4	040611-6100
SRM 1640 (3)		TME	Freshwater	1640_040811	6.96	51.8	23.4	38.6	92.0	28.8	29.1	56.3	040811-6100
SRM 1640 (4)		TME	Freshwater	1640_041111	7.21	50.1	24.1	37.6	88.8	27.8	29.3	55.9	041111-6100
SRM 1640 (5)		TME	Freshwater	1640_012011	7.17	54.6	24.6	37.6	90.0	28.5	29.8	56.9	041211-6100
SRM 1640 (6)		TME	Freshwater	1640_041311	7.04	51.1	23.2	37.3	91.5	27.4	28.3	54.6	041311-6100
SRM 1640 (7)		TME	Freshwater	1640_041411	7.01	49.6	23.0	37.2	89.3	27.4	28.9	55.7	041411-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.4**	**27.9**	**53.2**	
				PD	**6%**	**2%**	**3%**	**3%**	**3%**	**3%**	**1%**	**9%**	
				PD	**7%**	**6%**	**1%**	**5%**	**5%**	**5%**	**4%**	**6%**	
				PD	**9%**	**0%**	**3%**	**0%**	**8%**	**5%**	**4%**	**6%**	
				PD	**5%**	**4%**	**6%**	**3%**	**4%**	**1%**	**5%**	**5%**	
				PD	**6%**	**5%**	**8%**	**3%**	**6%**	**4%**	**7%**	**7%**	
				PD	**8%**	**5%**	**1%**	**4%**	**5%**	**0%**	**4%**	**5%**	

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Ambient Monitoring - AMB06
QC Sample Results for CVAF
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		CVAF Batch ID
				Instrument:	*CVAF*		
Laboratory Achieved Detection Limits					**0.0001**		
Reporting Limit (MDL* 3.18)					**0.00032**		
METHOD BLANKS							
MB-1	TME		Water	MB1_033011	0.0001	U	033111HGA
MB-2	TME		Water	MB2_033011	0.0001	U	033111HGA
MB-3	TME		Water	MB3_033011	0.0001	U	033111HGA
MB-4	TME		Water	MB1_033111	0.0001	U	040111HGA
MB-5	TME		Water	MB2_033111	0.0001	U	040111HGA
MB-6	TME		Water	MB3_033111	0.0001	U	040111HGA
MB-7	TME		Water	MB1_040111	0.0001	U	040411HGA
MB-8	TME		Water	MB2_040111	0.0001	U	040411HGA
MB-9	TME		Water	MB3_040111	0.0001	U	040411HGA
MB-10	TME		Water	MB1_040511	0.0001	U	040611HGA
MB-11	TME		Water	MB2_040511	0.0001	U	040611HGA
MB-12	TME		Water	MB3_040511	0.0001	U	040611HGA
MB-13	TME		Water	MB1_040611	0.0001	U	040811HGA
MB-14	TME		Water	MB2_040611	0.0001	U	040811HGA
MB-15	TME		Water	MB3_040611	0.0001	U	040811HGA
LABORATORY CONTROL SAMPLES							
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 033011 run1	0.00516		033111HGA
LCS (2)	TME		Water	OPR 033011 run2	0.00513		033111HGA
LCS Blank (1)	TME		Water	BLANK 033011	0.000148	J	033111HGA
				Percent Recovery, LCS 1	**101%**		
				Percent Recovery, LCS 2	**100%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 033111 run1	0.00530		040111HGA
LCS (2)	TME		Water	OPR 033111 run2	0.00510		040111HGA
LCS Blank (1)	TME		Water	BLANK 033111	0.000180	J	040111HGA
				Percent Recovery, LCS 1	**103%**		
				Percent Recovery, LCS 2	**99%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 040111 run1	0.00509		040411HGA
LCS (2)	TME		Water	OPR 040111 run2	0.00523		040411HGA
LCS Blank (1)	TME		Water	BLANK 040111	0.000145	J	040411HGA
				Percent Recovery, LCS 1	**100%**		
				Percent Recovery, LCS 2	**102%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 040511 run1	0.00501		040611HGA
LCS (2)	TME		Water	OPR 040511 run2	0.00497		040611HGA
LCS Blank (1)	TME		Water	BLANK 040511	0.000166	J	040611HGA
				Percent Recovery, LCS 1	**98%**		
				Percent Recovery, LCS 2	**97%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 040611 run1	0.00492		040811HGA
LCS (2)	TME		Water	OPR 040611 run2	0.00594		040811HGA
LCS Blank (1)	TME		Water	BLANK 040611	0.000128	J	040811HGA
				Percent Recovery, LCS 1	**97%**		
				Percent Recovery, LCS 2	**117%**		

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Ambient Monitoring - AMB06
QC Sample Results for CVAF
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB06-001	PS07	DME	Seawater	3106-392	0.000596	033111HGA
				3106-392MS	0.0107	033111HGA
				3106-392MSD	0.0105	033111HGA
				Spiking Level, MS	0.00993	
				Spiking Level, MSD	0.0100	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**99%**	
				RPD	**2.4%**	
AMB06-028	PS04	TME	Seawater	3106-401	0.000981	033111HGA
				3106-401MS	0.0112	033111HGA
				3106-401MSD	0.0114	033111HGA
				Spiking Level, MS	0.0100	
				Spiking Level, MSD	0.0101	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.9%**	
AMB06-066	PS10.1	TME	Seawater	3106-413	0.000916	040111HGA
				3106-413MS	0.0109	040111HGA
				3106-413MSD	0.0114	040111HGA
				Spiking Level, MS	0.00982	
				Spiking Level, MSD	0.0102	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1.0%**	
AMB06-090	PS02	DME	Seawater	3106-422	0.000570	040111HGA
				3106-422MS	0.0115	040111HGA
				3106-422MSD	0.0111	040111HGA
				Spiking Level, MS	0.0100	
				Spiking Level, MSD	0.0101	
				Percent Recovery, MS	**109%**	
				Percent Recovery, MSD	**104%**	
				RPD	**5.0%**	
AMB06-128	PS07B	TME	Seawater	3106-433	0.00165	040411HGA
				3106-433MS	0.0120	040411HGA
				3106-433MSD	0.0117	040411HGA
				Spiking Level, MS	0.00987	
				Spiking Level, MSD	0.00980	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.0%**	
AMB06-300	M6	DME	Seawater	3106-452	0.000293 J	040411HGA
				3106-452MS	0.0112	040411HGA
				3106-452MSD	0.0110	040411HGA
				Spiking Level, MS	0.0104	
				Spiking Level, MSD	0.0101	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**106%**	
				RPD	**1.5%**	

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Ambient Monitoring - AMB06
QC Sample Results for CVAF
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB06-330	WP	DME	Seawater	3106-462	0.000254 J	040611HGA
				3106-462MS	0.0102	040611HGA
				3106-462MSD	0.0100	040611HGA
				Spiking Level, MS	0.00963	
				Spiking Level, MSD	0.00962	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**101%**	
				RPD	**2.4%**	
AMB06-354	ILSP	TME	Seawater	3106-469	0.000505	040611HGA
				3106-469MS	0.0102	040611HGA
				3106-469MSD	0.0101	040611HGA
				Spiking Level, MS	0.00953	
				Spiking Level, MSD	0.00946	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.3%**	
AMB06-375	SN03	DME	Seawater	3106-476	0.000268 J	040811HGA
				3106-476MS	0.00988	040811HGA
				3106-476MSD	0.0102	040811HGA
				Spiking Level, MS	0.00948	
				Spiking Level, MSD	0.00979	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.3%**	
AMB06-409	M3.3	TME	Seawater	3106-489	0.000568	040811HGA
				3106-489MS	0.0100	040811HGA
				3106-489MSD	0.0102	040811HGA
				Spiking Level, MS	0.00915	
				Spiking Level, MSD	0.00915	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**105%**	
				RPD	**1.3%**	
REPLICATE PRECISION						
AMB06-013	PS14	TME	Seawater	3106-395	0.000776	033111HGA
				3106-395r2	0.000812	033111HGA
				Mean	*0.000794*	
				RPD	**4%**	
AMB06-084	PS01	TME	Seawater	3106-419	0.00469	040111HGA
				3106-419r2	0.00472	040111HGA
				Mean	*0.00471*	
				RPD	**1%**	
AMB06DD-005	OF18	TME	Seawater	3106-437	0.0125	040411HGA
				3106-437r2	0.00987	040411HGA
				Mean	*0.0112*	
				RPD	**23%**	

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Ambient Monitoring - AMB06
QC Sample Results for CVAF
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION cont.						
AMB06-312	M7	TME	Seawater	3106-455	0.000672	040611HGA
				3106-455r2	0.000785	040611HGA
				Mean	*0.000729*	
				RPD	**15%**	
AMB06-382	SN05	TME	Seawater	3106-479	0.00215	040811HGA
				3106-479r2	0.00231	040811HGA
				Mean	*0.00223*	
				RPD	**7%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 033011	1527	033111HGA
SRM 1641 (2)		TME	Freshwater	1641d 033111	1584	040111HGA
SRM 1641 (3)		TME	Freshwater	1641d 040111	1566	040411HGA
SRM 1641 (4)		TME	Freshwater	1641d 040511	1544	040611HGA
SRM 1641 (5)		TME	Freshwater	1641d 040611	1589	040811HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**4%**	
	SRM 1641 (2)			**PD**	**0%**	
	SRM 1641 (3)			**PD**	**2%**	
	SRM 1641 (4)			**PD**	**3%**	
	SRM 1641 (5)			**PD**	**0%**	

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Ambient Monitoring - AMB06
QC Sample Results for FIAS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Water	BLANK R1	0.0267 U	F041311A
MB2		TME	Water	BLANK R2	0.0267 U	F041311A
MB3		TME	Water	BLANK R3	0.0267 U	F041311A
Laboratory Control Samples						
Spiking Level					5	
LCS1		TME	Water	LCS 041311R1	5.08	F041311A
LCS2		TME	Water	LCS 041311R2	4.91	F041311A
LCS3		TME	Water	LCS 041311R3	4.74	F041311A
				Percent Recovery, LCS	**102%**	
				Percent Recovery, LCS	**98%**	
				Percent Recovery, LCS	**95%**	
MATRIX SPIKE RESULTS						
AMB06-028	PS04	TME	Seawater	3106-401	1.20	F041311A
		TME	Seawater	3106-401MS	6.34	F041311A
		TME	Seawater	3106-401MSD	6.26	F041311A
				Spiking Level	5	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**101%**	
AMB06-128	PS07B	TME	Seawater	3106-433	1.20	F041311A
		TME	Seawater	3106-433MS	6.08	F041311A
		TME	Seawater	3106-433MSD	6.12	F041311A
				Spiking Level	5	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**98%**	
AMB06-409	M3.3	TME	Seawater	3106-489	1.12	F041311A
		TME	Seawater	3106-489MS	5.80	F041311A
		TME	Seawater	3106-489MSD	5.87	F041311A
				Spiking Level	5	
				Percent Recovery, MS	**94%**	
				Percent Recovery, MSD	**95%**	

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Ambient Monitoring - AMB06
QC Sample Results for FIAS
ENVVEST 2010-2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB06-084	PS01	TME	Seawater	3106-419	1.60	F041311A
				3106-419r2	1.59	F041311A
				Mean	*1.60*	F041311A
				RPD	**1%**	
AMB06-312	M7	TME	Seawater	3106-455	1.11	F041311A
				3106-455r2	1.17	F041311A
				Mean	*1.14*	F041311A
				RPD	**5%**	
AMB06-382	SN05	TME	Seawater	3106-479	0.937	F041311A
				3106-479r2	0.949	F041311A
				Mean	*0.943*	F041311A
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.02	F041311A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.04	F041311A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	0.968	F041311A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**8%**	
	SRM CASS-4 (2)			**PD**	**6%**	
	SRM CASS-4 (3)			**PD**	**13%**	

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Ambient Monitoring - AMB06
QC Sample Results for Salinity
ENVVEST 2010-2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	Blank 032311r1	0.0 U	PSU	032311sal
MB2		TME	Seawater	Blank 032311r2	0.0 U	PSU	032311sal
MB3		TME	Seawater	Blank 032311r3	0.0 U	PSU	032311sal
MB4		TME	Seawater	Blank 032411r1	0.0 U	PSU	032411sal
MB5		TME	Seawater	Blank 032411r2	0.0 U	PSU	032411sal
MB6		TME	Seawater	Blank 032411r3	0.0 U	PSU	032411sal
REPLICATE PRECISION							
AMB06-060	PS10	TME	Seawater	3106-411	27.3	PSU	032311sal
				3106-411r2	27.4	PSU	032311sal
				Mean	*27.4*	PSU	
				RPD	**0.4%**		
AMB06-122	PS12	TME	Seawater	3106-431	27.9	PSU	032311sal
				3106-431r2	28.0	PSU	032311sal
				Mean	*28.0*	PSU	
				RPD	**0.4%**		
AMB06-415	PS13	TME	Seawater	3106-491	28.0		032411sal
				3106-491r2	28.1		032411sal
				Mean	*28.1*	PSU	
				RPD	**0.4%**		
AMB06-348	CLMBAY	TME	Seawater	3106-467	28.1		032411sal
				3106-467r2	28.1		032411sal
				Mean	*28.1*	PSU	
				RPD	**0.0%**		
STANDARD REFERENCE MATERIAL							
SRM Copenhagen Water-1		TME	Seawater	Copenhagen Water (LCS) R1	35.1	PSU	032311sal
SRM Copenhagen Water-2		TME	Seawater	Copenhagen Water (LCS) R2	35.1	PSU	032311sal
SRM Copenhagen Water-3		TME	Seawater	Copenhagen Water (LCS) R3	35.1	PSU	032311sal
SRM Copenhagen Water-4		TME	Seawater	Copenhagen Water (LCS) R4	35.3	PSU	032411sal
SRM Copenhagen Water-5		TME	Seawater	Copenhagen Water (LCS) R5	35.0	PSU	032411sal
SRM Copenhagen Water-6		TME	Seawater	Copenhagen Water (LCS) R6	35.0	PSU	032411sal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0%**		
	SRM-2			**PD**	**0%**		
	SRM-3			**PD**	**0%**		
	SRM-4			**PD**	**1%**		
	SRM-5			**PD**	**0%**		
	SRM-6			**PD**	**0%**		

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Ambient Monitoring - AMB06
QC Sample Results for Salinity
ENVVEST 2010-2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
LABORATORY CONTROL SAMPLES							
LCS-1				LCS 032311r1	20.0	PSU	032311sal
LCS-2				LCS 032311r2	19.9	PSU	032311sal
LCS-3				LCS 032311r3	19.8	PSU	032311sal
LCS-4				LCS 032411r1	19.9	PSU	032411sal
LCS-5				LCS 032411r2	19.9	PSU	032411sal
LCS-6				LCS 032411r3	19.8	PSU	032411sal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**100%**		
	LCS-2			**% RECOVERY**	**100%**		
	LCS-3			**% RECOVERY**	**99%**		
	LCS-4			**% RECOVERY**	**100%**		
	LCS-5			**% RECOVERY**	**100%**		
	LCS-6			**% RECOVERY**	**99%**		
CALIBRATION RESULTS							
ICV-1				Calibration ICV	50.4	mS	032311sal
CCV-1				Calibration CCV1	50.2	mS	032311sal
CCV-2				Calibration CCV2	50.4	mS	032311sal
CCV-3				Calibration CCV3	50.3	mS	032311sal
CCV-4				Calibration CCV4	50.3	mS	032311sal
CCV-5				Calibration ICV	50.3	mS	032411sal
CCV-6				Calibration CCV6	50.1	mS	032411sal
CCV-7				Calibration CCV7	50.2	mS	032411sal
CCV-8				Calibration CCV8	50.0	mS	032411sal
CCV-9				Calibration CCV9	49.9	mS	032411sal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**101%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**101%**		
	CCV-3			**% RECOVERY**	**101%**		
	CCV-4			**% RECOVERY**	**101%**		
	CCV-5			**% RECOVERY**	**101%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**100%**		
	CCV-8			**% RECOVERY**	**100%**		
	CCV-9			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB06
QC Sample Results for TSS
ENVVEST 2010-2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.5*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank032411r1	0.5 U	mg/L	032411T
MB2		TME	Seawater	Blank032411r2	0.5 U	mg/L	032411T
MB3		TME	Seawater	Blank032411r3	0.5 U	mg/L	032411T
MB4		TME	Seawater	Blank032411r4	0.5 U	mg/L	032411T
MB5		TME	Seawater	Blank032411r5	0.5 U	mg/L	032411T
LABORATORY CONTROL SAMPLES							
LCS-1				LCS032411r1	987	mg/L	032411T
LCS-2				LCS032411r2	988	mg/L	032411T
LCS-3				LCS032411r3	980	mg/L	032411T
LCS-4				LCS032411r4	1050	mg/L	032411T
LCS-5				LCS032411r5	985	mg/L	032411T
LCS-6				LCS032411r6	984	mg/L	032411T
LCS-7				LCS032411r7	970	mg/L	032411T
LCS-8				LCS032411r8	986	mg/L	032411T
LCS-9				LCS032411r9	1002	mg/L	032411T
LCS-10				LCS032411r10	1005	mg/L	032411T
				TRUE VALUE	**1000**	mg/L	
	LCS-1			**% RECOVERY**	**99%**		
	LCS-2			**% RECOVERY**	**99%**		
	LCS-3			**% RECOVERY**	**98%**		
	LCS-4			**% RECOVERY**	**105%**		
	LCS-5			**% RECOVERY**	**98%**		
	LCS-6			**% RECOVERY**	**98%**		
	LCS-7			**% RECOVERY**	**97%**		
	LCS-8			**% RECOVERY**	**99%**		
	LCS-9			**% RECOVERY**	**100%**		
	LCS-10			**% RECOVERY**	**101%**		

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ENVVEST AMB06_March 2011
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, March 2011 (AMB06)

PARAMETER: Total and Dissolved Metals – Al, Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks (DI water matrix)

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 03/22/11 and 03/23/11. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid.

The samples for TSS were stored at 4.0±2°C in low density polyethylene bottles prior to analysis.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	03/22/11 and 03/23/11
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	03/22/11 and 03/23/11
TSS analysis dates	03/24/11
CVAF analysis dates (Hg)	03/31/11, 04/01/11, 04/04/11, 04/06/11, and 04/08/11
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	03/28/11 and 04/06/11
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Pb, Zn)	04/08/11, 04/11/011, 04/12/11, 04/13/11, and 04/14/11
FIAS analysis date (As)	04/13/11

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.0101
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.161
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.02
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for nine metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013, Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al

METHODS:

(total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples such as equipment blanks were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All metal results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and qualified with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Equipment blanks were created by MSL using the same lot of bottles and filter units cleaned for AMB06. They consist of deionized water collected in the Teflon sample bottle (1L) and filtered along with the AMB06 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed for Hg and As as described above for the seawater. The freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for freshwater is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

The TSS samples were analyzed following SM2540D using a gravimetric analysis. The data are reported in units of mg/L.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annual Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annual Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn and Cr. The required preconcentration procedure to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank for the analytical batch.

The method blanks for the freshwater analytical batches identified as 032811-6100 and 040611-6100 contained detectable Zn above the RL. The data were evaluated and only the samples in batch 032811-6100 required qualification with a B. These were equipment blanks that suggested there was a small contribution of Zn from the filtering process and TRM process. The filter blanks were analyzed without the TRM preparation and showed the Zn attributed to the filtration was only present when the sample was acid solubilized. Since the seawater samples are chelated first then solubilized with acid, the Zn attributed to the filter units would not likely impact the concentration of the seawater samples. The data are not considered significantly impacted as a majority of the dissolved Zn values were less than the total Zn. In seawater Zn occurs primarily in the dissolved phase, therefore any contribution from the filtration process would result in a dissolved fraction higher than the total.

The method blank for TSS is a glass fiber filter taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals except Al (not spiked into the samples). The LCS matrix is Sequim Bay Seawater carried through the preconcentration and analytical processes. The quantification of Al is not considered a chemical of concern; therefore, the spiking levels are optimized for the other metals of interest. The accuracy of Al was evaluated using freshwater SRMs and high purity standards.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals (except Al, which is not a metal of concern).

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL except one duplicate for Cr (44%). Acceptable precision for Cr was demonstrated in alternate QC samples.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within

the QC acceptance criterion.

Two different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640 demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion.

The estuarine SRM SLEW-2 was prepared with each batch of preconcentrated samples. The certified value for Pb was less than the RL and not appropriate for data validation. The percent differences were also flagged with a “c” indicating they meet the contingency criterion. The seawater SRM was not certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy for these metals. The percent differences were within the QC acceptance criterion for all other metals except one replicate for Cd (21%) and one for Cr (25%). Acceptable analytical accuracy for these metals was demonstrated in alternate QC samples.

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-001	PS07-TME	TME	PS07	3106-391	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-001	PS07-DME	DME	PS07	3106-392	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-007	PS06-TME	TME	PS06	3106-393	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-007	PS06-DME	DME	PS06	3106-394	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-013	PS14-TME	TME	PS14	3106-395	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-013	PS14-DME	DME	PS14	3106-396	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-019	PS03-TME	TME	PS03	3106-397	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-019	PS03-DME	DME	PS03	3106-398	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-020	PS03DUP-TME	TME	PS03DUP	3106-399	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-020	PS03DUP-DME	DME	PS03DUP	3106-400	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-028	PS04-TME	TME	PS04	3106-401	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-028	PS04-DME	DME	PS04	3106-402	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-034	PS05-TME	TME	PS05	3106-403	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-034	PS05-DME	DME	PS05	3106-404	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-040	PS08-TME	TME	PS08	3106-405	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-040	PS08-DME	DME	PS08	3106-406	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-046	PS15-TME	TME	PS15	3106-407	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-046	PS15-DME	DME	PS15	3106-408	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-054	PS09-TME	TME	PS09	3106-409	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-054	PS09-DME	DME	PS09	3106-410	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-060	PS10-TME	TME	PS10	3106-411	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-060	PS10-DME	DME	PS10	3106-412	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-066	PS10.1-TME	TME	PS10.1	3106-413	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-066	PS10.1-DME	DME	PS10.1	3106-414	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-072	PS11-TME	TME	PS11	3106-415	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-072	PS11-DME	DME	PS11	3106-416	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-078	PS16-TME	TME	PS16	3106-417	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-078	PS16-DME	DME	PS16	3106-418	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-084	PS01-TME	TME	PS01	3106-419	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-084	PS01-DME	DME	PS01	3106-420	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-090	PS02-TME	TME	PS02	3106-421	WATER	PREP LAB	Total Metals, Hg	03/22/11

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-090	PS02-DME	DME	PS02	3106-422	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-098	M4-TME	TME	M4	3106-423	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-098	M4-DME	DME	M4	3106-424	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-104	BJ-EST-TME	TME	BJ-EST	3106-425	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-104	BJ-EST-DME	DME	BJ-EST	3106-426	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-110	M3.1 SURFACE-TME	TME	M3.1 SURFACE	3106-427	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-110	M3.1 SURFACE-DME	DME	M3.1 SURFACE	3106-428	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-116	M3.1 DEEP-TME	TME	M3.1 DEEP	3106-429	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-116	M3.1 DEEP-DME	DME	M3.1 DEEP	3106-430	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-122	PS12-TME	TME	PS12	3106-431	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-122	PS12-DME	DME	PS12	3106-432	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-128	PS07B-TME	TME	PS07B	3106-433	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-128	PS07B-DME	DME	PS07B	3106-434	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-134	PS07DUP-TME	TME	PS07DUP	3106-435	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06-134	PS07DUP-DME	DME	PS07DUP	3106-436	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06DD-005	OF18-TME	TME	OF18	3106-437	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06DD-005	OF18-DME	DME	OF18	3106-438	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06DD-011	OF19-TME	TME	OF19	3106-439	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06DD-011	OF19-DME	DME	OF19	3106-440	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06DD-017	OF21-TME	TME	OF21	3106-441	WATER	PREP LAB	Total Metals, Hg	03/22/11
AMB06DD-017	OF21-DME	DME	OF21	3106-442	WATER	PREP LAB	Dissolved Metals	03/22/11
AMB06-EB01	EB01_032311-TME	TME	EB01_032311	3106-443	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-EB01	EB01_032311-DME	DME	EB01_032311	3106-444	WATER	PREP LAB	Dissolved Metals	03/23/11

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Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-005	PS07-OSAL	OSAL	PS07	3106-391	WATER	MSL	SALINITY	03/22/11
AMB06-011	PS06-OSAL	OSAL	PS06	3106-393	WATER	MSL	SALINITY	03/22/11
AMB06-017	PS14-OSAL	OSAL	PS14	3106-395	WATER	MSL	SALINITY	03/22/11
AMB06-025	PS03-OSAL	OSAL	PS03	3106-397	WATER	MSL	SALINITY	03/22/11
AMB06-032	PS04-OSAL	OSAL	PS04	3106-401	WATER	MSL	SALINITY	03/22/11
AMB06-038	PS05-OSAL	OSAL	PS05	3106-403	WATER	MSL	SALINITY	03/22/11
AMB06-044	PS08-OSAL	OSAL	PS08	3106-405	WATER	MSL	SALINITY	03/22/11
AMB06-051	PS15-OSAL	OSAL	PS15	3106-407	WATER	MSL	SALINITY	03/22/11
AMB06-058	PS09-OSAL	OSAL	PS09	3106-409	WATER	MSL	SALINITY	03/22/11
AMB06-064	PS10-OSAL	OSAL	PS10	3106-411	WATER	MSL	SALINITY	03/22/11
AMB06-070	PS10.1-OSAL	OSAL	PS10.1	3106-413	WATER	MSL	SALINITY	03/22/11
AMB06-076	PS11-OSAL	OSAL	PS11	3106-415	WATER	MSL	SALINITY	03/22/11
AMB06-081	PS16-OSAL	OSAL	PS16	3106-417	WATER	MSL	SALINITY	03/22/11
AMB06-087	PS01-OSAL	OSAL	PS01	3106-419	WATER	MSL	SALINITY	03/22/11
AMB06-093	PS02-OSAL	OSAL	PS02	3106-421	WATER	MSL	SALINITY	03/22/11
AMB06-101	M4-OSAL	OSAL	M4	3106-423	WATER	MSL	SALINITY	03/22/11
AMB06-107	BJ-EST-OSAL	OSAL	BJ-EST	3106-425	WATER	MSL	SALINITY	03/22/11
AMB06-113	M3.1 SURFACE-OSAL	OSAL	M3.1 SURFACE	3106-427	WATER	MSL	SALINITY	03/22/11
AMB06-119	M3.1 DEEP-OSAL	OSAL	M3.1 DEEP	3106-429	WATER	MSL	SALINITY	03/22/11
AMB06-126	PS12-OSAL	OSAL	PS12	3106-431	WATER	MSL	SALINITY	03/22/11
AMB06-132	PS07B-OSAL	OSAL	PS07B	3106-433	WATER	MSL	SALINITY	03/22/11

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Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-002	PS07-TSS	TSS	PS07	3106-391	WATER	MSL	TSS/TS	03/22/11
AMB06-008	PS06-TSS	TSS	PS06	3106-393	WATER	MSL	TSS/TS	03/22/11
AMB06-014	PS14-TSS	TSS	PS14	3106-395	WATER	MSL	TSS/TS	03/22/11
AMB06-021	PS03-TSS	TSS	PS03	3106-397	WATER	MSL	TSS/TS	03/22/11
AMB06-029	PS04-TSS	TSS	PS04	3106-401	WATER	MSL	TSS/TS	03/22/11
AMB06-035	PS05-TSS	TSS	PS05	3106-403	WATER	MSL	TSS/TS	03/22/11
AMB06-041	PS08-TSS	TSS	PS08	3106-405	WATER	MSL	TSS/TS	03/22/11
AMB06-047	PS15-TSS	TSS	PS15	3106-407	WATER	MSL	TSS/TS	03/22/11
AMB06-055	PS09-TSS	TSS	PS09	3106-409	WATER	MSL	TSS/TS	03/22/11
AMB06-061	PS10-TSS	TSS	PS10	3106-411	WATER	MSL	TSS/TS	03/22/11
AMB06-067	PS10.1-TSS	TSS	PS10.1	3106-413	WATER	MSL	TSS/TS	03/22/11
AMB06-073	PS11-TSS	TSS	PS11	3106-415	WATER	MSL	TSS/TS	03/22/11
AMB06-079	PS16-TSS	TSS	PS16	3106-417	WATER	MSL	TSS/TS	03/22/11
AMB06-085	PS01-TSS	TSS	PS01	3106-419	WATER	MSL	TSS/TS	03/22/11
AMB06-091	PS02-TSS	TSS	PS02	3106-421	WATER	MSL	TSS/TS	03/22/11
AMB06-099	M4-TSS	TSS	M4	3106-423	WATER	MSL	TSS/TS	03/22/11
AMB06-105	BJ-EST-TSS	TSS	BJ-EST	3106-425	WATER	MSL	TSS/TS	03/22/11
AMB06-111	M3.1 SURFACE-TSS	TSS	M3.1 SURFACE	3106-427	WATER	MSL	TSS/TS	03/22/11
AMB06-117	M3.1 DEEP-TSS	TSS	M3.1 DEEP	3106-429	WATER	MSL	TSS/TS	03/22/11
AMB06-125	PS12-TSS	TSS	PS12	3106-431	WATER	MSL	TSS/TS	03/22/11
AMB06-131	PS07B-TSS	TSS	PS07B	3106-433	WATER	MSL	TSS/TS	03/22/11
AMB06-137	PS07DUP-TSS	TSS	PS07DUP	3106-435	WATER	MSL	TSS/TS	03/22/11
AMB06DD-001	OF18-TSS	TSS	OF18	3106-437	WATER	MSL	TSS/TS	03/22/11
AMB06DD-007	OF19-TSS	TSS	OF19	3106-439	WATER	MSL	TSS/TS	03/22/11
AMB06DD-013	OF21-TSS	TSS	OF21	3106-441	WATER	MSL	TSS/TS	03/22/11

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-EB01_032411	EB01_032411-TME	TME	EB01_032411	3106-447	WATER	PREP LAB	Total Metals, Hg	03/24/11
AMB06-EB01_032411	EB01_032411-DME	DME	EB01_032411	3106-448	WATER	PREP LAB	Dissolved Metals	03/24/11
AMB06-300	M6-TME	TME	M6	3106-451	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-300	M6-DME	DME	M6	3106-452	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-306	M8-TME	TME	M8	3106-453	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-306	M8-DME	DME	M8	3106-454	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-312	M7-TME	TME	M7	3106-455	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-312	M7-DME	DME	M7	3106-456	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-318	DYOTS-TME	TME	DYOTS	3106-457	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-318	DYOTS-DME	DME	DYOTS	3106-458	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-324	BM01-TME	TME	BM01	3106-459	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-324	BM01-DME	DME	BM01	3106-460	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-330	WP-TME	TME	WP	3106-461	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-330	WP-DME	DME	WP	3106-462	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-336	M2-TME	TME	M2	3106-463	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-336	M2-DME	DME	M2	3106-464	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-342	M2 DEEP-TME	TME	M2 DEEP	3106-465	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-342	M2 DEEP-DME	DME	M2 DEEP	3106-466	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-348	CLMBAY-TME	TME	CLMBAY	3106-467	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-348	CLMBAY-DME	DME	CLMBAY	3106-468	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-354	ILSP-TME	TME	ILSP	3106-469	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-354	ILSP-DME	DME	ILSP	3106-470	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-360	M1-TME	TME	M1	3106-471	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-360	M1-DME	DME	M1	3106-472	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-366	M1 DEEP-TME	TME	M1 DEEP	3106-473	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-366	M1 DEEP-DME	DME	M1 DEEP	3106-474	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-375	SN03-TME	TME	SN03	3106-475	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-375	SN03-DME	DME	SN03	3106-476	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-376	SN03DUP-TME	TME	SN03DUP	3106-477	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-376	SN03DUP-DME	DME	SN03DUP	3106-478	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-382	SN05-TME	TME	SN05	3106-479	WATER	PREP LAB	Total Metals, Hg	03/23/11

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/24/2011
Batch: 12
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-382	SN05-DME	DME	SN05	3106-480	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-383	SN05DUP-TME	TME	SN05DUP	3106-481	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-383	SN05DUP-DME	DME	SN05DUP	3106-482	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-389	SN08-TME	TME	SN08	3106-483	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-389	SN08-DME	DME	SN08	3106-484	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-397	SN10-TME	TME	SN10	3106-485	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-397	SN10-DME	DME	SN10	3106-486	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-403	SN11-TME	TME	SN11	3106-487	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-403	SN11-DME	DME	SN11	3106-488	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-409	M3.3-TME	TME	M3.3	3106-489	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-409	M3.3-DME	DME	M3.3	3106-490	WATER	PREP LAB	Dissolved Metals	03/23/11
AMB06-415	PS13-TME	TME	PS13	3106-491	WATER	PREP LAB	Total Metals, Hg	03/23/11
AMB06-415	PS13-DME	DME	PS13	3106-492	WATER	PREP LAB	Dissolved Metals	03/23/11

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/24/2011
Batch: 12
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-304	M6-OSAL	OSAL	M6	3106-451	WATER	MSL	SALINITY	03/23/11
AMB06-310	M8-OSAL	OSAL	M8	3106-453	WATER	MSL	SALINITY	03/23/11
AMB06-316	M7-OSAL	OSAL	M7	3106-455	WATER	MSL	SALINITY	03/23/11
AMB06-322	DYOTS-OSAL	OSAL	DYOTS	3106-457	WATER	MSL	SALINITY	03/23/11
AMB06-328	BM01-OSAL	OSAL	BM01	3106-459	WATER	MSL	SALINITY	03/23/11
AMB06-334	WP-OSAL	OSAL	WP	3106-461	WATER	MSL	SALINITY	03/23/11
AMB06-340	M2-OSAL	OSAL	M2	3106-463	WATER	MSL	SALINITY	03/23/11
AMB06-346	M2 DEEP-OSAL	OSAL	M2 DEEP	3106-465	WATER	MSL	SALINITY	03/23/11
AMB06-352	CLMBAY-OSAL	OSAL	CLMBAY	3106-467	WATER	MSL	SALINITY	03/23/11
AMB06-358	ILSP-OSAL	OSAL	ILSP	3106-469	WATER	MSL	SALINITY	03/23/11
AMB06-364	M1-OSAL	OSAL	M1	3106-471	WATER	MSL	SALINITY	03/23/11
AMB06-370	M1 DEEP-OSAL	OSAL	M1 DEEP	3106-473	WATER	MSL	SALINITY	03/23/11
AMB06-380	SN03-OSAL	OSAL	SN03	3106-475	WATER	MSL	SALINITY	03/23/11
AMB06-387	SN05-OSAL	OSAL	SN05	3106-479	WATER	MSL	SALINITY	03/23/11
AMB06-394	SN08-OSAL	OSAL	SN08	3106-483	WATER	MSL	SALINITY	03/23/11
AMB06-401	SN10-OSAL	OSAL	SN10	3106-485	WATER	MSL	SALINITY	03/23/11
AMB06-407	SN11-OSAL	OSAL	SN11	3106-487	WATER	MSL	SALINITY	03/23/11
AMB06-413	M3.3-OSAL	OSAL	M3.3	3106-489	WATER	MSL	SALINITY	03/23/11
AMB06-420	PS13-OSAL	OSAL	PS13	3106-491	WATER	MSL	SALINITY	03/23/11

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/24/2011
Batch: 12
Login Designee: Suslick, Brandenberger

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2011 (AMB06)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB06-301	M6-TSS	TSS	M6	3106-451	WATER	MSL	TSS/TS	03/23/11
AMB06-307	M8-TSS	TSS	M8	3106-453	WATER	MSL	TSS/TS	03/23/11
AMB06-313	M7-TSS	TSS	M7	3106-455	WATER	MSL	TSS/TS	03/23/11
AMB06-319	DYOTS-TSS	TSS	DYOTS	3106-457	WATER	MSL	TSS/TS	03/23/11
AMB06-325	BM01-TSS	TSS	BM01	3106-459	WATER	MSL	TSS/TS	03/23/11
AMB06-331	WP-TSS	TSS	WP	3106-461	WATER	MSL	TSS/TS	03/23/11
AMB06-337	M2-TSS	TSS	M2	3106-463	WATER	MSL	TSS/TS	03/23/11
AMB06-343	M2 DEEP-TSS	TSS	M2 DEEP	3106-465	WATER	MSL	TSS/TS	03/23/11
AMB06-349	CLMBAY-TSS	TSS	CLMBAY	3106-467	WATER	MSL	TSS/TS	03/23/11
AMB06-355	ILSP-TSS	TSS	ILSP	3106-469	WATER	MSL	TSS/TS	03/23/11
AMB06-361	M1-TSS	TSS	M1	3106-471	WATER	MSL	TSS/TS	03/23/11
AMB06-367	M1 DEEP-TSS	TSS	M1 DEEP	3106-473	WATER	MSL	TSS/TS	03/23/11
AMB06-377	SN03-TSS	TSS	SN03	3106-475	WATER	MSL	TSS/TS	03/23/11
AMB06-384	SN05-TSS	TSS	SN05	3106-479	WATER	MSL	TSS/TS	03/23/11
AMB06-390	SN08-TSS	TSS	SN08	3106-483	WATER	MSL	TSS/TS	03/23/11
AMB06-398	SN10-TSS	TSS	SN10	3106-485	WATER	MSL	TSS/TS	03/23/11
AMB06-404	SN11-TSS	TSS	SN11	3106-487	WATER	MSL	TSS/TS	03/23/11
AMB06-410	M3.3-TSS	TSS	M3.3	3106-489	WATER	MSL	TSS/TS	03/23/11
AMB06-416	PS13-TSS	TSS	PS13	3106-491	WATER	MSL	TSS/TS	03/23/11

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/22/2011
Page: 1 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB06 / AMB06)	Sample Lable	Collection Date/Time (3/24/11)	Matrix (NS / M)	Metals (Total/Dissolved)	~~Total Hg~~	TS/TSS	Nuts/~~TPC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments TOT DISS
	-001		0950	NS	X									1	PS07	3106-391 392
	-002		1002	NS			X							1	PS07	
	-003		0952	NS				X						1	PS07	
	-004		0959	NS					X					1	PS07	
	-005		0953	NS						X				1	PS07	
	-006		0955	NS								X		1	PS07	Glass
	-007		1011	NS	X									1	PS06	3106-393 -394
	-008		1017	NS			X							1	PS06	
	-009		1013	NS				X						1	PS06	
	-010		1016	NS					X					1	PS06	
	-011		1012	NS						X				1	PS06	
	-012		1015	NS								X		1	PS06	Glass
	-013		1027	NS	X									1	PS14	3106-395 396
	-014		1032	NS			X							1	PS14	
X	-015		1032	NS				X						1	PS14	

Relinquished by: _____ 3/22/11 2025
Signature Date Time
to MSL Lab
Printed Name Company

Received by: _____ MSL
Signature 3/23/11
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivered by JMB

Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 2 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments TOT DISS
	AMB06		3/22/11													
	-016		1034	NS					X					1	PS14	Glass
	-017		1032	NS						X				1	PS14	
	-018		1032	NS								X		1	PS14	
	-019		1052	NS	X									1	PS03	3106-397 398
	-020		1050	NS	X									1	PS03 DUP	3106-399 400
	-021		1101	NS			X							1	PS03	
X	-022		1101	NS				X						1	PS03	
	-023		1102	NS					X					1	PS03	
	-024		1103	NS					X					1	PS03 DUP	
	-025		1101	NS						X				1	PS03	
	-026		1100	NS								X		1	PS03	
	-027		1101	NS								X		1	PS03 DUP	
	-028		1112	NS	X									1	PS04	3106-401 402
	-029		1115	NS			X							1	PS04	
	-030		1115	NS				X						1	PS04	

Relinquished by: _____ 3/22/11 2025
Signature Date Time
to MSL Lab
Printed Name Company

Received by: _____ MSL
Signature
CSUSLER 3/23/11
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 3 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB06)	Sample Lable	Collection Date/Time (3/22/11)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/[illegible]	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments (TOT DISS)
	-031		1118	NS					X					1	PS04	
	-032		~~1014~~ 1115	NS						X				1	PS04	
	-033		1115	NS								X		1	PS04	
	-034		1125	NS	X									1	PS05	3104 - 403 - 404
	-035		1129	NS			X							1	PS05	
	-036		1128	NS				X						1	PS05	
	-037		1129	NS					X					1	PS05	
	-038		1129	NS						X				1	PS05	
	-039		1129	NS								X		1	PS05	
	-040		1143	NS	X									1	PS08	3104 - 405 - 406
	-041		1148	NS			X							1	PS08	
	-042		1143	NS				X						1	PS08	
	-043		1147	NS					X					1	PS08	
	-044		1144	NS						X				1	PS08	
	-045		1145	NS								X		1	PS08	

Relinquished by: _____ 3/22/11 2025
Signature Date Time
MSL Lab
Printed Name Company

Received by: _____ MS
Signature
C. Sullivan 3/23/11
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

MPLE CHAIN OF CUSTODY FORM

Date: _____
Page: 4 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable (Amb06)	Collection Date/Time (3/22/11)	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments (TOC / DLS)
		-046	1156	NS	X									1	PS15	3106 - 407 408
		-047	1204	NS			X							1	PS15	
		-048	1205	NS				X						1	PS15	
		-049	1202	NS					X					1	PS15	
		-050	1202	NS					X					1	PS15DUP	
		-051	1200	NS						X				1	PS15	
		-052	1202	NS								X		1	PS15	
		-053	1202	NS								X		1	PS15DUP	
		-054	1215	NS	X									1	PS09	3106 - 409 410
		-055	~~1219~~ 1220	NS			X							1	PS09	
		-056	1219	NS				X						1	PS09	
		-057	1220	NS					X					1	PS09	
		-058	1220	NS						X				1	PS09	
		-059	1219	NS								X		1	PS09	
		-060	1237	NS	X										PS10	3106 - 411 412

Relinquished by: _____ 3/24/11 2025
Signature Date Time
to MLL lab
Printed Name Company

Received by: _____ MSL
Signature
C. Sussich 3/23/11
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 5 of _____

COC Number: _____

SSC-Pacific
Bioassay Testing Laboratory
Code 71751 Environmental Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:

Phone:

EVENT:

Address:

Attention: Gunther Rosen

Observations, Instructions

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Label (AMB06-)	Collection Date/Time (3/22/11)	Matrix	~~Field Temp~~	~~Toxicity~~ Metals	~~Temp (°C)~~ Total Hg	DO (mg/L) TS/TSS	~~pH (units)~~ Nuts/~~TOC~~	Salinity (ppt) DOC	~~Alkalinity (mg/L as CaCO3)~~ OSAL	~~Hardness (mg/L as CaCO3)~~ TOC	~~Total Chlorine (mg/L)~~		No. of containers	StationID	Comments (TP / Diss)
		-061	1240	NS				X							1	PS10	
		-062	1238	NS					X						1	PS10	
		-063	1241	NS						X					1	PS10	
		-064	1239	NS							X				1	PS10	
		-065	1239	NS								X			1	PS10	
		-066	1249	NS		X									1	PS10.1	3106 - 413 414
		-067	1254	NS				X							1	PS10.1	
		-068	1253	NS					X						1	PS10.1	
		-069	1254	NS						X					1	PS10.1	
		-070	1252	NS							X				1	PS10.1	
		-071	1254	NS								X			1	PS10.1	
		-072	1302 ~~1302~~	NS		X									1	PS11	3106 - 415 416
		-073	1306	NS				X							1	PS11	
		-074	1304	NS					X						1	PS11	
		-075	1306	NS						X					1	PS11	

Relinquished by: _____ 3/23/11 2025
Signature Date Time

to MSL Lab _____ TEC
Printed Name Company

Received by: _____ MSL
Signature

C. Susuico 3/23/11
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 2 of _____

COC Number: _____

SSC-Pacific

Bioassy Testing Laboratory

Code 71751 Environmental Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:

Phone:

EVENT:

Address:

Attention: Gunther Rosen

Observations, Instructions

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Label (kmade-)	Collection Date/Time (3/22/11)	Matrix	Field Temp	~~Toxicity~~ Metals	Temp (°C)	~~DO (mg/L)~~ TSS	~~pH (units)~~ Nutr's	Salinity (ppt)	~~Alkalinity (mg/L as CaCO3)~~ DIC	~~Hardness (mg/L as CaCO3)~~ TOC	Total Chlorine(mg/L)		No. of containers	StationID	Comments (TP / DSS)
		-076	1303	NS						X					1	PS11	
		-077	1303	NS								X			1	PS11	
		-078	1314	NS		X									1	PS16	3106-417 418
		-079	1317	NS				X							1	PS16	
		-080	1315	NS					X						1	PS16	
		-081	1317	NS						X					1	PS16	
		-082	1316	NS							X				1	PS16	
		-083	1316	NS								X			1	PS16	
		-084	1328	NS		X									1	PS01	3106-419 420
		-085	1336	NS				X							1	PS01	
		-086	1331	NS					X						1	PS01	
		-087	1332	NS						X					1	PS01	
		-088	1332	NS							X				1	PS01	
		-089	1332	NS								X			1	PS01	
		-090	1344	NS		X									1	PS02	3106-421 422

Relinquished by: _____ 3/22/11 2025

Signature Date Time

TO MSL Labs ~~IEC~~

Printed Name Company

Received by: _____ MSL

Signature

C. Sussman 3/23/11

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____

Signature Date Time

Printed Name Company

Received by: _____

Signature

Printed Name

Distribution:

1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 1 of _____

COC Number: _____

SSC-Pacific

Bioassay Testing Laboratory

Code 71751 Environmental Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:

Phone:

EVENT:

Address:

Attention: Gunther Rosen

Observations, Instructions

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Toxicity Metals	Temp (°C) TSS	DO (mg/L) NUTS	pH (units)	Salinity (ppt)	Alkalinity (mg/L as CaCO3) DOC	Hardness (mg/L as CaCO3) TOC	Total Chlorine (mg/L)		No. of containers	StationID	Comments
		AMB06-	3/22/11														
		-091	1348	NS			X								1	PSO2	
		-092	1346	NS				X							1	PSO2	
		-093	1345	NS						X					1	PSO2	
		-094	1348	NS							X				1	PSO2	
		-095	1347	NS								X			1	PSO2	
		-096	1348	NS							X				1	PSO2DUP	
		-097	1348	NS								X			1	PSO2DUP	
		-098	1358	M		X										M4	3106-423 424
		-099	1402	M			X									M4	
		-100	1350	M				X								M4	
		-101	1400	M						X						M4	
		-102	1402	M							X					M4	
		-103	1402	M								X				M4	
		-104	1415 ~~1415~~	NS		X									1	BJEST	3106-425 426
		-105	1422 ~~1419~~	NS			X								1	BJEST	

Relinquished by: _____ 3/22/11 2025

Signature Date Time

TO MSL Lab TEC

Printed Name Company

Received by: _____ MSL

Signature

C SUSUMU 3/23/11

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand carry

Sample Disposition:

Relinquished by: _____

Signature Date Time

Printed Name Company

Received by: _____

Signature

Printed Name

Distribution:

1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date: _____

Page: 8 of 10

COC Number: _____

SSC-Pacific

Bioassay Testing Laboratory

Code 71751 Environmental Sciences Branch

Project No.:

Project Name: ENVVEST Ambient Monitoring

Project Manager:

Phone:

EVENT:

Address:

Attention: Gunther Rosen

Observations, Instructions

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Toxicity ~~Metals~~	Temp (°C) TSS	DO (mg/L) NUTS	pH (units)	Salinity (ppt)	~~Alkalinity (mg/L as CaCO3)~~ DOC	~~Hardness (mg/L as CaCO3)~~ TOC	Total Chlorine (mg/L)		No. of containers	StationID	Comments
		AMB06-	3/22/11														
		-106	1416	NS				X							1	BJEST	
		-107	1417	NS						X					1	BJEST	
		-108	1418	NS							X				1	BJEST	
		-109	1417	NS								X			1	BJEST	
		-110	1430	M		X									1	M3.1	3106 - 427 428
		-111	1434	M			X								1	M3.1	
		-112	1431	M				X							1	M3.1	
		-113	1432	M						X					1	M3.1	
		-114	1434	M							X				1	M3.1	
		-115	1433	M								X			1	M3.1	
		-116	1440	M		X									1	M3.1deep	3106- 429 430
		-117		M			X								1	M3.1deep	
		-118		M				X							1	M3.1deep	
		-119		M						X					1	M3.1deep	
		-120		M							X				1	M3.1deep	

Relinquished by: _____ 3/22/11 2025

Signature Date Time

To MSL Lab TBE

Printed Name Company

Received by: _____ MSL

Signature

C Susman 3/23/11

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____

Signature Date Time

Printed Name Company

Received by: _____

Signature

Printed Name

Distribution:

1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date:
Page: 9 of 10

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Laboratory: Battelle MSL
Attention: Jill Brandenberger
Phone: (360) 681-4564

Project No.:
Project: Non-dry Dock SW 2010

Analyze parameters per QAP/FSP

Sample Label	Station ID	Collection Date/Time	Matrix	Hardness/Metals	TOC	DOC	TSS	TME/DME/Si / TPH+NO3	Turbidity					No. containers	Sample Type (grab vs. Comp)	Storm#	Notes
Analyte		3/22/11															
-121	M3.1deep	1440	M		X									1			
-122	PS12	1447	NS	X										1		3106-431	432
-123	PS12	1449	NS		X									1			
-124	PS12	1449	NS			X								1			
-125	PS12	1451	NS				X							1			
-126	PS12	1448	NS					X						1			
-127	PS12	1448	NS						X					1			
-128	PS07B	1509	NS	X										1		3106-433	434
-129	PS07B	1511	NS		X									1			
-130	PS07B	1516	NS			X								1			
-131	PS07B	1513	NS				X							1			
-132	PS07B	1510	NS					X						1			
-133	PS07B	1510	NS						X					1			
-134	PS07Bdup	1513	NS	X										1		3106-435	436

Relinquished by:
Signature 3/22/11 Date Time
TOMSL Lab
Printed Name Company

Received by:
MSL
Signature
C. Susan 3/23/11
Printed Name

Total # of Containers
Shipment Method:
Hand Carry
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) PNNL
2) CAS
3) TAI

SAMPLE CHAIN OF CUSTODY FORM

Date:

Page: 10 of 10

Project No.:

Project: Non-dry Dock SW 2010

Battelle

Marine Sciences Laboratory

1529 West Sequim Bay Road

Laboratory: Battelle MSL

Attention: Jill Brandenberger

Phone: (360) 681-4564

Analyze parameters per QAP/FSP

Sample Label	Station ID	Collection Date/Time	Matrix	Hardness Metals	TOC	DOC	TSS	TME/DME Soil	FRH-NWTPH	Turbidity					No. containers	Sample Type (grab vs. Comp)	Storm#	Notes
AMB06		3/22/11																
-135	PS07BDUP	1511	NS		X										1			
-136	PS07BDUP	1516	NS			X									1			
-137	PS07BDUP	~~1513~~ 1518	NS				X								1			
-138	PS07BDUP	1512	NS						X						1			

Relinquished by: _____ Signature 3/22/11 Date 2025 Time

JG MSL Lab Printed Name Company

Received by: _____ MSL

C. Suslick Signature 3/23/11

Printed Name

Total # of Containers

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____ Signature Date Time

Printed Name Company

Received by: _____ Signature

Printed Name

Distribution:
1) PNNL
2) CAS
3) TAI

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/22/11

Page: 1 of 2

Dry Dock Outfalls

Project No.:

Project: AMB06

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Laboratory: Battelle MSL
Attention: Jill Brandenberger
Phone: (360) 681-4564

Analyze parameters per QAP/FSP

AMB06DD- Sample Label	Station ID	Collection Date/Time	Matrix	TSS	TOC	DOC	Nutrients	TME/DME	OSAL	Oil and Grease	Toxicity				No. containers	24 hr. Sample Type (grab vs. Comp)		Notes
-001	OF18	3/22/11 1200	Seawater/RQ	X											1	Comp	005	Omissed
-002					X										1			Jar Full
-003						X									1			
-004							X								1			
-005								X							1			
-006										X					1			
-007	OF19			X											1		006	Omissed
-008					X										1			Jar ½ full
-009						X									1			
-0010							X								1			
-0011								X							1			
-0012										X					1			
-0013	OF021			X											1			Jar ½ full
-0014	1				X										1			

TOT DISS
3102- 437 438
3106- 439 440

Relinquished by:	Received by:	
Signature: 3/22/11 2025 (Date / Time)	Signature: MSL	Total # of Containers
Printed Name: TO MSL Lab (Company)	Printed Name: C. Sussman 3/23/11	Shipment Method: Hand carry
		Sample Disposition:
Relinquished by:	Received by:	Distribution: 1) Navy 2) PNNL
Signature / Date / Time	Signature	
Printed Name / Company	Printed Name	

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/22/11

Page: 2 of 2

drydock outfalls

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Laboratory: Battelle MSL
Attention: Jill Brandenberger
Phone: (360) 681-4564

Project No.:
Project: AMB06

Analyze parameters per QAP/FSP

AMB0600D- Sample Label	Station ID	Collection Date/Time	Matrix	TSS	TOC	DOC	Nutrients	TME/DME	OSAL	Oil and Grease	Toxicity				No. containers	24hr. Sample Type (grab vs. Comp)		Notes
-0015	OF021	3/22/11 1200	SW/FD			X										comp		DISS
-0016							X											442
-0017								X										3104 - 441
-0018										X								
-0019																		

Relinquished by: 3/22/11 2025
Signature Date Time
TO MSL Lab
Printed Name Company

Received by: MSL
Signature
C. SUSLICK 3/23/11
Printed Name

Total # of Containers
Shipment Method: Hand Carry
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) Navy
2) PNNL

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/24/11

Battelle

The Business of Innovation

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENWEST AMB06
Project Manager: Jim Brandenberger
Phone Number:

Shipment Method: NA - Created @ MSL
Preservation:

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TME	Test Parameters: DME	Test Parameters	Test Parameters	Test Parameters	Laboratory ID (TE DSS)	Observations/Comments
1	EB01-032311	3/23/11	DI WAT		X	X				3106-443 -444	
2	EB01-032411	3/24/11	DI WAT		X	X				3106-447 -448	
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time
J Brandenberger	3/24/11	C. Sullivan	3/24/11

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/24/11

Battelle

The Business of Innovation

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENWEST AMB06
Project Manager: Jim Brandenberger
Phone Number:

Shipment Method: NA - Created @ MSL
Preservation:

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TME	Test Parameters: DME	Test Parameters	Test Parameters	Test Parameters	Laboratory ID (TE DISS)	Observations/Comments
1	EB01-032311	3/23/11	DI WAT		X	X				3106-443 -444	
2	EB01-032411	3/24/11	DI WAT		X	X				3106-447 -448	
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time
J Brandenberger	3/24/11	C. Sullivan	3/24/11

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/2011
Page: 1 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (day2)

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB06B
Day 2

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments
	M6	AMB06-300	3/23/11 1000	SW	X	X								1	M6	3106 - 451 TA 452 DISS
		-301					X							1		
		-302 ✓						X						1		
		-303							X					1		
		-304 ✓								X				1		
	↓	-305	↓									X		1	↓	
	M8	AMB06-306	1020		X	X								1	M8	3106 - 453 454
		-307					X							1		
		-308 ✓						X						1		
		-309							X					1		
		-310 ✓								X				1		
	↓	-311	↓									X		1	↓	-
	M7	-312	1041		X	X								1	M7	3106 - 455 456
		-313					X							1		
	↓	-314 ✓	↓	↓				X						1	↓	

Relinquished by: _____ 3/23/11 1830
Signature Date Time
To MSL Lab
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SW = Seawater

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/23/2011
Page: 2 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring AMB06B (Day 2)
~~Mussel Watch Stations~~

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	ToC		No. of containers	StationID	Comments
	M7	AMB06-315	3/23/11 1041	SW					X					1	M7	
	↓	-316 ✓	↓	↓						X				1	↓	
	↓	-317	↓	↓								X		1	↓	
	DYOTS	AMB06-318	1055		X	X								1	DYOTS	310L - 457 458 (TOT DISS)
		-319	↓				X							1	↓	
		-320 ✓						X						1		
		-321							X					1		
		-322 ✓								X				1		
		-323	↓									X		1	↓	
	BM01	-324	1130		X	X								1	BM01	310L - 459 460
	↓	-325	↓				X							1	↓	
	↓	-326 ✓	↓					X						1	↓	
	↓	-327	↓						X					1	↓	
	↓	-328 ✓	↓							X				1	↓	
	↓	-329	↓	↓								X		1	↓	

Relinquished by: _____ 3/23/11 1830
Signature Date Time
TO MSL Lab
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SW - seawater

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/11

Page: 3 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments	
	WP	AMB06-330	3/23/11 1148	SW	X	X								1	WP	3106 - 461 TOT	462 DISS
		-331					X							1			
		-332						X						1			
		-333							X					1			
		-334								X				1			
		-335										X		1			
	M2	-336	1207		X	X								1	M2	3106 - 463	464
		-337					X							1			
		-338						X						1			
		-339							X					1			
		-340								X				1			
		-341										X		1			
	M2 Deep	-342	1214		X	X									M2 Deep	3106 - 465	466
		-343					X										
		-344						X									

Relinquished by: _____ 3/23/11 1830

Signature Date Time

To MSC Lab

Printed Name Company

Received by: _____

Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____

Signature Date Time

Printed Name Company

Received by: _____

Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/23/11
Page: ~~5~~ 4 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB06 Day 2

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC	No. of containers	StationID	Observations, Instructions / Comments
	M2 Deep	AMB06-345	3/23/11 1214	SW					X				1	M2Deep	7 m depth
		-346								X			1		
		-347										X	1		
	CLMBAY	-348	1230		X	X							1	CLMBAY	310L - 467 468
		-349					X						1		
		-350						X					1		
		-351							X				1		
		-352								X			1		
		-353										X	1		
	LSP	-354	1247		X	X							1	LSP	310L- 469 470
		-355					X						1		
		-356						X					1		
		-357							X				1		
		-358								X			1		
		-359										X	1		

Relinquished by: _____ 3/23/11 1830
Signature Date Time
TO MSL Lab
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/11

Page: 5 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments
	M1 ~~Deep~~	AMB06-360	3/23/11 1303	SW	X	X								1	M1	3106-471 472 TOT DISS
		-361					X							1		
		-362 ✓						X						1		
		-363							X					1		
		-364 ✓								X				1		
		-365										X		1		
	M1 Deep	-366	1305		X	X									M1 Deep	6m depth 3106-473 474
		-367					X									
		-368 ✓						X								
		-369							X							
		-370 ✓								X						
		-371										X				
	SN03	~~-372~~													SN03	See next page
		~~-373~~														
		~~-374~~														

Relinquished by: _____ 3/23/11 1830
Signature Date Time

TO MSL Lab
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/11
Page: 6 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments	
	SN03	AMB06 -375	3/23/11 1352	SW	X	X								1	SN03	3106 - 475	476 DISS
	SN03DUP	-376			X	X								1	SN03DUP	3106 - 477	478
	SN03	-377					X							1	SN03		
		-378 ✓						X						1			
		-379							X					1			
		-380 ✓								X				1			
		-381										X		1			
	SN05	-382	1406		X	X								1	SN05	3106 - 479	480
	SN05DUP	-383			X	X								1	SN05DUP	3106 - 481	482
	SN05	-384					X							1	SN05		
		-385 ✓						X						1			
		-386							X					1			
		-387 ✓								X				1			
		-388										X		1			
		~~38~~															

Relinquished by: _____ 3/23/11 1830
Signature Date Time

TO MSL Lab
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____
Signature

_____
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/11
Page: 1 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments
	SN08	AMB06-389	3/23/11 1418	SW	X	X								1	SN08	TOT DISS 3106 - 483 484
		-390					X							1		
		-391 ✓						X						1		
		-392							X					1		
	SN08-DUP	393							X					1	SN08dup	~~3106 - 493~~ 3
	SN08	-394 ✓								X				1	SN08	
	SN08	-395										X		1		
	SN08 Dup	-3916										X		1	SN08Dup	~~3106 - 494~~ 494
	SN10	-397	1430		X	X									SN10	3106 - 485 486
		-398					X									
		-399 ✓						X								
		-400							X							
		-401 ✓								X						
	✓	-402	✓	✓								X			✓	

Relinquished by: _____ 3/23/11 1830
Signature Date Time
To MSL Lab
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/11

Page: 8 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments
	SN11	AMB06-403	3/23/11 1444	SW	X	X								1	SN11	3106 - 487 488
		-404					X							1		
		-405 ✓						X						1		
		-406							X					1		
		-407 ✓								X				1		
		-408										X		1		
	M3.3	-409	1451		X	X								1	M3.3	3106 - 489 490
		-410					X							1		
		-411 ✓						X						1		
		-412							X					1		
		-413 ✓								X				1		
		-414										X		1		
	PS13	-415	1502		X	X									PS13	3106 - 491 492
		-416					X									
		-417 ✓						X								

Relinquished by: _____ 3/23/11 1830
Signature Date Time

To MSL Lab
Printed Name Company

Received by: _____
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/23/11

Page: 9 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB06B (Day 2)

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB06B Day 2

Testing Parameters

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC		No. of containers	StationID	Comments
	PS13	AMB06-418	3/23/11 1502	SW					X					1	PS13	
	PS13 DUP	-~~418~~419	↓ ↓	↓					X					1	PS13 DUP	3/06=495-8
	PS13	-420 ✓								X				1	PS13	
	PS13	-421										X		1	PS13	

Relinquished by: _____ 3/23/11 1830
Signature Date Time
TO MSL Lab
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 391 - ~~449~~ 450 & 3/23/11 Batch:

Project Name: AMB06 / ENVVEST Project Manager: JM3

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples:	Amount: Entire sample Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☑	☐	Special instructions:	send nutrients & oil and grease to CAS

Sample Preservation Instructions: see QAP

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Hand delivered

°C

°C

Comment/Remedy:

Sample condition(s): ~~Acceptable~~ Other (explain):

Container type: ~~Teflon~~ ~~Poly~~ ~~Glass~~ Cap. Vial Other:

Notes: Filter blks created @ MSL

Completed By: Date/Time: 3/22/11 2025

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL (Metals)

Type: ☑	0.2% HNO3	Notes:	Lot# 12100880 *
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: * Date/Time: 3/23/2011 *

Storage Shelf: K5 A, B, D Prep Lab

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 451 - 492 Batch: 12

Project Name: AMB06 Day 2 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples:	Amount: Entire sample Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☑	☐	Special instructions:	send nutrients to CAS

Sample Preservation Instructions: Various see QAPP

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Hand delivered from field 8 °C °C

Comment/Remedy:

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes:

Completed By: JMM Date/Time: 3/23/11 1830

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ KC Sample(s) were preserved at MSL

Type:		Notes:	Lot#
☑ KC	0.2% HNO3		121080
☐	0.5% HCl (Hg samples)		
☐	Refrigerate/Freeze		
☐	Other		

Completed By: Date/Time: 3/24/11 15:40

Storage Shelf: Prep lab I2 CBD, I3C

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1102517
Project:	ENVVEST March 2011 AMB06	**Date Received:**	3/24/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty eight water samples were received for analysis at Columbia Analytical Services on 3/24/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Oil and Grease by EPA Method 1664:
The matrix spike recovery of Total Oil and Grease for sample Batch QC was outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential low bias. No further corrective action was taken.

Ammonia as Nitrogen by EPA Method 350.1:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Ammonia as Nitrogen in sample AMB06-003 PS07 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Total Kjeldahl Nitrogen by EPA Method 351.4:
The matrix spike recovery of Total Kjeldahl Nitrogen for sample AMB06-168 PS07DUP was outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential high bias. No further corrective action was taken.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** _____

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Water	**Date Received:**	3/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06DD-006 OF18	K1102517-024	ND	U	7.2	1.1	1	4/ 8/11	4/9/11 09:00	
AMB06DD-012 OF19	K1102517-026	ND	U	9.3	1.3	1	4/ 8/11	4/9/11 09:00	
AMB06DD-018 OF21	K1102517-028	ND	U	9.6	1.4	1	4/ 8/11	4/9/11 09:00	
Method Blank	K1102517-MB1	ND	U	5.0	0.8	1	4/ 8/11	4/9/11 09:00	

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Water

Service Request: K1102517
Date Collected: NA
Date Received: NA
Date Analyzed: 4/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1102881-002

Units: mg/L
Basis: NA

Analytical Method: 1664
Prep Method: Method

Batch QCMS
Matrix Spike
K1102881-002MS7

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Oil and Grease, Total (HEM)	9.8	12.1	61.2	4	*	78 - 114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Water

Service Request: K1102517
Date Analyzed: 4/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1102517-LCS1 Result	Spike Amount	% Rec	Duplicate Lab Control Sample K1102517-DLCS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	1664	56.3	60.0	94	47.7	60.0	79	78 - 114	17	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-003 PS07	K1102517-001	**0.030**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-009 PS06	K1102517-002	**0.014**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-015 PS14	K1102517-003	**0.014**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-022 PS03	K1102517-004	**0.032**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-030 PS04	K1102517-005	**0.029**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-036 PS05	K1102517-006	**0.024**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-042 PS08	K1102517-007	**0.013**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-048 PS15	K1102517-008	**0.012**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-056 PS09	K1102517-009	**0.041**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-062 PS10	K1102517-010	**0.020**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-068 PS10.1	K1102517-011	**0.013**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-074 PS11	K1102517-012	**0.012**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-080 PS16	K1102517-013	**0.011**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-086 PS01	K1102517-014	**0.022**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-092 PS02	K1102517-015	**0.020**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-100 M4	K1102517-016	**0.011**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-106 BJ-EST	K1102517-017	**0.008**	J	0.010	0.003	1	NA	3/29/11 11:05	
AMB06-112 M3.1 SURFACE	K1102517-018	ND	U	0.010	0.003	1	NA	3/29/11 11:05	
AMB06-118 M3.1 DEEP	K1102517-019	ND	U	0.010	0.003	1	NA	3/29/11 11:05	
AMB06-127 PS12	K1102517-020	**0.007**	J	0.010	0.003	1	NA	3/29/11 11:05	
AMB06-133 PS07B	K1102517-021	**0.020**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06-138 PS07DUP	K1102517-022	**0.023**		0.010	0.003	1	NA	3/29/11 11:05	
Method Blank	K1102517-MB1	ND	U	0.010	0.003	1	NA	3/29/11 11:05	
Method Blank	K1102517-MB2	ND	U	0.010	0.003	1	NA	3/29/11 11:05	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Water	**Date Received:**	3/24/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06DD-004 OF18	K1102517-023	**0.145**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06DD-010 OF19	K1102517-025	**0.186**		0.010	0.003	1	NA	3/29/11 11:05	
AMB06DD-016 OF21	K1102517-027	ND	U	0.010	0.003	1	NA	3/29/11 11:05	

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-003 PS07DUP Duplicate Sample K1102517-001DUP1 Result	Average	RPD		RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.030	0.023	0.0266	29	*	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-074 PS11
Lab Code: K1102517-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-074 PS11DUP Duplicate Sample K1102517-012DUP2 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.012	0.014	0.0130	15	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB06-003 PS07MS Matrix Spike K1102517-001MS1			AMB06-003 PS07DMS Duplicate Matrix Spike K1102517-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.030	0.231	0.200	100	0.232	0.200	101	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-074 PS11
Lab Code: K1102517-012

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB06-074 PS11MS Matrix Spike K1102517-012MS2			AMB06-074 PS11DMS Duplicate Matrix Spike K1102517-012DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.012	0.222	0.200	105	0.229	0.200	109	90 - 110	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 3/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	2.63	2.81	94	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 3/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1102517-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	2.62	2.81	93	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1102517
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	240544	KQ1102714-17	3/29/11 11:05	0.250	0.250	100	90 - 110
CCV2	240544	KQ1102714-18	3/29/11 11:05	0.250	0.253	101	90 - 110
CCV3	240544	KQ1102714-19	3/29/11 11:05	0.250	0.253	101	90 - 110
CCV4	240544	KQ1102714-20	3/29/11 11:05	0.250	0.254	102	90 - 110
CCV5	240544	KQ1102714-21	3/29/11 11:05	0.250	0.255	102	90 - 110
CCV6	240544	KQ1102714-22	3/29/11 11:05	0.250	0.255	102	90 - 110

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)

Service Request: K1102517

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	240544	KQ1102714-11	3/29/11 11:05	0.010	ND	U
CCB2	240544	KQ1102714-12	3/29/11 11:05	0.010	ND	U
CCB3	240544	KQ1102714-13	3/29/11 11:05	0.010	ND	U
CCB4	240544	KQ1102714-14	3/29/11 11:05	0.010	ND	U
CCB5	240544	KQ1102714-15	3/29/11 11:05	0.010	ND	U
CCB6	240544	KQ1102714-16	3/29/11 11:05	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Ocean Water	**Date Received:**	3/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-003 PS07	K1102517-001	**0.9**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-009 PS06	K1102517-002	**1.2**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-015 PS14	K1102517-003	**1.1**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-022 PS03	K1102517-004	**0.8**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-030 PS04	K1102517-005	**0.8**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-036 PS05	K1102517-006	**1.1**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-048 PS15	K1102517-008	**0.5**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-056 PS09	K1102517-009	**1.0**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-062 PS10	K1102517-010	ND	U	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-068 PS10.1	K1102517-011	**1.1**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-074 PS11	K1102517-012	**0.8**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-080 PS16	K1102517-013	**0.7**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-086 PS01	K1102517-014	**1.0**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-092 PS02	K1102517-015	**0.9**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-100 M4	K1102517-016	**1.1**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-106 BJ-EST	K1102517-017	**0.9**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-112 M3.1 SURFACE	K1102517-018	**0.9**	J	1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-118 M3.1 DEEP	K1102517-019	**1.1**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-127 PS12	K1102517-020	**1.1**		1.0	0.4	2	3/30/11	3/31/11 10:00	
AMB06-133 PS07B	K1102517-021	**0.9**	J	1.0	0.4	2	3/30/11	4/1/11 09:45	
AMB06-138 PS07DUP	K1102517-022	**1.0**	J	1.0	0.4	2	3/30/11	4/1/11 09:45	
Method Blank	K1102517-MB1	ND	U	0.40	0.14	2	3/30/11	3/31/11 10:00	
Method Blank	K1102517-MB2	ND	U	0.40	0.14	2	3/30/11	4/1/11 09:45	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Water	**Date Received:**	3/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06DD-004 OF18	K1102517-023	**0.55**		0.40	0.14	2	3/30/11	4/1/11 09:45	
AMB06DD-010 OF19	K1102517-025	**0.61**		0.40	0.14	2	3/30/11	4/1/11 09:45	
AMB06DD-016 OF21	K1102517-027	**0.44**		0.40	0.14	2	3/30/11	4/1/11 09:45	

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-003 PS07DUP Duplicate Sample K1102517-001DUP1 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	0.9 J	0.9 J	0.900	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 4/ 1/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-138 PS07DUP
Lab Code: K1102517-022

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-138 PS07DUPDUP Duplicate Sample K1102517-022DUP4 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.0 J	1.0 J	0.980	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/31/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

Analyte Name	Sample Result	AMB06-003 PS07MS Matrix Spike K1102517-001MS1 Result	Spike Amount	% Rec	AMB06-003 PS07DMS Duplicate Matrix Spike K1102517-001DMS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	0.9	52.8	50.0	104	116	100	115	75 - 125	10	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 4/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-138 PS07DUP
Lab Code: K1102517-022

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

Analyte Name	Sample Result	AMB06-138 PS07DUPMS Matrix Spike K1102517-022MS4 Result	Spike Amount	% Rec	AMB06-138 PS07DUPDMS Duplicate Matrix Spike K1102517-022DMS4 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	1.0	80.2	50.0	158 *	162	100	161 *	75 - 125	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 3/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	9.48	8.58	110	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 4/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1102517-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	8.96	8.58	104	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1102517
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	240976	KQ1102842-05	3/31/11 10:00	10.0	9.33	93	90 - 110
CCV2	240976	KQ1102842-06	3/31/11 10:00	10.0	10.4	104	90 - 110
CCV3	240976	KQ1102842-07	3/31/11 10:00	10.0	9.83	98	90 - 110
CCV4	240976	KQ1102842-08	3/31/11 10:00	10.0	10.4	104	90 - 110
CCV5	241064	KQ1102859-07	4/1/11 09:45	10.0	10.7	107	90 - 110
CCV6	241064	KQ1102859-08	4/1/11 09:45	10.0	10.5	105	90 - 110
CCV7	241064	KQ1102859-09	4/1/11 09:45	10.0	10.7	107	90 - 110

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Service Request: K1102517

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	240976	KQ1102842-01	3/31/11 10:00	0.20	ND	U
CCB2	240976	KQ1102842-02	3/31/11 10:00	0.20	ND	U
CCB3	240976	KQ1102842-03	3/31/11 10:00	0.20	ND	U
CCB4	240976	KQ1102842-04	3/31/11 10:00	0.20	ND	U
CCB5	241064	KQ1102859-04	4/1/11 09:45	0.20	ND	U
CCB6	241064	KQ1102859-05	4/1/11 09:45	0.20	ND	U
CCB7	241064	KQ1102859-06	4/1/11 09:45	0.20	ND	U

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-003 PS07	K1102517-001	**0.378**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-009 PS06	K1102517-002	**0.378**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-015 PS14	K1102517-003	**0.376**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-022 PS03	K1102517-004	**0.381**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-030 PS04	K1102517-005	**0.383**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-036 PS05	K1102517-006	**0.393**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-042 PS08	K1102517-007	**0.396**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-048 PS15	K1102517-008	**0.383**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-056 PS09	K1102517-009	**0.416**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-062 PS10	K1102517-010	**0.396**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-068 PS10.1	K1102517-011	**0.397**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-074 PS11	K1102517-012	**0.415**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-080 PS16	K1102517-013	**0.410**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-086 PS01	K1102517-014	**0.429**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-092 PS02	K1102517-015	**0.437**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-100 M4	K1102517-016	**0.404**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-106 BJ-EST	K1102517-017	**0.385**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-112 M3.1 SURFACE	K1102517-018	**0.403**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-118 M3.1 DEEP	K1102517-019	**0.439**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-127 PS12	K1102517-020	**0.400**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-133 PS07B	K1102517-021	**0.404**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06-138 PS07DUP	K1102517-022	**0.420**		0.050	0.009	1	NA	3/28/11 09:48	
Method Blank	K1102517-MB1	ND	U	0.050	0.009	1	NA	3/28/11 09:48	
Method Blank	K1102517-MB2	**0.031**	J	0.050	0.009	1	NA	3/28/11 09:48	
Method Blank	K1102517-MB3	**0.035**	J	0.050	0.009	1	NA	3/28/11 09:48	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Water	**Date Received:**	3/24/11
		Units:	mg/L
Analysis Method:	353.2	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06DD-004 OF18	K1102517-023	**0.601**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06DD-010 OF19	K1102517-025	**0.337**		0.050	0.009	1	NA	3/28/11 09:48	
AMB06DD-016 OF21	K1102517-027	**0.405**		0.050	0.009	1	NA	3/28/11 09:48	

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/28/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-003 PS07DUP Duplicate Sample K1102517-001DUP1 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.378	0.371	0.374	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/28/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-074 PS11
Lab Code: K1102517-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-074 PS11DUP Duplicate Sample K1102517-012DUP2 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.415	0.407	0.411	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/28/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB06-003 PS07MS Matrix Spike K1102517-001MS1			AMB06-003 PS07DMS Duplicate Matrix Spike K1102517-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.378	2.42	2.00	102	2.39	2.00	101	86 - 117	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 3/28/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-074 PS11
Lab Code: K1102517-012

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB06-074 PS11MS Matrix Spike K1102517-012MS2			AMB06-074 PS11DMS Duplicate Matrix Spike K1102517-012DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.415	2.44	2.00	101	2.41	2.00	100	86 - 117	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 3/28/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	15.4	15.2	101	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 3/28/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	15.4	15.2	101	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 3/28/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	15.5	15.2	102	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Service Request: K1102517

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	240416	KQ1102677-26	3/28/11 09:48	2.00	2.01	100	90 - 110
CCV2	240416	KQ1102677-27	3/28/11 09:48	2.00	2.00	100	90 - 110
CCV3	240416	KQ1102677-28	3/28/11 09:48	2.00	2.00	100	90 - 110
CCV4	240416	KQ1102677-29	3/28/11 09:48	2.00	1.96	98	90 - 110
CCV5	240416	KQ1102677-30	3/28/11 09:48	2.00	2.01	100	90 - 110
CCV6	240416	KQ1102677-31	3/28/11 09:48	2.00	2.01	100	90 - 110
CCV7	240416	KQ1102677-32	3/28/11 09:48	2.00	1.98	99	90 - 110
CCV8	240416	KQ1102677-33	3/28/11 09:48	2.00	1.94	97	90 - 110
CCV9	240416	KQ1102677-34	3/28/11 09:48	2.00	1.95	98	90 - 110
CCV10	240416	KQ1102677-35	3/28/11 09:48	2.00	1.95	97	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1102517
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	240416	KQ1102677-16	3/28/11 09:48	0.050	ND	U
CCB2	240416	KQ1102677-17	3/28/11 09:48	0.050	ND	U
CCB3	240416	KQ1102677-18	3/28/11 09:48	0.050	ND	U
CCB4	240416	KQ1102677-19	3/28/11 09:48	0.050	ND	U
CCB5	240416	KQ1102677-20	3/28/11 09:48	0.050	ND	U
CCB6	240416	KQ1102677-21	3/28/11 09:48	0.050	ND	U
CCB7	240416	KQ1102677-22	3/28/11 09:48	0.050	ND	U
CCB8	240416	KQ1102677-23	3/28/11 09:48	0.050	ND	U
CCB9	240416	KQ1102677-24	3/28/11 09:48	0.050	ND	U
CCB10	240416	KQ1102677-25	3/28/11 09:48	0.050	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Ocean Water	**Date Received:**	3/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-003 PS07	K1102517-001	**0.086**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-009 PS06	K1102517-002	**0.086**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-015 PS14	K1102517-003	**0.084**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-022 PS03	K1102517-004	**0.085**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-030 PS04	K1102517-005	**0.086**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-036 PS05	K1102517-006	**0.085**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-042 PS08	K1102517-007	**0.086**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-048 PS15	K1102517-008	**0.087**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-056 PS09	K1102517-009	**0.096**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-062 PS10	K1102517-010	**0.089**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-068 PS10.1	K1102517-011	**0.086**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-074 PS11	K1102517-012	**0.087**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-080 PS16	K1102517-013	**0.086**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-086 PS01	K1102517-014	**0.090**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-092 PS02	K1102517-015	**0.088**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-100 M4	K1102517-016	**0.085**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-106 BJ-EST	K1102517-017	**0.095**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-112 M3.1 SURFACE	K1102517-018	**0.084**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-118 M3.1 DEEP	K1102517-019	**0.085**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-127 PS12	K1102517-020	**0.096**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-133 PS07B	K1102517-021	**0.091**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06-138 PS07DUP	K1102517-022	**0.093**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
Method Blank	K1102517-MB1	ND	U	0.010	0.004	1	4/ 1/11	4/1/11 14:00	
Method Blank	K1102517-MB2	**0.007**	J	0.010	0.004	1	4/ 1/11	4/1/11 14:00	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102517
Project:	ENVVEST March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/22/11
Sample Matrix:	Water	**Date Received:**	3/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06DD-004 OF18	K1102517-023	**0.158**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06DD-010 OF19	K1102517-025	**0.134**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	
AMB06DD-016 OF21	K1102517-027	**0.507**		0.010	0.004	1	4/ 1/11	4/1/11 14:00	

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 4/ 1/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-003 PS07DUP Duplicate Sample K1102517-001DUP1 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.086	0.086	0.0860	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 4/ 1/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-133 PS07B
Lab Code: K1102517-021

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-133 PS07BDUP Duplicate Sample K1102517-021DUP3 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.091	0.091	0.0914	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 4/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-003 PS07
Lab Code: K1102517-001

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB06-003 PS07MS Matrix Spike K1102517-001MS1			AMB06-003 PS07DMS Duplicate Matrix Spike K1102517-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.086	0.450	0.500	73	0.832	1.00	75	60 - 135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Collected: 3/22/11
Date Received: 3/24/11
Date Analyzed: 4/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-133 PS07B
Lab Code: K1102517-021

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB06-133 PS07BMS Matrix Spike K1102517-021MS3			AMB06-133 PS07BDMS Duplicate Matrix Spike K1102517-021DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.091	0.459	0.500	73	0.877	1.00	79	60 - 135	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 4/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	1.92	1.87	103	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102517
Date Analyzed: 4/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102517-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	1.98	1.87	106	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)
Service Request: K1102517

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	241005	KQ1102869-06	4/1/11 14:00	0.500	0.510	102	90 - 110
CCV2	241005	KQ1102869-07	4/1/11 14:00	0.500	0.519	104	90 - 110
CCV3	241005	KQ1102869-08	4/1/11 14:00	0.500	0.518	104	90 - 110
CCV4	241005	KQ1102869-09	4/1/11 14:00	0.500	0.519	104	90 - 110
CCV5	241005	KQ1102869-10	4/1/11 14:00	0.500	0.517	103	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1102517
Project: ENVVEST March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	241005	KQ1102869-01	4/1/11 14:00	0.010	ND	U
CCB2	241005	KQ1102869-02	4/1/11 14:00	0.010	ND	U
CCB3	241005	KQ1102869-03	4/1/11 14:00	0.010	ND	U
CCB4	241005	KQ1102869-04	4/1/11 14:00	0.010	ND	U
CCB5	241005	KQ1102869-05	4/1/11 14:00	0.010	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1102580
Project:	March 2011 Ambient Monitoring (AMB06)	**Date Received:**	3/25/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nineteen water samples were received for analysis at Columbia Analytical Services on 3/25/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 4-8-11

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102580
Project:	March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/23/11
Sample Matrix:	Ocean Water	**Date Received:**	3/25/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-302 M6	K1102580-001	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-308 M8	K1102580-002	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-314 M7	K1102580-003	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-320 DYOTS	K1102580-004	**0.010**		0.010	0.003	1	NA	3/29/11 14:09	
AMB06-326 BM01	K1102580-005	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-332 WP	K1102580-006	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-338 M2	K1102580-007	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-344 M2 DEEP	K1102580-008	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-350 CLMBAY	K1102580-009	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-356 ILSP	K1102580-010	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-362 M1	K1102580-011	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-368 M1 DEEP	K1102580-012	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-378 SN03	K1102580-013	**0.149**		0.010	0.003	1	NA	3/29/11 14:09	
AMB06-385 SN05	K1102580-014	**0.016**		0.010	0.003	1	NA	3/29/11 14:09	
AMB06-391 SN08	K1102580-015	ND	U	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-399 SN10	K1102580-016	**0.011**		0.010	0.003	1	NA	3/29/11 14:09	
AMB06-405 SN11	K1102580-017	**0.008**	J	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-411 M3.3	K1102580-018	**0.009**	J	0.010	0.003	1	NA	3/29/11 14:09	
AMB06-417 PS13	K1102580-019	**0.004**	J	0.010	0.003	1	NA	3/29/11 14:09	
Method Blank	K1102580-MB1	ND	U	0.010	0.003	1	NA	3/29/11 14:09	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 3/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-302 M6
Lab Code: K1102580-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-302 M6DUP Duplicate Sample K1102580-001DUP1 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 3/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-302 M6
Lab Code: K1102580-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	AMB06-302 M6MS Matrix Spike K1102580-001MS1 Result	Spike Amount	% Rec	AMB06-302 M6DMS Duplicate Matrix Spike K1102580-001DMS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	ND	0.197	0.200	99	0.197	0.200	98	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Analyzed: 3/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102580-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	2.59	2.81	92	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1102580
Project: March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	240568	KQ1102717-10	3/29/11 14:09	0.250	0.232	93	90 - 110
CCV2	240568	KQ1102717-11	3/29/11 14:09	0.250	0.233	93	90 - 110
CCV3	240568	KQ1102717-12	3/29/11 14:09	0.250	0.233	93	90 - 110
CCV4	240568	KQ1102717-13	3/29/11 14:09	0.250	0.232	93	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1102580
Project: March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	240568	KQ1102717-06	3/29/11 14:09	0.010	ND	U
CCB2	240568	KQ1102717-07	3/29/11 14:09	0.010	ND	U
CCB3	240568	KQ1102717-08	3/29/11 14:09	0.010	ND	U
CCB4	240568	KQ1102717-09	3/29/11 14:09	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102580
Project:	March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/23/11
Sample Matrix:	Ocean Water	**Date Received:**	3/25/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-302 M6	K1102580-001	**1.1**		1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-308 M8	K1102580-002	**0.9**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-314 M7	K1102580-003	**1.0**		1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-320 DYOTS	K1102580-004	**0.8**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-326 BM01	K1102580-005	**0.8**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-332 WP	K1102580-006	**1.0**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-338 M2	K1102580-007	**1.0**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-344 M2 DEEP	K1102580-008	**0.7**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-350 CLMBAY	K1102580-009	**0.8**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-356 ILSP	K1102580-010	**0.9**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-362 M1	K1102580-011	**0.8**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-368 M1 DEEP	K1102580-012	**1.1**		1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-378 SN03	K1102580-013	**0.9**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-385 SN05	K1102580-014	**1.2**		1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-391 SN08	K1102580-015	**1.1**		1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-399 SN10	K1102580-016	**0.8**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-405 SN11	K1102580-017	**0.9**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-411 M3.3	K1102580-018	**1.1**		1.0	0.4	2	3/31/11	4/4/11 09:40	
AMB06-417 PS13	K1102580-019	**0.8**	J	1.0	0.4	2	3/31/11	4/4/11 09:40	
Method Blank	K1102580-MB1	ND	U	0.20	0.14	2	3/31/11	4/4/11 09:40	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 4/ 4/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-302 M6
Lab Code: K1102580-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-302 M6DUP Duplicate Sample K1102580-001DUP1 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.1	1.3	1.23	16	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 4/ 4/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-302 M6
Lab Code: K1102580-001

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB06-302 M6MS Matrix Spike K1102580-001MS1			AMB06-302 M6DMS Duplicate Matrix Spike K1102580-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.1	51.7	50.0	101	116	100	115	75 - 125	13	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Analyzed: 4/4/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1102580-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	9.32	8.58	109	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Service Request: K1102580

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	241267	KQ1102922-06	4/4/11 09:40	10.0	9.84	98	90 - 110
CCV2	241267	KQ1102922-07	4/4/11 09:40	10.0	9.26	93	90 - 110
CCV3	241267	KQ1102922-08	4/4/11 09:40	10.0	9.33	93	90 - 110
CCV4	241267	KQ1102922-09	4/4/11 09:40	10.0	9.71	97	90 - 110
CCV5	241267	KQ1102922-10	4/4/11 09:40	10.0	10.5	105	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1102580
Project: March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	241267	KQ1102922-01	4/4/11 09:40	0.20	ND	U
CCB2	241267	KQ1102922-02	4/4/11 09:40	0.20	ND	U
CCB3	241267	KQ1102922-03	4/4/11 09:40	0.20	ND	U
CCB4	241267	KQ1102922-04	4/4/11 09:40	0.20	ND	U
CCB5	241267	KQ1102922-05	4/4/11 09:40	0.20	ND	U

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-302 M6	K1102580-001	**0.334**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-308 M8	K1102580-002	**0.321**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-314 M7	K1102580-003	**0.312**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-320 DYOTS	K1102580-004	**0.323**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-326 BM01	K1102580-005	**0.366**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-332 WP	K1102580-006	**0.367**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-338 M2	K1102580-007	**0.388**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-344 M2 DEEP	K1102580-008	**0.387**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-350 CLMBAY	K1102580-009	**0.375**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-356 ILSP	K1102580-010	**0.355**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-362 M1	K1102580-011	**0.341**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-368 M1 DEEP	K1102580-012	**0.359**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-378 SN03	K1102580-013	**0.354**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-385 SN05	K1102580-014	**0.390**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-391 SN08	K1102580-015	**0.324**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-399 SN10	K1102580-016	**0.350**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-405 SN11	K1102580-017	**0.357**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-411 M3.3	K1102580-018	**0.343**		0.050	0.009	1	NA	3/31/11 11:47	
AMB06-417 PS13	K1102580-019	**0.327**		0.050	0.009	1	NA	3/31/11 11:47	
Method Blank	K1102580-MB1	**0.010**	J	0.050	0.009	1	NA	3/31/11 11:47	
Method Blank	K1102580-MB2	**0.010**	J	0.050	0.009	1	NA	3/31/11 11:47	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 3/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-302 M6
Lab Code: K1102580-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-302 M6DUP Duplicate Sample K1102580-001DUP1 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.334	0.334	0.334	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 3/31/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-302 M6
Lab Code: K1102580-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	AMB06-302 M6MS Matrix Spike K1102580-001MS1 Result	Spike Amount	% Rec	AMB06-302 M6DMS Duplicate Matrix Spike K1102580-001DMS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.334	2.34	2.00	100	2.32	2.00	99	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Analyzed: 3/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1102580-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	15.4	15.2	101	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Analyzed: 3/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1102580-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	15.4	15.2	101	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)

Service Request: K1102580

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	240896	KQ1102813-14	3/31/11 11:47	2.00	1.98	99	90 - 110
CCV2	240896	KQ1102813-15	3/31/11 11:47	2.00	1.99	100	90 - 110
CCV3	240896	KQ1102813-16	3/31/11 11:47	2.00	1.98	99	90 - 110
CCV4	240896	KQ1102813-17	3/31/11 11:47	2.00	1.96	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Service Request: K1102580

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	240896	KQ1102813-10	3/31/11 11:47	0.050	ND	U
CCB2	240896	KQ1102813-11	3/31/11 11:47	0.050	ND	U
CCB3	240896	KQ1102813-12	3/31/11 11:47	0.050	ND	U
CCB4	240896	KQ1102813-13	3/31/11 11:47	0.050	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1102580
Project:	March 2011 Ambient Monitoring (AMB06)	**Date Collected:**	3/23/11
Sample Matrix:	Ocean Water	**Date Received:**	3/25/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-302 M6	K1102580-001	**0.071**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-308 M8	K1102580-002	**0.065**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-314 M7	K1102580-003	**0.065**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-320 DYOTS	K1102580-004	**0.069**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-326 BM01	K1102580-005	**0.080**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-332 WP	K1102580-006	**0.079**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-338 M2	K1102580-007	**0.080**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-344 M2 DEEP	K1102580-008	**0.081**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-350 CLMBAY	K1102580-009	**0.079**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-356 ILSP	K1102580-010	**0.077**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-362 M1	K1102580-011	**0.075**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-368 M1 DEEP	K1102580-012	**0.081**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-378 SN03	K1102580-013	**0.090**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-385 SN05	K1102580-014	**0.066**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-391 SN08	K1102580-015	**0.082**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-399 SN10	K1102580-016	**0.074**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-405 SN11	K1102580-017	**0.065**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-411 M3.3	K1102580-018	**0.070**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
AMB06-417 PS13	K1102580-019	**0.074**		0.010	0.004	1	4/ 5/11	4/6/11 13:25	
Method Blank	K1102580-MB1	ND	U	0.010	0.004	1	4/ 5/11	4/6/11 13:25	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 4/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-308 M8
Lab Code: K1102580-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-308 M8DUP Duplicate Sample K1102580-002DUP2 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.065	0.070	0.0678	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Collected: 3/23/11
Date Received: 3/25/11
Date Analyzed: 4/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-308 M8
Lab Code: K1102580-002

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB06-308 M8MS Matrix Spike K1102580-002MS2			AMB06-308 M8DMS Duplicate Matrix Spike K1102580-002DMS2					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.065	0.447	0.500	76	0.830	1.00	77	60 - 135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1102580
Date Analyzed: 4/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1102580-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	1.68	1.87	90	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)

Service Request: K1102580

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	241389	KQ1102983-07	4/6/11 13:25	0.500	0.488	98	90 - 110
CCV2	241389	KQ1102983-08	4/6/11 13:25	0.500	0.514	103	90 - 110
CCV3	241389	KQ1102983-09	4/6/11 13:25	0.500	0.525	105	90 - 110
CCV4	241389	KQ1102983-10	4/6/11 13:25	0.500	0.541	108	90 - 110
CCV5	241389	KQ1102983-11	4/6/11 13:25	0.500	0.467	93	90 - 110
CCV6	241389	KQ1102983-12	4/6/11 13:25	0.500	0.469	94	90 - 110

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Service Request: K1102580

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result	Q
CCB1	241389	KQ1102983-01	4/6/11 13:25	0.010	ND	U
CCB2	241389	KQ1102983-02	4/6/11 13:25	0.010	ND	U
CCB3	241389	KQ1102983-03	4/6/11 13:25	0.010	ND	U
CCB4	241389	KQ1102983-04	4/6/11 13:25	0.010	ND	U
CCB5	241389	KQ1102983-05	4/6/11 13:25	0.010	ND	U
CCB6	241389	KQ1102983-06	4/6/11 13:25	0.010	ND	U

K1102517

PROJECT ENVVEST
Project Name: March 2011 Ambient Monitoring (AMB06)
SAMPLE TEAM: Navy, Battelle
DATE: 3/23/2011
Laboratory: Columbia Analytical Shipped FedEx on blue ice

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB06-003	PS07	03/22/11	seawater				X					1	
2	AMB06-009	PS06	03/22/11	seawater				X					1	
3	AMB06-015	PS14	03/22/11	seawater				X					1	
4	AMB06-022	PS03	03/22/11	seawater				X					1	
5	AMB06-030	PS04	03/22/11	seawater				X					1	
6	AMB06-036	PS05	03/22/11	seawater				X					1	
7	AMB06-042	PS08	03/22/11	seawater				X					1	
8	AMB06-048	PS15	03/22/11	seawater				X					1	
9	AMB06-056	PS09	03/22/11	seawater				X					1	
10	AMB06-062	PS10	03/22/11	seawater				X					1	
11	AMB06-068	PS10.1	03/22/11	seawater				X					1	
12	AMB06-074	PS11	03/22/11	seawater				X					1	
13	AMB06-080	PS16	03/22/11	seawater				X					1	
14	AMB06-086	PS01	03/22/11	seawater				X					1	
15	AMB06-092	PS02	03/22/11	seawater				X					1	
16	AMB06-100	M4	03/22/11	seawater				X					1	
17	AMB06-106	BJ-EST	03/22/11	seawater				X					1	
18	AMB06-112	M3.1 SURFACE	03/22/11	seawater				X					1	
19	AMB06-118	M3.1 DEEP	03/22/11	seawater				X					1	
20	AMB06-127	PS12	03/22/11	seawater				X					1	
21	AMB06-133	PS07B	03/22/11	seawater				X					1	
22	AMB06-138	PS07DUP	03/22/11	seawater				X					1	
23	AMB06DD-004	OF18	03/22/11	water				X					1	
24	AMB06DD-006	OF18	03/22/11	water						X			1	

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SOP#: MSL-A-001

K1102917

PROJECT ENVVEST Project Name: March 2011 Ambient Monitoring (AMB06) SAMPLE TEAM: Navy, Battelle DATE: 3/23/2011 Laboratory: Columbia Analytical				**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP												
25 AMB06DD-010	OF19	03/22/11	water					X						1		
26 AMB06DD-012	OF19	03/22/11	water							X				1		
27 AMB06DD-016	OF21	03/22/11	water					X						1		
28 AMB06DD-018	OF21	03/22/11	water							X				1		

Total: 28

Relinquished By: C. Suslick	Company: Battelle MSL
Signature/Printed Name	3/23/2011 Date/Time

Received By: SHOPKINS	Company: CAS
Signature/Printed Name	3/24/11 0915 Date/Time

6

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Battelle Marine Service Request K11 7517

Received: 3/24/11 Opened: 3/24/11 By: SM Unloaded: 3/24/11 By: SM

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.3	0.0	311		7945 0717 8717	
0.4	—	274		7945 " 8496	
2.5	0.8	299		" " 8198	

7. Packing material used: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* paper
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
AMB 06-074	1- 1L yellow				X	H_2SO_4	2ml	47050	SM	0940

Notes, Discrepancies, & Resolutions: _____

K1102580

PROJECT ENVVEST
Project Name: March 2011 Ambient Monitoring (AMB06)
SAMPLE TEAM: Navy, Battelle
DATE: 3/24/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Total Suspended Solids/TS	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB06-302	M6	03/23/11 1000	seawater				X					1	
AMB06-308	M8	03/23/11 1020	seawater				X					1	
AMB06-314	M7	03/23/11 1041	seawater				X					1	
AMB06-320	DYOTS	03/23/11 1055	seawater				X					1	
AMB06-326	BM01	03/23/11 1130	seawater				X					1	
AMB06-332	WP	03/23/11 1148	seawater				X					1	
AMB06-338	M2	03/23/11 1207	seawater				X					1	
AMB06-344	M2 DEEP	03/23/11 1214	seawater				X					1	
AMB06-350	CLMBAY	03/23/11 1230	seawater				X					1	
AMB06-356	ILSP	03/23/11 1247	seawater				X					1	
AMB06-362	M1	03/23/11 1303	seawater				X					1	
AMB06-368	M1 DEEP	03/23/11 1305	seawater				X					1	
AMB06-378	SN03	03/23/11 1352	seawater				X					1	
AMB06-385	SN05	03/23/11 1406	seawater				X					1	
AMB06-391	SN08	03/23/11 1418	seawater				X					1	
AMB06-399	SN10	03/23/11 1430	seawater				X					1	
AMB06-405	SN11	03/23/11 1444	seawater				X					1	
AMB06-411	M3.3	03/23/11 1451	seawater				X					1	
AMB06-417	PS13	03/23/11 1502	seawater				X					1	

Total: 19

8

PROJECT ENVVEST	
Project Name: March 2011 Ambient Monitoring (AMB06)	
SAMPLE TEAM:	Navy, Battelle
DATE:	3/24/2011
Laboratory:	Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Relinquished By: C. Suslick	Company: Battelle MSL
Signature/Printed Name	3/24/2011 Date/Time

Received By: KarlaSmith	Company: CAS
Signature/Printed Name	3/25/11 0920 Date/Time

6

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H14

Client / Project: Battelle Marine Sciences Service Request *K11* 02588

Received: 3/25/11 Opened: 3/25/11 By: KB Unloaded: 3/25/11 By: KB

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-2.5	—	293		7969 0950 5389	
-.4	—	291		7969 0950 5312	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* (hard) *Sleeves* *Other* paper, paper towel
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1105643
Project:	March 2011 AMB06	**Date Received:**	6/22/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eighty-two water samples were received for analysis at Columbia Analytical Services on 6/22/11. The samples were received in good condition and consistent with the accompanying chain of custody form with the following exceptions. We did not receive sample AMB06DD-015. Samples AMB06-120, AMB06-327 & AMB06DD-014 were received broken. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Dissolved Organic Carbon by Standard Method 5310 C, Total Organic Carbon by Standard Method 5310 C: All samples were received past holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 6-30-11

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11 - 3/23/11
Date Received: 6/22/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-004 PS07	K1105643-001	1.9		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-010 PS06	K1105643-002	2.0		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-016 PS14	K1105643-003	2.0		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-023 PS03	K1105643-004	1.9		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-031 PS04	K1105643-005	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-037 PS05	K1105643-006	2.0		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-043 PS08	K1105643-007	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-049 PS15	K1105643-008	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-057 PS09	K1105643-009	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-063 PS10	K1105643-010	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-069 PS10.1	K1105643-011	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-075 PS11	K1105643-012	1.9		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-082 PS16	K1105643-013	4.1		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-088 PS01	K1105643-014	2.0		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-094 PS02	K1105643-015	5.9		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-102 M4	K1105643-016	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-108 BJ-EST	K1105643-017	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-114 M3.1 SURFACE	K1105643-018	3.3		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-124 PS12	K1105643-019	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-130 PS07B	K1105643-020	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06DD-003 OF18	K1105643-021	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06DD-009 OF19	K1105643-022	2.0		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-303 M6	K1105643-023	1.5		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-309 M8	K1105643-024	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-315 M7	K1105643-025	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-321 DYOTS	K1105643-026	1.9		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-333 WP	K1105643-027	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-339 M2	K1105643-028	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-345 M2 DEEP	K1105643-029	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-351 CLMBAY	K1105643-030	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-357 ILSP	K1105643-031	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-363 M1	K1105643-032	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-369 M1 DEEP	K1105643-033	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-379 SN03	K1105643-034	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-386 SN05	K1105643-035	1.8		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-392 SN08	K1105643-036	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-400 SN10	K1105643-037	1.6		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-406 SN11	K1105643-038	2.0		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-412 M3.3	K1105643-039	1.7		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-418 PS13	K1105643-040	3.3		1.0	0.2	2	NA	6/23/11 15:13	*
Method Blank	K1105643-MB1	ND	U	0.50	0.07	1	NA	6/23/11 15:13	
Method Blank	K1105643-MB2	ND	U	0.50	0.07	1	NA	6/23/11 15:13	
Method Blank	K1105643-MB3	ND	U	0.50	0.07	1	NA	6/23/11 15:13	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-004 PS07
Lab Code: K1105643-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-004 PS07DUP Duplicate Sample K1105643-001DUP1 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.9	1.8	1.84	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06DD-003 OF18
Lab Code: K1105643-021

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06DD-003 OF18DUP Duplicate Sample K1105643-021DUP2 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.6	1.59	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-004 PS07
Lab Code: K1105643-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB06-004 PS07MS
Matrix Spike
K1105643-001MS1

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	1.9	50.9	50.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06DD-003 OF18
Lab Code: K1105643-021

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB06DD-003 OF18MS
Matrix Spike
K1105643-021MS2

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	1.6	52.1	50.0	101	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.6	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)

Service Request: K1105643

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	251202	KQ1106126-11	6/23/11 15:13	25.0	23.7	95	90 - 110
CCV2	251202	KQ1106126-12	6/23/11 15:13	25.0	24.0	96	90 - 110
CCV3	251202	KQ1106126-13	6/23/11 15:13	25.0	23.8	95	90 - 110
CCV4	251202	KQ1106126-14	6/23/11 15:13	25.0	23.7	95	90 - 110
CCV5	251202	KQ1106126-15	6/23/11 15:13	25.0	23.9	95	90 - 110
CCV6	251202	KQ1106126-16	6/23/11 15:13	25.0	23.8	95	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105643
Project: March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	251202	KQ1106126-17	6/23/11 15:13	0.07	0.50	ND	U
CCB2	251202	KQ1106126-18	6/23/11 15:13	0.07	0.50	ND	U
CCB3	251202	KQ1106126-19	6/23/11 15:13	0.07	0.50	ND	U
CCB4	251202	KQ1106126-20	6/23/11 15:13	0.07	0.50	ND	U
CCB5	251202	KQ1106126-21	6/23/11 15:13	0.07	0.50	ND	U
CCB6	251202	KQ1106126-22	6/23/11 15:13	0.07	0.50	ND	U

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11 - 3/23/11
Date Received: 6/22/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB06-006 PS07	K1105643-041	**1.5**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-012 PS06	K1105643-042	**2.1**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-018 PS14	K1105643-043	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-026 PS03	K1105643-044	**1.9**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-033 PS04	K1105643-045	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-039 PS05	K1105643-046	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-045 PS08	K1105643-047	**1.7**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-052 PS15	K1105643-048	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-059 PS09	K1105643-049	**3.6**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-065 PS10	K1105643-050	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-071 PS10.1	K1105643-051	**1.7**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-077 PS11	K1105643-052	**1.9**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-083 PS16	K1105643-053	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-089 PS01	K1105643-054	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-095 PS02	K1105643-055	**1.6**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-103 M4	K1105643-056	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-109 BJ-EST	K1105643-057	**1.6**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-115 M3.1 SURFACE	K1105643-058	**1.7**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-121 M3.1 DEEP	K1105643-059	**3.4**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-123 PS12	K1105643-060	**1.8**		1.0	0.2	2	NA	6/23/11 15:13	*
AMB06-129 PS07B	K1105643-061	**3.6**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06DD-002 OF18	K1105643-062	**2.1**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06DD-008 OF19	K1105643-063	**3.2**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-305 M6	K1105643-064	**2.2**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-311 M8	K1105643-065	**2.1**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-317 M7	K1105643-066	**2.1**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-323 DYOTS	K1105643-067	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-329 BM01	K1105643-068	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-335 WP	K1105643-069	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-341 M2	K1105643-070	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-347 M2 DEEP	K1105643-071	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-353 CLMBAY	K1105643-072	**2.0**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-359 ILSP	K1105643-073	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-365 M1	K1105643-074	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-371 M1 DEEP	K1105643-075	**2.0**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-381 SN03	K1105643-076	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-388 SN05	K1105643-077	**2.0**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-395 SN08	K1105643-078	**2.2**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-402 SN10	K1105643-079	**2.0**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-408 SN11	K1105643-080	**2.5**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-414 M3.3	K1105643-081	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	*
AMB06-421 PS13	K1105643-082	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	*
Method Blank	K1105643-MB1	ND	U	0.50	0.07	1	NA	6/23/11 15:13	
Method Blank	K1105643-MB2	ND	U	0.50	0.07	1	NA	6/24/11 18:08	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11 - 3/23/11
Date Received:

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1105643-MB3	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105643-MB4	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105643-MB5	ND	U	0.50	0.07	1	NA	6/24/11 18:08	

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-006 PS07
Lab Code: K1105643-041

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-006 PS07DUP Duplicate Sample K1105643-041DUP3 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.5	1.6	1.56	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB06-129 PS07B
Lab Code: K1105643-061

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB06-129 PS07BDUP Duplicate Sample K1105643-061DUP4 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	3.6	3.6	3.60	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-006 PS07
Lab Code: K1105643-041

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB06-006 PS07MS
Matrix Spike
K1105643-041MS3

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.5	49.9	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Collected: 3/22/11
Date Received: 6/22/11
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB06-129 PS07B
Lab Code: K1105643-061

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB06-129 PS07BMS
Matrix Spike
K1105643-061MS4

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	3.6	53.1	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.6	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.4	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: March 2011 Ambient Monitoring (AMB06)
Sample Matrix: Ocean Water

Service Request: K1105643
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105643-LCS5			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1105643
Project: March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	251203	KQ1106127-05	6/23/11 15:13	25.0	23.7	95	90 - 110
CCV2	251203	KQ1106127-06	6/23/11 15:13	25.0	23.8	95	90 - 110
CCV3	251203	KQ1106127-07	6/23/11 15:13	25.0	23.9	96	90 - 110
CCV4	251203	KQ1106127-08	6/23/11 15:13	25.0	24.1	96	90 - 110
CCV5	251203	KQ1106127-09	6/23/11 15:13	25.0	23.8	95	90 - 110
CCV6	251361	KQ1106193-17	6/24/11 18:08	25.0	23.3	93	90 - 110
CCV7	251361	KQ1106193-18	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV8	251361	KQ1106193-19	6/24/11 18:08	25.0	23.8	95	90 - 110
CCV9	251361	KQ1106193-20	6/24/11 18:08	25.0	23.8	95	90 - 110
CCV10	251361	KQ1106193-21	6/24/11 18:08	25.0	23.7	95	90 - 110
CCV11	251361	KQ1106193-22	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV12	251361	KQ1106193-23	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV13	251361	KQ1106193-24	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV14	251361	KQ1106193-25	6/24/11 18:08	25.0	23.9	96	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105643
Project: March 2011 Ambient Monitoring (AMB06)

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	251203	KQ1106127-10	6/23/11 15:13	0.07	0.50	ND	U
CCB2	251203	KQ1106127-11	6/23/11 15:13	0.07	0.50	ND	U
CCB3	251203	KQ1106127-12	6/23/11 15:13	0.07	0.50	ND	U
CCB4	251203	KQ1106127-13	6/23/11 15:13	0.07	0.50	ND	U
CCB5	251203	KQ1106127-14	6/23/11 15:13	0.07	0.50	ND	U
CCB6	251361	KQ1106193-26	6/24/11 18:08	0.07	0.50	ND	U
CCB7	251361	KQ1106193-27	6/24/11 18:08	0.07	0.50	ND	U
CCB8	251361	KQ1106193-28	6/24/11 18:08	0.07	0.50	ND	U
CCB9	251361	KQ1106193-29	6/24/11 18:08	0.07	0.50	ND	U
CCB10	251361	KQ1106193-30	6/24/11 18:08	0.07	0.50	ND	U
CCB11	251361	KQ1106193-31	6/24/11 18:08	0.07	0.50	ND	U
CCB12	251361	KQ1106193-32	6/24/11 18:08	0.07	0.50	**0.09**	J
CCB13	251361	KQ1106193-33	6/24/11 18:08	0.07	0.50	**0.08**	J
CCB14	251361	KQ1106193-34	6/24/11 18:08	0.07	0.50	ND	U

K1105643

PROJECT ENVVEST
Project Name: March 2011 Ambient Monitoring (AMB06)
SAMPLE TEAM: Navy, Battelle
DATE: 6/21/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	DOC	TOC										No. of containers	COMMENTS
AMB06-004	PS07	03/22/11	seawater	X											1	
AMB06-010	PS06	03/22/11	seawater	X											1	
AMB06-016	PS14	03/22/11	seawater	X											1	
AMB06-023	PS03	03/22/11	seawater	X											1	
AMB06-031	PS04	03/22/11	seawater	X											1	
AMB06-037	PS05	03/22/11	seawater	X											1	
AMB06-043	PS08	03/22/11	seawater	X											1	
AMB06-049	PS15	03/22/11	seawater	X											1	
AMB06-057	PS09	03/22/11	seawater	X											1	
AMB06-063	PS10	03/22/11	seawater	X											1	
AMB06-069	PS10.1	03/22/11	seawater	X											1	
AMB06-075	PS11	03/22/11	seawater	X											1	
AMB06-082	PS16	03/22/11	seawater	X											1	
AMB06-088	PS01	03/22/11	seawater	X											1	
AMB06-094	PS02	03/22/11	seawater	X											1	
AMB06-102	M4	03/22/11	seawater	X											1	
AMB06-108	BJ-EST	03/22/11	seawater	X											1	
AMB06-114	M3.1 SURFACE	03/22/11	seawater	X											1	
AMB06-120	M3.1 DEEP	03/22/11	seawater	X											1	
AMB06-124	PS12	03/22/11	seawater	X											1	
AMB06-130	PS07B	03/22/11	seawater	X											1	
AMB06DD-003	OF18	03/22/11	seawater	X											1	
AMB06DD-009	OF19	03/22/11	seawater	X											1	
AMB06DD-015	OF21	03/22/11	seawater	X											1	
AMB06-303	M6	03/23/11	seawater	X											1	
AMB06-309	M8	03/23/11	seawater	X											1	
AMB06-315	M7	03/23/11	seawater	X											1	

K1105643

PROJECT ENVVEST Project Name: March 2011 Ambient Monitoring (AMB06) SAMPLE TEAM: Navy, Battelle DATE: 6/21/2011 Laboratory: Columbia Analytical				**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP										
AMB06-321	DYOTS	03/23/11	seawater	X									1	
AMB06-327	BM01	03/23/11	seawater	X									1	
AMB06-333	WP	03/23/11	seawater	X									1	
AMB06-339	M2	03/23/11	seawater	X									1	
AMB06-345	M2 DEEP	03/23/11	seawater	X									1	
AMB06-351	CLMBAY	03/23/11	seawater	X									1	
AMB06-357	ILSP	03/23/11	seawater	X									1	
AMB06-363	M1	03/23/11	seawater	X									1	
AMB06-369	M1 DEEP	03/23/11	seawater	X									1	
AMB06-379	SN03	03/23/11	seawater	X									1	
AMB06-386	SN05	03/23/11	seawater	X									1	
AMB06-392	SN08 X	03/23/11	seawater	X									1	
AMB06-400	SN10	03/23/11	seawater	X									1	
AMB06-406	SN11	03/23/11	seawater	X									1	
AMB06-412	M3.3	03/23/11	seawater	X									1	
AMB06-418	PS13	03/23/11	seawater	X									1	
AMB06-006	PS07	03/22/11	seawater		X								1	
AMB06-012	PS06	03/22/11	seawater		X								1	
AMB06-018	PS14	03/22/11	seawater		X								1	
AMB06-026	PS03	03/22/11	seawater		X								1	
AMB06-033	PS04	03/22/11	seawater		X								1	
AMB06-039	PS05	03/22/11	seawater		X								1	
AMB06-045	PS08	03/22/11	seawater		X								1	
AMB06-052	PS15	03/22/11	seawater		X								1	
AMB06-059	PS09	03/22/11	seawater		X								1	
AMB06-065	PS10	03/22/11	seawater		X								1	
AMB06-071	PS10.1	03/22/11	seawater		X								1	
AMB06-077	PS11	03/22/11	seawater		X								1	
AMB06-083	PS16	03/22/11	seawater		X								1	
AMB06-089	PS01	03/22/11	seawater		X								1	
AMB06-095	PS02	03/22/11	seawater		X								1	
AMB06-103	M4	03/22/11	seawater		X								1	
AMB06-109	BJ-EST	03/22/11	seawater		X								1	
AMB06-115	M3.1 SURFACE	03/22/11	seawater		X								1	
AMB06-121	M3.1 DEEP	03/22/11	seawater		X								1	
AMB06-123	PS12	03/22/11	seawater		X								1	
AMB06-129	PS07B	03/22/11	seawater		X								1	

K1106443

PROJECT ENVVEST Project Name: March 2011 Ambient Monitoring (AMB06) SAMPLE TEAM: Navy, Battelle DATE: 6/21/2011 Laboratory: Columbia Analytical				**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP										
AMB06DD-002	OF18	03/22/11	seawater		X								1	
AMB06DD-008	OF19	03/22/11	seawater		X								1	
AMB06DD-014	OF21	03/22/11	seawater		X								1	
AMB06-305	M6	03/23/11	seawater		X								1	
AMB06-311	M8	03/23/11	seawater		X								1	
AMB06-317	M7	03/23/11	seawater		X								1	
AMB06-323	DYOTS	03/23/11	seawater		X								1	
AMB06-329	BM01	03/23/11	seawater		X								1	
AMB06-335	WP	03/23/11	seawater		X								1	
AMB06-341	M2	03/23/11	seawater		X								1	
AMB06-347	M2 DEEP	03/23/11	seawater		X								1	
AMB06-353	CLMBAY	03/23/11	seawater		X								1	
AMB06-359	ILSP	03/23/11	seawater		X								1	
AMB06-365	M1	03/23/11	seawater		X								1	
AMB06-371	M1 DEEP	03/23/11	seawater		X								1	
AMB06-381	SN03	03/23/11	seawater		X								1	
AMB06-388	SN05	03/23/11	seawater		X								1	
AMB06-395	SN08	03/23/11	seawater		X								1	
AMB06-402	SN10	03/23/11	seawater		X								1	
AMB06-408	SN11	03/23/11	seawater		X								1	
AMB06-414	M3.3	03/23/11	seawater		X								1	
AMB06-421	PS13	03/23/11	seawater		X								1	
--end of list--														

Total: 86

10

Relinquished By: C. Suslick	Company: Battelle MSL
Signature/Printed Name	6/21/2011 Date/Time

Received By:	Company: CAS
Signature/Printed Name SHOPKINS	6/22/11 0910 Date/Time

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 42

Client / Project: Battelle Service Request *K11* 5643

Received: 6/22/11 Opened: 6/22/11 By: SM Unloaded: 6/22/11 By: SM

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-1.2		309		7948 8908 1724	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
AMB06-120	1-100mL			X						
AMB06-327	"			X						
AMB06DD-014	"			X						

Notes, Discrepancies, & Resolutions:
Did not receive AMB06DD-015 (CS, 7/11/11: sample broke while in freezer at Battelle MSL; not sent)

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring June 2011 (AMB07)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring
Seawater Chemistry,
Equipment Blanks

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CVAF Analysis of Samples for Hg

Analytical raw data available upon request

FIAS Analysis of Samples for As

Analytical raw data available upon request

ICP-MS Analysis of Samples for Metals

Analytical raw data available upon request

Analysis of Conventional Water Chemistry in Site Water

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Samples confirmed with a second analyses

Ambient Monitoring - AMB07
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.50**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)								**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--	--	0.0001	0.0267	0.0032	0.2	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--	--	0.00032	0.085	0.010	0.6	0.011	0.16
AMB07-001	PS07	TME	Seawater	**3106-492B**	06/21/11	28.5	1.43	0.00109	1.11	0.0042 Ub	9.95 b	0.0631 b	0.134 b
AMB07-001	PS07	DME	Seawater	**3106-493**	06/21/11	--	--	0.000520	--	0.0042 Ub	2.14 Ub	0.0585 b	0.144 b
AMB07-006	PS06	TME	Seawater	**3106-494**	06/21/11	28.8	1.82	0.00116	1.16	0.0042 Ub	11.0 b	0.0639 b	0.186 b
AMB07-006	PS06	DME	Seawater	**3106-495**	06/21/11	--	--	0.000508	--	0.0042 Ub	2.14 Ub	0.0668 b	0.127 b
AMB07-011	PS14	TME	Seawater	**3106-496**	06/21/11	29.0	2.76	0.000658	1.10	0.0042 Ub	9.02 b	0.0583 b	0.159 b
AMB07-011	PS14	DME	Seawater	**3106-497**	06/21/11	--	--	0.000307 J	--	0.0042 Ub	2.14 Ub	0.0578 b	0.154 b
AMB07-016	PS03	TME	Seawater	**3106-498**	06/21/11	27.5	3.91	0.00340	1.18	0.0042 Ub	27.0 b	0.0666 b	0.317 b
AMB07-016	PS03	DME	Seawater	**3106-499**	06/21/11	--	--	0.00179	--	0.0042 Ub	2.14 Ub	0.0572 b	0.175 b
AMB07-021	PS04	TME	Seawater	**3106-500**	06/21/11	29.1	2.25	0.000679	1.12	0.0042 Ub	6.55 Jb	0.0547 b	0.137 b
AMB07-021	PS04	DME	Seawater	**3106-501**	06/21/11	--	--	0.000359	--	0.0042 Ub	2.14 Ub	0.0585 b	0.127 b
AMB07-026	PS05	TME	Seawater	**3106-502**	06/21/11	28.6	2.98	0.000674	1.07	0.0042 Ub	9.12 b	0.0545 b	0.260 b
AMB07-026	PS05	DME	Seawater	**3106-503**	06/21/11	--	--	0.000341	--	0.0042 Ub	2.14 Ub	0.0543 b	0.176 b
AMB07-031	PS08	TME	Seawater	**3106-504**	06/21/11	29.3	2.31	0.000742	1.11	0.0042 Ub	6.85 b	0.0636 b	0.174 b
AMB07-031	PS08	DME	Seawater	**3106-505**	06/21/11	--	--	0.000352	--	0.0042 Ub	2.14 Ub	0.0612 b	0.161 b
AMB07-036	PS08DUP	TME	Seawater	**3106-506**	06/21/11	--	--	0.000720	1.13	0.0042 Ub	10.3 b	0.0660 b	0.155 b
AMB07-036	PS08DUP	DME	Seawater	**3106-507**	06/21/11	--	--	0.000332	--	0.0042 Ub	2.14 Ub	0.0627 b	0.132 b
AMB07-037	PS15	TME	Seawater	**3106-508**	06/21/11	29.0	1.60	0.000674	1.10	0.0042 Ub	8.63 b	0.0636 b	0.0951 b
AMB07-037	PS15	DME	Seawater	**3106-509**	06/21/11	--	--	0.000368	--	0.0042 Ub	2.14 Ub	0.0614 b	0.0881 b
AMB07-042	PS09	TME	Seawater	**3106-510**	06/21/11	27.4	3.10	0.00149	1.18	0.00551 b	12.8 b	0.0690 b	0.166 b
AMB07-042	PS09	DME	Seawater	**3106-511**	06/21/11	--	--	0.000713	--	0.00448 b	2.14 Ub	0.0696 b	0.183 b
AMB07-047	PS10	TME	Seawater	**3106-512**	06/21/11	29.0	1.59	0.00213	1.17	0.0042 Ub	50.3 b	0.0694 b	0.285 b
AMB07-047	PS10	DME	Seawater	**3106-513**	06/21/11	--	--	0.000247 J	--	0.0042 Ub	2.14 Ub	0.0694 b	0.0681 b
AMB07-052	PS10.1	TME	Seawater	**3106-514**	06/21/11	28.8	4.59	0.000743	1.10	0.0042 Ub	7.44 b	0.0586 b	0.158 b
AMB07-052	PS10.1	DME	Seawater	**3106-515**	06/21/11	--	--	0.000338	--	0.0042 Ub	2.14 Ub	0.0602 b	0.0801 b
AMB07-057	PS11	TME	Seawater	**3106-516**	06/21/11	29.1	1.40	0.000565	1.10	0.0042 Ub	10.3 b	0.0630 b	0.0821 b
AMB07-057	PS11	DME	Seawater	**3106-517**	06/21/11	--	--	0.000376	--	0.0042 Ub	2.14 Ub	0.0619 b	0.0611 b
AMB07-062	PS16	TME	Seawater	**3106-518**	06/21/11	29.3	1.53	0.000657	1.09	0.0042 Ub	10.7 b	0.0622 b	0.205 b
AMB07-062	PS16	DME	Seawater	**3106-519**	06/21/11	--	--	0.000259 J	--	0.0042 Ub	2.14 Ub	0.0641 b	0.102 b
AMB07-067	PS01	TME	Seawater	**3106-520**	06/21/11	28.5	1.38	0.00141	1.21	0.00626 Jb	6.47 Jb	0.0604 b	0.132 b
AMB07-067	PS01	DME	Seawater	**3106-521**	06/21/11	--	--	0.000812	--	0.00443 Jb	2.14 Ub	0.0587 b	0.197 b
AMB07-072	PS01DUP	TME	Seawater	**3106-522**	06/21/11	--	--	0.00171	1.27	0.00673 Jb	5.80 Jb	0.0612 b	0.455 b
AMB07-072	PS01DUP	DME	Seawater	**3106-523**	06/21/11	--	--	0.00104	--	0.00529 Jb	2.14 Ub	0.0596 b	0.271 b
AMB07-073	PS02	TME	Seawater	**3106-524**	06/21/11	28.3	1.32	0.00115	1.12	0.0042 Ub	5.58 Jb	0.0581 b	0.244 b
AMB07-073	PS02	DME	Seawater	**3106-525**	06/21/11	--	--	0.000724	--	0.0042 Ub	2.14 Ub	0.0585 b	0.306 b
AMB07-078	PS13	TME	Seawater	**3106-526**	06/21/11	28.9	2.04	0.000644	1.06	0.0042 Ub	3.93 Jb	0.0617 b	0.152 b

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB07-078	PS13	DME	Seawater	**3106-527**	06/21/11	--	--	0.000367	--	0.0042 Ub	2.14 Ub	0.0546 b	0.202 b
AMB07-084	M4	TME	Seawater	**3106-528**	06/21/11	27.7	2.63	0.000763	1.07	0.0042 Ub	18.9 b	0.0510 b	0.272 b
AMB07-084	M4	DME	Seawater	**3106-529**	06/21/11	--	--	0.000352	--	0.0042 Ub	2.14 Ub	0.0482 b	0.147 b
AMB07-088	BJ-EST	TME	Seawater	**3106-530**	06/21/11	27.8	2.73	0.000660	1.03	0.0042 Ub	11.3 b	0.0515 b	0.185 b
AMB07-088	BJ-EST	DME	Seawater	**3106-531**	06/21/11	--	--	0.000353	--	0.0042 Ub	2.14 Ub	0.0487 b	0.236 b
AMB07-093	M3.1	TME	Seawater	**3106-532**	06/21/11	29.1	1.70	0.000747	1.11	0.0042 Ub	27.9 b	0.0652 b	0.274 b
AMB07-093	M3.1	DME	Seawater	**3106-533**	06/21/11	--	--	0.000268 J	--	0.0042 Ub	2.14 Ub	0.0661 b	0.229 b
AMB07-098	M3.1DEEP	TME	Seawater	**3106-534**	06/21/11	29.1	2.06	0.000729	1.11	0.0042 Ub	20.6 b	0.0697 b	0.162 b
AMB07-098	M3.1DEEP	DME	Seawater	**3106-535**	06/21/11	--	--	0.000391	--	0.0042 Ub	2.14 Ub	0.0578 b	0.120 b
AMB07-103	PS12	TME	Seawater	**3106-536**	06/21/11	29.7	1.20	0.00177	1.12	0.0042 Ub	15.7 b	0.0742 b	0.215 b
AMB07-103	PS12	DME	Seawater	**3106-537**	06/21/11	--	--	0.000794	--	0.0042 Ub	2.14 Ub	0.0670 b	0.158 b
AMB07DD-001	OF021	TME	Freshwater	**3106-538**	06/21/11	--	0.5 U	0.00580	1.17	0.0042 U	12.2	0.0139	0.970
AMB07DD-001	OF021	DME	Freshwater	**3106-539**	06/21/11	--	--	0.00454	--	0.0042 U	8.26	0.0107	0.984
AMB07DD-007	OF019	TME	Seawater	**3106-540**	06/21/11	--	4.43	0.00444	1.29	0.0104 Jb	60.4 b	0.0816 b	14.3 b
AMB07DD-007	OF019	DME	Seawater	**3106-541**	06/21/11	--	--	0.000982	--	0.00519 Jb	2.14 Ub	0.0718 b	1.01 b
AMB07DD-013	OF018A	TME	Seawater	**3106-542**	06/21/11	--	1.47	0.00600	1.35	0.0173 b	5.90 Jb	0.0907 b	0.454 b
AMB07DD-013	OF018A	DME	Seawater	**3106-543**	06/21/11	--	--	0.00248	--	0.0107 Jb	2.14 Ub	0.0769 b	0.262 b
AMB07-200	M6	TME	Seawater	**3106-544**	06/22/11	29.7	1.86	0.000876	1.03	0.0042 Ub	19.8 b	0.0541 b	0.261 b
AMB07-200	M6	DME	Seawater	**3106-545**	06/22/11	--	--	0.000454	--	0.0042 Ub	2.14 Ub	0.0484 b	0.123 b
AMB07-205	M8	TME	Seawater	**3106-546**	06/22/11	28.7	2.22	0.000920	1.06	0.0042 Ub	24.4 b	0.0699 b	0.426 b
AMB07-205	M8	DME	Seawater	**3106-547**	06/22/11	--	--	0.000380	--	0.0042 Ub	2.14 Ub	0.0512 b	0.134 b
AMB07-210	M7	TME	Seawater	**3106-548**	06/22/11	29.3	1.78	0.000557	1.07	0.0042 Ub	10.2 b	0.0563 b	0.200 b
AMB07-210	M7	DME	Seawater	**3106-549**	06/22/11	--	--	0.000289 J	--	0.0042 Ub	2.14 Ub	0.0979 b	0.140 b
AMB07-215	DYOTS	TME	Seawater	**3106-550**	06/22/11	29.2	3.54	0.000709	1.01	0.0042 Ub	25.7 b	0.0468 b	0.198 b
AMB07-215	DYOTS	DME	Seawater	**3106-551**	06/22/11	--	--	0.000591	--	0.0042 Ub	2.14 Ub	0.0444 b	0.103 b
AMB07-220	PWNLP	TME	Seawater	**3106-552**	06/22/11	29.1	1.48	0.000595	1.12	0.0042 Ub	21.5 b	0.0644 b	0.203 b
AMB07-220	PWNLP	DME	Seawater	**3106-553**	06/22/11	--	--	0.000362	--	0.0042 Ub	2.14 Ub	0.0602 b	0.0982 b
AMB07-225	WP	TME	Seawater	**3106-554**	06/22/11	29.2	2.13	0.000830	1.08	0.0042 Ub	36.0 b	0.0674 b	0.299 b
AMB07-225	WP	DME	Seawater	**3106-555**	06/22/11	--	--	0.000352	--	0.0042 Ub	2.14 Ub	0.0628 b	0.116 b
AMB07-230	M2 SURFACE	TME	Seawater	**3106-556**	06/22/11	29.9	3.12	0.000513	1.14	0.0042 Ub	21.5 b	0.0756 b	0.311 b
AMB07-230	M2 SURFACE	DME	Seawater	**3106-557**	06/22/11	--	--	0.000307 J	--	0.0042 Ub	2.14 Ub	0.0658 b	0.117 b
AMB07-235	M2 DEEP	TME	Seawater	**3106-558**	06/22/11	29.6	1.46	0.000687	1.15	0.0042 Ub	20.3 b	0.0628 b	0.124 b
AMB07-235	M2 DEEP	DME	Seawater	**3106-559**	06/22/11	--	--	0.000244 J	--	0.0042 Ub	2.14 Ub	0.0596 b	0.0892 b
AMB07-240	CLMBAY	TME	Seawater	**3106-560**	06/22/11	29.7	1.39	0.000562	1.07	0.0042 Ub	18.5 b	0.0656 b	0.263 b
AMB07-240	CLMBAY	DME	Seawater	**3106-561**	06/22/11	--	--	0.000385	--	0.0042 Ub	2.14 Ub	0.0670 b	0.122 b
AMB07-245	ILSP	TME	Seawater	**3106-562**	06/22/11	29.1	4.12	0.000505	1.01	0.0042 Ub	11.4 b	0.0523 b	0.202 b
AMB07-245	ILSP	DME	Seawater	**3106-563**	06/22/11	--	--	0.000231 J	--	0.0042 Ub	2.14 Ub	0.0472 b	0.356 b
AMB07-250	M1 SURFACE	TME	Seawater	**3106-564**	06/22/11	29.7	2.90	0.000447	0.981	0.0042 Ub	14.6 b	0.0539 b	0.176 b
AMB07-250	M1 SURFACE	DME	Seawater	**3106-565**	06/22/11	--	--	0.000252 J	--	0.0042 Ub	2.14 Ub	0.0473 b	0.114 b

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				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB07-255	M1 DEEP	TME	Seawater	**3106-566**	06/22/11	29.3	1.74	0.000489	1.13	0.0042 Ub	12.0 b	0.0646 b	0.158 b
AMB07-255	M1 DEEP	DME	Seawater	**3106-567**	06/22/11	--	--	0.000394	--	0.0042 Ub	2.14 Ub	0.0626 b	0.127 b
AMB07-260	BM01	TME	Seawater	**3106-568**	06/22/11	29.3	2.71	0.000820	1.12	0.0042 Ub	26.4 b	0.0595 b	0.166 b
AMB07-260	BM01	DME	Seawater	**3106-569**	06/22/11	--	--	0.000362	--	0.0042 Ub	2.14 Ub	0.0597 b	0.113 b
AMB07-265	SN03	TME	Seawater	**3106-570**	06/22/11	27.4	5.29	0.000984	1.01	0.0042 Ub	40.7 b	0.0508 b	0.387 b
AMB07-265	SN03	DME	Seawater	**3106-571**	06/22/11	--	--	0.000370	--	0.0042 Ub	2.14 Ub	0.0453 b	0.170 b
AMB07-270	SN05	TME	Seawater	**3106-572**	06/22/11	28.3	6.12	0.00151	1.04	0.0042 Ub	87.2 b	0.0488 b	0.372 b
AMB07-270	SN05	DME	Seawater	**3106-573**	06/22/11	--	--	0.000420	--	0.0042 Ub	2.14 Ub	0.0483 b	0.157 b
AMB07-275	SN08	TME	Seawater	**3106-574**	06/22/11	24.7	6.88	0.00133	1.02	0.0042 Ub	74.2 b	0.0529 b	0.443 b
AMB07-275	SN08	DME	Seawater	**3106-575**	06/22/11	--	--	0.000354	--	0.0042 Ub	2.14 Ub	0.0478 b	0.244 b
AMB07-280	SN10	TME	Seawater	**3106-576**	06/22/11	28.6	3.81	0.000693	0.978	0.0042 Ub	16.0 b	0.0642 b	0.303 b
AMB07-280	SN10	DME	Seawater	**3106-577**	06/22/11	--	--	0.000384	--	0.0042 Ub	2.14 Ub	0.0602 b	0.170 b
AMB07-285	SN10 DUP	TME	Seawater	**3106-578**	06/22/11	--	--	0.000651	0.954	0.0042 Ub	13.5 b	0.0613 b	0.337 b
AMB07-285	SN10 DUP	DME	Seawater	**3106-579**	06/22/11	--	--	0.000383	--	0.0042 Ub	2.14 Ub	0.0569 b	0.168 b
AMB07-286	SN11	TME	Seawater	**3106-580**	06/22/11	26.0	4.82	0.00126	1.04	0.0042 Ub	51.5 b	0.0515 b	0.699 b
AMB07-286	SN11	DME	Seawater	**3106-581**	06/22/11	--	--	0.000470	--	0.0042 Ub	5.47 Jb	0.0479 b	0.281 b
AMB07-291	SN11 DUP	TME	Seawater	**3106-582**	06/22/11	23.7	5.12	0.000938	1.02	0.0042 Ub	40.5 b	0.0539 b	0.370 b
AMB07-291	SN11 DUP	DME	Seawater	**3106-583**	06/22/11	--	--	0.000414	--	0.0042 Ub	2.59 Jb	0.0495 b	0.237 b
AMB07-296	M3.3	TME	Seawater	**3106-584**	06/22/11	28.5	4.92	0.000684	0.967	0.0042 Ub	20.8 b	0.0564 b	0.297 b
AMB07-296	M3.3	DME	Seawater	**3106-585**	06/22/11	--	--	0.000308 J	--	0.0042 Ub	2.14 Ub	0.0528 b	0.220 b
Equipment Blanks													
AMB07-301	EB01-T	TME	Freshwater	**3106-586**	06/24/11	--	--	0.0001 U	0.0267 U	0.0042 U	2.35 J	0.0033 U	0.051 U
AMB07-301	EB01-D	DME	Freshwater	**3106-587**	06/24/11	--	--	0.0001 U	--	0.0042 U	0.2 U	0.0033 U	0.051 U
AMB07-302	EB02-T	TME	Freshwater	**3106-588**	06/24/11	--	--	0.0001 U	0.0267 U	0.0042 U	0.2 U	0.0033 U	0.051 U
AMB07-302	EB02-D	DME	Freshwater	**3106-589**	06/24/11	--	--	0.0001 U	--	0.0042 U	0.511 J	0.0033 U	0.051 U
Intercomparison													
	1A	TME	Seawater	**3106-590**		--	--	--	--	--	--	--	--
	1B	TME	Seawater	**3106-591**		--	--	--	--	--	--	--	--
	1C	TME	Seawater	**3106-592**		--	--	--	--	--	--	--	--
	1D	TME	Seawater	**3106-593**		--	--	--	--	--	--	--	--
	1DS	DME	Seawater	**3106-594**		--	--	--	--	--	--	--	--
	1TS	TME	Seawater	**3106-595**		--	--	--	--	--	--	--	--
	9DS	DME	Seawater	**3106-596**		--	--	--	--	--	--	--	--
	9TS	TME	Seawater	**3106-597**		--	--	--	--	--	--	--	--
	10A	TME	Seawater	**3106-598**		--	--	--	--	--	--	--	--
	10B	TME	Seawater	**3106-599**		--	--	--	--	--	--	--	--
	10C	TME	Seawater	**3106-600**		--	--	--	--	--	--	--	--
	10D	TME	Seawater	**3106-601**		--	--	--	--	--	--	--	--

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				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
	16DS	DME	Seawater	**3106-602**		--	--	--	--	--	--	--	--
	16TS	TME	Seawater	**3106-603**		--	--	--	--	--	--	--	--
Field Duplicates													
AMB07-031	PS08	TME	Seawater	**3106-504**	06/21/11	29.3	2.31	0.000742	1.11	0.0042 Ub	6.85 Jb	0.0636 b	0.174 b
AMB07-036	PS08DUP	TME	Seawater	**3106-506**	06/21/11	--	--	0.000720	1.13	0.0042 Ub	10.3 b	0.0660 b	0.155 b
					Mean			**0.000731**	**1.12**	**0.0042** Ub	**8.59**	**0.0648 b**	**0.165 b**
					RPD			**3.1%**	**1.8%**	**NA**	**41%**	**3.7%**	**12%**
AMB07-031	PS08	DME	Seawater	**3106-505**	06/21/11	--	--	0.000352	--	0.0042 Ub	2.14 Ub	0.0612 b	0.161 b
AMB07-036	PS08DUP	DME	Seawater	**3106-507**	06/21/11	--	--	0.000332	--	0.0042 Ub	2.14 Ub	0.0627 b	0.132 b
					Mean			**0.000342**	--	**0.0042** Ub	**2.14** Ub	**0.0619 b**	**0.147 b**
					RPD			**6.0%**	--	**NA**	**NA**	**2.4%**	**20%**
AMB07-067	PS01	TME	Seawater	**3106-520**	06/21/11	28.5	1.38	0.00141	1.21	0.00626 Jb	6.47 Jb	0.0604 b	0.132 b
AMB07-072	PS01DUP	TME	Seawater	**3106-522**	06/21/11	--	--	0.00171	1.27	0.00673 Jb	5.80 Jb	0.0612 b	0.455 b
					Mean			**0.001561**	**1.24**	**0.0065** Jb	**6.13**	**0.0608 b**	**0.294 b**
					RPD			**19%**	**4.8%**	**7.2%**	**11%**	**1.3%**	**110%**
AMB07-067	PS01	DME	Seawater	**3106-521**	06/21/11	--	--	0.000812	--	0.00443 Jb	2.14 Ub	0.0587 b	0.197 b
AMB07-072	PS01DUP	DME	Seawater	**3106-523**	06/21/11	--	--	0.00104	--	0.00529 Jb	2.14 Ub	0.0596 b	0.271 b
					Mean			**0.000927**	--	**0.0049** Jb	**2.14** Ub	**0.0591 b**	**0.234 b**
					RPD			**25%**	--	**18%**	**NA**	**1.5%**	**32%**
AMB07-280	SN10	TME	Seawater	**3106-576**	06/22/11	28.6	3.81	0.000693	0.978	0.0042 Ub	16.0 b	0.0642 b	0.303 b
AMB07-285	SN10 DUP	TME	Seawater	**3106-578**	06/22/11	--	--	0.000651	0.954	0.0042 Ub	13.5 b	0.0613 b	0.337 b
					Mean			**0.000672**	**0.966**	**0.0042** Ub	**14.8**	**0.0628 b**	**0.320 b**
					RPD			**6.3%**	**2.5%**	**NA**	**17%**	**4.6%**	**11%**
AMB07-280	SN10	DME	Seawater	**3106-577**	06/22/11	--	--	0.000384	--	0.0042 Ub	2.14 Ub	0.0602 b	0.170 b
AMB07-285	SN10 DUP	DME	Seawater	**3106-579**	06/22/11	--	--	0.000383	--	0.0042 Ub	2.14 Ub	0.0569 b	0.168 b
					Mean			**0.000383**	--	**0.0042** Ub	**2.14**	**0.0586 b**	**0.169 b**
					RPD			**0.3%**	--	**NA**	**NA**	**5.6%**	**1.2%**
AMB07-286	SN11	TME	Seawater	**3106-580**	06/22/11	26.0	4.82	0.00125	1.04	0.0042 Ub	51.5 b	0.0515 b	0.699 b
AMB07-291	SN11 DUP	TME	Seawater	**3106-582**	06/22/11	23.7	5.12	0.000934	1.02	0.0042 Ub	40.5 b	0.0539 b	0.370 b
					Mean			**0.001090**	**1.03**	**0.0042** Ub	**46.03**	**0.0527 b**	**0.535 b**
					RPD			**29%**	**1.9%**	**NA**	**24%**	**4.6%**	**62%**
AMB07-286	SN11	DME	Seawater	**3106-581**	06/22/11	--	--	0.000471	--	0.0042 Ub	5.47 Jb	0.0479 b	0.281 b
AMB07-291	SN11 DUP	DME	Seawater	**3106-583**	06/22/11	--	--	0.000418	--	0.0042 Ub	2.59 Jb	0.0495 b	0.237 b
					Mean			**0.000445**	--	**0.0042** Ub	**4.03 Jb**	**0.0487 b**	**0.259 b**
					RPD			**12%**	--	**NA**	**72%**	**3.3%**	**17%**

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1529 West Sequim Bay Road
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360/681-4564

Ambient Monitoring - AMB07
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0351**	**0.0254**	**0.0019**	**0.0263**					
Seawater Reporting Limit (MDL* 3.18)					**0.11**	**0.081**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					0.0053	0.0042	0.0022	0.02					
Freshwater Reporting Limit (MDL* 3.18)					0.017	0.013	0.0070	0.06					
AMB07-001	PS07	TME	Seawater	**3106-492B**	2.25 b	0.561 b	0.0826 b	6.15 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-001	PS07	DME	Seawater	**3106-493**	1.68 b	0.512 b	0.0203 b	5.64 b	062711HGA		071511-6100		
AMB07-006	PS06	TME	Seawater	**3106-494**	1.96 b	0.576 b	0.0950 b	5.55 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-006	PS06	DME	Seawater	**3106-495**	1.35 b	0.521 b	0.0189 b	4.81 b	062711HGA		071511-6100		
AMB07-011	PS14	TME	Seawater	**3106-496**	0.889 b	0.508 b	0.0608 b	1.40 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-011	PS14	DME	Seawater	**3106-497**	0.753 b	0.519 b	0.0216 b	1.26 b	062711HGA		071511-6100		
AMB07-016	PS03	TME	Seawater	**3106-498**	2.08 b	1.04 b	0.132 b	4.40 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-016	PS03	DME	Seawater	**3106-499**	1.43 b	0.447 b	0.0212 b	3.21 b	062711HGA		071511-6100		
AMB07-021	PS04	TME	Seawater	**3106-500**	1.41 b	0.546 b	0.0682 b	3.36 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-021	PS04	DME	Seawater	**3106-501**	1.05 b	0.444 b	0.0168 b	2.79 b	062711HGA		071511-6100		
AMB07-026	PS05	TME	Seawater	**3106-502**	2.05 b	0.682 b	0.0787 b	6.70 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-026	PS05	DME	Seawater	**3106-503**	1.45 b	0.514 b	0.0166 b	5.69 b	062711HGA		071511-6100		
AMB07-031	PS08	TME	Seawater	**3106-504**	2.41 b	0.502 b	0.0634 b	6.40 b	062711HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-031	PS08	DME	Seawater	**3106-505**	1.83 b	0.886 b	0.0204 b	5.54 b	062711HGA		071511-6100		
AMB07-036	PS08DUP	TME	Seawater	**3106-506**	2.02 b	1.25 b	0.0822 b	4.02 b	062711HGA	F070711A	081111-6100	--	--
AMB07-036	PS08DUP	DME	Seawater	**3106-507**	1.49 b	0.502 b	0.0250 b	3.49 b	062711HGA		081111-6100		
AMB07-037	PS15	TME	Seawater	**3106-508**	1.55 b	0.499 b	0.0621 b	4.52 b	062711HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-037	PS15	DME	Seawater	**3106-509**	1.44 b	0.793 b	0.0200 b	4.31 b	062711HGA		081111-6100		
AMB07-042	PS09	TME	Seawater	**3106-510**	1.57 b	0.765 b	0.0854 b	8.76 b	062811HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-042	PS09	DME	Seawater	**3106-511**	1.34 b	0.924 b	0.0239 b	8.21 b	062811HGA		081111-6100		
AMB07-047	PS10	TME	Seawater	**3106-512**	1.58 b	1.89 b	0.250 b	5.16 b	062811HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-047	PS10	DME	Seawater	**3106-513**	0.672 b	0.506 b	0.0250 b	4.12 b	062811HGA		081111-6100		
AMB07-052	PS10.1	TME	Seawater	**3106-514**	1.66 b	0.706 b	0.0654 b	6.63 b	062811HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-052	PS10.1	DME	Seawater	**3106-515**	1.26 b	0.452 b	0.0123 b	6.15 b	062811HGA		081111-6100		
AMB07-057	PS11	TME	Seawater	**3106-516**	1.22 b	0.435 b	0.0658 b	2.83 b	062811HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-057	PS11	DME	Seawater	**3106-517**	0.937 b	0.409 b	0.0169 b	2.49 b	062811HGA		081111-6100		
AMB07-062	PS16	TME	Seawater	**3106-518**	1.30 b	1.69 b	0.0666 b	3.83 b	062811HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-062	PS16	DME	Seawater	**3106-519**	0.927 b	0.717 b	0.0223 b	3.37 b	062811HGA		081111-6100		
AMB07-067	PS01	TME	Seawater	**3106-520**	1.37 b	0.611 b	0.0674 b	2.49 b	062811HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-067	PS01	DME	Seawater	**3106-521**	1.12 b	1.32 b	0.0342 b	1.92 b	062811HGA		081111-6100		
AMB07-072	PS01DUP	TME	Seawater	**3106-522**	1.38 b	1.45 b	0.0649 b	2.56 b	062811HGA	F070711A	081111-6100	--	--
AMB07-072	PS01DUP	DME	Seawater	**3106-523**	1.72 b	2.15 b	0.0216 b	2.19 b	062811HGA		081111-6100		
AMB07-073	PS02	TME	Seawater	**3106-524**	1.76 b	0.854 b	0.0634 b	2.95 b	062811HGA	F070711A	082511-6100	062211osal	062211TSS
AMB07-073	PS02	DME	Seawater	**3106-525**	1.47 b	2.08 b	0.0355 b	2.67 b	062811HGA		082511-6100		
AMB07-078	PS13	TME	Seawater	**3106-526**	1.91 b	0.444 b	0.0556 b	3.19 b	062811HGA	F070711A	082511-6100	062211osal	062211TSS

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Ambient Monitoring - AMB07
ENVVEST June 2011
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UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB07-078	PS13	DME	Seawater	**3106-527**	1.88 b	1.63 b	0.0279 b	2.97 b	062811HGA		082511-6100		
AMB07-084	M4	TME	Seawater	**3106-528**	0.903 b	1.21 b	0.0871 b	1.37 b	062911HGA	F070711A	071511-6100	062211osal	062211TSS
AMB07-084	M4	DME	Seawater	**3106-529**	0.666 b	0.508 b	0.0212 b	0.964 b	062911HGA		071511-6100		
AMB07-088	BJ-EST	TME	Seawater	**3106-530**	0.789 b	0.444 b	0.0628 b	1.23 b	062911HGA	F070711A	082511-6100	062211osal	062211TSS
AMB07-088	BJ-EST	DME	Seawater	**3106-531**	1.45 b	1.11 b	0.0203 b	0.948 bB	062911HGA		082511-6100		
AMB07-093	M3.1	TME	Seawater	**3106-532**	0.606 b	2.04 b	0.0790 b	0.684 b	062911HGA	F070711A	081111-6100	062211osal	062211TSS
AMB07-093	M3.1	DME	Seawater	**3106-533**	0.907 b	1.92 b	0.0189 b	0.488 b	062911HGA		081111-6100		
AMB07-098	M3.1DEEP	TME	Seawater	**3106-534**	2.27 b	0.570 b	0.103 b	1.70 b	062911HGA	F070711A	082511-6100	062211osal	062211TSS
AMB07-098	M3.1DEEP	DME	Seawater	**3106-535**	0.414 b	0.364 b	0.0260 b	0.575 bB	062911HGA		082511-6100		
AMB07-103	PS12	TME	Seawater	**3106-536**	1.38 b	0.944 b	0.246 b	3.18 b	062911HGA	F070711A	082511-6100	062211osal	062211TSS
AMB07-103	PS12	DME	Seawater	**3106-537**	0.914 b	0.529 b	0.0373 b	2.75 b	062911HGA		082511-6100		
AMB07DD-001	OF021	TME	Freshwater	**3106-538**	3.15	1.46	0.160	2.63	062911HGA	F070711A	062911-6100	--	062211TSS
AMB07DD-001	OF021	DME	Freshwater	**3106-539**	2.46	0.982	0.0694	2.47	062911HGA		062911-6100		
AMB07DD-007	OF019	TME	Seawater	**3106-540**	5.03 b	16.9 b	0.398 b	28.8 b	062911HGA	F070711A	082511-6100	--	062211TSS
AMB07DD-007	OF019	DME	Seawater	**3106-541**	2.14 b	7.73 b	0.0449 b	17.4 b	062911HGA		082511-6100		
AMB07DD-013	OF018A	TME	Seawater	**3106-542**	5.16 b	1.47 b	0.218 b	34.9 b	062911HGA	F070711A	082511-6100	--	062211TSS
AMB07DD-013	OF018A	DME	Seawater	**3106-543**	3.20 b	1.36 b	0.0205 b	31.5 b	062911HGA		082511-6100		
AMB07-200	M6	TME	Seawater	**3106-544**	0.807 b	1.38 b	0.132 b	0.784 bB	062911HGA	F070711A	082511-6100	062311osal	062311TSS
AMB07-200	M6	DME	Seawater	**3106-545**	0.415 b	0.461 b	0.0545 b	0.621 bB	062911HGA		082511-6100		
AMB07-205	M8	TME	Seawater	**3106-546**	0.829 b	1.15 b	0.149 b	0.870 bB	063011HGA	F070711A	082511-6100	062311osal	062311TSS
AMB07-205	M8	DME	Seawater	**3106-547**	0.413 b	0.373 b	0.0353 b	0.606 bB	063011HGA		082511-6100		
AMB07-210	M7	TME	Seawater	**3106-548**	0.544 b	0.560 b	0.0532 b	0.589 bB	063011HGA	F070711A	082511-6100	062311osal	062311TSS
AMB07-210	M7	DME	Seawater	**3106-549**	0.680 b	0.443 b	0.0230 b	0.566 bB	063011HGA		082511-6100		
AMB07-215	DYOTS	TME	Seawater	**3106-550**	0.640 b	0.612 b	0.103 b	0.531 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-215	DYOTS	DME	Seawater	**3106-551**	0.454 b	0.416 b	0.0196 b	0.263 bB	063011HGA		083111-6100		
AMB07-220	PWNLP	TME	Seawater	**3106-552**	0.694 b	0.809 b	0.0723 b	0.755 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-220	PWNLP	DME	Seawater	**3106-553**	0.468 b	0.416 b	0.0250 b	0.530 bB	063011HGA		083111-6100		
AMB07-225	WP	TME	Seawater	**3106-554**	0.749 b	0.675 b	0.104 b	0.965 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-225	WP	DME	Seawater	**3106-555**	0.496 b	0.475 b	0.0154 b	0.530 bB	063011HGA		083111-6100		
AMB07-230	M2 SURFACE	TME	Seawater	**3106-556**	0.650 b	0.703 b	0.0644 b	0.754 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-230	M2 SURFACE	DME	Seawater	**3106-557**	0.408 b	0.394 b	0.00555 Jb	0.335 bB	063011HGA		083111-6100		
AMB07-235	M2 DEEP	TME	Seawater	**3106-558**	0.517 b	0.507 b	0.0432 b	0.418 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-235	M2 DEEP	DME	Seawater	**3106-559**	0.368 b	0.348 b	0.00439 Jb	0.285 bB	063011HGA		083111-6100		
AMB07-240	CLMBAY	TME	Seawater	**3106-560**	0.777 b	1.91 b	0.0494 b	0.620 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-240	CLMBAY	DME	Seawater	**3106-561**	0.480 b	0.432 b	0.00719 b	0.428 bB	063011HGA		083111-6100		
AMB07-245	ILSP	TME	Seawater	**3106-562**	0.644 b	0.605 b	0.0469 b	0.600 bB	063011HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-245	ILSP	DME	Seawater	**3106-563**	1.40 b	3.92 b	0.0458 b	0.342 bB	063011HGA		083111-6100		
AMB07-250	M1 SURFACE	TME	Seawater	**3106-564**	0.719 b	0.774 b	0.0491 b	0.467 bB	070111HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-250	M1 SURFACE	DME	Seawater	**3106-565**	0.476 b	0.395 b	0.0101 b	0.324 bB	070111HGA		083111-6100		

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB07-255	M1 DEEP	TME	Seawater	**3106-566**	0.707 b	0.875 b	0.0463 b	0.520 bB	070111HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-255	M1 DEEP	DME	Seawater	**3106-567**	0.471 b	0.580 b	0.00646 b	0.311 bB	070111HGA		083111-6100		
AMB07-260	BM01	TME	Seawater	**3106-568**	0.808 b	0.507 b	0.0918 b	1.06 b	070111HGA	F070711A	083111-6100	062311osal	062311TSS
AMB07-260	BM01	DME	Seawater	**3106-569**	0.523 b	0.409 b	0.0163 b	0.827 bB	070111HGA		083111-6100		
AMB07-265	SN03	TME	Seawater	**3106-570**	1.04 b	1.41 b	0.124 b	1.08 b	070111HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-265	SN03	DME	Seawater	**3106-571**	0.663 b	0.389 b	0.0142 b	0.424 bB	070111HGA		090211-6100		
AMB07-270	SN05	TME	Seawater	**3106-572**	1.21 b	0.833 b	0.228 b	1.31 b	070111HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-270	SN05	DME	Seawater	**3106-573**	0.743 b	0.495 b	0.0274 b	0.618 bB	070111HGA		090211-6100		
AMB07-275	SN08	TME	Seawater	**3106-574**	1.11 b	0.697 b	0.187 b	1.43 b	070111HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-275	SN08	DME	Seawater	**3106-575**	0.688 b	0.497 b	0.0191 b	0.578 bB	070111HGA		090211-6100		
AMB07-280	SN10	TME	Seawater	**3106-576**	1.16 b	1.61 b	0.0786 b	1.77 b	070111HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-280	SN10	DME	Seawater	**3106-577**	0.835 b	0.427 b	0.0166 b	0.931 b	070111HGA		090211-6100		
AMB07-285	SN10 DUP	TME	Seawater	**3106-578**	1.19 b	2.45 b	0.0823 b	1.88 b	070111HGA	F070711A	090211-6100	--	--
AMB07-285	SN10 DUP	DME	Seawater	**3106-579**	0.870 b	0.439 b	0.0255 b	0.961 b	070111HGA		090211-6100		
AMB07-286	SN11	TME	Seawater	**3106-580**	1.25 b	3.09 b	0.133 b	1.89 b	070511HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-286	SN11	DME	Seawater	**3106-581**	0.813 b	0.497 b	0.0119 b	0.874 bB	070511HGA		090211-6100		
AMB07-291	SN11 DUP	TME	Seawater	**3106-582**	1.05 b	0.769 b	0.112 b	1.83 b	070511HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-291	SN11 DUP	DME	Seawater	**3106-583**	0.835 b	0.574 b	0.0367 b	0.911 b	070511HGA		090211-6100		
AMB07-296	M3.3	TME	Seawater	**3106-584**	1.03 b	1.74 b	0.134 b	1.29 b	070511HGA	F070711A	090211-6100	062311osal	062311TSS
AMB07-296	M3.3	DME	Seawater	**3106-585**	0.787 b	1.10 b	0.0236 b	0.487 bB	070511HGA		090211-6100		
Equipment Blanks													
AMB07-301	EB01-T	TME	Freshwater	**3106-586**	0.0151 J	0.0129 J	0.0022 U	0.273	070511HGA	F070711A	062911-6100		
AMB07-301	EB01-D	DME	Freshwater	**3106-587**	0.0053 U	0.00752 J	0.0022 U	0.0610 J	070511HGA		062911-6100		
AMB07-302	EB02-T	TME	Freshwater	**3106-588**	0.0053 U	0.00934 J	0.0022 U	0.147	070511HGA	F070711A	062911-6100		
AMB07-302	EB02-D	DME	Freshwater	**3106-589**	0.0053 U	0.0307	0.0022 U	0.397	070511HGA		062911-6100		
Intercomparison													
	1A	TME	Seawater	**3106-590**	3.76 b	--	--	--	--	--	073111-6100		
	1B	TME	Seawater	**3106-591**	6.96 b	--	--	--	--	--	073111-6100		
	1C	TME	Seawater	**3106-592**	10.9 b	--	--	--	--	--	073111-6100		
	1D	TME	Seawater	**3106-593**	18.0 b	--	--	--	--	--	073111-6100		
	1DS	DME	Seawater	**3106-594**	2.09 b	--	--	--	--	--	073111-6100		
	1TS	TME	Seawater	**3106-595**	2.73 b	--	--	--	--	--	073111-6100		
	9DS	DME	Seawater	**3106-596**	3.96 b	--	--	--	--	--	073111-6100		
	9TS	TME	Seawater	**3106-597**	6.64 b	--	--	--	--	--	073111-6100		
	10A	TME	Seawater	**3106-598**	7.95 b	--	--	--	--	--	073111-6100		
	10B	TME	Seawater	**3106-599**	9.87 b	--	--	--	--	--	073111-6100		
	10C	TME	Seawater	**3106-600**	15.6 b	--	--	--	--	--	073111-6100		
	10D	TME	Seawater	**3106-601**	22.4 b	--	--	--	--	--	073111-6100		

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB07
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*					
	16DS	DME	Seawater	**3106-602**	9.64 b	--	--	--	--	--	073111-6100		
	16TS	TME	Seawater	**3106-603**	12.2 b	--	--	--	--	--	073111-6100		
Field Duplicates													
AMB07-031	PS08	TME	Seawater	**3106-504**	2.41 b	0.502 b	0.0634 b	6.40 b	062711HGA	F070711A	071511-6100		
AMB07-036	PS08DUP	TME	Seawater	**3106-506**	2.02 b	1.25 b	0.0822 b	4.02 b	062711HGA	F070711A	081111-6100		
					2.22 b	**0.878 b**	**0.0728 b**	**5.21 b**					
					18%	**86%**	**26%**	**46%**					
AMB07-031	PS08	DME	Seawater	**3106-505**	1.83 b	0.886 b	0.0204 b	5.54 b	062711HGA		071511-6100		
AMB07-036	PS08DUP	DME	Seawater	**3106-507**	1.49 b	0.502 b	0.0250 b	3.49 b	062711HGA		081111-6100		
					1.66 b	**0.694 b**	**0.0227 b**	**4.52 b**					
					21%	**55%**	**21%**	**45%**					
AMB07-067	PS01	TME	Seawater	**3106-520**	1.37 b	0.611 b	0.0674 b	2.49 b	062811HGA	F070711A	081111-6100		
AMB07-072	PS01DUP	TME	Seawater	**3106-522**	1.38 b	1.45 b	0.0649 b	2.56 b	062811HGA	F070711A	081111-6100		
					1.37 b	**1.03 b**	**0.0662 b**	**2.53 b**					
					0.7%	**82%**	**3.8%**	**2.8%**					
AMB07-067	PS01	DME	Seawater	**3106-521**	1.12 b	1.32 b	0.0342 b	1.92 b	062811HGA		081111-6100		
AMB07-072	PS01DUP	DME	Seawater	**3106-523**	1.72 b	2.15 b	0.0216 b	2.19 b	062811HGA		081111-6100		
					1.42 b	**1.74 b**	**0.0279 b**	**2.06 b**					
					42%	**48%**	**45%**	**13%**					
AMB07-280	SN10	TME	Seawater	**3106-576**	1.16 b	1.61 b	0.0786 b	1.77 b	070111HGA	F070711A	090211-6100		
AMB07-285	SN10 DUP	TME	Seawater	**3106-578**	1.19 b	2.45 b	0.0823 b	1.88 b	070111HGA	F070711A	090211-6100		
					1.17 b	**2.03 b**	**0.0805 b**	**1.83 b**					
					2.6%	**41%**	**4.6%**	**6.0%**					
AMB07-280	SN10	DME	Seawater	**3106-577**	0.835 b	0.427 b	0.0166 b	0.931 b	070111HGA		090211-6100		
AMB07-285	SN10 DUP	DME	Seawater	**3106-579**	0.870 b	0.439 b	0.0255 b	0.961 b	070111HGA		090211-6100		
					0.852 b	**0.433 b**	**0.0211 b**	**0.946 b**					
					4.1%	**2.8%**	**42%**	**3.2%**					
AMB07-286	SN11	TME	Seawater	**3106-580**	1.25 b	3.09 b	0.133 b	1.89 b	070511HGA	F070711A	090211-6100		
AMB07-291	SN11 DUP	TME	Seawater	**3106-582**	1.05 b	0.769 b	0.112 b	1.83 b	070511HGA	F070711A	090211-6100		
					1.15 b	**1.93 b**	**0.122 b**	**1.86 b**					
					17%	**120%**	**17%**	**3.2%**					
AMB07-286	SN11	DME	Seawater	**3106-581**	0.813 b	0.497 b	0.0119 b	0.874 b	070511HGA		090211-6100		
AMB07-291	SN11 DUP	DME	Seawater	**3106-583**	0.835 b	0.574 b	0.0367 b	0.911 b	070511HGA		090211-6100		
					0.824 b	**0.535 b**	**0.0243 b**	**0.893 b**					
					2.7%	**14%**	**102%**	**4.1%**					

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Ambient Monitoring - AMB07
QC Sample Results for ICP-MS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
TRM_BLK1	TME	Freshwater		TRMblk1_062911	0.0032 U	0.236 J	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.0516 J	062911-6100
MB	TME	Seawater		DIBlk1_071511 r2	0.000 U	0.377 U	0.00030 U	0.0434 J	0.0498 J	0.0109 U	0.00145 U	0.0720 J	071511-6100
MB	TME	Seawater		DIBlk1_071511 r3	0.000 U	0.294 U	0.00002 U	0.0440 J	0.0422 J	0.0055 U	0.00146 U	0.0742 J	071511-6100
MB	TME	Seawater		DIBlk1_071511 r4	0.000 U	0.389 U	0.00011 U	0.0412 J	0.0455 J	0.0086 U	0.00108 U	0.0821 J	071511-6100
MEAN REAGENT BLANK		Seawater		***BMRB_071511***	**0.000** U	**0.353** U	**0.0001** U	**0.0429** J	**0.0458** J	**0.00834** U	**0.00133** U	**0.0761** J	
MB	TME	Seawater		DIBlk_073111r1	--	--	--	--	0.0507 J	--	--	--	073111-6100
MB	TME	Seawater		DIBlk_073111r2	--	--	--	--	0.0808 J	--	--	--	073111-6100
MB	TME	Seawater		DIBlk_073111r3	--	--	--	--	0.0188 J	--	--	--	073111-6100
MEAN REAGENT BLANK		Seawater		***BMRB_073111***	--	--	--	--	**0.0501** J	--	--	--	
MB	TME	Seawater		DIBlk_081111r1	0.001 U	0.357 U	0.00045 U	0.0878 J	0.0962 J	0.0244 U	0.00131 U	0.0806 J	081111-6100
MB	TME	Seawater		DIBlk_081111r2	0.000 U	0.365 U	0.00000 U	0.0888 J	0.0936 J	0.0210 U	0.00106 U	0.0818 J	081111-6100
MB	TME	Seawater		DIBlk_081111r3	0.000 U	0.420 U	0.00130 J	0.0949	0.114 J	0.0412 J	0.00080 U	0.0905	081111-6100
MB	TME	Seawater		DIBlk_081111r4	0.000 U	0.309 U	0.00079 U	0.0881 J	0.109 J	0.0193 U	0.00111 U	0.143	081111-6100
MEAN REAGENT BLANK		Seawater		***BMRB_081111***	**0.000** U	**0.363** U	**0.0006** U	**0.0899** J	**0.103** J	**0.0265** J	**0.0011** U	**0.0990**	
MB	TME	Seawater		DIBlk_082511r1	0.000 U	0.393 U	0.00012 U	0.0340 J	0.0829 J	0.0174 U	0.00109 U	0.0908	082511-6100
MB	TME	Seawater		DIBlk_082511r2	0.000 U	0.379 U	0.00000 U	0.0440 J	0.0823 J	0.0197 U	0.00124 U	0.117	082511-6100
MB	TME	Seawater		DIBlk_082511r3	0.000 U	0.370 U	0.00000 U	0.0427 J	0.0909 J	0.0157 U	0.00219 J	0.0877	082511-6100
MB	TME	Seawater		DIBlk_082511r4	0.000 U	0.441 U	0.00062 U	0.0369 J	0.0828 J	0.0163 U	0.00155 U	0.113	082511-6100
MEAN REAGENT BLANK		Seawater		***BMRB_082511***	**0.000** U	**0.396** U	**0.0002** U	**0.0394** J	**0.0847** J	**0.0173** U	**0.0015** U	**0.102**	
MB	TME	Seawater		DIBlk_083111r1	0.000 U	0.356 U	0.00102 U	0.0834 J	0.0268 U	0.0136 U	0.00055 U	0.0959	083111-6100
MB	TME	Seawater		DIBlk_083111r2	0.000 U	0.345 U	0.00147 J	0.0734 J	0.0271 U	0.0180 U	0.00093 U	0.0914	083111-6100
MB	TME	Seawater		DIBlk_083111r3	0.000 U	0.380 U	0.00006 U	0.0759 J	0.0337 U	0.0113 U	0.00094 U	0.126	083111-6100
MB	TME	Seawater		DIBlk_083111r4	0.001 U	0.378 U	0.00064 U	0.0786 J	0.0261 U	0.0095 U	0.00066 U	0.106	083111-6100
MEAN REAGENT BLANK		Seawater		***BMRB_083111***	**0.000** U	**0.365** U	**0.0008** U	**0.0778** J	**0.0284** U	**0.0131** U	**0.0008** U	**0.105**	
MB	TME	Seawater		DIBlk_090211r1	0.000 U	0.371 U	0.00000 U	0.0325 J	0.0428 J	0.0146 U	0.00120 U	0.135	090211-6100
MB	TME	Seawater		DIBlk_090211r2	0.000 U	0.361 U	0.00000 U	0.0400 J	0.0373 J	0.0439 J	0.00122 U	0.0987	090211-6100
MB	TME	Seawater		DIBlk_090211r3	0.000 U	0.398 U	0.00008 U	0.0157 U	0.0530 J	0.0155 U	0.00109 U	0.0834 J	090211-6100
MB	TME	Seawater		DIBlk_090211r4	0.000 U	0.363 U	0.00000 U	0.0264 U	0.0446 J	0.0153 U	0.00152 U	0.0781 J	090211-6100
MEAN REAGENT BLANK		Seawater		***BMRB_090211***	**0.000** U	**0.373** U	**0.0000** U	**0.0287** U	**0.0444** J	**0.0223** U	**0.0013** U	**0.0988**	

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Ambient Monitoring - AMB07
QC Sample Results for ICP-MS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	TRMblk1_062911	0.0032 U	0.236 J	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.0516 J	062911-6100
LCS		TME	Freshwater	TRM_LCS_062911	2.04	2.31	2.03	1.97	2.08	2.06	2.09	2.16	062911-6100
				Percent Recovery, LCS	**102%**	**104%**	**102%**	**99%**	**104%**	**103%**	**105%**	**105%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_071511	0.0042 Ub	2.14 Ub	0.0711 b	0.116 b	0.217 b	0.338 b	0.0012 b	0.289 b	071511-6100
LCS		TME	Seawater	SBLCS-r1_071511	1.72 b	1.99 b	1.81 b	1.89 b	1.94 b	2.06 b	1.94 b	1.96 b	071511-6100
				Percent Recovery, LCS	**86%**	**99%**	**87%**	**89%**	**86%**	**86%**	**97%**	**84%**	
Spiking Level					--	--	--	--	**2**	--	--	--	
LCS Blank		TME	Seawater	SBBlk_73111r1	--	--	--	--	0.273 b	--	--	--	073111-6100
LCS		TME	Seawater	SBLCS_073111r1	--	--	--	--	2.18 b	--	--	--	073111-6100
				Percent Recovery, LCS	--	--	--	--	**95%**	--	--	--	
Spiking Level					--	--	--	--	**2**	--	--	--	
LCS Blank		TME	Seawater	SBBlk_73111r2	--	--	--	--	0.230 b	--	--	--	073111-6100
LCS		TME	Seawater	SBLCS_073111r2	--	--	--	--	1.91 b	--	--	--	073111-6100
				Percent Recovery, LCS	--	--	--	--	**84%**	--	--	--	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_081111	0.0042 Ub	2.14 Ub	0.0769 b	0.121 b	0.217 b	0.400 b	0.00255 Jb	0.345 b	081111-6100
LCS		TME	Seawater	SBLCS-r1_081111	1.90 b	2.27 b	2.00 b	2.05 b	2.13 b	2.26 b	2.08 b	2.24 b	081111-6100
				Percent Recovery, LCS	**95%**	**113%**	**96%**	**96%**	**96%**	**93%**	**104%**	**95%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_082511	0.0042 Ub	2.14 Ub	0.0679 b	0.104 b	0.190 b	0.287 b	0.00124 Ub	0.245 b	082511-6100
LCS		TME	Seawater	SBLCS-r1_082511	1.79 b	2.09 b	1.90 b	1.95 b	2.03 b	2.20 b	2.03 b	2.08 b	082511-6100
				Percent Recovery, LCS	**89%**	**105%**	**92%**	**92%**	**92%**	**96%**	**101%**	**92%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_083111	0.0944 b	2.14 Ub	0.0751 b	0.133 b	0.311 b	0.397 b	0.00160 b	0.288 b	083111-6100
LCS		TME	Seawater	SBLCS-r1_083111	1.82 b	2.38 b	1.89 b	2.02 b	2.12 b	2.22 b	1.98 b	2.07 b	083111-6100
				Percent Recovery, LCS	**86%**	**119%**	**91%**	**94%**	**91%**	**91%**	**99%**	**89%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_090211	0.0042 Ub	2.14 Ub	0.0808 b	0.141 b	0.257 b	0.341 b	0.00157 b	0.271 b	090211-6100
LCS		TME	Seawater	SBLCS-r1_090211	1.79 b	2.32 b	1.88 b	2.07 b	2.02 b	2.14 b	2.01 b	2.07 b	090211-6100
				Percent Recovery, LCS	**90%**	**116%**	**90%**	**97%**	**88%**	**90%**	**100%**	**90%**	

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Ambient Monitoring - AMB07
QC Sample Results for ICP-MS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB07DD-001	OF021	DME	Freshwater	3106-539	0.0042 U	8.26	0.0107	0.984	2.46	0.982	0.0694	2.47	062911-6100
MS				3106-539 MS	1.96	10.1	2.08	2.87	4.40	2.88	2.23	4.43	062911-6100
MSD				3106-539 MSD	1.96	10.1	2.11	2.88	4.41	2.89	2.24	4.43	062911-6100
				Spiking Level	2	2	2	2	2	2	2	2	
				Percent Recovery, MS	**98%**	**92%**	**103%**	**94%**	**97%**	**95%**	**108%**	**98%**	
				Percent Recovery, MSD	**98%**	**92%**	**105%**	**95%**	**98%**	**95%**	**109%**	**98%**	
AMB07-084	M4	DME	Seawater	3106-529	0.0042 Ub	2.14 Ub	0.0482 b	0.147 b	0.666 b	0.508 b	0.0212 b	0.964 b	071511-6100
MS				3106-529MS	0.842	4.98	0.895	1.04	1.54	1.36	0.979	1.88	071511-6100
MSD				3106-529MSD	0.911	4.66	0.998	1.13	1.66	1.46	1.07	1.96	071511-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**84%**	**100%**	**85%**	**89%**	**88%**	**85%**	**96%**	**92%**	
				Percent Recovery, MSD	**91%**	**93%**	**95%**	**98%**	**100%**	**95%**	**105%**	**100%**	
AMB07-093	M3.1	DME	Seawater	3106-533	0.0042 Ub	2.14 Ub	0.0661 b	0.229 b	0.907 b	1.92 b	0.0189 b	0.488 b	081111-6100
MS				3106-533 MS	0.891 b	4.57 b	1.01 b	1.09 b	1.71 b	6.45 b	0.983 b	1.32 b	081111-6100
MSD				3106-533 MSD	0.969 b	5.34 b	1.07 b	1.14 b	1.82 b	6.53 b	1.06 b	1.43 b	081111-6100
				Spiking Level	1	5	1	1	1	5	1	1	
				Percent Recovery, MS	**89%**	**91%**	**94%**	**86%**	**80%**	**91%**	**96%**	**83%**	
				Percent Recovery, MSD	**97%**	**107%**	**100%**	**91%**	**91%**	**92%**	**104%**	**94%**	
AMB07-098	M3.1DEEP	DME	Seawater	3106-535	0.0042 Ub	2.14 Ub	0.0578 b	0.120 b	0.414 b	0.364 b	0.0260 b	0.575 b	082511-6100
MS				3106-535 MS	0.865 b	4.40 b	0.948 b	1.04 b	1.33 b	1.30 b	1.04 b	1.49 b	082511-6100
MSD				3106-535 MSD	0.900 b	3.93 b	1.00 b	1.04 b	1.33 b	1.30 b	1.05 b	1.50 b	082511-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**86%**	**88%**	**89%**	**92%**	**91%**	**94%**	**101%**	**91%**	
				Percent Recovery, MSD	**90%**	**79%**	**94%**	**92%**	**91%**	**94%**	**102%**	**92%**	
AMB07-230	M2 SURFACE	DME	Seawater	3106-557	0.0042 Ub	2.14 Ub	0.0658 b	0.117 b	0.408 b	0.394 b	0.00555 Jb	0.335 b	083111-6100
MS				3106-557 MS	0.915 b	4.85 b	0.999 b	1.07 b	1.32 b	1.31 b	1.01 b	1.25 b	083111-6100
MSD				3106-557 MSD	0.953 b	3.70 b	0.994 b	1.10 b	1.40 b	1.40 b	1.05 b	1.29 b	083111-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**91%**	**97%**	**93%**	**96%**	**91%**	**91%**	**100%**	**91%**	
				Percent Recovery, MSD	**95%**	**74%**	**93%**	**99%**	**99%**	**100%**	**104%**	**95%**	
AMB07-296	M3.3	DME	Seawater	3106-585	0.0042 Ub	2.14 Ub	0.0528 b	0.220 b	0.787 b	1.10 b	0.0236 b	0.487 b	090211-6100
MS				3106-585 MS	0.896 b	4.86 b	0.955 b	1.21 b	1.66 b	2.03 b	1.04 b	1.36 b	090211-6100
MSD				3106-585 MSD	0.881 b	5.00 b	0.946 b	1.16 b	1.64 b	1.95 b	1.04 b	1.34 b	090211-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**90%**	**97%**	**90%**	**99%**	**87%**	**93%**	**102%**	**87%**	
				Percent Recovery, MSD	**88%**	**100%**	**89%**	**94%**	**85%**	**85%**	**102%**	**85%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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360/681-4564

Ambient Monitoring - AMB07
QC Sample Results for ICP-MS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB07DD-001	OF021	TME	Freshwater	3106-538	0.0042 U	12.2	0.0139	0.970	3.15	1.46	0.160	2.63	062911-6100
DUP				3106-538 r2	0.0042 U	12.5	0.0117	1.02	3.11	1.46	0.155	2.82	062911-6100
				Mean	*NA*	*12.4*	*0.0128*	*0.995*	*3.13*	*1.46*	*0.158*	*2.73*	
				RPD	NA	**2%**	**17%**	**5%**	**1%**	**0%**	**3%**	**7%**	
AMB07-011	PS14	TME	Seawater	3106-496	0.0042 Ub	9.02 b	0.0583 b	0.159 b	0.889 b	0.508 b	0.0608 b	1.40 b	071511-6100
DUP				3106-496 r2	0.0042 Ub	8.55 b	0.0623 b	0.161 b	0.894 b	0.505 b	0.0629 b	1.52 b	071511-6100
				Mean	*NA*	*8.78 b*	*0.0603 b*	*0.160 b*	*0.892 b*	*0.506 b*	*0.0618 b*	*1.46 b*	
				RPD	NA	**5%**	**7%**	**1%**	**1%**	**1%**	**3%**	**8%**	
AMB07-036	PS08DUP	TME	Seawater	3106-506	0.0042 Ub	10.3 b	0.0660 b	0.155 b	2.02 b	1.25 b	0.0822 b	4.02 b	081111-6100
DUP				3106-506 r2	0.0042 Ub	10.4 b	0.0645 b	0.152 b	2.07 b	1.30 b	0.0824 b	4.08 b	081111-6100
				Mean	*NA*	*10.4 b*	*0.0652 b*	*0.154 b*	*2.04 b*	*1.28 b*	*0.0823 b*	*4.05 b*	
				RPD	NA	**1%**	**2%**	**2%**	**2%**	**4%**	**0%**	**1%**	
AMB07-078	PS13	TME	Seawater	3106-526	0.0042 Ub	3.93 Jb	0.0617 b	0.152 b	1.91 b	0.444 b	0.0556 b	3.19 b	082511-6100
DUP				3106-526 r2	0.0042 Ub	4.01 Jb	0.0585 b	0.166 b	1.94 b	0.482 b	0.0579 b	3.37 b	082511-6100
				Mean	*NA*	*3.97 Jb*	*0.0601 b*	*0.159 b*	*1.92 b*	*0.463 b*	*0.0567 b*	*3.28 b*	
				RPD	NA	**2%**	**5%**	**9%**	**2%**	**8%**	**4%**	**5%**	
AMB07-225	WP	TME	Seawater	3106-554	0.0042 Ub	36.0 b	0.0674 b	0.299 b	0.749 b	0.675 b	0.104 b	0.965 b	083111-6100
DUP				3106-554 r2	0.0042 Ub	35.7 b	0.0689 b	0.317 b	0.762 b	0.707 b	0.104 b	0.925 b	083111-6100
				Mean	*NA*	*35.9 b*	*0.0682 b*	*0.308 b*	*0.755 b*	*0.691 b*	*0.104 b*	*0.945 b*	
				RPD	NA	**1%**	**2%**	**6%**	**2%**	**5%**	**0%**	**4%**	
AMB07-270	SN05	TME	Seawater	3106-572	0.0042 Ub	87.2 b	0.0488 b	0.372 b	1.21 b	0.833 b	0.228 b	1.31 b	090211-6100
				3106-572 r2	0.0042 Ub	93.2 b	0.0522 b	0.393 b	1.27 b	0.920 b	0.241 b	1.39 b	090211-6100
				Mean	*NA*	*90.2 b*	*0.0505 b*	*0.383 b*	*1.24 b*	*0.876 b*	*0.234 b*	*1.35 b*	
				RPD	NA	**7%**	**7%**	**5%**	**5%**	**10%**	**6%**	**6%**	

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB07
QC Sample Results for ICP-MS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		TME	Seawater	CASS-5 071511	0.0042 Ub	2.14 Ub	0.0236 b	0.114 b	0.402 b	0.315 b	0.00927 b	0.676 b	071511-6100
SRM CASS-5		TME	Seawater	CASS-5 073111r1	0.0042 Ub	2.14 Ub	--	--	0.466 b	--	--	--	073111-6100
SRM CASS-5		TME	Seawater	CASS-5 073111r2	0.0042 Ub	2.14 Ub	--	--	0.413 b	--	--	--	073111-6100
SRM CASS-5		TME	Seawater	CASS-5 081111	0.0042 Ub	2.14 Ub	0.0239 b	0.0961 b	0.310 b	0.334 b	0.0116 b	0.647 b	081111-6100
SRM CASS-5		TME	Seawater	CASS-5 082511	0.0042 Ub	2.14 Ub	0.0251 b	0.104 b	0.336 b	0.335 b	0.00988 b	0.592 b	082511-6100
SRM CASS-5		TME	Seawater	CASS-5 083111	0.0042 Ub	2.14 Ub	0.0227 b	0.112 b	0.383 b	0.299 b	0.00889 b	0.575 b	083111-6100
SRM CASS-5		TME	Seawater	CASS-5 090211	0.0042 Ub	2.14 Ub	0.0244 b	0.123 b	0.380 b	0.323 b	0.00974 b	0.582 b	090211-6100
				Certified Value	NC	NC	**0.0215**	**0.106**	**0.38**	**0.33**	**0.011**	**0.719**	
				PD	--	--	**10%**	**8%**	**6%**	**5%**	**16%**	**6%**	
				PD	--	--	--	--	**23%** c	--	--	--	
				PD	--	--	--	--	**9%**	--	--	--	
				PD	--	--	**11%**	**9%**	**18%**	**1%**	**6%**	**10%**	
				PD	--	--	**17%**	**2%**	**12%**	**1%**	**10%**	**18%**	
				PD	--	--	**6%**	**6%**	**1%**	**9%**	**19%**	**20%**	
				PD	--	--	**13%**	**16%**	**0%**	**2%**	**11%**	**19%**	
SRM SLEW-2		TME	Seawater	SLEW-2 071511	0.0042 Ub	2.14 Ub	0.0180 b	0.148 b	1.34 b	0.611 b	0.0201 b	1.08 b	071511-6100
SRM SLEW-2		TME	Seawater	SLEW-2 073111r1	0.0042 Ub	2.14 Ub	--	--	1.40 b	--	--	--	073111-6100
SRM SLEW-2		TME	Seawater	SLEW-2 073111r2	0.0042 Ub	2.14 Ub	--	--	1.33 b	--	--	--	073111-6100
SRM SLEW-2		TME	Seawater	SLEW-2 081111	0.0042 Ub	2.14 Ub	0.0194 b	0.144 b	1.37 b	0.601 b	0.0214 b	1.22 b	081111-6100
SRM SLEW-2		TME	Seawater	SLEW-2 082511	0.0042 Ub	2.14 Ub	0.0210 b	0.135 b	1.40 b	0.626 b	0.0213 b	1.13 b	082511-6100
SRM SLEW-2		TME	Seawater	SLEW-2 083111	0.0042 Ub	2.14 Ub	0.0174 b	0.148 b	1.43 b	0.648 b	0.0204 b	1.14 b	083111-6100
SRM SLEW-2		TME	Seawater	SLEW-2 090211	0.0042 Ub	2.14 Ub	0.0188 b	0.145 b	1.31 b	0.606 b	0.0195 b	1.00 b	090211-6100
				Certified Value	NC	NC	**0.0190**	**0.169**	**1.62**	**0.709**	**0.0270**	**1.10**	
				PD	--	--	**5%**	**12%**	**17%**	**14%**	**26%** c	**1%**	
				PD	--	--	--	--	**14%**	--	--	--	
				PD	--	--	--	--	**18%**	--	--	--	
				PD	--	--	**2%**	**15%**	**16%**	**15%**	**21%** c	**11%**	
				PD	--	--	**11%**	**20%**	**14%**	**12%**	**21%** c	**3%**	
				PD	--	--	**8%**	**12%**	**12%**	**9%**	**24%** c	**3%**	
				PD	--	--	**1%**	**14%**	**19%**	**15%**	**28%** c	**9%**	

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Ambient Monitoring - AMB07
QC Sample Results for ICP-MS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640d		TME	Freshwater	1640_071511	7.12	50.0	23.4	36.2	85.6	25.7	27.3	53.2	071511-6100
SRM 1640d		TME	Freshwater	1640_073111	--	--	--	--	87.5	--	--	--	073111-6100
SRM 1640d		TME	Freshwater	1640_081111	6.85	58.4	23.2	38.2	88.2	28.2	28.1	55.1	081111-6100
SRM 1640d		TME	Freshwater	1640_082511	6.77	55.3	23.1	37.8	88.1	27.8	28.0	57.2	082511-6100
SRM 1640d		TME	Freshwater	1640_083111	6.82	52.6	23.2	36.8	88.4	28.6	28.1	57.5	083111-6100
SRM 1640d		TME	Freshwater	1640_090211	6.78	55.3	23.8	38.3	88.2	27.8	28.3	56.0	090211-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.4**	**27.9**	**53.2**	
				PD	**6.6%**	**3.8%**	**2.7%**	**6.2%**	**0.5%**	**6.2%**	**2.1%**	**0.0%**	
				PD	--	--	--	--	**2.7%**	--	--	--	
				PD	**10.1%**	**12.3%**	**1.8%**	**1.0%**	**3.5%**	**2.9%**	**0.8%**	**3.6%**	
				PD	**11.2%**	**6.3%**	**1.4%**	**2.1%**	**3.4%**	**1.5%**	**0.4%**	**7.5%**	
				PD	**10.5%**	**1.2%**	**1.8%**	**4.7%**	**3.8%**	**4.4%**	**0.8%**	**8.1%**	
				PD	**11.0%**	**6.3%**	**4.4%**	**0.8%**	**3.5%**	**1.5%**	**1.5%**	**5.3%**	
SRM 1640 A		TME	Freshwater	TRM 1640_062911	8.07	52.4	4.03	40.6	87.1	25.3	12.3	55.2	062911-6100
				Certified Value	**8.08**	**53.0**	**4.0**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**0.1%**	**1.1%**	**1.0%**	**0.1%**	**1.6%**	**0.1%**	**1.6%**	**0.8%**	

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Ambient Monitoring - AMB07
QC Sample Results for CVAF
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
METHOD BLANKS						
MB-1	TME		Water	MB1_062411	0.0001 U	062711HGA
MB-2	TME		Water	MB2_062411	0.0001 U	062711HGA
MB-3	TME		Water	MB3_062411	0.0001 U	062711HGA
MB-4	TME		Water	MB1_062711	0.0001 U	062811HGA
MB-5	TME		Water	MB2_062711	0.0001 U	062811HGA
MB-6	TME		Water	MB3_062711	0.0001 U	062811HGA
MB-7	TME		Water	MB1_062811	0.0001 U	062911HGA
MB-8	TME		Water	MB2_062811	0.0001 U	062911HGA
MB-9	TME		Water	MB3_062811	0.0001 U	062911HGA
MB-10	TME		Water	MB1_062911	0.0001 U	063011HGA
MB-11	TME		Water	MB2_062911	0.0001 U	063011HGA
MB-12	TME		Water	MB3_062911	0.0001 U	063011HGA
MB-13	TME		Water	MB1_063011	0.0001 U	070111HGA
MB-14	TME		Water	MB2_063011	0.0001 U	070111HGA
MB-15	TME		Water	MB3_063011	0.0001 U	070111HGA
MB-16	TME		Water	MB1_070111	0.0001 U	070511HGA
MB-17	TME		Water	MB2_070111	0.0001 U	070511HGA
MB-18	TME		Water	MB3_070111	0.0001 U	070511HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 062411 run1	0.00534	062711HGA
LCS (2)	TME		Water	OPR 062411 run2	0.00578	062711HGA
LCS Blank (1)	TME		Water	BLANK 062411	0.000248 J	062711HGA
				Percent Recovery, LCS 1	**103%**	
				Percent Recovery, LCS 2	**112%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 062711 run1	0.00512	062811HGA
LCS (2)	TME		Water	OPR 062711 run2	0.00524	062811HGA
LCS Blank (1)	TME		Water	BLANK 062711	0.000132 J	062811HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**103%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 062811 run1	0.00525	062911HGA
LCS (2)	TME		Water	OPR 062811 run2	0.00514	062911HGA
LCS Blank (1)	TME		Water	BLANK 062811	0.000157 J	062911HGA
				Percent Recovery, LCS 1	**103%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 062911 run1	0.00536	063011HGA
LCS (2)	TME		Water	OPR 062911 run2	0.00526	063011HGA
LCS Blank (1)	TME		Water	BLANK 062911	0.0001 U	063011HGA
				Percent Recovery, LCS 1	**106%**	
				Percent Recovery, LCS 2	**104%**	

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Ambient Monitoring - AMB07
QC Sample Results for CVAF
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 063011 run1	0.00518	070111HGA
LCS (2)		TME	Water	OPR 063011 run2	0.00536	070111HGA
LCS Blank (1)		TME	Water	BLANK 063011	0.000217 J	070111HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**104%**	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 070111 run1	0.00505	070511HGA
LCS (2)		TME	Water	OPR 070111 run2	0.00512	070511HGA
LCS Blank (1)		TME	Water	BLANK 070111	0.0001 U	070511HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**101%**	
MATRIX SPIKE RESULTS						
AMB07-011	PS14	TME	Seawater	3106-496	0.000658	062711HGA
MS				3106-496 MS	0.00800	062711HGA
MSD				3106-496 MSD	0.00793	062711HGA
				Spiking Level, MS	0.00677	
				Spiking Level, MSD	0.00680	
				Percent Recovery, MS	**109%**	
				Percent Recovery, MSD	**107%**	
				RPD	**1.5%**	
AMB07-036	PS08DUP	DME	Seawater	3106-507	0.000332	062711HGA
MS				3106-507 MS	0.00780	062711HGA
MSD				3106-507 MSD	0.00791	062711HGA
				Spiking Level, MS	0.00673	
				Spiking Level, MSD	0.00655	
				Percent Recovery, MS	**111%**	
				Percent Recovery, MSD	**116%**	
				RPD	**4.2%**	
AMB07-047	PS10	DME	Seawater	3106-513	0.000247 J	062811HGA
MS				3106-513 MS	0.00693	062811HGA
MSD				3106-513 MSD	0.00721	062811HGA
				Spiking Level, MS	0.00657	
				Spiking Level, MSD	0.00677	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1.2%**	
AMB07-062	PS16	TME	Seawater	3106-518	0.000657	062811HGA
MS				3106-518 MS	0.00792	062811HGA
MSD				3106-518 MSD	0.00817	062811HGA
				Spiking Level, MS	0.00731	
				Spiking Level, MSD	0.00732	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**103%**	
				RPD	**3.1%**	

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Ambient Monitoring - AMB07
QC Sample Results for CVAF
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB07-093	M3.1	TME	Seawater	3106-532	0.000747	062911HGA
MS				3106-532 MS	0.00677	062911HGA
MSD				3106-532 MSD	0.00688	062911HGA
				Spiking Level, MS	0.00591	
				Spiking Level, MSD	0.00578	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**106%**	
				RPD	**4.1%**	
AMB07DD-007	OF019	DME	Seawater	3106-541	0.000982	062911HGA
MS				3106-541 MS	0.00714	062911HGA
MSD				3106-541 MSD	0.00750	062911HGA
				Spiking Level, MS	0.00607	
				Spiking Level, MSD	0.00611	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**107%**	
				RPD	**4.9%**	
AMB07-205	M8	TME	Seawater	3106-546	0.000920	063011HGA
MS				3106-546 MS	0.00704	063011HGA
MSD				3106-546 MSD	0.00712	063011HGA
				Spiking Level, MS	0.00557	
				Spiking Level, MSD	0.00592	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**105%**	
				RPD	**4.9%**	
AMB07-225	WP	DME	Seawater	3106-555	0.000352	063011HGA
MS				3106-555 MS	0.00696	063011HGA
MSD				3106-555 MSD	0.00639	063011HGA
				Spiking Level, MS	0.00623	
				Spiking Level, MSD	0.00594	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**102%**	
				RPD	**4.3%**	
AMB07-250	M1 SURFACE	TME	Seawater	3106-564	0.000447	070111HGA
MS				3106-564 MS	0.00612	070111HGA
MSD				3106-564 MSD	0.00657	070111HGA
				Spiking Level, MS	0.00570	
				Spiking Level, MSD	0.00583	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**105%**	
				RPD	**5.2%**	
AMB07-260	BM01	DME	Seawater	3106-569	0.000362	070111HGA
MS				3106-569 MS	0.00642	070111HGA
MSD				3106-569 MSD	0.00621	070111HGA
				Spiking Level, MS	0.00599	
				Spiking Level, MSD	0.00576	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.4%**	

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Ambient Monitoring - AMB07
QC Sample Results for CVAF
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB07-296	M3.3	DME	Seawater	3106-585	0.000308 J	070511HGA
MS				3106-585 MS	0.00686	070511HGA
MSD				3106-585 MSD	0.00612	070511HGA
				Spiking Level, MS	0.00614	
				Spiking Level, MSD	0.00610	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**95%**	
				RPD	**12.0%**	
REPLICATE PRECISION						
AMB07-026	PS05	TME	Seawater	3106-502	0.000674	062711HGA
DUP	PS05	TME	Seawater	3106-502 r2	0.000549	062711HGA
				Mean	*0.000611*	
				RPD	**20%**	
AMB07-078	PS13	TME	Seawater	3106-526	0.000644	062811HGA
DUP				3106-526 r2	0.000788	062811HGA
				Mean	*0.000716*	
				RPD	**20%**	
AMB07DD-001	OF021	TME	Freshwater	3106-538	0.00580	062911HGA
DUP				3106-538 r2	0.00561	062911HGA
				Mean	*0.00571*	
				RPD	**3%**	
AMB07-215	DYOTS	TME	Seawater	3106-550	0.000709	063011HGA
DUP				3106-550 r2	0.000801	063011HGA
				Mean	*0.000755*	
				RPD	**12%**	
AMB07-275	SN08	TME	Seawater	3106-574	0.00133	070111HGA
DUP				3106-574 r2	0.00126	070111HGA
				Mean	*0.00129*	
				RPD	**5%**	
AMB07-286	SN11	TME	Seawater	3106-580	0.00126	070511HGA
DUP				3106-580 r2	0.00117	070511HGA
				Mean	*0.00122*	
				RPD	**7%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 062411	1634	062711HGA
SRM 1641 (2)		TME	Freshwater	1641d 062711	1566	062811HGA
SRM 1641 (3)		TME	Freshwater	1641d 062811	1624	062911HGA
SRM 1641 (4)		TME	Freshwater	1641d 062911	1608	063011HGA
SRM 1641 (5)		TME	Freshwater	1641d 063011	1640	070111HGA
SRM 1641 (6)		TME	Freshwater	1641d 070111	1673	070511HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**2.8%**	
	SRM 1641 (2)			**PD**	**1.5%**	
	SRM 1641 (3)			**PD**	**2.1%**	
	SRM 1641 (4)			**PD**	**1.1%**	
	SRM 1641 (5)			**PD**	**3.1%**	
	SRM 1641 (6)			**PD**	**5.2%**	

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Ambient Monitoring - AMB07
QC Sample Results for FIAS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Water	BLANK R1	0.0267 U	F070711A
MB2		TME	Water	BLANK R2	0.0267 U	F070711A
MB3		TME	Water	BLANK R3	0.0267 U	F070711A
Laboratory Control Samples						
Spiking Level					5	
LCS1		TME	Water	LCS 070711R1	5.15	F070711A
LCS2		TME	Water	LCS 070711R2	5.04	F070711A
LCS3		TME	Water	LCS 070711R3	4.89	F070711A
				Percent Recovery, LCS	**103%**	
				Percent Recovery, LCS	**101%**	
				Percent Recovery, LCS	**98%**	
MATRIX SPIKE RESULTS						
AMB07-006	PS06	TME	Seawater	3106-494	1.16	F070711A
MS				3106-494 MS	6.26	F070711A
MSD				3106-494 MSD	6.29	F070711A
				Spiking Level	5	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**103%**	
AMB07-103	PS12	TME	Seawater	3106-536	1.12	F070711A
MS				3106-536 MS	6.11	F070711A
MSD				3106-536 MSD	6.24	F070711A
				Spiking Level	5	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**102%**	
AMB07-270	SN05	TME	Seawater	3106-572	1.04	F070711A
MS				3106-572 MS	5.89	F070711A
MSD				3106-572 MSD	6.00	F070711A
				Spiking Level	5	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**99%**	

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Ambient Monitoring - AMB07
QC Sample Results for FIAS
ENVVEST June 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB07-026	PS05	TME	Seawater	3106-502	1.07	F070711A
DUP				3106-502 r2	1.08	F070711A
				Mean	*1.08*	
				RPD	**2%**	
AMB07-093	M3.1	TME	Seawater	3106-532	1.11	F070711A
DUP				3106-532 r2	1.10	F070711A
				Mean	*1.11*	
				RPD	**1%**	
AMB07-280	SN10	TME	Seawater	3106-576	0.978	F070711A
DUP				3106-576 r2	0.948	F070711A
				Mean	*0.963*	
				RPD	**3%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.02	F070711A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.01	F070711A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	0.994	F070711A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**8%**	
	SRM CASS-4 (2)			**PD**	**9%**	
	SRM CASS-4 (3)			**PD**	**10%**	

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Ambient Monitoring - AMB07
QC Sample Results for Salinity
ENVVEST June 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	Blank 062211r1	0.0 U	PSU	062211osal
MB		TME	Seawater	Blank 062211r2	0.0 U	PSU	062211osal
MB		TME	Seawater	Blank 062211r3	0.0 U	PSU	062211osal
MB		TME	Seawater	Blank 062311r1	0.0 U	PSU	062311osal
MB		TME	Seawater	Blank 062311r2	0.0 U	PSU	062311osal
MB		TME	Seawater	Blank 062311r3	0.0 U	PSU	062311osal
MB		TME	Seawater	Blank 062311r4	0.0 U	PSU	062311osal
REPLICATE PRECISION							
AMB07-098	M3.1DEEP	TME	Seawater	3106-534	29.1	PSU	062211osal
DUP				3106-534 r2	29.1	PSU	062211osal
				Mean	*29.1*	PSU	
				RPD	**0.0%**		
AMB07-047	PS10	TME	Seawater	3106-512	29.0	PSU	062211osal
DUP				3106-512 r2	29.0	PSU	062211osal
				Mean	*29.0*	PSU	
				RPD	**0.0%**		
AMB07-240	CLMBAY	TME	Seawater	3106-560	29.7		062311osal
DUP				3106-560 r2	29.7		062311osal
				Mean	*29.7*	PSU	
				RPD	**0.0%**		
AMB07-296	M3.3	TME	Seawater	3106-584	28.5		062311osal
DUP				3106-584 r2	28.5		062311osal
				Mean	*28.5*	PSU	
				RPD	**0.0%**		
AMB07-291	SN11 DUP	TME	Seawater	3106-582	23.7		062311osal
DUP				3106-582 r2	23.6		062311osal
				Mean	*23.7*	PSU	
				RPD	**0.4%**		

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Ambient Monitoring - AMB07
QC Sample Results for Salinity
ENVVEST June 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water R1	35.5	PSU	062211osal
SRM		TME	Seawater	Copenhagen Water R2	35.0	PSU	062211osal
SRM		TME	Seawater	Copenhagen Water R3	35.3	PSU	062211osal
SRM		TME	Seawater	Copenhagen Water R4	35.3	PSU	062311osal
SRM		TME	Seawater	Copenhagen Water R5	34.9	PSU	062311osal
SRM		TME	Seawater	Copenhagen Water R6	35.1	PSU	062311osal
SRM		TME	Seawater	Copenhagen Water R7	35.1	PSU	062311osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**1.46%**		
	SRM-2			**PD**	**0.03%**		
	SRM-3			**PD**	**0.89%**		
	SRM-4			**PD**	**0.89%**		
	SRM-5			**PD**	**0.26%**		
	SRM-6			**PD**	**0.31%**		
	SRM-7			**PD**	**0.31%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS 062211r1	20.2	PSU	062211osal
LCS-2				LCS 062211r2	20.0	PSU	062211osal
LCS-3				LCS 062211r3	20.0	PSU	062211osal
LCS-4				LCS 062311r1	20.2	PSU	062311osal
LCS-5				LCS 062311r2	20.0	PSU	062311osal
LCS-6				LCS 062311r3	19.9	PSU	062311osal
LCS-7				LCS 062311r4	20.0	PSU	062311osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**101.0%**		
	LCS-2			**% RECOVERY**	**100.0%**		
	LCS-3			**% RECOVERY**	**100.0%**		
	LCS-4			**% RECOVERY**	**101.0%**		
	LCS-5			**% RECOVERY**	**100.0%**		
	LCS-6			**% RECOVERY**	**99.5%**		
	LCS-7			**% RECOVERY**	**100.0%**		

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Ambient Monitoring - AMB07
QC Sample Results for Salinity
ENVVEST June 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				Calibration ICV	50.5	mS	062211osal
CCV-1				Calibration CCV1	50.6	mS	062211osal
CCV-2				Calibration CCV2	50.7	mS	062211osal
CCV-3				Calibration CCV3	50.3	mS	062211osal
CCV-4				Calibration CCV4	50.6	mS	062211osal
CCV-5				Calibration ICV	50.6	mS	062311osal
CCV-6				Calibration CCV6	50.8	mS	062311osal
CCV-7				Calibration CCV7	50.7	mS	062311osal
CCV-8				Calibration CCV8	50.6	mS	062311osal
CCV-9				Calibration CCV9	50.2	mS	062311osal
CCV-10				Calibration CCV10	50.5	mS	062311osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**101%**		
	CCV-1			**% RECOVERY**	**101%**		
	CCV-2			**% RECOVERY**	**101%**		
	CCV-3			**% RECOVERY**	**101%**		
	CCV-4			**% RECOVERY**	**101%**		
	CCV-5			**% RECOVERY**	**101%**		
	CCV-6			**% RECOVERY**	**102%**		
	CCV-7			**% RECOVERY**	**101%**		
	CCV-8			**% RECOVERY**	**101%**		
	CCV-9			**% RECOVERY**	**100%**		
	CCV-10			**% RECOVERY**	**101%**		

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Ambient Monitoring - AMB07
QC Sample Results for TSS
ENVVEST June 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.5*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank062211r1	0.5 U	mg/L	062211TSS
MB2		TME	Seawater	Blank062211r2	0.5 U	mg/L	062211TSS
MB3		TME	Seawater	Blank062311r1	0.5 U	mg/L	062311TSS
MB4		TME	Seawater	Blank062311r2	0.5 U	mg/L	062311TSS
MB5		TME	Seawater	Blank062311r3	0.5 U	mg/L	062311TSS
LABORATORY CONTROL SAMPLES							
LCS-1				LCS062211r1	1022	mg/L	062211TSS
LCS-2				LCS062211r2	1003	mg/L	062211TSS
LCS-3				LCS062211r3	1015	mg/L	062211TSS
LCS-4				LCS062211r4	1032	mg/L	062211TSS
LCS-5				LCS062311r1	976	mg/L	062311TSS
LCS-6				LCS062311r2	968	mg/L	062311TSS
LCS-7				LCS062311r3	986	mg/L	062311TSS
LCS-8				LCS062311r4	966	mg/L	062311TSS
LCS-9				LCS062311r5	957	mg/L	062311TSS
LCS-10				LCS062311r6	982	mg/L	062311TSS
				TRUE VALUE	**1000**	mg/L	
	LCS-1			**% RECOVERY**	**102%**		
	LCS-2			**% RECOVERY**	**100%**		
	LCS-3			**% RECOVERY**	**101%**		
	LCS-4			**% RECOVERY**	**103%**		
	LCS-5			**% RECOVERY**	**98%**		
	LCS-6			**% RECOVERY**	**97%**		
	LCS-7			**% RECOVERY**	**99%**		
	LCS-8			**% RECOVERY**	**97%**		
	LCS-9			**% RECOVERY**	**96%**		
	LCS-10			**% RECOVERY**	**98%**		

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ENVVEST Ambient Monitoring (AMB07)
ENVVEST June 2011
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, June 2011 (AMB07)

PARAMETER: Total and Dissolved Metals – Al, Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Equipment Blanks (DI water matrix)

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 06/21/11 and 06/22/11. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid.

The samples for TSS were stored at 4.0±2°C in low density polyethylene bottles prior to analysis.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	06/21/11 and 06/22/11
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	06/21/11 and 06/22/11
TSS analysis dates	06/22/11 and 06/23/11
CVAF analysis dates (Hg)	06/27/11, 06/28/11, 06/29/11, 06/30/11, 07/01/11, 07/05/11
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	06/29/11
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	07/15/11, 07/31/11, 08/11/11, 08/25/11, 08/31/11, 09/02/11
FIAS analysis date (As)	07/07/11

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0254	0.081
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a

METHODS (cont): precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples such as equipment blanks were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All metal results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and qualified with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Equipment blanks were created by MSL using the same lot of bottles and filter units cleaned for AMB07. They consist of deionized water collected in the Teflon sample bottle (1L) and filtered along with the AMB07 samples to generate both total metal (TME) equipment blanks and dissolved (DME) equipment blanks. The equipment blank samples were analyzed for Hg and As as described above for the seawater. The freshwater matrix of equipment blanks does not require a preconcentration preparation prior to analysis for all other metals by ICP-MS. The preparation method for freshwater is a total recoverable metals (TRM) method described in EPA Method 1640 followed by analyses by ICP-MS as described above.

The TSS samples were analyzed following SM2540D using a gravimetric analysis. The data are reported in units of mg/L.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annual Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annual Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported

J Analyte detected above the MDL, but less than the RL

N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets contingency criterion

b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn. The required preconcentration procedure to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank for the analytical batch. The reagent blank correction takes into consideration the detected blank for each batch and the data should be reported as corrected in order to more accurately represent the Zn concentrations.

The method blanks for the freshwater analytical batches were not detected above the RL.

The method blank for TSS is a glass fiber filter taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion.

Three different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640 (either a or d) demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion.

Two seawater SRMs were analyzed with each batch. The estuarine SRM SLEW-2 and

coastal SRM CASS-5 were prepared with each batch of preconcentrated samples. The certified value for Pb was less than the RL and not appropriate for data validation. The percent differences were also flagged with a “c” indicating they meet the contingency criterion. The seawater SRM was not certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy for these metals. The percent differences were within the QC acceptance criterion for all other metals except one replicate for Cu (23%). Acceptable analytical accuracy for Cu was demonstrated in alternate QC samples.

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-005	PS07-OSAL	OSAL	PS07	3106-492B	WATER	MSL	SALINITY	06/21/11
AMB07-010	PS06-OSAL	OSAL	PS06	3106-494	WATER	MSL	SALINITY	06/21/11
AMB07-015	PS14-OSAL	OSAL	PS14	3106-496	WATER	MSL	SALINITY	06/21/11
AMB07-020	PS03-OSAL	OSAL	PS03	3106-498	WATER	MSL	SALINITY	06/21/11
AMB07-025	PS04-OSAL	OSAL	PS04	3106-500	WATER	MSL	SALINITY	06/21/11
AMB07-030	PS05-OSAL	OSAL	PS05	3106-502	WATER	MSL	SALINITY	06/21/11
AMB07-035	PS08-OSAL	OSAL	PS08	3106-504	WATER	MSL	SALINITY	06/21/11
AMB07-041	PS15-OSAL	OSAL	PS15	3106-508	WATER	MSL	SALINITY	06/21/11
AMB07-046	PS09-OSAL	OSAL	PS09	3106-510	WATER	MSL	SALINITY	06/21/11
AMB07-051	PS10-OSAL	OSAL	PS10	3106-512	WATER	MSL	SALINITY	06/21/11
AMB07-056	PS10.1-OSAL	OSAL	PS10.1	3106-514	WATER	MSL	SALINITY	06/21/11
AMB07-061	PS11-OSAL	OSAL	PS11	3106-516	WATER	MSL	SALINITY	06/21/11
AMB07-066	PS16-OSAL	OSAL	PS16	3106-518	WATER	MSL	SALINITY	06/21/11
AMB07-071	PS01-OSAL	OSAL	PS01	3106-520	WATER	MSL	SALINITY	06/21/11
AMB07-077	PS02-OSAL	OSAL	PS02	3106-524	WATER	MSL	SALINITY	06/21/11
AMB07-082	PS13-OSAL	OSAL	PS13	3106-526	WATER	MSL	SALINITY	06/21/11
AMB07-086	M4-OSAL	OSAL	M4	3106-528	WATER	MSL	SALINITY	06/21/11
AMB07-092	BJ-EST-OSAL	OSAL	BJ-EST	3106-530	WATER	MSL	SALINITY	06/21/11
AMB07-097	M3.1-OSAL	OSAL	M3.1	3106-532	WATER	MSL	SALINITY	06/21/11
AMB07-102	M3.1DEEP-OSAL	OSAL	M3.1DEEP	3106-534	WATER	MSL	SALINITY	06/21/11
AMB07-107	PS12-OSAL	OSAL	PS12	3106-536	WATER	MSL	SALINITY	06/21/11

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-002	PS07-TSS	TSS	PS07	3106-492B	WATER	MSL	TSS/TS	06/21/11
AMB07-007	PS06-TSS	TSS	PS06	3106-494	WATER	MSL	TSS/TS	06/21/11
AMB07-012	PS14-TSS	TSS	PS14	3106-496	WATER	MSL	TSS/TS	06/21/11
AMB07-017	PS03-TSS	TSS	PS03	3106-498	WATER	MSL	TSS/TS	06/21/11
AMB07-022	PS04-TSS	TSS	PS04	3106-500	WATER	MSL	TSS/TS	06/21/11
AMB07-027	PS05-TSS	TSS	PS05	3106-502	WATER	MSL	TSS/TS	06/21/11
AMB07-032	PS08-TSS	TSS	PS08	3106-504	WATER	MSL	TSS/TS	06/21/11
AMB07-038	PS15-TSS	TSS	PS15	3106-508	WATER	MSL	TSS/TS	06/21/11
AMB07-043	PS09-TSS	TSS	PS09	3106-510	WATER	MSL	TSS/TS	06/21/11
AMB07-048	PS10-TSS	TSS	PS10	3106-512	WATER	MSL	TSS/TS	06/21/11
AMB07-053	PS10.1-TSS	TSS	PS10.1	3106-514	WATER	MSL	TSS/TS	06/21/11
AMB07-058	PS11-TSS	TSS	PS11	3106-516	WATER	MSL	TSS/TS	06/21/11
AMB07-063	PS16-TSS	TSS	PS16	3106-518	WATER	MSL	TSS/TS	06/21/11
AMB07-068	PS01-TSS	TSS	PS01	3106-520	WATER	MSL	TSS/TS	06/21/11
AMB07-074	PS02-TSS	TSS	PS02	3106-524	WATER	MSL	TSS/TS	06/21/11
AMB07-079	PS13-TSS	TSS	PS13	3106-526	WATER	MSL	TSS/TS	06/21/11
AMB07-083	M4-TSS	TSS	M4	3106-528	WATER	MSL	TSS/TS	06/21/11
AMB07-089	BJ-EST-TSS	TSS	BJ-EST	3106-530	WATER	MSL	TSS/TS	06/21/11
AMB07-094	M3.1-TSS	TSS	M3.1	3106-532	WATER	MSL	TSS/TS	06/21/11
AMB07-099	M3.1DEEP-TSS	TSS	M3.1DEEP	3106-534	WATER	MSL	TSS/TS	06/21/11
AMB07-104	PS12-TSS	TSS	PS12	3106-536	WATER	MSL	TSS/TS	06/21/11
AMB07DD-002	OF021-TSS	TSS	OF021	3106-538	WATER	MSL	TSS/TS	06/21/11
AMB07DD-008	OF019-TSS	TSS	OF019	3106-540	WATER	MSL	TSS/TS	06/21/11
AMB07DD-014	OF018A-TSS	TSS	OF018A	3106-542	WATER	MSL	TSS/TS	06/21/11

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Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-001	PS07-TME	TME	PS07	3106-492B	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-001	PS07-DME	DME	PS07	3106-493	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-006	PS06-TME	TME	PS06	3106-494	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-006	PS06-DME	DME	PS06	3106-495	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-011	PS14-TME	TME	PS14	3106-496	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-011	PS14-DME	DME	PS14	3106-497	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-016	PS03-TME	TME	PS03	3106-498	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-016	PS03-DME	DME	PS03	3106-499	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-021	PS04-TME	TME	PS04	3106-500	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-021	PS04-DME	DME	PS04	3106-501	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-026	PS05-TME	TME	PS05	3106-502	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-026	PS05-DME	DME	PS05	3106-503	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-031	PS08-TME	TME	PS08	3106-504	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-031	PS08-DME	DME	PS08	3106-505	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-036	PS08DUP-TME	TME	PS08DUP	3106-506	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-036	PS08DUP-DME	DME	PS08DUP	3106-507	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-037	PS15-TME	TME	PS15	3106-508	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-037	PS15-DME	DME	PS15	3106-509	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-042	PS09-TME	TME	PS09	3106-510	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-042	PS09-DME	DME	PS09	3106-511	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-047	PS10-TME	TME	PS10	3106-512	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-047	PS10-DME	DME	PS10	3106-513	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-052	PS10.1-TME	TME	PS10.1	3106-514	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-052	PS10.1-DME	DME	PS10.1	3106-515	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-057	PS11-TME	TME	PS11	3106-516	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-057	PS11-DME	DME	PS11	3106-517	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-062	PS16-TME	TME	PS16	3106-518	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-062	PS16-DME	DME	PS16	3106-519	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-067	PS01-TME	TME	PS01	3106-520	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-067	PS01-DME	DME	PS01	3106-521	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-072	PS01DUP-TME	TME	PS01DUP	3106-522	WATER	PREP LAB	Total Metals, Hg	06/21/11

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-072	PS01DUP-DME	DME	PS01DUP	3106-523	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-073	PS02-TME	TME	PS02	3106-524	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-073	PS02-DME	DME	PS02	3106-525	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-078	PS13-TME	TME	PS13	3106-526	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-078	PS13-DME	DME	PS13	3106-527	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-084	M4-TME	TME	M4	3106-528	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-084	M4-DME	DME	M4	3106-529	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-088	BJ-EST-TME	TME	BJ-EST	3106-530	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-088	BJ-EST-DME	DME	BJ-EST	3106-531	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-093	M3.1-TME	TME	M3.1	3106-532	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-093	M3.1-DME	DME	M3.1	3106-533	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-098	M3.1DEEP-TME	TME	M3.1DEEP	3106-534	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-098	M3.1DEEP-DME	DME	M3.1DEEP	3106-535	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07-103	PS12-TME	TME	PS12	3106-536	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07-103	PS12-DME	DME	PS12	3106-537	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07DD-001	OF021-TME	TME	OF021	3106-538	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07DD-001	OF021-DME	DME	OF021	3106-539	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07DD-007	OF019-TME	TME	OF019	3106-540	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07DD-007	OF019-DME	DME	OF019	3106-541	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11
AMB07DD-013	OF018A-TME	TME	OF018A	3106-542	WATER	PREP LAB	Total Metals, Hg	06/21/11
AMB07DD-013	OF018A-DME	DME	OF018A	3106-543	WATER	PREP LAB	Dissolved Metals, Hg	06/21/11

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Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-201	M6-TSS	3106-544	TSS	M6	WATER	MSL	TSS/TS	06/22/11
AMB07-206	M8-TSS	3106-546	TSS	M8	WATER	MSL	TSS/TS	06/22/11
AMB07-211	M7-TSS	3106-548	TSS	M7	WATER	MSL	TSS/TS	06/22/11
AMB07-216	DYOTS-TSS	3106-550	TSS	DYOTS	WATER	MSL	TSS/TS	06/22/11
AMB07-221	PWNLP-TSS	3106-552	TSS	PWNLP	WATER	MSL	TSS/TS	06/22/11
AMB07-226	WP-TSS	3106-554	TSS	WP	WATER	MSL	TSS/TS	06/22/11
AMB07-231	M2 SURFACE-TSS	3106-556	TSS	M2 SURFACE	WATER	MSL	TSS/TS	06/22/11
AMB07-236	M2 DEEP-TSS	3106-558	TSS	M2 DEEP	WATER	MSL	TSS/TS	06/22/11
AMB07-241	CLMBAY-TSS	3106-560	TSS	CLMBAY	WATER	MSL	TSS/TS	06/22/11
AMB07-246	ILSP-TSS	3106-562	TSS	ILSP	WATER	MSL	TSS/TS	06/22/11
AMB07-251	M1 SURFACE-TSS	3106-564	TSS	M1 SURFACE	WATER	MSL	TSS/TS	06/22/11
AMB07-256	M1 DEEP-TSS	3106-566	TSS	M1 DEEP	WATER	MSL	TSS/TS	06/22/11
AMB07-261	BM01-TSS	3106-568	TSS	BM01	WATER	MSL	TSS/TS	06/22/11
AMB07-266	SN03-TSS	3106-570	TSS	SN03	WATER	MSL	TSS/TS	06/22/11
AMB07-271	SN05-TSS	3106-572	TSS	SN05	WATER	MSL	TSS/TS	06/22/11
AMB07-276	SN08-TSS	3106-574	TSS	SN08	WATER	MSL	TSS/TS	06/22/11
AMB07-281	SN10-TSS	3106-576	TSS	SN10	WATER	MSL	TSS/TS	06/22/11
AMB07-287	SN11-TSS	3106-580	TSS	SN11	WATER	MSL	TSS/TS	06/22/11
AMB07-292	SN11 DUP-TSS	3106-582	TSS	SN11 DUP	WATER	MSL	TSS/TS	06/22/11
AMB07-297	M3.3-TSS	3106-584	TSS	M3.3	WATER	MSL	TSS/TS	06/22/11

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Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-204	M6-OSAL	3106-544	OSAL	M6	WATER	MSL	SALINITY	06/22/11
AMB07-209	M8-OSAL	3106-546	OSAL	M8	WATER	MSL	SALINITY	06/22/11
AMB07-214	M7-OSAL	3106-548	OSAL	M7	WATER	MSL	SALINITY	06/22/11
AMB07-219	DYOTS-OSAL	3106-550	OSAL	DYOTS	WATER	MSL	SALINITY	06/22/11
AMB07-224	PWNLP-OSAL	3106-552	OSAL	PWNLP	WATER	MSL	SALINITY	06/22/11
AMB07-229	WP-OSAL	3106-554	OSAL	WP	WATER	MSL	SALINITY	06/22/11
AMB07-234	M2 SURFACE-OSAL	3106-556	OSAL	M2 SURFACE	WATER	MSL	SALINITY	06/22/11
AMB07-239	M2 DEEP-OSAL	3106-558	OSAL	M2 DEEP	WATER	MSL	SALINITY	06/22/11
AMB07-244	CLMBAY-OSAL	3106-560	OSAL	CLMBAY	WATER	MSL	SALINITY	06/22/11
AMB07-249	ILSP-OSAL	3106-562	OSAL	ILSP	WATER	MSL	SALINITY	06/22/11
AMB07-254	M1 SURFACE-OSAL	3106-564	OSAL	M1 SURFACE	WATER	MSL	SALINITY	06/22/11
AMB07-259	M1 DEEP-OSAL	3106-566	OSAL	M1 DEEP	WATER	MSL	SALINITY	06/22/11
AMB07-264	BM01-OSAL	3106-568	OSAL	BM01	WATER	MSL	SALINITY	06/22/11
AMB07-269	SN03-OSAL	3106-570	OSAL	SN03	WATER	MSL	SALINITY	06/22/11
AMB07-274	SN05-OSAL	3106-572	OSAL	SN05	WATER	MSL	SALINITY	06/22/11
AMB07-279	SN08-OSAL	3106-574	OSAL	SN08	WATER	MSL	SALINITY	06/22/11
AMB07-284	SN10-OSAL	3106-576	OSAL	SN10	WATER	MSL	SALINITY	06/22/11
AMB07-290	SN11-OSAL	3106-580	OSAL	SN11	WATER	MSL	SALINITY	06/22/11
AMB07-295	SN11 DUP-OSAL	3106-582	OSAL	SN11 DUP	WATER	MSL	SALINITY	06/22/11
AMB07-300	M3.3-OSAL	3106-584	OSAL	M3.3	WATER	MSL	SALINITY	06/22/11

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/23/2011
Batch: 14
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-200	M6-TME	3106-544	TME	M6	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-200	M6-DME	3106-545	DME	M6	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-205	M8-TME	3106-546	TME	M8	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-205	M8-DME	3106-547	DME	M8	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-210	M7-TME	3106-548	TME	M7	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-210	M7-DME	3106-549	DME	M7	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-215	DYOTS-TME	3106-550	TME	DYOTS	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-215	DYOTS-DME	3106-551	DME	DYOTS	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-220	PWNLP-TME	3106-552	TME	PWNLP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-220	PWNLP-DME	3106-553	DME	PWNLP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-225	WP-TME	3106-554	TME	WP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-225	WP-DME	3106-555	DME	WP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-230	M2 SURFACE-TME	3106-556	TME	M2 SURFACE	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-230	M2 SURFACE-DME	3106-557	DME	M2 SURFACE	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-235	M2 DEEP-TME	3106-558	TME	M2 DEEP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-235	M2 DEEP-DME	3106-559	DME	M2 DEEP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-240	CLMBAY-TME	3106-560	TME	CLMBAY	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-240	CLMBAY-DME	3106-561	DME	CLMBAY	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-245	ILSP-TME	3106-562	TME	ILSP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-245	ILSP-DME	3106-563	DME	ILSP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-250	M1 SURFACE-TME	3106-564	TME	M1 SURFACE	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-250	M1 SURFACE-DME	3106-565	DME	M1 SURFACE	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-255	M1 DEEP-TME	3106-566	TME	M1 DEEP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-255	M1 DEEP-DME	3106-567	DME	M1 DEEP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-260	BM01-TME	3106-568	TME	BM01	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-260	BM01-DME	3106-569	DME	BM01	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-265	SN03-TME	3106-570	TME	SN03	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-265	SN03-DME	3106-571	DME	SN03	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-270	SN05-TME	3106-572	TME	SN05	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-270	SN05-DME	3106-573	DME	SN05	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-275	SN08-TME	3106-574	TME	SN08	WATER	PREP LAB	Total Metals, Hg	06/22/11

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/23/2011
Batch: 14
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2011 (AMB07)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB07-275	SN08-DME	3106-575	DME	SN08	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-280	SN10-TME	3106-576	TME	SN10	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-280	SN10-DME	3106-577	DME	SN10	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-285	SN10 DUP-TME	3106-578	TME	SN10 DUP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-285	SN10 DUP-DME	3106-579	DME	SN10 DUP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-286	SN11-TME	3106-580	TME	SN11	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-286	SN11-DME	3106-581	DME	SN11	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-291	SN11 DUP-TME	3106-582	TME	SN11 DUP	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-291	SN11 DUP-DME	3106-583	DME	SN11 DUP	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-296	M3.3-TME	3106-584	TME	M3.3	WATER	PREP LAB	Total Metals, Hg	06/22/11
AMB07-296	M3.3-DME	3106-585	DME	M3.3	WATER	PREP LAB	Dissolved Metals, Hg	06/22/11
AMB07-301	EB01-T-TME	3106-586	TME	EB01-T	WATER	PREP LAB	Total Metals, Hg	06/24/11
AMB07-301	EB01-D-DME	3106-587	DME	EB01-D	WATER	PREP LAB	Dissolved Metals, Hg	06/24/11
AMB07-302	EB02-T-TME	3106-588	TME	EB02-T	WATER	PREP LAB	Total Metals, Hg	06/24/11
AMB07-302	EB02-D-DME	3106-589	DME	EB02-D	WATER	PREP LAB	Dissolved Metals, Hg	06/24/11

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 1 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments (CF# 3106) TOPN	DISS
	AMB07-001	PS07	6/21/11 0857	SW	X	X								1	PS07	492B	493
	AMB07-002		0900				X							1			
	-003							X						1			
	-004								X					1			
	-005									X				1			
	-006	PS06	0909		X	X								1	PS06	494	495
	007						X							1			
	008							X						1			
	009								X					1			
	010									X				1			
	011	PS14	0925		X	X								1	PS14	496	497
	012						X							1			
	013							X						1			
	014								X					1		Plastic syringe	
	015									X				1			

Relinquished by: _____ 6/21/11 1823
Signature Date Time
_____ PNNL
Printed Name Company

Received by: sample storage
Signature
Printed Name

Total # of Containers

Shipment Method:
Shipment Method: Hand carry

Sample Disposition:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____ 6/22/11
Signature
C. Suslick 1000
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SW = saltwater

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 2 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	
	AMB07-016	PS03 ~~0937~~	6/21/11 0937	SW	X	X									PS03	Tom 498	Diss 499
	-017						X										
	-018							X									
	-019								X								
	-020									X							
	-021	PS04 ~~0948~~	0948		X	X									PS04	500	501
	-022						X										
	-023							X									
	-024								X								
	-025									X							
	-026	PS05 ~~095~~	0957		X	X									PS05	502	503
	-027						X										
	-028							X									
	-029								X								
	-030									X							

Relinquished by: [signature] 6/21/11 1823
Signature Date Time

Printed Name Company: PNNL

Received by: sample storage
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hardcopy

Sample Disposition:

Relinquished by:
Signature Date Time

Printed Name Company

Received by: [signature] 6/22/11
Signature

C. Susuki 1000
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 3 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

UH 3104

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	TOT Comments	DISS
	AMB07-031	PS08	6/21/11 1008	SW	X	X									PS08	504	505
	-032						X										
	-033							X									
	-034								X								
	035									X							
	036	PS08 DUP	1009		X	X									PS08DUP	506	507
	037	PS15	1017		X	X									PS15	508	509
	038						X										
	039							X									
	040								X								
	041									X							
	042	PS09	1027		X	X									PS09	510	511
	043						X										
	044							X									
	045								X								

Relinquished by: _____ Signature
6/21/11 Date
1823 Time
_____ Printed Name
PNNL Company

Received by: sample storage Signature
_____ Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Sample Disposition:

Relinquished by: _____ Signature
_____ Date
_____ Time
_____ Printed Name
_____ Company

Received by: _____ 6/22/11 Signature
C. Susman 1000 Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11

Page: 4 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMBOT 046	PS09	6/21/11 1027	SW					✱	X				1	PS09	UH#3106
	-047	PS10	1043		X	X								1	PS10	DD2 open 512 513 TOT DISS
	-048						X							1		
	-049							X						1		
	-050								X					1		
	-051									X				1		
	-052	PS10.1 105	1052		X	X								1	PS10.1	514 515
	-053						X							1		
	-054							X						1		
	-055								X					1		
	-056									X				1		
	-057	PS11 1	1103		X	X								1	PS11	516 517
	-058						X							1		
	-059							X						1		
	-060								X					1		

Relinquished by: 6/21/11 1823
Signature Date Time

PNNL
Printed Name Company

Received by: sample storage
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by:
Signature Date Time

Printed Name Company

Received by: 6/22/11
Signature

C. Susuki 1100
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 5 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments (CR#3106) TOT	DISS
	AM807-061	PS11	6/21/11 1103	SW						X				1	PS11		
	-062	PS16	1111		X	X									PS16	518	519
	-063						X										
	-064							X									
	-065								X								
	-066									X							
	-067	PS01	1126		X	X									PS01	520	521
	-068						X										
	-069							X									
	-070								X								
	-071									X							
	-072	PS01 DUP			X	X									PS01DUP	522	523
	-073	PS02	1140		X	X									PS02	524	525
	-074						X										
	-075							X									

Relinquished by: _____ Signature
6/21/11 Date
1823 Time
_____ Printed Name
PNNL Company

Received by: sample storage Signature
_____ Printed Name
Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Relinquished by: _____ Signature
_____ Date
_____ Time
_____ Printed Name
_____ Company

Received by: _____ 6/22/11 Signature
C. Sousa 1000 Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11

Page: 6 of 9

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	LB#3166 TOT Comments DISS
	AMB07-076	PS02	6/21/11 ~~PS021140~~	SW					X					1	PS02	
	-077	↓	1140							X				1	↓	
	-078	PS13	1149		X	X								1	PS13	526 527
	-079						X							1		
	-080							X						1		
	-081								X					1		
	-082	↓	↓							X				1	↓	
	-083	M4	1202		X	X								1	M4	528 529
	-084						X							1		
	-085							X						1		
	-086								X					1		
	-087	↓	↓							X				1	↓	
	-088	BJ-EST	1214		X	X								1	BJ-EST	530 531
	-089	↓	↓				X							1		
	-090	↓	↓	↓				X						1	↓	

Relinquished by: _____ 6/21/11 1823
Signature Date Time

_____ PNWL
Printed Name Company

Received by: sample storage
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Handcarry

Sample Disposition:

Relinquished by: _____
Signature Date Time

_____
Printed Name Company

Received by: _____ 6/22/11
Signature

C. Susuki 1000
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 7 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMBOT-091	BJ-EST	6/21/11 1214	SW					X					1	BJ-EST	
	-092	↓	↓							X				1	↓	
	-093	M3.1	1230		X	X								1	M3.1	532 533
	-094						X							1		
	-095							X						1		
	-096								X					1		
	-097	↓	↓							X				1	↓	
	-098	M3.1 deep	1241		X	X								1	M3.1 deep	3m deep 534 535
	-099						X							1		
	-100							X						1		
	-101								X					1		
	-102	↓	↓							X				1	↓	
	-103	PS12	1256		X	X								1	PS12	534 537
	-104	↓	↓				X							1	↓	
	-105	↓	↓	↓				X						1	↓	

Relinquished by: _____ 6/21/11 1823
Signature Date Time
_____ PNNL
Printed Name Company

Received by: Sample Storage
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____ 6/22/11
Signature
C. Sussler 1000
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 8 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AM607-106	PS12	6/21/11 1256	SW					X					1	PS12	
	1 -107	PS12	6/21/11 1256	SW						X				1	↓	
	AM607DD01	OF021	6/21/11 1200	FW	X	X	X							1	OF021	538 539
	-02						X	X						1		
	-03							X	X					1		
	-04								X	X				1		
	-05									X	X			1		NA JMS 6/21/11
	-06		1200	X	X	X	X				X				OF021 OF019	Calibration needs checked
	-07	OF019	1200	SW	X	X						X			OF019	Sample overflowed 540/541
	-08			SW			X									
	-09			SW				X								
	-10			SW					X							
	-11			SW						X						NA JMS 6/21/11
	-12			SW							X					

Relinquished by: JMS 6/21/11 1823
Signature Date Time

Printed Name Company

Received by: sample storage
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand Carry

Sample Disposition:

Relinquished by:
Signature Date Time

Printed Name Company

Received by: 6/22/11
Signature

C. Sussman 1000
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SW=Salt water FW=Fresh water

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/21/11
Page: 9 of 9
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix (TMS 6/21/11)	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments (TOC 542 543 OSS)
	AMB07DD-13	0F018A	6/21/11 1300	SW	X	X								1	0F018A	542 543
	-14						X							1		
	-15							X						1		
	-16								X					1		
	-17									X				1		NA 6/21/11
	-18										X			1		
end of																

Relinquished by:
Signature: [signature] Date: 6/21/11 Time: 1823
Printed Name: PNNL Company:

Received by: sample storage
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry

Relinquished by:
Signature Date Time
Printed Name Company

Received by: [signature] 6/22/11
Signature
C. Sugai 1000
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Bob Johnston. et al.	PSNS Project ENVVEST		Page__1_ of _1___
Sampling Team		Ambient Monitoring		
Organization	PSNS & IMF			Bremerton Tides
Use pre-assigned id	6/21/11 m/dd/yy hh:mm	m/dd/yy hh:mm		

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS07	0857	0906	NS	47° 33.349	122° 38.493	
PS06	0908	~~0920~~ 0920	NS	47° 33.187	122° 38.503	
PS14	0923	0931	NS	47° 33.143	122° 38.599	
PS03	0936	0943	NS	47° 33.334	122° 39.090	
PS04	0947	0953	NS	47° 33.254	122° 38.853	
PS05	0954	1000	NS	47° 33.343	122° 38.796	
PS08	1007	1014	NS	47° 33.464	122° 38.326	
PS15	1017	1022	NS	47° 33.338	122° 38.200	
PS09	1026	1035	NS	47° 33.609	122° 38.175	
PS10	1043	1046	NS	47° 33.616	122° 37.974	DD2 open
PS10.1	1052	1057	NS	47° 33.666	122° 37.879	
PS11	1102	1106	NS	47°33.617	122° 37.752	
P16	1109	1113	NS	47° 33.509	122° 37.695	
PS01	1124	1135	NS	47° 33.224	122° 39.449	
PS02	1138	1143	NS	47° 33.254	122° 39.278	
PS13	1147	1155	NS	47° 33.096	122° 39.215	
M4	1200	1206	M	47° 32.516	122° 39.706	
BJ EST	1213	1223	NS	47° 32.768	122° 37.764	
M3.1	1230	1250	M	47° 33.481	122° 36.703	
PS12	1255	1300	NS	~~47°35.627~~ 47° 33.628	122° 37.706	
PS07 dup	1319	—	NS	47° 33.354	122° 38.512	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	~~Bob~~ Eric Mollerstuen	PSNS Project ENVVEST	
Sampling Team	Bob Johnston, et al	Ambient Monitoring:	
Organization	PSNS & IMF	Instrument:	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	g/ml	ft	ft	
SampleID	StationID	Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
	PS07	6/21/11 0900	7.98	4.76	–	10.13	12.91	–	3.1	23.1	20	41	
	PS06	6/21/11 0908	8.10	4.84	–	10.74	13.02	–	3.1	23.5	15	55	
	PS06 deep	6/21/11 0920	8.06	4.91	–	10.43	12.61	–	3.2	24.0	15	55	
	PS14	0924	8.18	4.86	–	12.31	13.47	–	3.1	23.6	13	50	
	PS03	0938	8.07	4.80	–	10.69	13.94	–	3.1	23.2	16	38	
	PS04	0949	8.17	4.81	–	12.22	13.69	–	3.1	22.9	12	47	
	PS05	0956	8.16	4.73	–	11.78	13.67	–	3.1	23.0	17	44	
	PS08	1009	8.08	4.81	–	12.88	13.23	–	3.1	23.3	12	25	
	PS15	1017	8.11	4.80	–	11.02	13.22	–	3.1	23.3	14	50	
	PS09	1029	8.09	4.73	–	10.94	13.21	–	3.1	22.9	14	33	
	PS09 deep	1033	8.07	4.90	–	10.34	12.64	–	3.2	23.9	14	33	Line depth = 30 ft
	PS10	1046	8.04	4.89	–	10.84	12.46	–	3.1	23.8	9	45	DD2 open
	PS10.1	1054	8.09	4.85	–	12.35	13.40	–	3.1	23.5	17	29	
	PS11	1104	8.09	4.83	–	11.43	13.11	–	3.1	23.4	16	46	
	PS16	1112	8.09	4.84	–	~~11.69~~ 11.69	13.91	–	3.1	23.4	15	55	
	PS01	1127	8.17	4.75	–	12.59	13.82	–	3.1	22.8	14	40	
	PS02	1140	8.18	4.77	–	12.21	14.36	–	3.1	22.9	10	28	
	PS13	1149	8.14	4.78	–	11.43	14.95	–	3.1	23.2	14	49	
	PS13 deep	1152	8.01	4.94	–	9.90	12.11	–	3.2	24.2	14	49	line Depth 40 ft
	M4	1202	8.18	4.67	–	12.79	15.91	–	3.1	22.0	11	29	
	BJ-EST	1215	8.32	4.73	–	14.48	15.64	–	3.1	22.4	4.5	4.5	sechi dish is bottom depth
	M3.1	1233	8.08	4.89	–	10.7	12.6	–	3.1	23.8	17	138	
	M3.1 deep	1243	8.05	4.92	–	10.51	12.49	–	3.2	24.0	17	117	line depth=40 ft
	PS12	1258	8.07	4.84	–	10.82	14.04	–	3.1	23.3	14	30	
	PS07 dup	1319	7.98	4.73	–	9.94	13.74	–	3.0	22.8	19	41	

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/22/11

Page: 1 of 7

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB07

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

CF#3106

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	
	AMB07-200	M6	6/22/11 0852	SW	X	X								1	M6	TBT 544	Diss 545
	-201						X							1			
	-202							X						1			
	-203								X					1			
	-204									X				1			
	-205	M8	0915		X	X								1	M8	546	547
	-206						X							1			
	-207							X						1			
	-208								X					1			
	-209									X				1			
	-210	M7	0935		X	X								1	M7	548	549
	-211						X							1			
	-212							X						1			
	-213								X					1			
	-214									X				1			

Relinquished by: _____ Signature; 6/22/11 Date; 1717 Time

_____ Printed Name; PNNL Company

Received by: same Signature

_____ Printed Name

Total # of Containers

Shipment Method: Hand delivered

Shipment Method:

Sample Disposition:

Relinquished by: _____ Signature; Date; Time

_____ Printed Name; Company

Received by: _____ 6/23/11 Signature

C. Sustich 0947 Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 6/22/11
Page: 2 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB07

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

CF#3106

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	
	AMB07-215	DYOTS	6/22/11 0957	SW	X	X								1	DYOTS	TOT 550	DISS 551
	-216					X	X							1			
	-217						X	X						1			
	-218							X	X					1			
	-219								X	X				1			
	-220	PWNLP	1018		X	X								1	PWNLP	552	553
	-221						X							1			
	-222							X						1			
	-223								X					1			
	-224									X				1			
	-225	WP	1040		X	X								1	WP	554	555
	-226						X							1			
	-227							X						1			
	-228								X					1			
	-229									X				1			

MISSING "X" - filled in by CS based on actual Sample Label info SH

Relinquished by: 6/22/11 1717
Signature Date Time
Printed Name Company: PNNL

Received by: Same
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Handcarry

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by: 6/23/11
Signature
C. Susilan 0947
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/22/11

Page: 3 of 7

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB07

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB07-230	M2 surface	6/22/11 1053	SW	X	X								1	M2	CP#3106 55L TOC 557 DISS
	-231						X							1		
	-232							X						1		
	-233								X					1		
	-234									X				1		
	-235	M2 Deep	1110		X	X								1	M2 deep	25 feet 558 559
	-236						X							1		
	-237							X						1		
	-238								X					1		
	-239									X				1		
	-240	CLMBAY	1125		X	X								1	CLMBAY	B 560 561
	-241						X							1		
	-242							X						1		
	-243								X					1		
	-244									X				1		

Relinquished by: JMB 6/22/11 1717
Signature Date Time
PNNL
Printed Name Company

Received by: Jane
Signature
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand carry

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by: 6/23/11
Signature 0947
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 6/22/11
Page: 4 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB07

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

CF#3104

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	TOR Comments	DISI
	AMB07-245	1LSP	6/22/11 1202	SW	X	X								1	1LSP	562	563
	-246						X							1			
	-247							X						1		one nutrient bottle to be	
	-248								X					1		discarded	
	-249									X				1			
	-250	M1 surface	1218		X	X								1	M1 surface	564	565
	-251						X							1			
	-252							X						1			
	-253								X					1			
	-254									X				1			
	-255 ~~255~~	M1 Deep	1226		X	X								1	M1 Deep	25 ft depth 566	567
	-256						X							1			
	-257							X						1			
	-258								X					1			
	-259									X				1			

Missing "X" - filled in based on Sample Label info SB

Relinquished by: 6/22/11 1717
Signature Date Time
Printed Name Company

Received by: sano
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by: 6/23/11
Signature
C. Sullivan 0947
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/22/11

Page: 5 of 7

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB07

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

CF#3102

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	
	AMB07-260	BM01	6/22/11 1253	SW	X	X								1	BM01	TOC 568	Diss 569
	-261						X							1			
	-262							X						1			
	-263								X					1			
	-264									X				1			
	-265	SN03	1308		X	X								1	SN03	570	571
	-266						X							1			
	-267							X						1			
	-268								X					1			
	-269									X				1			
	-270	SN05	1320		X	X								1	SN05	572	573
	-271						X							1			
	-272							X						1			
	-273								X					1			
	-274									X				1			

Relinquished by: _____ Signature 6/22/11 Date 1717 Time

_____ Printed Name _____ Company

Received by: same Signature

_____ Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Handcarry

Sample Disposition:

Relinquished by: _____ Signature Date Time

_____ Printed Name Company

Received by: _____ 6/23/11 Signature

C. Susuga 0947 Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to
Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/22/11

Page: 6 of 7

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB07

Testing Parameters

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

CB#3104

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	TOT	DISS
	AMB07-275	SN08	6/22/11 1332	SW	X	X								1	SN08		574	575
	276						X							1				
	277							X						1				
	278								X					1				
	279									X				1				
	280	SN10	1343		X	X								1	SN10	Pressure washing roof & sprinkling powder on boats	576	577
	281						X							1				
	282							X						1				
	283								X					1				
	284									X				1				
	285	SN10 Dup	1344		X	X								1	SN10 Dup	578		579
	286	SN11	1354		X	X									SN11	580		581
	287						X											
	288							X										
	289								X									

Relinquished by:

Signature — Date: 6/22/11 — Time: 1717

Printed Name — Company

Received by:

same

Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand carry

Sample Disposition:

Relinquished by:

Signature — Date — Time

Printed Name — Company

Received by:

Signature — 6/23/11 — 0947

C. Sullivan

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/22/11

Page: 6 (7) of 7

COC Number: 6

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB07

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

CF#3106

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	
	AMB07-290	SN11	6/22/11 1354	SW						X				1	SN11		
	291	SN11 DUP	1354		X	X								1	SN11 Dup	TOT 582	DISS 583
	292						X							1			
	293							X						1			
	294								X					1			
	295									X				1			
	296	M3.3	1405		X	X								1	M3.3	584	585
	297						X							1			
	298							X						1			
	299								X					1			
	300									X				1			
	301	end S															
	302																
	303																
	304																

Relinquished by: _____ Signature
6/22/11 Date
1717 Time
_____ Printed Name
PNNL Company

Received by: same Signature
_____ Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carry
Sample Disposition:

Relinquished by: _____ Signature
_____ Date
_____ Time
_____ Printed Name
_____ Company

Received by: _____ 6/23/11
C. Sussman Signature 0947
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Brandenberg et al	PSNS Project ENVVEST		Page__1_ of _1___
Sampling Team		Ambient Monitoring		
Organization	PSNS & IMF			Bremerton Tides

Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm				
StationID	6/22/11 Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
M3	0845	0855	M	47° 36.038	122°40.802	
M8	0913	0920	M	47° 34.453	122° 40.616	
M7	0934	0940	M	47° 37.531	122° 41.361	
DYDTS	0956	1001	NS	47° 38.512	122° 41.637	
PWNLP	1016	1022	NS	47° 35.110	122° 38.733	
WP	1038	1044	NS	47° 35.024	122° 34.295	
M2	1052	1120	M	47° 35.084	122° 32.533	
CLMBAY	1123	1138	NS	47° 34.247	122° 32.904	
ILSP	1200	1207	NS	47° 36.013	122° 35.626	
M1	1216	1231	M	47° 37.986	122° 35.083	
BM01	1252	1256	NS	47° 33.880	122° 37.256	
SN03	1308	1312	NS	47° 32.808	122° 40.246	
SN05	1319	1325	NS	47° 31.864	122° 41.197	
SN08	1330	1334	NS	47° 32.437	122° 39.747	
SN10	1342	1348	NS	47° 32.515	122° 38.490	
SN11	1352	1402	NS	47° 32.646	122° 38.104	
M3.3	1404	1422	M	47° 32.901	122° 38.225	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Eric Mollerstuen	PSNS Project ENVVEST	
Sampling Team	Brandenburger, et all	Ambient Monitoring:	
Organization	PSNS & IMF	Instrument:	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	σt g/ml	ft	ft	
SampleID	StationID	Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
	M6	6/22/11 0852	8.18	4.89	—	12.48	15.37	—	3.2	23.4	12	30	
	M8	917	8.11	4.79	—	13.52	15.59	—	3.1	22.6	9	10	
	M7	936	8.16	4.88	—	12.62	14.27	—	3.2	23.5	14	66	
	DYOTS	958	8.16	4.83	—	15.42	15.59	—	3.2	23.2	12	18	
	PWNLP	1018	8.08	4.89	—	12.66	13.10	—	3.2	23.8	8	8	
	WP	1041	8.09	4.91	—	15.08	13.20	—	3.2	23.8	13	32	
	M2	1054	8.00	4.97	—	15.22	11.99	—	3.2	24.3	19	73	
	M2 deep	1056	7.97	5.01	—	~~11.54~~	11.63	—	3.2	24.5	—	—	Line depth = 40 ft
	CLMBAY	1125	7.98	4.94	—	13.16	12.61	—	3.2	24.0	5	5	
	ILSP	1204	8.26	4.85	—	15.32	16.09	—	3.1	23.0	9	40	
	M1	1217	8.23	4.86	—	16.21	16.68	—	3.2	23.0	8	122	
	M1 deep	1224	8.0	5.0	—	~~12.0~~	12.0	—	3.2	24.5	—	—	line depth = 40 ft
	BM01	1253	8.09	4.93	—	14.14	13.10	—	3.2	23.9	12	28	
	SN03	1308	8.32	4.59	—	15.62	17.39	—	3.0	~~22~~ 21.4	6	28	
	SN05	1319	8.26	4.79	—	14.88	17.68	—	3.0	22.5	4	5	
	SN08	1330	8.33	4.37	—	16.27	16.70	—	3.0	22.3	6	20	
	SN10	1342	8.40	4.77	—	17.49	16.57	—	3.1	22.6	7	28	
	SN11	1352	8.32	4.42	—	16.21	15.71	—	2.5	21.6	6	23	
	M3.3	1404	8.43	4.72	—	16.68	16.38	—	3.1	22.3	6	41	

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 6/23/11

Samples Created 6/24/11 ES

Battelle

The Business of Innovation

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVEST AMB07
Project Manager: JMB
Phone Number:

Shipment Method: Created @ MSL
Preservation:

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TME	Test Parameters: DME	Test Parameters	Test Parameters	Test Parameters	Laboratory ID	Observations/Comments
1	EB01-T	06/23/11 1200	WAT	1	X					3106-586	AMB07-301
2	EB01-D	24 ES		1		X				587	301
3	EB02-T			1	X					588	302
4	EB02-D			1		X				589	302
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time: 6/24/11 1032	Signature/Printed Name: C. Susich	Date/Time: 6/24/11 1205
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 492B - 542 Batch: 13

Project Name: AMSOT ENVEST Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: water WP#

Yes	No		
☐	☒		Navy-type Project (requires high-level sample tracking procedures)
☐	☒		USDA Samples (see Compliance Agreement Checklist)
☒	☐		Filter Samples: Amount: Entire sample (Half of sample)
☐	☒		Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☒	☐		Special instructions: ship nutrients to CAS & oil & grease

PM Verification:

Sample Preservation Instructions: MSL keeps metals, TSS, OSAL

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) all ± 4 °C
			(if multiple coolers, note temp. of each) °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
			Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes: PNNL sampled and delivered to MSL

Logged in 6/22/11

Completed By: JM Bramer Date/Time: 6/21/11 1823

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes: Fisher Optima BC 317481	Lot# 1400SD
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: B. Mason Date/Time: 6/22/11 1330

Storage Shelf: K-6-B = 512-531 K-6-C = 492-511

K-6-D = 532-543

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 544-543- 589 Batch: 14

Project Name: AMBO7 Day 2 ENVVEST Project Manager: JMS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples:	Amount: Entire sample Half of sample
☑	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☑	☐	Special instructions:	ship nutrients + TOC to CAS

Sample Preservation Instructions: see QAPP

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☑	Custody seal present	Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	all 4±2 °C ___ °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)	Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?	
☑	☐	☐	Were samples filtered at MSL?	2 EBs added at MSL 6/23/11 JM GB

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: PNNL sampled with the Navy. Samples hand delivered back to MSL.

Completed By: Date/Time: 6/22/11 1717

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐	Complete pH check required for project (use pH meter and record on pH Record form)		
☒	Sample(s) were preserved at MSL		

Bc# 317481

Type: ☒	0.2% HNO3	Notes: Fisher Optima	Lot#	124088
☐	0.5% HCl (Hg samples)	Notes:	Lot#	
☐	Refrigerate/Freeze	Notes:		
☐	Other	Notes:		

Completed By: Date/Time: 6/23/11 1630

Storage Shelf: K-6-D = 544-549 L-6-B = 550-569 L-6-C = 570-585

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1105673
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Received:**	6/23/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty-seven water samples were received for analysis at Columbia Analytical Services on 6/23/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Phosphorus by EPA Method 365.3:
The Relative Percent Difference (RPD) for Total Phosphorus in the replicate matrix spike analyses of sample AMB07-008PS06 was outside control criteria. All spike recoveries in the MS, DMS, and associated Laboratory Control Sample (LCS) were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 7-12-11

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105673
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/21/11
Sample Matrix:	Water	**Date Received:**	6/23/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-006 OF021	K1105673-023	ND	U	4.9	0.8	1	7/ 1/11	7/1/11 15:20	
AMB07DD-012 OF019	K1105673-025	ND	U	4.9	0.8	1	7/ 1/11	7/1/11 15:20	
AMB07DD-018 OF018A	K1105673-027	ND	U	5.2	0.8	1	7/ 1/11	7/1/11 15:20	
Method Blank	K1105673-MB1	ND	U	5.0	0.8	1	7/ 1/11	7/1/11 15:20	

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 7/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105671-001

Units: mg/L
Basis: NA

Analytical Method: 1664
Prep Method: Method

Batch QCMS
Matrix Spike
K1105671-001MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND	55.7	62.5	89	78 - 114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1105673
Date Analyzed: 7/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105673-LCS1 Result	Spike Amount	% Rec	Duplicate Lab Control Sample K1105673-DLCS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	1664	50.6	60.0	84	56.7	60.0	95	78 - 114	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-003 PS07	K1105673-001	**0.128**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-008 PS06	K1105673-002	**0.099**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-013 PS14	K1105673-003	**0.029**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-018 PS03	K1105673-004	**0.106**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-023 PS04	K1105673-005	**0.045**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-028 PS05	K1105673-006	**0.055**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-033 PS08	K1105673-007	**0.088**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-039 PS15	K1105673-008	**0.094**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-044 PS09	K1105673-009	**0.077**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-049 PS10	K1105673-010	**0.088**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-054 PS10.1	K1105673-011	**0.143**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-059 PS11	K1105673-012	**0.064**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-064 PS16	K1105673-013	**0.057**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-069 PS01	K1105673-014	**0.039**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-075 PS02	K1105673-015	**0.046**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-080 PS13	K1105673-016	**0.051**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-084 M4	K1105673-017	**0.057**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-090 BJ-EST	K1105673-018	**0.012**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-095 M3.1	K1105673-019	**0.055**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-100 M3.1 DEEP	K1105673-020	**0.056**		0.010	0.003	1	NA	7/6/11 10:22	
AMB07-105 PS12	K1105673-021	**0.053**		0.010	0.003	1	NA	7/6/11 10:22	
Method Blank	K1105673-MB1	ND	U	0.010	0.003	1	NA	7/6/11 10:22	
Method Blank	K1105673-MB2	ND	U	0.010	0.003	1	NA	7/6/11 15:12	
Method Blank	K1105673-MB3	**0.003**	J	0.010	0.003	1	NA	7/6/11 15:12	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105673
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/21/11
Sample Matrix:	Water	**Date Received:**	6/23/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-003 OF021	K1105673-022	**0.023**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07DD-009 OF019	K1105673-024	**0.221**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07DD-015 OF018A	K1105673-026	**0.160**		0.010	0.003	1	NA	7/6/11 15:12	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-003 PS07DUP Duplicate Sample K1105673-001DUP2 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.128	0.127	0.127	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-084 M4
Lab Code: K1105673-017

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-084 M4DUP Duplicate Sample K1105673-017DUP5 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.057	0.055	0.0559	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 7/6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105719-001DUP8 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.036	0.033	0.0345	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB07-003 PS07MS Matrix Spike K1105673-001MS3			AMB07-003 PS07DMS Duplicate Matrix Spike K1105673-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.128	0.346	0.200	109	0.345	0.200	109	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-084 M4
Lab Code: K1105673-017

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	AMB07-084 M4MS Matrix Spike K1105673-017MS7 Result	Spike Amount	% Rec	AMB07-084 M4DMS Duplicate Matrix Spike K1105673-017DMS7 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.057	0.261	0.200	102	0.263	0.200	103	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 7/6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		Batch QCMS Matrix Spike K1105719-001MS10			Batch QCDMS Duplicate Matrix Spike K1105719-001DMS10					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.036	0.244	0.200	104	0.243	0.200	103	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	14.2	13.9	102	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	15.1	13.9	109	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	15.2	13.9	110	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105673

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	252570	KQ1106587-12	7/6/11 10:22	0.250	0.245	98	90 - 110
CCV2	252570	KQ1106587-13	7/6/11 10:22	0.250	0.246	98	90 - 110
CCV3	252570	KQ1106587-14	7/6/11 10:22	0.250	0.249	100	90 - 110
CCV4	252570	KQ1106587-15	7/6/11 10:22	0.250	0.247	99	90 - 110
CCV5	252570	KQ1106587-16	7/6/11 10:22	0.250	0.247	99	90 - 110
CCV6	252570	KQ1106587-17	7/6/11 10:22	0.250	0.244	98	90 - 110
CCV7	252614	KQ1106601-12	7/6/11 15:12	0.250	0.248	99	90 - 110
CCV8	252614	KQ1106601-13	7/6/11 15:12	0.250	0.246	98	90 - 110
CCV9	252614	KQ1106601-14	7/6/11 15:12	0.250	0.246	98	90 - 110
CCV10	252614	KQ1106601-15	7/6/11 15:12	0.250	0.246	98	90 - 110
CCV11	252614	KQ1106601-16	7/6/11 15:12	0.250	0.246	99	90 - 110
CCV12	252614	KQ1106601-17	7/6/11 15:12	0.250	0.247	99	90 - 110
CCV13	252614	KQ1106601-18	7/6/11 15:12	0.250	0.246	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105673

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	252570	KQ1106587-06	7/6/11 10:22	0.003	0.010	ND	U
CCB2	252570	KQ1106587-07	7/6/11 10:22	0.003	0.010	ND	U
CCB3	252570	KQ1106587-08	7/6/11 10:22	0.003	0.010	ND	U
CCB4	252570	KQ1106587-09	7/6/11 10:22	0.003	0.010	ND	U
CCB5	252570	KQ1106587-10	7/6/11 10:22	0.003	0.010	ND	U
CCB6	252570	KQ1106587-11	7/6/11 10:22	0.003	0.010	ND	U
CCB7	252614	KQ1106601-05	7/6/11 15:12	0.003	0.010	ND	U
CCB8	252614	KQ1106601-06	7/6/11 15:12	0.003	0.010	ND	U
CCB9	252614	KQ1106601-07	7/6/11 15:12	0.003	0.010	ND	U
CCB10	252614	KQ1106601-08	7/6/11 15:12	0.003	0.010	ND	U
CCB11	252614	KQ1106601-09	7/6/11 15:12	0.003	0.010	**0.003**	J
CCB12	252614	KQ1106601-10	7/6/11 15:12	0.003	0.010	**0.003**	J
CCB13	252614	KQ1106601-11	7/6/11 15:12	0.003	0.010	**0.004**	J

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Prep Method: Method
Analysis Method: 351.4

Units: mg/L
Basis: NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-003 PS07	K1105673-001	**1.3**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-008 PS06	K1105673-002	**1.7**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-013 PS14	K1105673-003	**1.8**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-018 PS03	K1105673-004	**1.6**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-023 PS04	K1105673-005	**1.5**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-028 PS05	K1105673-006	**1.5**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-033 PS08	K1105673-007	**1.5**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-039 PS15	K1105673-008	**1.5**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-044 PS09	K1105673-009	**3.0**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-049 PS10	K1105673-010	**1.4**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-054 PS10.1	K1105673-011	**1.4**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-059 PS11	K1105673-012	**1.2**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-064 PS16	K1105673-013	**1.1**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-069 PS01	K1105673-014	**1.3**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-075 PS02	K1105673-015	**1.4**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-080 PS13	K1105673-016	**1.8**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-084 M4	K1105673-017	**1.2**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-090 BJ-EST	K1105673-018	**1.3**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-095 M3.1	K1105673-019	**1.6**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-100 M3.1 DEEP	K1105673-020	**1.7**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-105 PS12	K1105673-021	**1.7**		1.0	0.4	2	6/30/11	7/8/11 08:15	
Method Blank	K1105673-MB1	ND	U	0.40	0.14	2	6/30/11	7/8/11 08:15	
Method Blank	K1105673-MB2	ND	U	0.40	0.14	2	6/30/11	7/8/11 08:15	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105673
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/21/11
Sample Matrix:	Water	**Date Received:**	6/23/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-003 OF021	K1105673-022	**0.60**		0.40	0.14	2	6/30/11	7/8/11 08:15	
AMB07DD-009 OF019	K1105673-024	**0.75**		0.40	0.14	2	6/30/11	7/8/11 08:15	
AMB07DD-015 OF018A	K1105673-026	**0.65**		0.40	0.14	2	6/30/11	7/8/11 08:15	

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-003 PS07DUP Duplicate Sample K1105673-001DUP2 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.3	1.3	1.30	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-105 PS12
Lab Code: K1105673-021

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-105 PS12DUP Duplicate Sample K1105673-021DUP6 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.7	1.6	1.64	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB07-003 PS07MS **Matrix Spike** K1105673-001MS3			AMB07-003 PS07DMS **Duplicate Matrix Spike** K1105673-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.3	52.0	50.0	101	105	100	104	40 - 160	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-105 PS12
Lab Code: K1105673-021

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB07-105 PS12MS Matrix Spike K1105673-021MS8			AMB07-105 PS12DMS Duplicate Matrix Spike K1105673-021DMS8					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.7	53.0	50.0	103	98.2	100	97	40 - 160	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	2.65	2.47	107	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	2.67	2.47	108	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105673

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	252920	KQ1106719-04	7/8/11 08:15	10.0	9.75	98	90 - 110
CCV2	252920	KQ1106719-05	7/8/11 08:15	10.0	10.0	100	90 - 110
CCV3	252920	KQ1106719-06	7/8/11 08:15	10.0	9.76	98	90 - 110
CCV4	252926	KQ1106721-04	7/8/11 08:15	10.0	9.83	98	90 - 110
CCV5	252926	KQ1106721-05	7/8/11 08:15	10.0	10.1	101	90 - 110
CCV6	252926	KQ1106721-06	7/8/11 08:15	10.0	9.75	98	90 - 110
CCV7	252926	KQ1106721-08	7/8/11 08:15	10.0	10.0	100	90 - 110

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105673

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	252920	KQ1106719-01	7/8/11 08:15	0.07	0.20	ND	U
CCB2	252920	KQ1106719-02	7/8/11 08:15	0.07	0.20	ND	U
CCB3	252920	KQ1106719-03	7/8/11 08:15	0.07	0.20	ND	U
CCB4	252926	KQ1106721-01	7/8/11 08:15	0.07	0.20	ND	U
CCB5	252926	KQ1106721-02	7/8/11 08:15	0.07	0.20	ND	U
CCB6	252926	KQ1106721-03	7/8/11 08:15	0.07	0.20	ND	U
CCB7	252926	KQ1106721-07	7/8/11 08:15	0.07	0.20	ND	U

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-003 PS07	K1105673-001	**0.112**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-008 PS06	K1105673-002	**0.104**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-013 PS14	K1105673-003	**0.057**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-018 PS03	K1105673-004	**0.100**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-023 PS04	K1105673-005	**0.063**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-028 PS05	K1105673-006	**0.074**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-033 PS08	K1105673-007	**0.092**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-039 PS15	K1105673-008	**0.092**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-044 PS09	K1105673-009	**0.130**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-049 PS10	K1105673-010	**0.117**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-054 PS10.1	K1105673-011	**0.109**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-059 PS11	K1105673-012	**0.082**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-064 PS16	K1105673-013	**0.080**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-069 PS01	K1105673-014	**0.057**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-075 PS02	K1105673-015	**0.058**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-080 PS13	K1105673-016	**0.050**	J	0.050	0.009	1	NA	6/24/11 13:48	
AMB07-084 M4	K1105673-017	**0.046**	J	0.050	0.009	1	NA	6/24/11 13:48	
AMB07-090 BJ-EST	K1105673-018	**0.019**	J	0.050	0.009	1	NA	6/24/11 13:48	
AMB07-095 M3.1	K1105673-019	**0.109**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-100 M3.1 DEEP	K1105673-020	**0.112**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07-105 PS12	K1105673-021	**0.133**		0.050	0.009	1	NA	6/24/11 13:48	
Method Blank	K1105673-MB1	ND	U	0.050	0.009	1	NA	6/24/11 13:48	
Method Blank	K1105673-MB2	ND	U	0.050	0.009	1	NA	6/24/11 13:48	
Method Blank	K1105673-MB3	ND	U	0.050	0.009	1	NA	6/24/11 13:48	

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-003 OF021	K1105673-022	**0.176**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07DD-009 OF019	K1105673-024	**0.125**		0.050	0.009	1	NA	6/24/11 13:48	
AMB07DD-015 OF018A	K1105673-026	**0.346**		0.050	0.009	1	NA	6/24/11 13:48	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-003 PS07DUP Duplicate Sample K1105673-001DUP2 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.112	0.116	0.114	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-075 PS02
Lab Code: K1105673-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-075 PS02DUP Duplicate Sample K1105673-015DUP4 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.058	0.057	0.0576	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB07-003 PS07MS Matrix Spike K1105673-001MS3			AMB07-003 PS07DMS Duplicate Matrix Spike K1105673-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.112	2.14	2.00	101	2.10	2.00	99	86 - 117	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-075 PS02
Lab Code: K1105673-015

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB07-075 PS02MS Matrix Spike K1105673-015MS6			AMB07-075 PS02DMS Duplicate Matrix Spike K1105673-015DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.058	2.06	2.00	100	2.06	2.00	100	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	16.9	17.7	96	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105673-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	16.9	17.7	96	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	16.9	17.7	96	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1105673
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	251360	KQ1106144-17	6/24/11 13:48	2.00	1.98	99	90 - 110
CCV2	251360	KQ1106144-18	6/24/11 13:48	2.00	1.98	99	90 - 110
CCV3	251360	KQ1106144-19	6/24/11 13:48	2.00	1.98	99	90 - 110
CCV4	251360	KQ1106144-20	6/24/11 13:48	2.00	1.97	98	90 - 110
CCV5	251360	KQ1106144-21	6/24/11 13:48	2.00	1.97	98	90 - 110
CCV6	251360	KQ1106144-22	6/24/11 13:48	2.00	1.95	98	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105673
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	251360	KQ1106144-11	6/24/11 13:48	0.009	0.050	ND	U
CCB2	251360	KQ1106144-12	6/24/11 13:48	0.009	0.050	ND	U
CCB3	251360	KQ1106144-13	6/24/11 13:48	0.009	0.050	ND	U
CCB4	251360	KQ1106144-14	6/24/11 13:48	0.009	0.050	ND	U
CCB5	251360	KQ1106144-15	6/24/11 13:48	0.009	0.050	ND	U
CCB6	251360	KQ1106144-16	6/24/11 13:48	0.009	0.050	ND	U

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Prep Method: Method
Analysis Method: 365.3

Units: mg/L
Basis: NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-003 PS07	K1105673-001	**0.074**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-008 PS06	K1105673-002	**0.067**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-013 PS14	K1105673-003	**0.057**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-018 PS03	K1105673-004	**0.073**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-023 PS04	K1105673-005	**0.059**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-028 PS05	K1105673-006	**0.055**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-033 PS08	K1105673-007	**0.067**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-039 PS15	K1105673-008	**0.060**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-044 PS09	K1105673-009	**0.070**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-049 PS10	K1105673-010	**0.075**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-054 PS10.1	K1105673-011	**0.072**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-059 PS11	K1105673-012	**0.063**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-064 PS16	K1105673-013	**0.061**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-069 PS01	K1105673-014	**0.059**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-075 PS02	K1105673-015	**0.056**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-080 PS13	K1105673-016	**0.048**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-084 M4	K1105673-017	**0.059**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-090 BJ-EST	K1105673-018	**0.049**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-095 M3.1	K1105673-019	**0.060**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-100 M3.1 DEEP	K1105673-020	**0.062**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07-105 PS12	K1105673-021	**0.059**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
Method Blank	K1105673-MB1	ND	U	0.010	0.004	1	7/ 1/11	7/1/11 13:15	
Method Blank	K1105673-MB2	**0.006**	J	0.010	0.004	1	7/ 1/11	7/1/11 13:15	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105673
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/21/11
Sample Matrix:	Water	**Date Received:**	6/23/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-003 OF021	K1105673-022	**0.343**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07DD-009 OF019	K1105673-024	**0.106**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	
AMB07DD-015 OF018A	K1105673-026	**0.069**		0.010	0.004	1	7/ 1/11	7/1/11 13:15	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 1/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-008 PS06
Lab Code: K1105673-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-008 PS06DUP Duplicate Sample K1105673-002DUP3 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.067	0.066	0.0665	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 1/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07DD-009 OF019
Lab Code: K1105673-024

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07DD-009 OF019DUP Duplicate Sample K1105673-024DUP7 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.106	0.107	0.107	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-008 PS06
Lab Code: K1105673-002

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB07-008 PS06MS Matrix Spike K1105673-002MS5			AMB07-008 PS06DMS Duplicate Matrix Spike K1105673-002DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.067	0.374	0.500	62	1.35	1.00	129	60 - 135	70 *	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 7/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07DD-009 OF019
Lab Code: K1105673-024

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB07DD-009 OF019MS Matrix Spike K1105673-024MS9			AMB07DD-009 OF019DMS Duplicate Matrix Spike K1105673-024DMS9					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.106	0.464	0.500	72	0.984	1.00	88	60 - 135	20	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	1.88	1.87	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 7/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	1.95	1.87	104	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105673

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	252261	KQ1106467-07	7/1/11 13:15	0.500	0.499	100	90 - 110
CCV2	252261	KQ1106467-08	7/1/11 13:15	0.500	0.497	99	90 - 110
CCV3	252261	KQ1106467-09	7/1/11 13:15	0.500	0.499	100	90 - 110
CCV4	252261	KQ1106467-10	7/1/11 13:15	0.500	0.497	99	90 - 110
CCV5	252261	KQ1106467-11	7/1/11 13:15	0.500	0.497	99	90 - 110
CCV6	252261	KQ1106467-12	7/1/11 13:15	0.500	0.496	99	90 - 110

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105673

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	252261	KQ1106467-01	7/1/11 13:15	0.004	0.010	ND	U
CCB2	252261	KQ1106467-02	7/1/11 13:15	0.004	0.010	ND	U
CCB3	252261	KQ1106467-03	7/1/11 13:15	0.004	0.010	**0.004**	J
CCB4	252261	KQ1106467-04	7/1/11 13:15	0.004	0.010	ND	U
CCB5	252261	KQ1106467-05	7/1/11 13:15	0.004	0.010	**0.007**	J
CCB6	252261	KQ1106467-06	7/1/11 13:15	0.004	0.010	**0.007**	J

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-003 PS07	K1105673-001	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-008 PS06	K1105673-002	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-013 PS14	K1105673-003	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-018 PS03	K1105673-004	**2.0**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-023 PS04	K1105673-005	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-028 PS05	K1105673-006	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-033 PS08	K1105673-007	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-039 PS15	K1105673-008	**1.6**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-044 PS09	K1105673-009	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-049 PS10	K1105673-010	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-054 PS10.1	K1105673-011	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-059 PS11	K1105673-012	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-064 PS16	K1105673-013	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-069 PS01	K1105673-014	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-075 PS02	K1105673-015	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-080 PS13	K1105673-016	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-084 M4	K1105673-017	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-090 BJ-EST	K1105673-018	**2.1**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-095 M3.1	K1105673-019	**1.5**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-100 M3.1 DEEP	K1105673-020	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-105 PS12	K1105673-021	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
Method Blank	K1105673-MB1	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105673-MB2	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105673-MB3	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105673-MB4	ND	U	0.50	0.07	1	NA	6/24/11 18:08	

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-003 OF021	K1105673-022	**2.6**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07DD-009 OF019	K1105673-024	**1.5**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07DD-015 OF018A	K1105673-026	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105643-061

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105643-061DUP1 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	3.6	3.6	3.60	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-003 PS07DUP Duplicate Sample K1105673-001DUP2 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.8	1.8	1.79	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105719-001DUP8 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.9	2.0	1.94	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105719-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105719-015DUP9 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	2.5	2.3	2.37	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105643-061

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

Batch QCMS
Matrix Spike
K1105643-061MS1

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	3.6	53.1	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: 6/21/11
Date Received: 6/23/11
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-003 PS07
Lab Code: K1105673-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-003 PS07MS
Matrix Spike
K1105673-001MS4

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.8	50.8	50.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

Batch QCMS
Matrix Spike
K1105719-001MS11

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.9	51.5	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105719-015

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

Batch QCMS
Matrix Spike
K1105719-015MS12

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	2.5	50.7	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.4	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105673
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105673-LCS5			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1105673
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	251361	KQ1106193-17	6/24/11 18:08	25.0	23.3	93	90 - 110
CCV2	251361	KQ1106193-18	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV3	251361	KQ1106193-19	6/24/11 18:08	25.0	23.8	95	90 - 110
CCV4	251361	KQ1106193-20	6/24/11 18:08	25.0	23.8	95	90 - 110
CCV5	251361	KQ1106193-21	6/24/11 18:08	25.0	23.7	95	90 - 110
CCV6	251361	KQ1106193-22	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV7	251361	KQ1106193-23	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV8	251361	KQ1106193-24	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV9	251361	KQ1106193-25	6/24/11 18:08	25.0	23.9	96	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105673
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	251361	KQ1106193-26	6/24/11 18:08	0.07	0.50	ND	U
CCB2	251361	KQ1106193-27	6/24/11 18:08	0.07	0.50	ND	U
CCB3	251361	KQ1106193-28	6/24/11 18:08	0.07	0.50	ND	U
CCB4	251361	KQ1106193-29	6/24/11 18:08	0.07	0.50	ND	U
CCB5	251361	KQ1106193-30	6/24/11 18:08	0.07	0.50	ND	U
CCB6	251361	KQ1106193-31	6/24/11 18:08	0.07	0.50	ND	U
CCB7	251361	KQ1106193-32	6/24/11 18:08	0.07	0.50	**0.09**	J
CCB8	251361	KQ1106193-33	6/24/11 18:08	0.07	0.50	**0.08**	J
CCB9	251361	KQ1106193-34	6/24/11 18:08	0.07	0.50	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1105719
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Received:**	6/24/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty water samples were received for analysis at Columbia Analytical Services on 6/24/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard D Holmes **Date** 7-13-11

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105719
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/22/11
Sample Matrix:	Ocean Water	**Date Received:**	6/24/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-202 M6	K1105719-001	**0.036**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-207 M8	K1105719-002	**0.055**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-212 M7	K1105719-003	**0.025**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-217 DYOTS	K1105719-004	**0.071**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-222 PWNLP	K1105719-005	**0.061**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-227 WP	K1105719-006	**0.060**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-232 M2 SURFACE	K1105719-007	**0.075**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-237 M2 DEEP	K1105719-008	**0.079**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-242 CLMBAY	K1105719-009	**0.070**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-247 ILSP	K1105719-010	**0.028**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-252 M1 SURFACE	K1105719-011	**0.021**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-257 M1 DEEP	K1105719-012	**0.052**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-262 BM01	K1105719-013	**0.060**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-267 SN03	K1105719-014	**0.034**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-272 SN05	K1105719-015	**0.038**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-277 SN08	K1105719-016	**0.015**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-282 SN10	K1105719-017	**0.015**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-288 SN11	K1105719-018	**0.020**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-293 SN11 DUP	K1105719-019	**0.025**		0.010	0.003	1	NA	7/6/11 15:12	
AMB07-298 M3.3	K1105719-020	**0.042**		0.010	0.003	1	NA	7/6/11 15:12	
Method Blank	K1105719-MB1	ND	U	0.010	0.003	1	NA	7/6/11 15:12	
Method Blank	K1105719-MB2	**0.003**	J	0.010	0.003	1	NA	7/6/11 15:12	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-202 M6DUP Duplicate Sample K1105719-001DUP5 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.036	0.033	0.0345	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	AMB07-202 M6MS Matrix Spike K1105719-001MS5 Result	Spike Amount	% Rec	AMB07-202 M6DMS Duplicate Matrix Spike K1105719-001DMS5 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.036	0.244	0.200	104	0.243	0.200	103	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 7/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105719-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	15.1	13.9	109	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 7/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105719-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	15.2	13.9	110	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1105719
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	252614	KQ1106601-12	7/6/11 15:12	0.250	0.248	99	90 - 110
CCV2	252614	KQ1106601-13	7/6/11 15:12	0.250	0.246	98	90 - 110
CCV3	252614	KQ1106601-14	7/6/11 15:12	0.250	0.246	98	90 - 110
CCV4	252614	KQ1106601-15	7/6/11 15:12	0.250	0.246	98	90 - 110
CCV5	252614	KQ1106601-16	7/6/11 15:12	0.250	0.246	99	90 - 110
CCV6	252614	KQ1106601-17	7/6/11 15:12	0.250	0.247	99	90 - 110
CCV7	252614	KQ1106601-18	7/6/11 15:12	0.250	0.246	98	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105719
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	252614	KQ1106601-05	7/6/11 15:12	0.003	0.010	ND	U
CCB2	252614	KQ1106601-06	7/6/11 15:12	0.003	0.010	ND	U
CCB3	252614	KQ1106601-07	7/6/11 15:12	0.003	0.010	ND	U
CCB4	252614	KQ1106601-08	7/6/11 15:12	0.003	0.010	ND	U
CCB5	252614	KQ1106601-09	7/6/11 15:12	0.003	0.010	**0.003**	J
CCB6	252614	KQ1106601-10	7/6/11 15:12	0.003	0.010	**0.003**	J
CCB7	252614	KQ1106601-11	7/6/11 15:12	0.003	0.010	**0.004**	J

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105719
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/22/11
Sample Matrix:	Ocean Water	**Date Received:**	6/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-202 M6	K1105719-001	**0.8**	J	1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-207 M8	K1105719-002	**1.2**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-212 M7	K1105719-003	**1.0**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-217 DYOTS	K1105719-004	**1.3**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-222 PWNLP	K1105719-005	**1.4**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-227 WP	K1105719-006	**1.0**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-232 M2 SURFACE	K1105719-007	**1.0**		1.0	0.4	2	6/30/11	7/8/11 08:15	
AMB07-237 M2 DEEP	K1105719-008	**1.0**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-242 CLMBAY	K1105719-009	**1.3**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-247 ILSP	K1105719-010	**1.3**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-252 M1 SURFACE	K1105719-011	**1.1**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-257 M1 DEEP	K1105719-012	**1.0**	J	1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-262 BM01	K1105719-013	**1.2**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-267 SN03	K1105719-014	**1.6**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-272 SN05	K1105719-015	**5.8**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-277 SN08	K1105719-016	**0.9**	J	1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-282 SN10	K1105719-017	**0.9**	J	1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-288 SN11	K1105719-018	**1.1**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-293 SN11 DUP	K1105719-019	**1.3**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
AMB07-298 M3.3	K1105719-020	**1.1**		1.0	0.4	2	7/ 6/11	7/11/11 08:30	
Method Blank	K1105719-MB1	ND	U	0.40	0.14	2	6/30/11	7/8/11 08:15	
Method Blank	K1105719-MB2	ND	U	0.40	0.14	2	7/ 6/11	7/11/11 08:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/11/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-237 M2 DEEP
Lab Code: K1105719-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-237 M2 DEEPDUP Duplicate Sample K1105719-008DUP6 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.0	1.0	1.03	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/11/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-237 M2 DEEP
Lab Code: K1105719-008

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB07-237 M2 DEEPMS Matrix Spike K1105719-008MS7			AMB07-237 M2 DEEPDMS Duplicate Matrix Spike K1105719-008DMS7					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.0	57.2	50.0	112	107	100	106	40 - 160	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 7/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105719-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	2.67	2.47	108	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 7/11/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	2.96	2.47	120	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1105719
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	252920	KQ1106719-04	7/8/11 08:15	10.0	9.75	98	90 - 110
CCV2	252920	KQ1106719-05	7/8/11 08:15	10.0	10.0	100	90 - 110
CCV3	252920	KQ1106719-06	7/8/11 08:15	10.0	9.76	98	90 - 110
CCV4	253126	KQ1106785-06	7/11/11 08:30	10.0	10.7	107	90 - 110
CCV5	253126	KQ1106785-07	7/11/11 08:30	10.0	10.0	100	90 - 110
CCV6	253126	KQ1106785-08	7/11/11 08:30	10.0	9.55	96	90 - 110
CCV7	253126	KQ1106785-09	7/11/11 08:30	10.0	10.0	100	90 - 110
CCV8	253126	KQ1106785-10	7/11/11 08:30	10.0	10.3	103	90 - 110

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105719

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	252920	KQ1106719-01	7/8/11 08:15	0.07	0.20	ND	U
CCB2	252920	KQ1106719-02	7/8/11 08:15	0.07	0.20	ND	U
CCB3	252920	KQ1106719-03	7/8/11 08:15	0.07	0.20	ND	U
CCB4	253126	KQ1106785-01	7/11/11 08:30	0.07	0.20	ND	U
CCB5	253126	KQ1106785-02	7/11/11 08:30	0.07	0.20	ND	U
CCB6	253126	KQ1106785-03	7/11/11 08:30	0.07	0.20	ND	U
CCB7	253126	KQ1106785-04	7/11/11 08:30	0.07	0.20	ND	U
CCB8	253126	KQ1106785-05	7/11/11 08:30	0.07	0.20	ND	U

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-202 M6	K1105719-001	**0.036**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-207 M8	K1105719-002	**0.084**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-212 M7	K1105719-003	**0.042**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-217 DYOTS	K1105719-004	**0.022**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-222 PWNLP	K1105719-005	**0.102**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-227 WP	K1105719-006	**0.096**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-232 M2 SURFACE	K1105719-007	**0.151**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-237 M2 DEEP	K1105719-008	**0.158**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-242 CLMBAY	K1105719-009	**0.139**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-247 ILSP	K1105719-010	ND	U	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-252 M1 SURFACE	K1105719-011	ND	U	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-257 M1 DEEP	K1105719-012	**0.121**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-262 BM01	K1105719-013	**0.102**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-267 SN03	K1105719-014	**0.015**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-272 SN05	K1105719-015	**0.020**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-277 SN08	K1105719-016	**0.055**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-282 SN10	K1105719-017	**0.011**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-288 SN11	K1105719-018	**0.046**	J	0.050	0.009	1	NA	6/29/11 14:36	
AMB07-293 SN11 DUP	K1105719-019	**0.081**		0.050	0.009	1	NA	6/29/11 14:36	
AMB07-298 M3.3	K1105719-020	ND	U	0.050	0.009	1	NA	6/29/11 14:36	
Method Blank	K1105719-MB1	**0.012**	J	0.050	0.009	1	NA	6/29/11 14:36	
Method Blank	K1105719-MB2	ND	U	0.050	0.009	1	NA	6/29/11 14:36	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-202 M6DUP Duplicate Sample K1105719-001DUP5 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.036 J	0.037 J	0.0368	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	AMB07-202 M6MS Matrix Spike K1105719-001MS5 Result	Spike Amount	% Rec	AMB07-202 M6DMS Duplicate Matrix Spike K1105719-001DMS5 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.036	2.05	2.00	101	2.03	2.00	100	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	17.4	17.7	98	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	17.1	17.7	97	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105719

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	251875	KQ1106319-17	6/29/11 14:36	2.00	2.00	100	90 - 110
CCV2	251875	KQ1106319-18	6/29/11 14:36	2.00	2.00	100	90 - 110
CCV3	251875	KQ1106319-19	6/29/11 14:36	2.00	1.97	99	90 - 110
CCV4	251875	KQ1106319-20	6/29/11 14:36	2.00	2.09	105	90 - 110
CCV5	251875	KQ1106319-21	6/29/11 14:36	2.00	1.98	99	90 - 110
CCV6	251875	KQ1106319-22	6/29/11 14:36	2.00	2.00	100	90 - 110
CCV7	251875	KQ1106319-24	6/29/11 14:36	2.00	1.97	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105719

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	251875	KQ1106319-11	6/29/11 14:36	0.009	0.050	**0.011**	J
CCB2	251875	KQ1106319-12	6/29/11 14:36	0.009	0.050	**0.014**	J
CCB3	251875	KQ1106319-13	6/29/11 14:36	0.009	0.050	ND	U
CCB4	251875	KQ1106319-14	6/29/11 14:36	0.009	0.050	ND	U
CCB5	251875	KQ1106319-15	6/29/11 14:36	0.009	0.050	ND	U
CCB6	251875	KQ1106319-16	6/29/11 14:36	0.009	0.050	**0.015**	J
CCB7	251875	KQ1106319-23	6/29/11 14:36	0.009	0.050	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1105719
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/22/11
Sample Matrix:	Ocean Water	**Date Received:**	6/24/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-202 M6	K1105719-001	**0.053**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-207 M8	K1105719-002	**0.060**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-212 M7	K1105719-003	**0.049**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-217 DYOTS	K1105719-004	**0.058**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-222 PWNLP	K1105719-005	**0.063**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-227 WP	K1105719-006	**0.061**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-232 M2 SURFACE	K1105719-007	**0.062**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-237 M2 DEEP	K1105719-008	**0.051**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-242 CLMBAY	K1105719-009	**0.058**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-247 ILSP	K1105719-010	**0.052**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-252 M1 SURFACE	K1105719-011	**0.055**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-257 M1 DEEP	K1105719-012	**0.062**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-262 BM01	K1105719-013	**0.063**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-267 SN03	K1105719-014	**0.055**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-272 SN05	K1105719-015	**0.067**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-277 SN08	K1105719-016	**0.049**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-282 SN10	K1105719-017	**0.041**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-288 SN11	K1105719-018	**0.047**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-293 SN11 DUP	K1105719-019	**0.046**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
AMB07-298 M3.3	K1105719-020	**0.042**		0.010	0.004	1	7/ 5/11	7/5/11 14:00	
Method Blank	K1105719-MB1	ND	U	0.010	0.004	1	7/ 5/11	7/5/11 14:00	
Method Blank	K1105719-MB2	ND	U	0.010	0.004	1	7/ 5/11	7/5/11 14:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/ 5/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-202 M6DUP Duplicate Sample K1105719-001DUP5 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.053	0.053	0.0530	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/ 5/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-298 M3.3
Lab Code: K1105719-020

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-298 M3.3DUP Duplicate Sample K1105719-020DUP9 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.042	0.044	0.0429	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/ 5/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB07-202 M6MS Matrix Spike K1105719-001MS5			AMB07-202 M6DMS Duplicate Matrix Spike K1105719-001DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.053	0.381	0.500	66	0.766	1.00	71	60 - 135	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 7/ 5/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-298 M3.3
Lab Code: K1105719-020

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB07-298 M3.3MS Matrix Spike K1105719-020MS10			AMB07-298 M3.3DMS Duplicate Matrix Spike K1105719-020DMS10					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.042	0.399	0.500	71	0.967	1.00	93	60 - 135	27 *	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 7/ 5/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105719-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	1.87	1.87	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 7/ 5/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	1.90	1.87	101	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105719

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	252424	KQ1106535-06	7/5/11 14:00	0.500	0.505	101	90 - 110
CCV2	252424	KQ1106535-07	7/5/11 14:00	0.500	0.508	102	90 - 110
CCV3	252424	KQ1106535-08	7/5/11 14:00	0.500	0.502	100	90 - 110
CCV4	252424	KQ1106535-09	7/5/11 14:00	0.500	0.504	101	90 - 110
CCV5	252424	KQ1106535-10	7/5/11 14:00	0.500	0.507	101	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105719
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	252424	KQ1106535-01	7/5/11 14:00	0.004	0.010	**0.004**	J
CCB2	252424	KQ1106535-02	7/5/11 14:00	0.004	0.010	**0.007**	J
CCB3	252424	KQ1106535-03	7/5/11 14:00	0.004	0.010	**0.008**	J
CCB4	252424	KQ1106535-04	7/5/11 14:00	0.004	0.010	ND	U
CCB5	252424	KQ1106535-05	7/5/11 14:00	0.004	0.010	**0.005**	J

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-202 M6	K1105719-001	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-207 M8	K1105719-002	**2.3**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-212 M7	K1105719-003	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-217 DYOTS	K1105719-004	**2.0**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-222 PWNLP	K1105719-005	**1.9**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-227 WP	K1105719-006	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-232 M2 SURFACE	K1105719-007	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-237 M2 DEEP	K1105719-008	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-242 CLMBAY	K1105719-009	**1.8**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-247 ILSP	K1105719-010	**2.1**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-252 M1 SURFACE	K1105719-011	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-257 M1 DEEP	K1105719-012	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-262 BM01	K1105719-013	**1.7**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-267 SN03	K1105719-014	**2.2**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-272 SN05	K1105719-015	**2.5**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-277 SN08	K1105719-016	**2.5**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-282 SN10	K1105719-017	**2.5**		1.0	0.2	2	NA	6/24/11 18:08	
AMB07-288 SN11	K1105719-018	**2.4**		1.0	0.2	2	NA	6/27/11 13:43	
AMB07-293 SN11 DUP	K1105719-019	**2.7**		1.0	0.2	2	NA	6/27/11 13:43	
AMB07-298 M3.3	K1105719-020	**2.5**		1.0	0.2	2	NA	6/27/11 13:43	
Method Blank	K1105719-MB1	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105719-MB2	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105719-MB3	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105719-MB4	ND	U	0.50	0.07	1	NA	6/24/11 18:08	
Method Blank	K1105719-MB5	ND	U	0.50	0.07	1	NA	6/27/11 13:43	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-202 M6DUP Duplicate Sample K1105719-001DUP5 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.9	2.0	1.94	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-272 SN05
Lab Code: K1105719-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-272 SN05DUP Duplicate Sample K1105719-015DUP7 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	2.5	2.3	2.37	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/27/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-288 SN11
Lab Code: K1105719-018

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-288 SN11DUP Duplicate Sample K1105719-018DUP8 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	2.4	2.3	2.37	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-202 M6
Lab Code: K1105719-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-202 M6MS
Matrix Spike
K1105719-001MS6

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.9	51.5	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-272 SN05
Lab Code: K1105719-015

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-272 SN05MS
Matrix Spike
K1105719-015MS8

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	2.5	50.7	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Collected: 6/22/11
Date Received: 6/24/11
Date Analyzed: 6/27/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-288 SN11
Lab Code: K1105719-018

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-288 SN11MS
Matrix Spike
K1105719-018MS9

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	2.4	52.1	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS1			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.4	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1105719
Date Analyzed: 6/27/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105719-LCS5			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.7	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1105719

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	251361	KQ1106193-17	6/24/11 18:08	25.0	23.3	93	90 - 110
CCV2	251361	KQ1106193-18	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV3	251361	KQ1106193-19	6/24/11 18:08	25.0	23.8	95	90 - 110
CCV4	251361	KQ1106193-20	6/24/11 18:08	25.0	23.8	95	90 - 110
CCV5	251361	KQ1106193-21	6/24/11 18:08	25.0	23.7	95	90 - 110
CCV6	251361	KQ1106193-22	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV7	251361	KQ1106193-23	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV8	251361	KQ1106193-24	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV9	251361	KQ1106193-25	6/24/11 18:08	25.0	23.9	96	90 - 110
CCV10	251469	KQ1106206-05	6/27/11 13:43	25.0	23.8	95	90 - 110
CCV11	251469	KQ1106206-06	6/27/11 13:43	25.0	24.0	96	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1105719
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	251361	KQ1106193-26	6/24/11 18:08	0.07	0.50	ND	U
CCB2	251361	KQ1106193-27	6/24/11 18:08	0.07	0.50	ND	U
CCB3	251361	KQ1106193-28	6/24/11 18:08	0.07	0.50	ND	U
CCB4	251361	KQ1106193-29	6/24/11 18:08	0.07	0.50	ND	U
CCB5	251361	KQ1106193-30	6/24/11 18:08	0.07	0.50	ND	U
CCB6	251361	KQ1106193-31	6/24/11 18:08	0.07	0.50	ND	U
CCB7	251361	KQ1106193-32	6/24/11 18:08	0.07	0.50	**0.09**	J
CCB8	251361	KQ1106193-33	6/24/11 18:08	0.07	0.50	**0.08**	J
CCB9	251361	KQ1106193-34	6/24/11 18:08	0.07	0.50	ND	U
CCB10	251469	KQ1106206-07	6/27/11 13:43	0.07	0.50	ND	U
CCB11	251469	KQ1106206-08	6/27/11 13:43	0.07	0.50	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1107209
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Received:**	8/4/11
Sample Matrix:	Seawater/water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Fourteen ocean water and one water samples were received for analysis at Columbia Analytical Services on 8/4/11. The following discrepancies were noted upon initial sample inspection. The exceptions are also noted on the cooler receipt and preservation form included in this data package. Six other ocean water and two water samples were received broken. The other samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Organic Carbon by Standard Method 5310 C:
All samples were received past the recommended holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

The samples were received frozen which may extend the hold time.

One ocean water sample broke while in our sample storage area prior to analysis: AMB07-070-PS01

No other anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 8-18-11

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/ 4/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-004-PS07	K1107209-001	**2.2**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-009-PS06	K1107209-002	**4.2**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-019-PS03	K1107209-003	**1.9**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-024-PS04	K1107209-004	**2.3**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-029-PS05	K1107209-005	**1.4**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-045-PS09	K1107209-006	**1.3**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-050-PS10	K1107209-007	**1.3**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-076-PS02	K1107209-009	**1.5**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-081-PS13	K1107209-010	**2.4**		1.0	0.2	2	NA	8/8/11 19:06	*
AMB07-085-M4	K1107209-011	**3.4**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-096-M3.1	K1107209-012	**2.5**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-101-M3.1DEEP	K1107209-013	**2.2**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-106-PS12	K1107209-014	**3.4**		1.0	0.2	2	NA	8/9/11 17:42	*
Method Blank	K1107209-MB1	ND	U	0.50	0.07	1	NA	8/8/11 19:06	
Method Blank	K1107209-MB2	**0.22**	J	0.50	0.07	1	NA	8/9/11 17:42	
Method Blank	K1107209-MB3	ND	U	0.50	0.07	1	NA	8/9/11 17:42	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1107209
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/21/11
Sample Matrix:	Water	**Date Received:**	8/ 4/11
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07DD-004-OF021	K1107209-015	**3.7**		1.0	0.2	2	NA	8/9/11 17:42	*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-004-PS07
Lab Code: K1107209-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-004-PS07DUP Duplicate Sample K1107209-001DUP1 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.2	2.2	2.17	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-009-PS06
Lab Code: K1107209-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-009-PS06DUP Duplicate Sample K1107209-002DUP2 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	4.2	4.0	4.13	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-019-PS03
Lab Code: K1107209-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-019-PS03DUP Duplicate Sample K1107209-003DUP3 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.9	2.0	1.92	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-024-PS04
Lab Code: K1107209-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-024-PS04DUP Duplicate Sample K1107209-004DUP4 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.3	2.5	2.42	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-029-PS05
Lab Code: K1107209-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-029-PS05DUP Duplicate Sample K1107209-005DUP5 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.6	1.50	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-045-PS09
Lab Code: K1107209-006

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-045-PS09DUP Duplicate Sample K1107209-006DUP6 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.4	1.38	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-050-PS10
Lab Code: K1107209-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-050-PS10DUP Duplicate Sample K1107209-007DUP7 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.4	1.34	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-076-PS02
Lab Code: K1107209-009

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-076-PS02DUP Duplicate Sample K1107209-009DUP8 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.6	1.57	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-081-PS13
Lab Code: K1107209-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-081-PS13DUP Duplicate Sample K1107209-010DUP9 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.4	2.6	2.48	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-085-M4
Lab Code: K1107209-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-085-M4DUP Duplicate Sample K1107209-011DUP10 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	3.4	3.5	3.46	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-096-M3.1
Lab Code: K1107209-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-096-M3.1D UP Duplicate Sample K1107209-012DUP11 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.5	2.5	2.51	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-101-M3.1DEEP
Lab Code: K1107209-013

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-101-M3.1DEEPDUP Duplicate Sample K1107209-013DUP12 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.2	2.3	2.26	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-106-PS12
Lab Code: K1107209-014

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-106-PS12DUP Duplicate Sample K1107209-014DUP13 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	3.4	3.3	3.31	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07DD-004-OF021
Lab Code: K1107209-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07DD-004-OF021DUP Duplicate Sample K1107209-015DUP14 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	3.7	3.5	3.62	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Collected: 6/21/11
Date Received: 8/4/11
Date Analyzed: 8/ 8/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-004-PS07
Lab Code: K1107209-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-004-PS07MS
Matrix Spike
K1107209-001MS1

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	2.2	52.7	50.0	101	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Analyzed: 8/ 8/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107209-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	26.3	26.0	101	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Analyzed: 8/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1107209-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	26.4	26.0	102	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107209
Date Analyzed: 8/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1107209-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.6	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1107209

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	256582	KQ1108171-13	8/8/11 19:06	25.0	25.1	100	90 - 110
CCV2	256582	KQ1108171-14	8/8/11 19:06	25.0	25.1	100	90 - 110
CCV3	256582	KQ1108171-15	8/8/11 19:06	25.0	24.7	99	90 - 110
CCV4	256752	KQ1108179-32	8/9/11 17:42	25.0	25.1	100	90 - 110
CCV5	256752	KQ1108179-33	8/9/11 17:42	25.0	25.0	100	90 - 110
CCV6	256752	KQ1108179-34	8/9/11 17:42	25.0	24.4	98	90 - 110
CCV7	256752	KQ1108179-35	8/9/11 17:42	25.0	24.8	99	90 - 110
CCV8	256752	KQ1108179-36	8/9/11 17:42	25.0	24.4	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1107209

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	256582	KQ1108171-16	8/8/11 19:06	0.07	0.50	ND	U
CCB2	256582	KQ1108171-17	8/8/11 19:06	0.07	0.50	ND	U
CCB3	256582	KQ1108171-18	8/8/11 19:06	0.07	0.50	ND	U
CCB4	256752	KQ1108179-37	8/9/11 17:42	0.07	0.50	**0.24**	J
CCB5	256752	KQ1108179-38	8/9/11 17:42	0.07	0.50	ND	U
CCB6	256752	KQ1108179-39	8/9/11 17:42	0.07	0.50	ND	U
CCB7	256752	KQ1108179-40	8/9/11 17:42	0.07	0.50	ND	U
CCB8	256752	KQ1108179-41	8/9/11 17:42	0.07	0.50	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1107256
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Received:**	8/5/11
Sample Matrix:	Ocean water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty ocean water samples were received for analysis at Columbia Analytical Services on 8/5/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Dissolved Organic Carbon by SM 5310C:
Samples were received past holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

No other anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 8-19-11

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1107256
Project:	June 2011 Ambient Monitoring (AMB07)	**Date Collected:**	6/22/11
Sample Matrix:	Ocean Water	**Date Received:**	8/ 5/11
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB07-203-M6	K1107256-001	**1.8**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-208-M8	K1107256-002	**2.1**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-213-M7	K1107256-003	**1.6**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-218-DYOTS	K1107256-004	**1.9**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-223-PWNLP	K1107256-005	**1.6**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-228-WP	K1107256-006	**1.7**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-233-M2 Surface	K1107256-007	**1.7**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-238-M2-Deep	K1107256-008	**1.7**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-243-CLMBAY	K1107256-009	**1.6**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-248-ILSP	K1107256-010	**1.7**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-253-M1-Surface	K1107256-011	**1.8**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-258-M1-Deep	K1107256-012	**1.6**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-263-BM01	K1107256-013	**1.8**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-268-SN03	K1107256-014	**1.7**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-273-SN05	K1107256-015	**1.6**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-278-SN08	K1107256-016	**1.5**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-283-SN10	K1107256-017	**1.6**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-289-SN11	K1107256-018	**2.1**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-294-SN11 Dup	K1107256-019	**1.8**		1.0	0.2	2	NA	8/9/11 17:42	*
AMB07-299-M3.3	K1107256-020	**1.7**		1.0	0.2	2	NA	8/9/11 17:42	*
Method Blank	K1107256-MB1	**0.22**	J	0.50	0.07	1	NA	8/9/11 17:42	
Method Blank	K1107256-MB2	ND	U	0.50	0.07	1	NA	8/9/11 17:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-203-M6
Lab Code: K1107256-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-203-M6DUP Duplicate Sample K1107256-001DUP6 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	2.0	1.88	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-208-M8
Lab Code: K1107256-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-208-M8DUP Duplicate Sample K1107256-002DUP7 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.1	2.2	2.12	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-213-M7
Lab Code: K1107256-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-213-M7DUP Duplicate Sample K1107256-003DUP8 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	2.0	1.78	22	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-218-DYOTS
Lab Code: K1107256-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-218-DYOTS DUP Duplicate Sample K1107256-004DUP9 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.9	1.9	1.89	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-223-PWNLP
Lab Code: K1107256-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-223-PWNLP DUP Duplicate Sample K1107256-005DUP10 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.9	1.76	14	33

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-228-WP
Lab Code: K1107256-006

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-228-WPDUP Duplicate Sample K1107256-006DUP11 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.8	1.75	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-233-M2 Surface
Lab Code: K1107256-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-233-M2 SurfaceDUP Duplicate Sample K1107256-007DUP12 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.7	1.68	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-238-M2-Deep
Lab Code: K1107256-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-238-M2-Dee pDUP Duplicate Sample K1107256-008DUP13 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.7	1.70	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-243-CLMBAY
Lab Code: K1107256-009

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-243-CLMBAYDUP Duplicate Sample K1107256-009DUP14 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.7	1.61	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-248-ILSP
Lab Code: K1107256-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-248-ILSPDUP Duplicate Sample K1107256-010DUP15 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.8	1.74	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-253-M1-Surface
Lab Code: K1107256-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-253-M1-SurfaceDUP Duplicate Sample K1107256-011DUP16 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	1.8	1.76	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-258-M1-Deep
Lab Code: K1107256-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-258-M1-Dee pDUP Duplicate Sample K1107256-012DUP17 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.7	1.67	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-263-BM01
Lab Code: K1107256-013

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-263-BM01D UP Duplicate Sample K1107256-013DUP18 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	1.6	1.71	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-268-SN03
Lab Code: K1107256-014

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-268-SN03D UP Duplicate Sample K1107256-014DUP19 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.9	1.76	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-273-SN05
Lab Code: K1107256-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-273-SN05D UP Duplicate Sample K1107256-015DUP20 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.7	1.67	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-278-SN08
Lab Code: K1107256-016

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-278-SN08D UP Duplicate Sample K1107256-016DUP21 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.7	1.61	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-283-SN10
Lab Code: K1107256-017

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-283-SN10D UP Duplicate Sample K1107256-017DUP22 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.7	1.62	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-289-SN11
Lab Code: K1107256-018

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-289-SN11D UP Duplicate Sample K1107256-018DUP23 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.1	2.3	2.19	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-294-SN11 Dup
Lab Code: K1107256-019

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-294-SN11 DupDUP Duplicate Sample K1107256-019DUP24 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	2.0	1.90	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB07-299-M3.3
Lab Code: K1107256-020

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB07-299-M3.3D UP Duplicate Sample K1107256-020DUP25 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.7	1.72	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-203-M6
Lab Code: K1107256-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-203-M6MS
Matrix Spike
K1107256-001MS1

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	1.8	51.4	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Collected: 6/22/11
Date Received: 8/5/11
Date Analyzed: 8/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB07-299-M3.3
Lab Code: K1107256-020

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB07-299-M3.3MS
Matrix Spike
K1107256-020MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	1.7	51.8	50.0	100	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Analyzed: 8/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107256-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	26.4	26.0	102	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)
Sample Matrix: Ocean Water

Service Request: K1107256
Date Analyzed: 8/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1107256-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.6	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: June 2011 Ambient Monitoring (AMB07)

Service Request: K1107256

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	256752	KQ1108179-32	8/9/11 17:42	25.0	25.1	100	90 - 110
CCV2	256752	KQ1108179-33	8/9/11 17:42	25.0	25.0	100	90 - 110
CCV3	256752	KQ1108179-34	8/9/11 17:42	25.0	24.4	98	90 - 110
CCV4	256752	KQ1108179-35	8/9/11 17:42	25.0	24.8	99	90 - 110
CCV5	256752	KQ1108179-36	8/9/11 17:42	25.0	24.4	98	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1107256
Project: June 2011 Ambient Monitoring (AMB07)

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	256752	KQ1108179-37	8/9/11 17:42	0.07	0.50	**0.24**	J
CCB2	256752	KQ1108179-38	8/9/11 17:42	0.07	0.50	ND	U
CCB3	256752	KQ1108179-39	8/9/11 17:42	0.07	0.50	ND	U
CCB4	256752	KQ1108179-40	8/9/11 17:42	0.07	0.50	ND	U
CCB5	256752	KQ1108179-41	8/9/11 17:42	0.07	0.50	ND	U

PROJECT ENVVEST
Project Name: June 2011 Ambient Monitoring (AMB07)
SAMPLE TEAM: Navy, Battelle
DATE: 6/22/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

K1105673

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC *	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB07-003	PS07	06/21/11	seawater			X	X					1	*NOTE: DOC held (not sent until PM could look at containers. ES 6/22/11
	AMB07-004	PS07	06/21/11	seawater					X				1	
2	AMB07-008	PS06	06/21/11	seawater			X	X					1	
	AMB07-009	PS06	06/21/11	seawater					X				1	
3	AMB07-013	PS14	06/21/11	seawater			X	X					1	
	AMB07-014	PS14	06/21/11	seawater					X				1	
4	AMB07-018	PS03	06/21/11	seawater			X	X					1	
	AMB07-019	PS03	06/21/11	seawater					X				1	
5	AMB07-023	PS04	06/21/11	seawater			X	X					1	
	AMB07-024	PS04	06/21/11	seawater					X				1	
6	AMB07-028	PS05	06/21/11	seawater			X	X					1	
	AMB07-029	PS05	06/21/11	seawater					X				1	
7	AMB07-033	PS08	06/21/11	seawater			X	X					1	
	AMB07-034	PS08	06/21/11	seawater					X				1	
8	AMB07-039	PS15	06/21/11	seawater			X	X					1	
	AMB07-040	PS15	06/21/11	seawater					X				1	
9	AMB07-044	PS09	06/21/11	seawater			X	X					1	
	AMB07-045	PS09	06/21/11	seawater					X				1	
10	AMB07-049	PS10	06/21/11	seawater			X	X					1	
	AMB07-050	PS10	06/21/11	seawater					X				1	
11	AMB07-054	PS10.1	06/21/11	seawater			X	X					1	
	AMB07-055	PS10.1	06/21/11	seawater					X				1	
12	AMB07-059	PS11	06/21/11	seawater			X	X					1	
	AMB07-060	PS11	06/21/11	seawater					X				1	
13	AMB07-064	PS16	06/21/11	seawater			X	X					1	
	AMB07-065	PS16	06/21/11	seawater					X				1	

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PROJECT ENVVEST
Project Name: June 2011 Ambient Monitoring (AMB07)
SAMPLE TEAM: Navy, Battelle
DATE: 6/22/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

K1105673

Testing Parameters per QAPP

14	AMB07-069	PS01	06/21/11	seawater			X		X							1
	AMB07-070	PS01	06/21/11	seawater						X						1
15	AMB07-075	PS02	06/21/11	seawater			X		X							1
	AMB07-076	PS02	06/21/11	seawater						X						1
16	AMB07-080	PS13	06/21/11	seawater			X		X							1
	AMB07-081	PS13	06/21/11	seawater						X						1
17	AMB07-084	M4	06/21/11	seawater			X		X							1
	AMB07-085	M4	06/21/11	seawater						X						1
18	AMB07-090	BJ-EST	06/21/11	seawater			X		X							1
	AMB07-091	BJ-EST	06/21/11	seawater						X						1
19	AMB07-095	M3.1	06/21/11	seawater			X		X							1
	AMB07-096	M3.1	06/21/11	seawater						X						1
20	AMB07-100	M3.1DEEP	06/21/11	seawater			X		X							1
	AMB07-101	M3.1DEEP	06/21/11	seawater						X						1
21	AMB07-105	PS12	06/21/11	seawater			X		X							1
	AMB07-106	PS12	06/21/11	seawater						X						1
22	AMB07DD-003	OF021	06/21/11	water			X		X							1
	AMB07DD-004	OF021	06/21/11	water						X						1
23	AMB07DD-006	OF021	06/21/11	water							X					1
24	AMB07DD-009	OF019	06/21/11	water			X		X							1
	AMB07DD-010	OF019	06/21/11	water						X						1
25	AMB07DD-012	OF019	06/21/11	water							X					1
26	AMB07DD-015	OF018A	06/21/11	water			X		X							1
	AMB07DD-016	OF018A	06/21/11	water						X						1
27	AMB07DD-018	OF018A	06/21/11	water							X					1

Total: 51

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Relinquished By: C. Suslick — Company: Battelle MSL
Signature/Printed Name — Date/Time: 6/22/2011

Received By: K. Smith / Karla Smith — Company: CAS
Signature/Printed Name — Date/Time: 6/23/11 0930

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 412

Client / Project: Battelle Marine Service Request K11 5673

Received: 6/23/11 Opened: 6/23/11 By: KD Unloaded: 6/23/11 By: KD

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
.1	-.3	304		7972 3446 3527	
				7972 3446 3295	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* paper/hard ice
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: *See Client's note on COC, did not send DOC bottles.

K1105719

PROJECT ENVVEST Project Name: June 2011 Ambient Monitoring (AMB07) SAMPLE TEAM: Navy, Battelle DATE: 6/23/2011 Laboratory: Columbia Analytical	CHAIN OF CUSTODY FORM Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB07-202	M6	06/22/11	seawater			X	X					1	
AMB07-207	M8	06/22/11	seawater			X	X					1	
AMB07-212	M7	06/22/11	seawater			X	X					1	
AMB07-217	DYOTS	06/22/11	seawater			X	X					1	
AMB07-222	PWNLP	06/22/11	seawater			X	X					1	
AMB07-227	WP	06/22/11	seawater			X	X					1	
AMB07-232	M2 SURFACE	06/22/11	seawater			X	X					1	
AMB07-237	M2 DEEP	06/22/11	seawater			X	X					1	
AMB07-242	CLMBAY	06/22/11	seawater			X	X					1	
AMB07-247	ILSP	06/22/11	seawater			X	X					1	
AMB07-252	M1 SURFACE	06/22/11	seawater			X	X					1	
AMB07-257	M1 DEEP	06/22/11	seawater			X	X					1	
AMB07-262	BM01	06/22/11	seawater			X	X					1	
AMB07-267	SN03	06/22/11	seawater			X	X					1	
AMB07-272	SN05	06/22/11	seawater			X	X					1	
AMB07-277	SN08	06/22/11	seawater			X	X					1	
AMB07-282	SN10	06/22/11	seawater			X	X					1	
AMB07-288	SN11	06/22/11	seawater			X	X					1	

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K1105719

PROJECT ENVVEST Project Name: June 2011 Ambient Monitoring (AMB07) SAMPLE TEAM: Navy, Battelle DATE: 6/23/2011 Laboratory: Columbia Analytical	**CHAIN OF CUSTODY FORM** Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB07-293	SN11 DUP	06/22/11	seawater			X	X					1	
AMB07-298	M3.3	06/22/11	seawater			X	X					1	
--END OF LIST--													

Total: 20

Relinquished By: C. Suslick	Company: Battelle MSL
Signature/Printed Name	6/23/2011 Date/Time

Received By: Brad Tobin	Company: CA 6/24/11 0910
Signature/Printed Name	Date/Time

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Howard

Client / Project: Battelle Marine Sciences Service Request *K11* 5719

Received: 6/24/11 Opened: 6/24/11 By: BT Unloaded: 6/24/11 By: BT

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
2.1	N/A	306				X
-1.9	1	265				X

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

PROJECT ENVVEST
Project Name: June 2011 Ambient Monitoring (AMB07)
SAMPLE TEAM: Navy, Battelle
DATE: 8/3/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample were stored frozen until shipment

IK110709

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved (at lab) Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB07-004	PS07	06/21/11	seawater					X				1	
AMB07-009	PS06	06/21/11	seawater					X				1	
~~AMB07-014~~	~~PS14~~	~~06/21/11~~	~~seawater~~					~~X~~				~~1~~	sample broken - not shipped
AMB07-019	PS03	06/21/11	seawater					X				1	
AMB07-024	PS04	06/21/11	seawater					X				1	
AMB07-029	PS05	06/21/11	seawater					X				1	
AMB07-034	PS08	06/21/11	seawater					X				1	rec'd broken
AMB07-040	PS15	06/21/11	seawater					X				1	rec'd broken
AMB07-045	PS09	06/21/11	seawater					X				1	~~rec'd broken~~
AMB07-050	PS10	06/21/11	seawater					X				1	
AMB07-055	PS10.1	06/21/11	seawater					X				1	rec'd broken
AMB07-060	PS11	06/21/11	seawater					X				1	rec'd broken
AMB07-065	PS16	06/21/11	seawater					X				1	rec'd broken
AMB07-070	PS01	06/21/11	seawater					X				1	
AMB07-076	PS02	06/21/11	seawater					X				1	
AMB07-081	PS13	06/21/11	seawater					X				1	
AMB07-085	M4	06/21/11	seawater					X				1	

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PROJECT ENVVEST
Project Name: June 2011 Ambient Monitoring (AMB07)
SAMPLE TEAM: Navy, Battelle
DATE: 8/3/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample were stored frozen until shipment

K1107209

AMB07-091	BJ-EST	06/21/11	seawater						X					1	rec'd broken
AMB07-096	M3.1	06/21/11	seawater						X					1	
AMB07-101	M3.1DEEP	06/21/11	seawater						X					1	
AMB07-106	PS12	06/21/11	seawater						X					1	
AMB07DD-004	OF021	06/21/11	water						X					1	
AMB07DD-010	OF019	06/21/11	water						X					1	rec'd broken
AMB07DD-016	OF018A	06/21/11	water						X					1	rec'd broken
--END OF LIST--															

Total: 24 (23 + 1 broken, not shipped)

CS

Relinquished By: C. Suslick
Signature/Printed Name

Company: Battelle MSL
8/3/2011
Date/Time

Received By: Les Kennedy
Signature/Printed Name

Company: CAS
8/4/11 0850
Date/Time

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC HH

Client / Project: Battelle Service Request K11 07209

Received: 8/4/11 Opened: 8/4/11 By: MR Unloaded: 8/4/11 By: MR

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? (NA) Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
2.9	—	265			✓

7. Packing material used. *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y (N)
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: The following samples were received broken: PS15, PS08, PS10, OF19, PS16, PS11, OF18A, BJ-EST

The following samples were received cracked and were transferred to new vials: PS12, PS02, PS06, PS04, PS13, M4, OF21.

Page 1 *of* ____

K1107256

PROJECT ENVVEST
Project Name: June 2011 Ambient Monitoring (AMB07)
SAMPLE TEAM: Navy, Battelle
DATE: 8/4/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Samples were filtered upon arrival to MSL and stored refrigerated until shipped to CAS

Sample ID	STATION ID	Collection Date/Time	Matrix		DOC									No. of containers	COMMENTS
AMB07-203	M6	06/22/11	seawater		X									1	
AMB07-208	M8	06/22/11	seawater		X									1	
AMB07-213	M7	06/22/11	seawater		X									1	
AMB07-218	DYOTS	06/22/11	seawater		X									1	
AMB07-223	PWNLP	06/22/11	seawater		X									1	
AMB07-228	WP	06/22/11	seawater		X									1	
AMB07-233	M2 SURFACE	06/22/11	seawater		X									1	
AMB07-238	M2 DEEP	06/22/11	seawater		X									1	
AMB07-243	CLMBAY	06/22/11	seawater		X									1	
AMB07-248	ILSP	06/22/11	seawater		X									1	
AMB07-253	M1 SURFACE	06/22/11	seawater		X									1	
AMB07-258	M1 DEEP	06/22/11	seawater		X									1	
AMB07-263	BM01	06/22/11	seawater		X									1	
AMB07-268	SN03	06/22/11	seawater		X									1	
AMB07-273	SN05	06/22/11	seawater		X									1	
AMB07-278	SN08	06/22/11	seawater		X									1	
AMB07-283	SN10	06/22/11	seawater		X									1	
AMB07-289	SN11	06/22/11	seawater		X									1	
AMB07-294	SN11 DUP	06/22/11	seawater		X									1	
AMB07-299	M3.3	06/22/11	seawater		X									1	
--END OF LIST--															

Total: 20

Relinquished By: C. Suslick — Company: Battelle MSL — 8/4/2011
Signature/Printed Name — Date/Time

Received By: — Company: CAS
8/5/11 915
Signature/Printed Name — Date/Time

SOP#: MSL-A-001

8

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Howard

Client / Project: Battelle Service Request K11 7256

Received: 8/5/11 Opened: 8/5/11 By: BT Unloaded: 8/5/11 By: BT

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.7		299			X

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* Box in cooler
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

Page 1 of ____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring September 2011 (AMB08)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring
Seawater Chemistry,
Equipment Blanks

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QA/QC Summary Reports 12
QA/QC Narrative 28

Sample Custody Information
Laboratory Sample Log-In Form 32
Chain of Custody Form 39
Log-In Checklist 57

CVAF Analysis of Samples for Hg
Analytical raw data available upon request

FIAS Analysis of Samples for As
Analytical raw data available upon request

ICP-MS Analysis of Samples for Metals
Analytical raw data available upon request

Analysis of Conventional Water Chemistry in Site Water
Narrative, Batch K1109025 59
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Sample Custody Information
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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB08
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.50**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**	**0.0293**
Seawater Reporting Limit (MDL* 3.18)								**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**	**0.093**
Laboratory Achieved Detection Limits (Freshwater)						--	--	0.0001	0.0267	0.0032	0.2	0.0033	0.051
Freshwater Reporting Limit (MDL* 3.18)						--	--	0.00032	0.085	0.010	0.6	0.011	0.16
AMB08-001	PS04	TME	Seawater	**3106-590**	09/20/11	31.1	3.78	0.000678	1.33	0.0042 bU	4.42 bJ	0.0533 b	0.144 b
AMB08-001	PS04	DME	Seawater	**3106-591**	09/20/11	--	--	0.000310 J	--	0.0042 bU	2.14 bU	0.0546 b	0.144 b
AMB08-005	PS03	TME	Seawater	**3106-592**	09/20/11	30.2	4.13	0.00160	1.34	0.0042 bU	3.64 bJ	0.0626 b	0.202 b
AMB08-005	PS03	DME	Seawater	**3106-593**	09/20/11	--	--	0.000901	--	0.0042 bU	2.14 bU	0.0534 b	0.146 b
AMB08-009	PS05	TME	Seawater	**3106-594**	09/20/11	30.6	3.75	0.00127	1.32	0.0042 bU	4.18 bJ	0.0596 b	0.111 b
AMB08-009	PS05	DME	Seawater	**3106-595**	09/20/11	--	--	0.000611	--	0.0042 bU	2.14 bU	0.0582 b	0.0821 bJ
AMB08-013	PS14	TME	Seawater	**3106-596**	09/20/11	30.3	5.29	0.000822	1.32	0.0042 bU	6.03 bJ	0.0559 b	0.106 b
AMB08-013	PS14	DME	Seawater	**3106-597**	09/20/11	--	--	0.000349	--	0.0042 bU	2.14 bU	0.0524 b	0.0941 b
AMB08-017	PS06	TME	Seawater	**3106-598**	09/20/11	30.1	6.01	0.000770	1.33	0.0042 bU	5.59 bJ	0.0577 b	0.103 b
AMB08-017	PS06	DME	Seawater	**3106-599**	09/20/11	--	--	0.000354	--	0.0042 bU	2.14 bU	0.0557 b	0.0901 bJ
AMB08-021	PS07	TME	Seawater	**3106-600**	09/20/11	30.3	3.65	0.000905	1.36	0.0042 bU	4.19 bJ	0.0608 b	0.113 b
AMB08-021	PS07	DME	Seawater	**3106-601**	09/20/11	--	--	0.000372	--	0.0042 bU	2.14 bU	0.0563 b	0.105 b
AMB08-025	PS07DUP	TME	Seawater	**3106-602**	09/20/11	30.1	3.61	0.000946	1.33	0.0042 bU	4.73 bJ	0.0636 b	0.117 b
AMB08-025	PS07DUP	DME	Seawater	**3106-603**	09/20/11	--	--	0.000377	--	0.0042 bU	2.14 bU	0.0528 b	0.0791 bJ
AMB08-029	PS08	TME	Seawater	**3106-604**	09/20/11	30.3	2.90	0.000645	1.35	0.0042 bU	5.07 bJ	0.0587 b	0.0551 bJ
AMB08-029	PS08	DME	Seawater	**3106-605**	09/20/11	--	--	0.000315 J	--	0.0042 bU	2.14 bU	0.0581 b	0.0681 bJ
AMB08-033	PS15	TME	Seawater	**3106-606**	09/20/11	30.3	2.89	0.000620	1.32	0.0042 bU	5.98 bJ	0.0478 b	0.0771 bJ
AMB08-033	PS15	DME	Seawater	**3106-607**	09/20/11	--	--	0.000291 J	--	0.0042 bU	2.14 bU	0.0480 b	0.0581 bJ
AMB08-037	PS09	TME	Seawater	**3106-608**	09/20/11	28.4	2.43	0.00124	1.38	0.0042 bU	4.75 bJ	0.0570 b	0.132 b
AMB08-037	PS09	DME	Seawater	**3106-609**	09/20/11	--	--	0.000438	--	0.00463 bJ	2.14 bU	0.0611 b	0.107 b
AMB08-041	PS10	TME	Seawater	**3106-610**	09/20/11	30.6	3.63	0.000728	1.35	0.0042 bU	4.65 bJ	0.0646 b	0.101 b
AMB08-041	PS10	DME	Seawater	**3106-611**	09/20/11	--	--	0.000289 J	--	0.0042 bU	2.14 bU	0.0580 b	0.0671 bJ
AMB08-045	PS11	TME	Seawater	**3106-612**	09/20/11	31.8	3.20	0.000609	1.31	0.0042 bU	4.86 bJ	0.0623 b	0.108 b
AMB08-045	PS11	DME	Seawater	**3106-613**	09/20/11	--	--	0.000248 J	--	0.0042 bU	2.14 bU	0.0567 b	0.0951 b
AMB08-046	PS11DUP	TME	Seawater	**3106-614**	09/20/11	--	--	0.000635	1.34	0.0042 bU	4.71 bJ	0.0626 b	0.131 b
AMB08-046	PS11DUP	DME	Seawater	**3106-615**	09/20/11	--	--	0.000227 J	--	0.0042 bU	2.14 bU	0.0518 b	0.0691 bJ
AMB08-050	PS16	TME	Seawater	**3106-616**	09/20/11	31.6	3.50	0.000580	1.38	0.0042 bU	7.34 b	0.0611 b	0.103 b
AMB08-050	PS16	DME	Seawater	**3106-617**	09/20/11	--	--	0.000215 J	--	0.0042 bU	2.14 bU	0.0584 b	0.0871 bJ
AMB08-054	PS10.1	TME	Seawater	**3106-618**	09/20/11	30.4	1.97	0.000584	1.31	0.0042 bU	4.23 bJ	0.0598 b	0.104 b
AMB08-054	PS10.1	DME	Seawater	**3106-619**	09/20/11	--	--	0.000257 J	--	0.0042 bU	2.14 bU	0.0506 b	0.120 b
AMB08-058	PS01	TME	Seawater	**3106-620**	09/20/11	30.1	3.07	0.000831	1.37	0.0042 bU	7.02 b	0.0644 b	0.127 b
AMB08-058	PS01	DME	Seawater	**3106-621**	09/20/11	--	--	0.000438	--	0.0042 bU	2.14 bU	0.0608 b	0.104 b
AMB08-062	PS02	TME	Seawater	**3106-622**	09/20/11	30.5	5.09	0.00142	1.40	0.0042 bU	5.12 bJ	0.0685 b	0.129 b
AMB08-062	PS02	DME	Seawater	**3106-623**	09/20/11	--	--	0.000375	--	0.0042 bU	2.14 bU	0.0581 b	0.0981 b
AMB08-066	PS13	TME	Seawater	**3106-624**	09/20/11	30.2	5.45	0.000833	1.32	0.0042 bU	8.84 b	0.0598 b	0.151 b
AMB08-066	PS13	DME	Seawater	**3106-625**	09/20/11	--	--	0.000328	--	0.0042 bU	2.14 bU	0.0504 b	0.113 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB08
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Collection Date	**Salinity**	**TSS**	**Hg**	**As**	**Ag**	**Al**	**Cd**	**Cr**
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB08-070	M4	TME	Seawater	**3106-626**	09/20/11	29.9	2.60	0.000733	1.34	0.0042 bU	15.7 b	0.0534 b	0.259 b
AMB08-070	M4	DME	Seawater	**3106-627**	09/20/11	--	--	0.000323	--	0.0042 bU	2.14 bU	0.0444 b	0.112 b
AMB08-074	BJ-EST	TME	Seawater	**3106-628**	09/20/11	27.9	3.99	0.000869	1.30	0.0042 bU	24.8 b	0.0506 b	0.232 b
AMB08-074	BJ-EST	DME	Seawater	**3106-629**	09/20/11	--	--	0.000300 J	--	0.0042 bU	2.14 bU	0.0504 b	0.165 b
AMB08-078	M3.1	TME	Seawater	**3106-630**	09/20/11	30.4	2.88	0.000517	1.35	0.0042 bU	7.01 b	0.0575 b	0.0991 b
AMB08-078	M3.1	DME	Seawater	**3106-631**	09/20/11	--	--	0.000254 J	--	0.0042 bU	2.14 bU	0.0577 b	0.0791 bJ
AMB08-082	M3.1DEEP	TME	Seawater	**3106-632**	09/20/11	30.6	3.25	0.000522	1.38	0.0042 bU	10.7 b	0.0727 b	0.166 b
AMB08-082	M3.1DEEP	DME	Seawater	**3106-633**	09/20/11	--	--	0.000224 J	--	0.0042 bU	2.14 bU	0.0632 b	0.125 b
AMB08-086	PS12	TME	Seawater	**3106-634**	09/20/11	30.5	3.08	0.000669	1.32	0.0042 bU	9.75 b	0.0684 b	0.168 b
AMB08-086	PS12	DME	Seawater	**3106-635**	09/20/11	--	--	0.000305 J	--	0.0042 bU	2.14 bU	0.0563 b	0.121 b
AMB08DD-001	OF018	TME	Seawater	**3106-636**	09/20/11	22.6	2.69	0.00782	1.97	0.0223 b	6.55 bJ	0.138 b	0.632 b
AMB08DD-001	OF018	DME	Seawater	**3106-637**	09/20/11	--	--	0.00265	--	0.0104 bJ	2.14 bU	0.130 b	0.293 b
AMB08DD-006	OF019	TME	Seawater	**3106-638**	09/20/11	28.6	4.95	0.00335	1.48	0.0136 b	21.6 b	0.0951 b	12.0 b
AMB08DD-006	OF019	DME	Seawater	**3106-639**	09/20/11	--	--	0.00105	--	0.00782 bJ	2.14 bU	0.0842 b	0.983 b
AMB08DD-011	OF021	TME	Freshwater	**3106-640**	09/20/11	0.3	0.322	0.00287	1.05	0.0032 U	14.4	0.0033 U	1.68
AMB08DD-011	OF021	DME	Freshwater	**3106-641**	09/20/11	--	--	0.00219	--	0.0032 U	9.47	0.0033 U	1.58
AMB08-200	PS07	TME	Seawater	**3106-642**	09/21/11	30.1	2.53	0.00141	1.41	0.0042 bU	5.42 bJ	0.0765 b	0.134 b
AMB08-200	PS07	DME	Seawater	**3106-643**	09/21/11	--	--	0.000481	--	0.0042 bU	2.14 bU	0.0629 b	0.101 b
AMB08-204	M3.3	TME	Seawater	**3106-644**	09/21/11	31.3	4.90	0.000699	1.31	0.0042 bU	13.0 b	0.0461 b	0.160 b
AMB08-204	M3.3	DME	Seawater	**3106-645**	09/21/11	--	--	0.000309 J	--	0.0042 bU	2.14 bU	0.0433 b	0.104 b
AMB08-208	SN03	TME	Seawater	**3106-646**	09/21/11	29.9	5.62	0.00100	1.34	0.0042 bU	11.3 b	0.0661 b	0.135 b
AMB08-208	SN03	DME	Seawater	**3106-647**	09/21/11	--	--	0.000250 J	--	0.0042 bU	2.14 bU	0.0495 b	0.134 b
AMB08-212	SN05	TME	Seawater	**3106-648**	09/21/11	30.1	33.3	0.00169	1.23	0.00531 bJ	17.8 b	0.152 b	0.141 b
AMB08-212	SN05	DME	Seawater	**3106-649**	09/21/11	--	--	0.000820	--	0.0042 bU	2.14 bU	0.116 b	0.0861 bJ
AMB08-216	SN05DUP	TME	Seawater	**3106-650**	09/21/11	--	--	0.00252	1.13	0.0042 bU	16.0 b	0.256 b	0.239 b
AMB08-216	SN05DUP	DME	Seawater	**3106-651**	09/21/11	--	--	0.00153	--	0.0042 bU	2.14 bU	0.185 b	0.133 b
AMB08-217	SN08	TME	Seawater	**3106-652**	09/21/11	29.4	25.8	0.00107	1.21	0.0042 bU	34.6 b	0.0655 b	0.236 b
AMB08-217	SN08	DME	Seawater	**3106-653**	09/21/11	--	--	0.000273 J	--	0.0042 bU	2.14 bU	0.0421 b	0.0910 bJ
AMB08-221	SN10	TME	Seawater	**3106-654**	09/21/11	29.3	2.81	0.000819	1.28	0.0042 bU	21.1 b	0.0484 b	0.159 b
AMB08-221	SN10	DME	Seawater	**3106-655**	09/21/11	--	--	0.000275 J	--	0.0042 bU	2.14 bU	0.0454 b	0.119 b
AMB08-225	SN11	TME	Seawater	**3106-656**	09/21/11	29.8	2.49	0.000558	1.30	0.0042 bU	9.38 b	0.0527 b	0.155 b
AMB08-225	SN11	DME	Seawater	**3106-657**	09/21/11	--	--	0.000269 J	--	0.0042 bU	2.14 bU	0.0482 b	0.103 b
AMB08-229	M8	TME	Seawater	**3106-658**	09/21/11	29.4	17.1	0.00141	1.20	0.0042 bU	27.9 b	0.140 b	0.216 b
AMB08-229	M8	DME	Seawater	**3106-659**	09/21/11	--	--	0.000291 J	--	0.0042 bU	2.14 bU	0.0431 b	0.127 b
AMB08-233	M6	TME	Seawater	**3106-660**	09/21/11	29.9	4.00	0.000687	1.29	0.0042 bU	12.6 b	0.0553 b	0.136 b
AMB08-233	M6	DME	Seawater	**3106-661**	09/21/11	--	--	0.000278 J	--	0.0042 bU	2.14 bU	0.0408 b	0.0960 b
AMB08-237	M7	TME	Seawater	**3106-662**	09/21/11	30.2	2.44	0.000425	1.30	0.0042 bU	9.19 b	0.0474 b	0.130 b
AMB08-237	M7	DME	Seawater	**3106-663**	09/21/11	--	--	0.000242 J	--	0.0042 bU	2.14 bU	0.0450 b	0.116 b
AMB08-241	DYOTS	TME	Seawater	**3106-664**	09/21/11	29.5	4.40	0.000738	1.26	0.0042 bU	8.56 b	0.0704 b	0.162 b
AMB08-241	DYOTS	DME	Seawater	**3106-665**	09/21/11	--	--	0.000241 J	--	0.0042 bU	2.14 bU	0.0377 b	0.140 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB08
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Collection Date	**Salinity**	**TSS**	**Hg**	**As**	**Ag**	**Al**	**Cd**	**Cr**
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB08-245	PWNLP	TME	Seawater	**3106-666**	09/21/11	30.5	3.26	0.000559	1.34	0.0042 bU	13.8 b	0.0616 b	0.131 b
AMB08-245	PWNLP	DME	Seawater	**3106-667**	09/21/11	--	--	0.000209 J	--	0.0042 bU	2.14 bU	0.0577 b	0.0840 bJ
AMB08-249	M1	TME	Seawater	**3106-668**	09/21/11	30.3	2.88	0.000389	1.31	0.0042 bU	6.47 bJ	0.0613 b	0.149 b
AMB08-249	M1	DME	Seawater	**3106-669**	09/21/11	--	--	0.000177 J	--	0.0042 bU	2.14 bU	0.0480 b	0.0820 bJ
AMB08-253	M1DEEP	TME	Seawater	**3106-670**	09/21/11	30.5	3.66	0.000506	1.36	0.0042 bU	8.28 b	0.0665 b	0.111 b
AMB08-253	M1DEEP	DME	Seawater	**3106-671**	09/21/11	--	--	0.000196 J	--	0.0042 bU	2.14 bU	0.0493 b	0.0830 bJ
AMB08-257	ILSP	TME	Seawater	**3106-672**	09/21/11	30.4	3.70	0.000411	1.38	0.0042 bU	11.1 b	0.0611 b	0.120 b
AMB08-257	ILSP	DME	Seawater	**3106-673**	09/21/11	--	--	0.000185 J	--	0.0042 bU	2.14 bU	0.0538 b	0.0800 bJ
AMB08-261	WP	TME	Seawater	**3106-674**	09/21/11	30.5	3.35	0.000530	1.37	0.0042 bU	12.9 b	0.0665 b	0.127 b
AMB08-261	WP	DME	Seawater	**3106-675**	09/21/11	--	--	0.000218 J	--	0.0042 bU	2.14 bU	0.0570 b	0.131 b
AMB08-265	M2	TME	Seawater	**3106-676**	09/21/11	30.6	2.41	0.000343	1.41	0.0042 bU	10.8 b	0.0728 b	0.131 b
AMB08-265	M2	DME	Seawater	**3106-677**	09/21/11	--	--	0.000167 J	--	0.0042 bU	2.14 bU	0.0704 b	0.106 b
AMB08-269	M2DEEP	TME	Seawater	**3106-678**	09/21/11	31.1	2.66	0.000394	1.45	0.0042 bU	7.38 b	0.0744 b	0.135 b
AMB08-269	M2DEEP	DME	Seawater	**3106-679**	09/21/11	--	--	0.000171 J	--	0.0042 bU	2.14 bU	0.0700 b	0.0720 bJ
AMB08-273	CLAMBAY	TME	Seawater	**3106-680**	09/21/11	30.5	3.62	0.000541	1.35	0.0042 bU	31.8 b	0.0724 b	0.169 b
AMB08-273	CLAMBAY	DME	Seawater	**3106-681**	09/21/11	--	--	0.000225 J	--	0.0042 bU	2.14 bU	0.0669 b	0.0840 bJ
AMB08-277	BM01	TME	Seawater	**3106-682**	09/21/11	30.8	3.72	0.000506	1.35	0.0042 bU	8.96 b	0.0666 b	0.0950 b
AMB08-277	BM01	DME	Seawater	**3106-683**	09/21/11	--	--	0.000234 J	--	0.0042 bU	2.14 bU	0.0631 b	0.0830 bJ
AMB08-281	BM01DUP	TME	Seawater	**3106-684**	09/21/11	30.6	3.06	0.000534	1.36	0.0042 bU	10.0 b	0.0646 b	0.122 b
AMB08-281	BM01DUP	DME	Seawater	**3106-685**	09/21/11	--	--	0.000218 J	--	0.0042 bU	2.14 bU	0.0589 b	0.0790 bJ

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1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB08
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.0351**	**0.0254**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)					**0.11**	**0.081**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)					0.0053	0.0042	0.0022	0.02
Freshwater Reporting Limit (MDL* 3.18)					0.017	0.013	0.0070	0.06
AMB08-001	PS04	TME	Seawater	**3106-590**	2.17 b	0.420 b	0.0705 b	4.31 b
AMB08-001	PS04	DME	Seawater	**3106-591**	1.68 b	0.379 b	0.0164 b	3.66 b
AMB08-005	PS03	TME	Seawater	**3106-592**	3.00 b	0.427 b	0.0754 b	4.83 b
AMB08-005	PS03	DME	Seawater	**3106-593**	2.50 b	0.415 b	0.0131 b	4.76 b
AMB08-009	PS05	TME	Seawater	**3106-594**	2.97 b	0.468 b	0.0900 b	6.27 b
AMB08-009	PS05	DME	Seawater	**3106-595**	2.29 b	0.441 b	0.0162 b	5.99 b
AMB08-013	PS14	TME	Seawater	**3106-596**	1.62 b	0.499 b	0.0675 b	3.34 b
AMB08-013	PS14	DME	Seawater	**3106-597**	1.25 b	0.476 b	0.00980 b	3.10 b
AMB08-017	PS06	TME	Seawater	**3106-598**	1.96 b	0.593 b	0.0849 b	4.81 b
AMB08-017	PS06	DME	Seawater	**3106-599**	1.60 b	0.559 b	0.0139 b	4.65 b
AMB08-021	PS07	TME	Seawater	**3106-600**	2.61 b	0.623 b	0.0703 b	5.19 b
AMB08-021	PS07	DME	Seawater	**3106-601**	2.02 b	0.622 b	0.0128 b	4.67 b
AMB08-025	PS07DUP	TME	Seawater	**3106-602**	2.60 b	0.662 b	0.0730 b	5.55 b
AMB08-025	PS07DUP	DME	Seawater	**3106-603**	1.97 b	0.633 b	0.0125 b	4.71 b
AMB08-029	PS08	TME	Seawater	**3106-604**	2.63 b	0.457 b	0.0617 b	6.97 b
AMB08-029	PS08	DME	Seawater	**3106-605**	2.17 b	0.473 b	0.0104 b	6.79 b
AMB08-033	PS15	TME	Seawater	**3106-606**	0.972 b	0.492 b	0.0624 b	1.91 b
AMB08-033	PS15	DME	Seawater	**3106-607**	0.811 b	0.393 b	0.00940 b	1.93 b
AMB08-037	PS09	TME	Seawater	**3106-608**	2.07 b	0.552 b	0.144 b	7.21 b
AMB08-037	PS09	DME	Seawater	**3106-609**	1.82 b	0.577 b	0.0318 b	7.98 b
AMB08-041	PS10	TME	Seawater	**3106-610**	2.13 b	0.444 b	0.0843 b	5.51 b
AMB08-041	PS10	DME	Seawater	**3106-611**	1.63 b	0.407 b	0.0138 b	5.25 b
AMB08-045	PS11	TME	Seawater	**3106-612**	1.83 b	0.421 b	0.0633 b	4.28 b
AMB08-045	PS11	DME	Seawater	**3106-613**	1.46 b	0.404 b	0.0125 b	3.89 b
AMB08-046	PS11DUP	TME	Seawater	**3106-614**	1.94 b	0.605 b	0.0780 b	4.26 b
AMB08-046	PS11DUP	DME	Seawater	**3106-615**	1.34 b	0.386 b	0.0120 b	3.57 b
AMB08-050	PS16	TME	Seawater	**3106-616**	0.856 b	0.383 b	0.0698 b	1.57 b
AMB08-050	PS16	DME	Seawater	**3106-617**	0.639 b	0.358 b	0.00969 b	1.36 b
AMB08-054	PS10.1	TME	Seawater	**3106-618**	1.54 b	0.429 b	0.0600 b	4.47 b
AMB08-054	PS10.1	DME	Seawater	**3106-619**	1.23 b	0.656 b	0.0188 b	3.95 b
AMB08-058	PS01	TME	Seawater	**3106-620**	1.08 b	0.434 b	0.0865 b	1.80 b
AMB08-058	PS01	DME	Seawater	**3106-621**	0.908 b	0.397 b	0.0101 b	1.50 b
AMB08-062	PS02	TME	Seawater	**3106-622**	2.00 b	0.468 b	0.225 b	3.21 b
AMB08-062	PS02	DME	Seawater	**3106-623**	1.62 b	0.389 b	0.0429 b	2.61 b
AMB08-066	PS13	TME	Seawater	**3106-624**	1.94 b	0.428 b	0.0903 b	3.71 b
AMB08-066	PS13	DME	Seawater	**3106-625**	1.41 b	0.383 b	0.0109 b	3.02 b

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Sequim, Washington 98382-9099
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Ambient Monitoring - AMB08
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB08-070	M4	TME	Seawater	**3106-626**	1.09 b	0.466 b	0.103 b	2.09 b
AMB08-070	M4	DME	Seawater	**3106-627**	0.625 b	0.347 b	0.00950 b	1.02 b
AMB08-074	BJ-EST	TME	Seawater	**3106-628**	1.06 b	0.449 b	0.103 b	1.90 b
AMB08-074	BJ-EST	DME	Seawater	**3106-629**	0.862 b	0.418 b	0.00956 b	1.66 b
AMB08-078	M3.1	TME	Seawater	**3106-630**	0.529 b	0.385 b	0.0584 b	0.681 b
AMB08-078	M3.1	DME	Seawater	**3106-631**	0.466 b	0.377 b	0.0105 b	0.596 b
AMB08-082	M3.1DEEP	TME	Seawater	**3106-632**	0.564 b	0.665 b	0.0592 b	1.13 b
AMB08-082	M3.1DEEP	DME	Seawater	**3106-633**	0.505 b	0.598 b	0.0124 b	0.897 b
AMB08-086	PS12	TME	Seawater	**3106-634**	1.53 b	0.496 b	0.0851 b	3.23 b
AMB08-086	PS12	DME	Seawater	**3106-635**	1.13 b	0.384 b	0.0121 b	2.66 b
AMB08DD-001	OF018	TME	Seawater	**3106-636**	5.56 b	2.42 b	0.140 b	39.2 b
AMB08DD-001	OF018	DME	Seawater	**3106-637**	4.15 b	2.18 b	0.00856 b	37.8 b
AMB08DD-006	OF019	TME	Seawater	**3106-638**	12.0 b	12.6 b	0.200 b	23.3 b
AMB08DD-006	OF019	DME	Seawater	**3106-639**	6.40 b	9.57 b	0.00683 b	17.5 b
AMB08DD-011	OF021	TME	Freshwater	**3106-640**	1.82	2.28	0.0350	1.77
AMB08DD-011	OF021	DME	Freshwater	**3106-641**	1.38	1.28	0.00680 J	1.44
AMB08-200	PS07	TME	Seawater	**3106-642**	4.03 b	0.944 b	0.0779 b	8.01 b
AMB08-200	PS07	DME	Seawater	**3106-643**	3.07 b	0.789 b	0.0136 b	6.65 b
AMB08-204	M3.3	TME	Seawater	**3106-644**	0.933 b	0.486 b	0.0871 b	1.33 b
AMB08-204	M3.3	DME	Seawater	**3106-645**	0.665 b	0.381 b	0.00936 b	1.04 b
AMB08-208	SN03	TME	Seawater	**3106-646**	0.814 b	0.451 b	0.0982 b	1.45 b
AMB08-208	SN03	DME	Seawater	**3106-647**	0.621 b	0.552 b	0.00856 b	0.983 b
AMB08-212	SN05	TME	Seawater	**3106-648**	0.805 b	0.427 b	0.110 b	2.76 b
AMB08-212	SN05	DME	Seawater	**3106-649**	0.677 b	0.423 b	0.0157 b	1.48 b
AMB08-216	SN05DUP	TME	Seawater	**3106-650**	1.08 b	0.570 b	0.126 b	4.00 b
AMB08-216	SN05DUP	DME	Seawater	**3106-651**	0.807 b	0.393 b	0.0233 b	2.18 b
AMB08-217	SN08	TME	Seawater	**3106-652**	1.02 b	0.817 b	0.132 b	1.99 b
AMB08-217	SN08	DME	Seawater	**3106-653**	0.686 b	0.425 b	0.00874 b	1.19 b
AMB08-221	SN10	TME	Seawater	**3106-654**	1.27 b	0.427 b	0.112 b	2.26 b
AMB08-221	SN10	DME	Seawater	**3106-655**	0.929 b	0.423 b	0.0113 b	1.91 b
AMB08-225	SN11	TME	Seawater	**3106-656**	1.52 b	0.588 b	0.0725 b	3.02 b
AMB08-225	SN11	DME	Seawater	**3106-657**	1.20 b	0.404 b	0.0103 b	2.86 b
AMB08-229	M8	TME	Seawater	**3106-658**	0.735 b	0.497 b	0.161 b	1.88 b
AMB08-229	M8	DME	Seawater	**3106-659**	0.435 b	0.378 b	0.0100 b	0.483 b
AMB08-233	M6	TME	Seawater	**3106-660**	0.570 b	0.409 b	0.0819 b	0.765 b
AMB08-233	M6	DME	Seawater	**3106-661**	0.457 b	0.361 b	0.0102 b	0.674 b
AMB08-237	M7	TME	Seawater	**3106-662**	0.552 b	0.483 b	0.0471 b	0.448 b
AMB08-237	M7	DME	Seawater	**3106-663**	0.460 b	0.393 b	0.00814 b	0.351 b
AMB08-241	DYOTS	TME	Seawater	**3106-664**	0.626 b	0.461 b	0.0501 b	1.09 b
AMB08-241	DYOTS	DME	Seawater	**3106-665**	0.598 b	0.644 b	0.0125 b	0.458 b

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Ambient Monitoring - AMB08
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB08-245	PWNLP	TME	Seawater	**3106-666**	0.570 b	0.425 b	0.0691 b	0.603 b
AMB08-245	PWNLP	DME	Seawater	**3106-667**	0.420 b	0.350 b	0.00692 b	0.435 b
AMB08-249	M1	TME	Seawater	**3106-668**	0.542 b	0.587 b	0.0405 b	0.433 b
AMB08-249	M1	DME	Seawater	**3106-669**	0.389 b	0.378 b	0.00439 bJ	0.221 b
AMB08-253	M1DEEP	TME	Seawater	**3106-670**	0.517 b	0.427 b	0.0455 b	0.689 b
AMB08-253	M1DEEP	DME	Seawater	**3106-671**	0.399 b	0.361 b	0.00457 bJ	0.514 b
AMB08-257	ILSP	TME	Seawater	**3106-672**	0.454 b	0.429 b	0.0482 b	0.405 b
AMB08-257	ILSP	DME	Seawater	**3106-673**	0.362 b	0.356 b	0.00402 bJ	0.281 b
AMB08-261	WP	TME	Seawater	**3106-674**	0.586 b	0.431 b	0.0626 b	0.823 b
AMB08-261	WP	DME	Seawater	**3106-675**	0.443 b	0.457 b	0.00753 b	0.522 b
AMB08-265	M2	TME	Seawater	**3106-676**	0.425 b	0.384 b	0.0283 b	0.409 b
AMB08-265	M2	DME	Seawater	**3106-677**	0.343 b	0.343 b	0.0019 bU	0.362 b
AMB08-269	M2DEEP	TME	Seawater	**3106-678**	0.394 b	0.548 b	0.0256 b	0.399 b
AMB08-269	M2DEEP	DME	Seawater	**3106-679**	0.272 b	0.356 b	0.0019 bU	0.289 b
AMB08-273	CLAMBAY	TME	Seawater	**3106-680**	0.563 b	0.484 b	0.0866 b	0.676 b
AMB08-273	CLAMBAY	DME	Seawater	**3106-681**	0.396 b	0.383 b	0.00864 b	0.433 b
AMB08-277	BM01	TME	Seawater	**3106-682**	0.594 b	0.374 b	0.0590 b	0.888 b
AMB08-277	BM01	DME	Seawater	**3106-683**	0.495 b	0.366 b	0.00814 b	0.763 b
AMB08-281	BM01DUP	TME	Seawater	**3106-684**	0.719 b	0.575 b	0.0643 b	0.917 b
AMB08-281	BM01DUP	DME	Seawater	**3106-685**	0.457 b	0.394 b	0.00715 b	0.685 b

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID	TSS/OSAL Sample ID	
				Instrument:							
Laboratory Achieved Detection Limits (Seawater)											
Seawater Reporting Limit (MDL* 3.18)											
Laboratory Achieved Detection Limits (Freshwater)											
Freshwater Reporting Limit (MDL* 3.18)											
AMB08-001	PS04	TME	Seawater	**3106-590**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-004	PS04
AMB08-001	PS04	DME	Seawater	**3106-591**	092511HGA		092611-6100	--	--		
AMB08-005	PS03	TME	Seawater	**3106-592**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-008	PS03
AMB08-005	PS03	DME	Seawater	**3106-593**	092511HGA		092611-6100	--	--		
AMB08-009	PS05	TME	Seawater	**3106-594**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-012	PS05
AMB08-009	PS05	DME	Seawater	**3106-595**	092511HGA		092611-6100	--	--		
AMB08-013	PS14	TME	Seawater	**3106-596**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-016	PS14
AMB08-013	PS14	DME	Seawater	**3106-597**	092511HGA		092611-6100	--	--		
AMB08-017	PS06	TME	Seawater	**3106-598**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-020	PS06
AMB08-017	PS06	DME	Seawater	**3106-599**	092511HGA		092611-6100	--	--		
AMB08-021	PS07	TME	Seawater	**3106-600**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-024	PS07
AMB08-021	PS07	DME	Seawater	**3106-601**	092511HGA		092611-6100	--	--		
AMB08-025	PS07DUP	TME	Seawater	**3106-602**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-028	PS07DUP
AMB08-025	PS07DUP	DME	Seawater	**3106-603**	092511HGA		092611-6100	--	--		
AMB08-029	PS08	TME	Seawater	**3106-604**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-032	PS08
AMB08-029	PS08	DME	Seawater	**3106-605**	092511HGA		092611-6100	--	--		
AMB08-033	PS15	TME	Seawater	**3106-606**	092511HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-036	PS15
AMB08-033	PS15	DME	Seawater	**3106-607**	092511HGA		092611-6100	--	--		
AMB08-037	PS09	TME	Seawater	**3106-608**	092511HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-040	PS09
AMB08-037	PS09	DME	Seawater	**3106-609**	092511HGA		092711-6100	--	--		
AMB08-041	PS10	TME	Seawater	**3106-610**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-044	PS10
AMB08-041	PS10	DME	Seawater	**3106-611**	092611HGA		092711-6100	--	--		
AMB08-045	PS11	TME	Seawater	**3106-612**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-049	PS11
AMB08-045	PS11	DME	Seawater	**3106-613**	092611HGA		092711-6100	--	--		
AMB08-046	PS11DUP	TME	Seawater	**3106-614**	092611HGA	F092711A	092711-6100	--	--		
AMB08-046	PS11DUP	DME	Seawater	**3106-615**	092611HGA		092711-6100	--	--		
AMB08-050	PS16	TME	Seawater	**3106-616**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-053	PS16
AMB08-050	PS16	DME	Seawater	**3106-617**	092611HGA		092711-6100	--	--		
AMB08-054	PS10.1	TME	Seawater	**3106-618**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-057	PS10.1
AMB08-054	PS10.1	DME	Seawater	**3106-619**	092611HGA		092711-6100	--	--		
AMB08-058	PS01	TME	Seawater	**3106-620**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-061	PS01
AMB08-058	PS01	DME	Seawater	**3106-621**	092611HGA		092711-6100	--	--		
AMB08-062	PS02	TME	Seawater	**3106-622**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-065	PS02
AMB08-062	PS02	DME	Seawater	**3106-623**	092611HGA		092711-6100	--	--		
AMB08-066	PS13	TME	Seawater	**3106-624**	092611HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-069	PS13
AMB08-066	PS13	DME	Seawater	**3106-625**	092611HGA		092711-6100	--	--		

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID	TSS/OSAL Sample ID	
				Instrument:							
AMB08-070	M4	TME	Seawater	**3106-626**	092611HGA	F092711A	092611-6100	092311osal	092311TSS	AMB08-073	M4
AMB08-070	M4	DME	Seawater	**3106-627**	092611HGA		092611-6100	--	--		
AMB08-074	BJ-EST	TME	Seawater	**3106-628**	092611HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-077	BJ-EST
AMB08-074	BJ-EST	DME	Seawater	**3106-629**	092611HGA		092811-6100	--	--		
AMB08-078	M3.1	TME	Seawater	**3106-630**	092711HGA	F092711A	092711-6100	092311osal	092311TSS	AMB08-081	M3.1
AMB08-078	M3.1	DME	Seawater	**3106-631**	092711HGA		092711-6100	--	--		
AMB08-082	M3.1DEEP	TME	Seawater	**3106-632**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-085	M3.1DEEP
AMB08-082	M3.1DEEP	DME	Seawater	**3106-633**	092711HGA		092811-6100	--	--		
AMB08-086	PS12	TME	Seawater	**3106-634**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-089	PS12
AMB08-086	PS12	DME	Seawater	**3106-635**	092711HGA		092811-6100	--	--		
AMB08DD-001	OF018	TME	Seawater	**3106-636**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08DD-001	OF018
AMB08DD-001	OF018	DME	Seawater	**3106-637**	092711HGA		092811-6100	--	--		
AMB08DD-006	OF019	TME	Seawater	**3106-638**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08DD-006	OF019
AMB08DD-006	OF019	DME	Seawater	**3106-639**	092711HGA		092811-6100	--	--		
AMB08DD-011	OF021	TME	Freshwater	**3106-640**	092711HGA	F092711A	101111-6100	092311osal	092311TSS	AMB08DD-011	OF021
AMB08DD-011	OF021	DME	Freshwater	**3106-641**	092711HGA		101111-6100	--	--		
AMB08-200	PS07	TME	Seawater	**3106-642**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-203	PS07
AMB08-200	PS07	DME	Seawater	**3106-643**	092711HGA		092811-6100	--	--		
AMB08-204	M3.3	TME	Seawater	**3106-644**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-207	M3.3
AMB08-204	M3.3	DME	Seawater	**3106-645**	092711HGA		092811-6100	--	--		
AMB08-208	SN03	TME	Seawater	**3106-646**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-211	SN03
AMB08-208	SN03	DME	Seawater	**3106-647**	092711HGA		092811-6100	--	--		
AMB08-212	SN05	TME	Seawater	**3106-648**	092711HGA	F092711A	092811-6100	092311osal	092311TSS	AMB08-215	SN05
AMB08-212	SN05	DME	Seawater	**3106-649**	092711HGA		092811-6100	--	--		
AMB08-216	SN05DUP	TME	Seawater	**3106-650**	092811HGA	F092711A	092811-6100	--	--		
AMB08-216	SN05DUP	DME	Seawater	**3106-651**	092811HGA		092811-6100	--	--		
AMB08-217	SN08	TME	Seawater	**3106-652**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-220	SN08
AMB08-217	SN08	DME	Seawater	**3106-653**	092811HGA		100511-6100	--	--		
AMB08-221	SN10	TME	Seawater	**3106-654**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-224	SN10
AMB08-221	SN10	DME	Seawater	**3106-655**	092811HGA		100511-6100	--	--		
AMB08-225	SN11	TME	Seawater	**3106-656**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-228	SN11
AMB08-225	SN11	DME	Seawater	**3106-657**	092811HGA		100511-6100	--	--		
AMB08-229	M8	TME	Seawater	**3106-658**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-232	M8
AMB08-229	M8	DME	Seawater	**3106-659**	092811HGA		100511-6100	--	--		
AMB08-233	M6	TME	Seawater	**3106-660**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-236	M6
AMB08-233	M6	DME	Seawater	**3106-661**	092811HGA		100511-6100	--	--		
AMB08-237	M7	TME	Seawater	**3106-662**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-240	M7
AMB08-237	M7	DME	Seawater	**3106-663**	092811HGA		100511-6100	--	--		
AMB08-241	DYOTS	TME	Seawater	**3106-664**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-244	DYOTS
AMB08-241	DYOTS	DME	Seawater	**3106-665**	092811HGA		100511-6100	--	--		

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	Salinity Batch ID	TSS Batch ID	TSS/OSAL Sample ID	
				Instrument:							
AMB08-245	PWNLP	TME	Seawater	**3106-666**	092811HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-248	PWNLP
AMB08-245	PWNLP	DME	Seawater	**3106-667**	092811HGA		100511-6100	--	--		
AMB08-249	M1	TME	Seawater	**3106-668**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-252	M1
AMB08-249	M1	DME	Seawater	**3106-669**	092911HGA		100511-6100	--	--		
AMB08-253	M1DEEP	TME	Seawater	**3106-670**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-256	M1DEEP
AMB08-253	M1DEEP	DME	Seawater	**3106-671**	092911HGA		100511-6100	--	--		
AMB08-257	ILSP	TME	Seawater	**3106-672**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-260	ILSP
AMB08-257	ILSP	DME	Seawater	**3106-673**	092911HGA		100511-6100	--	--		
AMB08-261	WP	TME	Seawater	**3106-674**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-264	WP
AMB08-261	WP	DME	Seawater	**3106-675**	092911HGA		100511-6100	--	--		
AMB08-265	M2	TME	Seawater	**3106-676**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-268	M2
AMB08-265	M2	DME	Seawater	**3106-677**	092911HGA		100511-6100	--	--		
AMB08-269	M2DEEP	TME	Seawater	**3106-678**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-272	M2DEEP
AMB08-269	M2DEEP	DME	Seawater	**3106-679**	092911HGA		100511-6100	--	--		
AMB08-273	CLAMBAY	TME	Seawater	**3106-680**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-276	CLAMBAY
AMB08-273	CLAMBAY	DME	Seawater	**3106-681**	092911HGA		100511-6100	--	--		
AMB08-277	BM01	TME	Seawater	**3106-682**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-280	BM01
AMB08-277	BM01	DME	Seawater	**3106-683**	092911HGA		100511-6100	--	--		
AMB08-281	BM01DUP	TME	Seawater	**3106-684**	092911HGA	F092711A	100511-6100	092311osal	092311TSS	AMB08-284	BM01DUP
AMB08-281	BM01DUP	DME	Seawater	**3106-685**	092911HGA		100511-6100	--	--		

BATTELLE MARINE SCIENCE LABORATORIES
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Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB08
QC Sample Results for ICP-MS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
TRM_BLK1		TME	Freshwater	TRMblk1_101111	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.02 U	101111-6100
MB		TME	Seawater	DIBlk1_092611 r1	0.000 U	0.421 U	0.00045 U	0.0848 J	0.0393 J	0.0121 U	0.00148 U	0.0062 U	092611-6100
MB		TME	Seawater	DIBlk1_092611 r2	0.000 U	0.391 U	0.00047 U	0.105	0.0315 U	0.0120 U	0.00160 U	0.0120 U	092611-6100
MB		TME	Seawater	DIBlk1_092611 r3	0.000 U	0.426 U	0.00000 U	0.0618 J	0.0425 J	0.0125 U	0.00143 U	0.0184 U	092611-6100
MEAN REAGENT BLANK			Seawater	***BMRB_092611***	**0.000** U	**0.413** U	**0.000306** U	**0.0839** J	**0.0378** J	**0.0122** U	**0.00150** U	**0.0122** U	092611-6100
MB		TME	Seawater	DIBlk_092711r1	0.00081 U	0.556 U	0.0000 U	0.0476 J	0.0667 J	0.0096 U	0.00164 U	0.0087 U	092711-6100
MB		TME	Seawater	DIBlk_092711r2	0.00256 U	0.424 U	0.0000 U	0.0354 J	0.0585 J	0.0134 U	0.00193 J	0.0370 J	092711-6100
MB		TME	Seawater	DIBlk_092711r3	0.00080 U	0.456 U	0.0000 U	0.0368 J	0.0527 J	0.0121 U	0.00156 U	0.0649 J	092711-6100
MEAN REAGENT BLANK			Seawater	***BMRB_092711***	**0.0014** U	**0.479** U	**0.0000** U	**0.0399** J	**0.0593** J	**0.0117** U	**0.00171** U	**0.0369** J	092711-6100
MB		TME	Seawater	DIBlk_092811r1	0.000 U	0.315 U	0.00060 U	0.0658 J	0.0373 J	0.0125 U	0.00219 J	0.00679 U	092811-6100
MB		TME	Seawater	DIBlk_092811r2	0.000 U	0.354 U	0.00000 U	0.0501 J	0.0354 J	0.0155 U	0.00120 U	0.0127 U	092811-6100
MB		TME	Seawater	DIBlk_092811r3	0.000 U	0.392 U	0.00000 U	0.0547 J	0.0455 J	0.0102 U	0.00213 J	0.00562 U	092811-6100
MEAN REAGENT BLANK			Seawater	***BMRB_092811***	**0.000** U	**0.354** U	**0.000199** U	**0.0569** J	**0.0394** J	**0.0127** U	**0.00184** *U*	**0.00837** *U*	092811-6100
MB		TME	Seawater	DIBlk_100511r1	0.000 U	0.221 U	0.00000 U	0.0392 J	0.0279 U	0.0231 U	0.00097 U	0.0767 J	100511-6100
MB		TME	Seawater	DIBlk_100511r2	0.000 U	0.240 U	0.00024 U	0.0462 J	0.0343 U	0.0261 J	0.0011 U	0.0679 J	100511-6100
MB		TME	Seawater	DIBlk_100511r3	0.000 U	0.240 U	0.00000 U	0.0488 J	0.0272 U	0.0263 J	0.0011 U	0.0748 J	100511-6100
MB		TME	Seawater	DIBlk_100511r4	0.000 U	0.338 U	0.00073 U	0.0799 J	0.0301 U	0.0215 U	0.0014 U	0.0688 J	100511-6100
MB		TME	Seawater	DIBlk_100511r5	0.000 U	0.356 U	0.00049 U	0.103	0.0685 J	0.0211 U	0.0050 J	0.0776 J	100511-6100
MB		TME	Seawater	DIBlk_100511r6	0.000 U	0.346 U	0.00041 U	0.0970	0.0353 J	0.0303 J	0.0016 U	0.0835 J	100511-6100
MEAN REAGENT BLANK			Seawater	***BMRB_100511***	**0.000** U	**0.290** U	**0.000311** U	**0.0690** J	**0.0372** J	**0.0247** U	**0.00186** U	**0.0749** J	100511-6100

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Ambient Monitoring - AMB08
QC Sample Results for ICP-MS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	TRMblk1_101111	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.0042 U	0.0022 U	0.02 U	101111-6100
LCS		TME	Freshwater	TRM_LCS_101111	1.91	2.15	1.97	1.98	1.92	2.01	2.04	2.00	101111-6100
				Percent Recovery, LCS	**96%**	**98%**	**99%**	**99%**	**96%**	**101%**	**102%**	**100%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_092611	0.0042 Ub	2.14 Ub	0.0689 b	0.113 b	0.252 b	0.352 b	0.0019 Ub	0.293 b	092611-6100
LCS		TME	Seawater	SBLCS-r1_092611	1.88 b	1.48 Ub	1.84 b	1.89 b	1.86 b	1.93 b	1.94 b	2.10 b	092611-6100
				Percent Recovery, LCS	**94%**	**74%**	**89%**	**89%**	**81%**	**79%**	**97%**	**90%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlk_92711r1	0.0042 Ub	2.14 Ub	0.0688 b	0.111 b	0.206 b	0.319 b	0.0019 Ub	0.250 b	092711-6100
LCS		TME	Seawater	SBLCS_092711r1	1.86 b	2.04 b	1.92 b	1.99 b	1.97 b	2.12 b	2.03 b	1.99 b	092711-6100
				Percent Recovery, LCS	**93%**	**102%**	**93%**	**94%**	**88%**	**90%**	**101%**	**87%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlk_092811	0.0042 Ub	2.14 Ub	0.0771 b	0.131 b	0.241 b	0.334 b	0.0019 Ub	0.271 b	092811-6100
LCS		TME	Seawater	SBLCS_092811	1.88 b	2.22 b	1.91 b	1.97 b	2.00 b	2.15 b	1.99 b	2.04 b	092811-6100
				Percent Recovery, LCS	**94%**	**111%**	**92%**	**92%**	**88%**	**91%**	**99%**	**89%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_100511	0.0042 Ub	2.14 Ub	0.0762 b	0.116 b	0.253 b	0.352 b	0.00148 b	0.307 b	100511-6100
LCS		TME	Seawater	SBLCS-r1_100511	1.78 b	2.15 b	1.80 b	1.98 b	2.01 b	2.14 b	1.87 b	2.01 b	100511-6100
				Percent Recovery, LCS	**89%**	**107%**	**86%**	**93%**	**88%**	**89%**	**93%**	**85%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr2_100511	0.0042 Ub	2.14 Ub	0.0769 b	0.162 b	0.262 b	0.346 b	0.00272 b	0.289 b	100511-6100
LCS		TME	Seawater	SBLCS-r2_100511	1.78 b	2.21 b	1.84 b	2.02 b	1.98 b	2.14 b	1.90 b	2.05 b	100511-6100
				Percent Recovery, LCS	**89%**	**110%**	**88%**	**93%**	**86%**	**89%**	**95%**	**88%**	

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Ambient Monitoring - AMB08
QC Sample Results for ICP-MS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB08-070	M4	TME	Seawater	3106-626	0.0042 bU	15.7 b	0.0534 b	0.259 b	1.09 b	0.466 b	0.103 b	2.09 b	092611-6100
MS				3106-626 MS	0.923 b	19.0 b	0.867 b	1.08 b	1.92 b	1.30 b	1.07 b	6.48 b	092611-6100
MSD				3106-626 MSD	0.930 b	20.3 b	0.906 b	1.12 b	1.92 b	1.32 b	1.06 b	6.90 b	092611-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**92%**	**NS**	**81%**	**82%**	**83%**	**83%**	**97%**	**88%**	
				Percent Recovery, MSD	**93%**	**NS**	**85%**	**86%**	**83%**	**85%**	**96%**	**96%**	
AMB08-078	M3.1	TME	Seawater	3106-630	0.0042 bU	7.01 b	0.0575 b	0.099 b	0.529 b	0.385 b	0.0584 b	0.681 b	092711-6100
MS				3106-630 MS	0.876 b	12.8 b	0.932 b	0.990 b	1.34 b	1.23 b	1.01 b	1.41 b	092711-6100
MSD				3106-630 MSD	0.920 b	12.0 b	0.968 b	1.00 b	1.37 b	1.28 b	1.04 b	1.44 b	092711-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**88%**	**116%**	**87%**	**89%**	**81%**	**84%**	**95%**	**73%**	
				Percent Recovery, MSD	**92%**	**100%**	**91%**	**90%**	**84%**	**89%**	**98%**	**76%**	
AMB08-212	SN05	TME	Seawater	3106-648	0.00531 bJ	17.8 b	0.152 b	0.141 b	0.805 b	0.427 b	0.110 b	2.76 b	092811-6100
MS				3106-648 MS	0.958 b	20.9 b	1.13 b	1.11 b	1.79 b	1.36 b	1.15 b	6.85 b	092811-6100
MSD				3106-648 MSD	0.948 b	21.2 b	1.09 b	1.10 b	1.78 b	1.37 b	1.14 b	6.85 b	092811-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**95%**	**NS**	**98%**	**97%**	**99%**	**93%**	**104%**	**82%**	
				Percent Recovery, MSD	**94%**	**NS**	**94%**	**96%**	**98%**	**94%**	**103%**	**82%**	
AMB08-229	M8	TME	Seawater	3106-658	0.0042 bU	27.9 b	0.140 b	0.216 b	0.735 b	0.497 b	0.161 b	1.88 b	100511-6100
MS				3106-658 MS	0.921 b	26.4 b	1.10 b	1.21 b	1.72 b	1.48 b	1.22 b	2.80 b	100511-6100
MSD				3106-658 MSD	0.955 b	28.3 b	1.07 b	1.18 b	1.69 b	1.47 b	1.17 b	2.80 b	100511-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**92%**	**NS**	**96%**	**100%**	**99%**	**98%**	**106%**	**92%**	
				Percent Recovery, MSD	**96%**	**NS**	**93%**	**97%**	**96%**	**97%**	**101%**	**92%**	
AMB08-265	M2	DME	Seawater	3106-677	0.0042 bU	2.14 bU	0.0704 b	0.106 b	0.343 b	0.343 b	0.0019 bU	0.362 b	100511-6100
MS				3106-677 MS	0.856 b	4.88 b	0.940 b	1.00 b	1.18 b	1.21 b	0.940 b	1.18 b	100511-6100
MSD				3106-677 MSD	0.896 b	5.15 b	0.987 b	1.08 b	1.25 b	1.27 b	0.987 b	1.26 b	100511-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**86%**	**98%**	**87%**	**90%**	**84%**	**86%**	**94%**	**81%**	
				Percent Recovery, MSD	**90%**	**103%**	**92%**	**98%**	**91%**	**92%**	**99%**	**89%**	
AMB08DD-011	OF021	DME	Freshwater	3106-641	0.0032 U	9.47	0.0033 U	1.58	1.38	1.28	0.00680 J	1.44	101111-6100
MS				3106-641 MS	1.63	26.8	2.00	3.43	3.15	3.02	2.04	3.44	101111-6100
MSD				3106-641 MSD	1.59	26.7	2.04	3.36	3.25	3.01	1.99	3.48	101111-6100
				Spiking Level	2	20	2	2	2	2	2	2	
				Percent Recovery, MS	**82%**	**87%**	**100%**	**93%**	**89%**	**87%**	**102%**	**100%**	
				Percent Recovery, MSD	**80%**	**86%**	**102%**	**89%**	**94%**	**87%**	**99%**	**102%**	

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Ambient Monitoring - AMB08
QC Sample Results for ICP-MS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB08-001	PS04	TME	Seawater	3106-590	0.0042 bU	4.42 bJ	0.0533 b	0.144 b	2.17 b	0.420 b	0.0705 b	4.31 b	092611-6100
DUP				3106-590 r2	0.0042 bU	4.24 bJ	0.0533 b	0.119 b	2.23 b	0.441 b	0.0819 b	4.31 b	092611-6100
				Mean	*NA*	*4.33* bJ	*0.0533 b*	*0.132 b*	*2.20 b*	*0.430 b*	*0.0762 b*	*4.31 b*	092611-6100
				RPD	NA	**4.2%**	**0.0%**	**19%**	**2.7%**	**4.9%**	**15%**	**0.0%**	
AMB08-037	PS09	TME	Seawater	3106-608	0.0042 bU	4.75 bJ	0.0570 b	0.132 b	2.07 b	0.552 b	0.144 b	7.21 b	092711-6100
DUP				3106-608 r2	0.00471 bJ	3.98 bJ	0.0657 b	0.123 b	2.20 b	0.597 b	0.157 b	8.21 b	092711-6100
				Mean	*NA*	*4.37* bJ	*0.0614* b	*0.128* b	*2.14* b	*0.575* b	*0.151* b	*7.71* b	092711-6100
				RPD	NA	**18%**	**14%**	**7%**	**6%**	**8%**	**9%**	**13%**	
AMB08-086	PS12	TME	Seawater	3106-634	0.0042 bU	9.75 b	0.0684 b	0.168 b	1.53 b	0.496 b	0.0851 b	3.23 b	092811-6100
DUP				3106-634 r2	0.0042 bU	8.22 b	0.0687 b	0.149 b	1.47 b	0.447 b	0.0802 b	3.14 b	092811-6100
				Mean	*NA*	*8.98 b*	*0.0686 b*	*0.159 b*	*1.50 b*	*0.472 b*	*0.0826 b*	*3.19 b*	092811-6100
				RPD	NA	**17%**	**0%**	**12%**	**4%**	**10%**	**6%**	**3%**	
AMB08-217	SN08	TME	Seawater	3106-652	0.0042 bU	34.6 b	0.0655 b	0.236 b	1.02 b	0.817 b	0.132 b	1.99 b	100511-6100
DUP				3106-652 r2	0.0042 bU	33.5 b	0.0632 b	0.237 b	1.07 b	0.816 b	0.139 b	2.01 b	100511-6100
				Mean	*NA*	*34.1 b*	*0.0643 b*	*0.236 b*	*1.05 b*	*0.817 b*	*0.136 b*	*2.00 b*	100511-6100
				RPD	NA	**3%**	**4%**	**0%**	**5%**	**0%**	**5%**	**1%**	
AMB08-257	ILSP	TME	Seawater	3106-672	0.0042 bU	11.1 b	0.0611 b	0.120 b	0.454 b	0.429 b	0.0482 b	0.405 b	100511-6100
DUP				3106-672 r2	0.0042 bU	11.0 b	0.0592 b	0.131 b	0.479 b	0.429 b	0.0484 b	0.416 b	100511-6100
				Mean	*NA*	*11.1 b*	*0.0601 b*	*0.125 b*	*0.466 b*	*0.429 b*	*0.0483 b*	*0.411 b*	100511-6100
				RPD	NA	**1%**	**3%**	**9%**	**5%**	**0%**	**0%**	**3%**	
AMB08DD-011	OF021	TME	Freshwater	3106-640	0.0032 U	14.4	0.0033 U	1.68	1.82	2.28	0.0350	1.77	101111-6100
				3106-640 r2	0.0032 U	14.5	0.0033 U	1.84	1.77	2.17	0.0342	1.69	101111-6100
				Mean	*NA*	*14.5*	*NA*	*1.76*	*1.80*	*2.23*	*0.0346*	*1.73*	101111-6100
				RPD	NA	**1%**	NA	**9%**	**3%**	**5%**	**2%**	**5%**	

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Ambient Monitoring - AMB08
QC Sample Results for ICP-MS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		TME	Seawater	CASS-5 092611	0.0042 Ub	2.14 Ub	0.0216 b	0.0991 b	0.418 b	0.309 b	0.00920 b	0.616 b	092611-6100
SRM CASS-5		TME	Seawater	CASS-5 092711	0.0042 Ub	2.14 Ub	0.0242 b	0.100 b	0.373 b	0.306 b	0.00939 b	0.524 b	092711-6100
SRM CASS-5		TME	Seawater	CASS-5 092811	0.0042 Ub	2.14 Ub	0.0227 b	0.111 b	0.376 b	0.296 b	0.00906 b	0.541 b	092811-6100
SRM CASS-5		TME	Seawater	CASS-5 100511r1	0.0042 Ub	2.14 Ub	0.0231 b	0.100 b	0.368 b	0.307 b	0.00824 b	0.578 b	100511-6100
SRM CASS-5		TME	Seawater	CASS-5 100511r2	0.0042 Ub	2.14 Ub	0.0253 b	0.123 b	0.370 b	0.314 b	0.00834 b	0.606 b	100511-6100
				Certified Value	NC	NC	**0.0215**	**0.106**	**0.38**	**0.33**	**0.011**	**0.719**	
				PD	--	--	**0%**	**6%**	**10%**	**6%**	**16%** c	**14%**	
				PD	--	--	**13%**	**6%**	**2%**	**7%**	**15%** c	**27%** [1]	
				PD	--	--	**6%**	**5%**	**1%**	**10%**	**18%** c	**25%** [1]	
				PD	--	--	**7%**	**6%**	**3%**	**7%**	**25%** c	**20%**	
				PD	--	--	**18%**	**16%**	**3%**	**5%**	**24%** c	**16%**	
SRM SLEW-2		TME	Seawater	SLEW-2 092611	0.0042 Ub	2.14 Ub	0.0157 b	0.144 b	1.37 b	0.633 b	0.0191 b	1.19 b	092611-6100
SRM SLEW-2		TME	Seawater	SLEW-2 092711	0.0042 Ub	2.14 Ub	0.0173 b	0.113 b	1.28 b	0.598 b	0.0186 b	0.973 b	092711-6100
SRM SLEW-2		TME	Seawater	SLEW-2 092811	0.0042 Ub	2.14 Ub	0.0188 b	0.150 b	1.40 b	0.638 b	0.0195 b	1.00 b	092811-6100
SRM SLEW-2		TME	Seawater	SLEW-2 100511r1	0.0042 Ub	2.14 Ub	0.0184 b	0.129 b	1.45 b	0.640 b	0.0196 b	0.965 b	100511-6100
SRM SLEW-2		TME	Seawater	SLEW-2 100511r2	0.0042 Ub	2.14 Ub	0.0202 b	0.153 b	1.42 b	0.632 b	0.0204 b	1.01 b	100511-6100
				Certified Value	NC	NC	NA	NA	NA	NA	NA	**1.10**	
				PD	--	--	--	--	--	--	--	**8%**	
				PD	--	--	--	--	--	--	--	**12%**	
				PD	--	--	--	--	--	--	--	**9%**	
				PD	--	--	--	--	--	--	--	**12%**	
				PD	--	--	--	--	--	--	--	**9%**	

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Ambient Monitoring - AMB08
QC Sample Results for ICP-MS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640d		TME	Freshwater	TRM 1640_101111	6.29	55.9	23.2	38.4	83.5	28.3	28.5	53.8	101111-6100
SRM 1640d		TME	Freshwater	1640_092611	6.65	53.1	23.3	37.7	86.0	27.0	28.5	58.3	092611-6100
SRM 1640d		TME	Freshwater	1640_092711	6.57	52.2	23.5	37.6	85.5	27.8	28.2	57.9	092711-6100
SRM 1640d		TME	Freshwater	1640_092811	6.65	52.9	23.5	37.5	87.3	27.9	27.4	58.5	092811-6100
SRM 1640d		TME	Freshwater	1640_100511	6.63	53.3	23.3	37.6	87.7	28.2	28.0	57.1	100511-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.4**	**27.9**	**53.2**	
				PD	**17.5%**	**7.5%**	**1.8%**	**0.5%**	**2.0%**	**3.3%**	**2.2%**	**1.1%**	
				PD	**12.7%**	**2.1%**	**2.2%**	**2.3%**	**0.9%**	**1.5%**	**2.2%**	**9.6%**	
				PD	**13.8%**	**0.4%**	**3.1%**	**2.6%**	**0.4%**	**1.5%**	**1.1%**	**8.8%**	
				PD	**12.7%**	**1.7%**	**3.1%**	**2.8%**	**2.5%**	**1.8%**	**1.8%**	**10.0%**	
				PD	**13.0%**	**2.5%**	**2.2%**	**2.6%**	**2.9%**	**2.9%**	**0.4%**	**7.3%**	

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Ambient Monitoring - AMB08
QC Sample Results for CVAF
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
METHOD BLANKS						
MB-1	TME	Water		MB1_092411	0.0001 U	092511HGA
MB-2	TME	Water		MB2_092411	0.0001 U	092511HGA
MB-3	TME	Water		MB3_092411	0.0001 U	092511HGA
MB-4	TME	Water		MB1_092511	0.0001 U	092611HGA
MB-5	TME	Water		MB2_092511	0.0001 U	092611HGA
MB-6	TME	Water		MB3_092511	0.0001 U	092611HGA
MB-7	TME	Water		MB1_092611	0.0001 U	092711HGA
MB-8	TME	Water		MB2_092611	0.0001 U	092711HGA
MB-9	TME	Water		MB3_092611	0.0001 U	092711HGA
MB-10	TME	Water		MB1_092711	0.0001 U	092811HGA
MB-11	TME	Water		MB2_092711	0.0001 U	092811HGA
MB-12	TME	Water		MB3_092711	0.0001 U	092811HGA
MB-13	TME	Water		MB1_092811	0.0001 U	092911HGA
MB-14	TME	Water		MB2_092811	0.0001 U	092911HGA
MB-15	TME	Water		MB3_092811	0.0001 U	092911HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092411 run1	0.00504	092511HGA
LCS (2)	TME	Water		OPR 092411 run2	0.00511	092511HGA
LCS Blank (1)	TME	Water		BLANK 092411	0.000112 J	092511HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092511 run1	0.00524	092611HGA
LCS (2)	TME	Water		OPR 092511 run2	0.00526	092611HGA
LCS Blank (1)	TME	Water		BLANK 092511	0.0001 U	
				Percent Recovery, LCS 1	**106%**	
				Percent Recovery, LCS 2	**106%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092611 run1	0.00507	092711HGA
LCS (2)	TME	Water		OPR 092611 run2	0.00546	092711HGA
LCS Blank (1)	TME	Water		BLANK 092611	0.0001 U	092711HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**110%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092711 run1	0.00498	092811HGA
LCS (2)	TME	Water		OPR 092711 run2	0.00506	092811HGA
LCS Blank (1)	TME	Water		BLANK 092711	0.0001 U	092811HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**102%**	
Spiking Level					0.00496	
LCS (1)	TME	Water		OPR 092811 run1	0.00514	092911HGA
LCS (2)	TME	Water		OPR 092811 run2	0.00514	092911HGA
LCS Blank (1)	TME	Water		BLANK 092811	0.0001 U	092911HGA
				Percent Recovery, LCS 1	**104%**	
				Percent Recovery, LCS 2	**104%**	

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Ambient Monitoring - AMB08
QC Sample Results for CVAF
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB08-013	PS14	TME	Seawater	3106-596	0.000822	092511HGA
MS				3106-596MS	0.00699	092511HGA
MSD				3106-596MSD	0.00719	092511HGA
				Spiking Level, MS	0.00586	
				Spiking Level, MSD	0.00601	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**106%**	
				RPD	**0.7%**	
AMB08-021	PS07	DME	Seawater	3106-601	0.000372	092511HGA
MS				3106-601 MS	0.00678	092511HGA
MSD				3106-601 MSD	0.00687	092511HGA
				Spiking Level, MS	0.00622	
				Spiking Level, MSD	0.00611	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**106%**	
				RPD	**3.2%**	
AMB08-050	PS16	TME	Seawater	3106-616	0.000580	092611HGA
MS				3106-616 MS	0.00657	092611HGA
MSD				3106-616 MSD	0.00657	092611HGA
				Spiking Level, MS	0.00579	
				Spiking Level, MSD	0.00561	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**107%**	
				RPD	**3.2%**	
AMB08-066	PS13	DME	Seawater	3106-625	0.000328	092611HGA
MS				3106-625 MS	0.00645	092611HGA
MSD				3106-625 MSD	0.00673	092611HGA
				Spiking Level, MS	0.00593	
				Spiking Level, MSD	0.00608	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**105%**	
				RPD	**2.0%**	
AMB08-078	M3.1	TME	Seawater	3106-630	0.000517	092711HGA
MS				3106-630 MS	0.00601	092711HGA
MSD				3106-630 MSD	0.00631	092711HGA
				Spiking Level, MS	0.00560	
				Spiking Level, MSD	0.00563	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**103%**	
				RPD	**4.7%**	
AMB08-200	PS07	DME	Seawater	3106-643	0.000481	092711HGA
MS				3106-643 MS	0.00650	092711HGA
MSD				3106-643 MSD	0.00722	092711HGA
				Spiking Level, MS	0.00591	
				Spiking Level, MSD	0.00605	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**111%**	
				RPD	**8.6%**	

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Ambient Monitoring - AMB08
QC Sample Results for CVAF
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB08-216	SN05DUP	TME	Seawater	3106-650	0.00252	092811HGA
MS				3106-650 MS	0.00854	092811HGA
MSD				3106-650 MSD	0.00843	092811HGA
				Spiking Level, MS	0.00623	
				Spiking Level, MSD	0.00598	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**99%**	
				RPD	**2.2%**	
AMB08-229	M8	DME	Seawater	3106-659	0.000291 J	092811HGA
MS				3106-659 MS	0.00642	092811HGA
MSD				3106-659 MSD	0.00637	092811HGA
				Spiking Level, MS	0.00608	
				Spiking Level, MSD	0.00597	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.0%**	
AMB08-257	ILSP	DME	Seawater	3106-673	0.000185 J	092911HGA
MS				3106-673 MS	0.00587	092911HGA
MSD				3106-673 MSD	0.00609	092911HGA
				Spiking Level, MS	0.00582	
				Spiking Level, MSD	0.00562	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**105%**	
				RPD	**6.9%**	
AMB08-277	BM01	TME	Seawater	3106-682	0.000506	092911HGA
MS				3106-682 MS	0.00609	092911HGA
MSD				3106-682 MSD	0.00630	092911HGA
				Spiking Level, MS	0.00561	
				Spiking Level, MSD	0.00564	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**103%**	
				RPD	**3.1%**	
REPLICATE PRECISION						
AMB08-001	PS04	TME	Seawater	3106-590	0.000678	092511HGA
DUP	PS05	TME	Seawater	3106-590 r2	0.000735	092511HGA
				Mean	*0.000707*	
				RPD	**8.0%**	
AMB08-041	PS10	TME	Seawater	3106-610	0.000728	092611HGA
DUP	PS10	TME	Seawater	3106-610 r2	0.000733	092611HGA
				Mean	*0.000731*	
				RPD	**0.7%**	
AMB08DD-001	OF018	TME	Seawater	3106-636	0.00782	092711HGA
DUP	OF018	TME	Seawater	3106-636 r2	0.00782	092711HGA
				Mean	*0.00782*	
				RPD	**0.0%**	

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Ambient Monitoring - AMB08
QC Sample Results for CVAF
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION (cont.)						
AMB08-217	SN08	TME	Seawater	3106-652	0.00107	092811HGA
DUP	SN08	TME	Seawater	3106-652 r2	0.00103	092811HGA
				Mean	*0.00105*	
				RPD	**3.3%**	
AMB08-281	BM01DUP	TME	Seawater	3106-684	0.000534	092911HGA
DUP	BM01DUP	TME	Seawater	3106-684 r2	0.000569	092911HGA
				Mean	*0.000552*	
				RPD	**6.3%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 092411	1601	092511HGA
SRM 1641 (2)		TME	Freshwater	1641d 092511	1547	092611HGA
SRM 1641 (3)		TME	Freshwater	1641d 092611	1538	092711HGA
SRM 1641 (4)		TME	Freshwater	1641d 092711	1514	092811HGA
SRM 1641 (5)		TME	Freshwater	1641d 092811	1573	092911HGA
				Certified Value	**1590**	
				range	**±18**	
	SRM 1641 (1)			**PD**	**0.7%**	
	SRM 1641 (2)			**PD**	**2.7%**	
	SRM 1641 (3)			**PD**	**3.2%**	
	SRM 1641 (4)			**PD**	**4.8%**	
	SRM 1641 (5)			**PD**	**1.1%**	

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Ambient Monitoring - AMB08
QC Sample Results for FIAS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Water	BLANK R1	0.0267 U	F092711A
MB2		TME	Water	BLANK R2	0.0267 U	F092711A
MB3		TME	Water	BLANK R3	0.0267 U	F092711A
Laboratory Control Samples						
Spiking Level					5	
LCS1		TME	Water	LCS 092711R1	4.89	F092711A
LCS2		TME	Water	LCS 092711R2	5.02	F092711A
LCS3		TME	Water	LCS 092711R3	4.95	F092711A
				Percent Recovery, LCS	**98%**	
				Percent Recovery, LCS	**100%**	
				Percent Recovery, LCS	**99%**	
MATRIX SPIKE RESULTS						
AMB08-013	PS14	TME	Seawater	3106-596	1.32	F092711A
MS				3106-596 MS	6.50	F092711A
MSD				3106-596 MSD	6.48	F092711A
				Spiking Level	5	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**103%**	
AMB08-050	PS16	TME	Seawater	3106-616	1.38	F092711A
MS				3106-616 MS	6.64	F092711A
MSD				3106-616 MSD	6.49	F092711A
				Spiking Level	5	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**102%**	
AMB08-078	M3.1	TME	Seawater	3106-630	1.35	F092711A
MS				3106-630 MS	6.35	F092711A
MSD				3106-630 MSD	6.39	F092711A
				Spiking Level	5	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**101%**	
AMB08-216	SN05DUP	TME	Seawater	3106-650	1.13	F092711A
MS				3106-650 MS	6.01	F092711A
MSD				3106-650 MSD	6.12	F092711A
				Spiking Level	5	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**100%**	

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Ambient Monitoring - AMB08
QC Sample Results for FIAS
ENVVEST September 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB08-001	PS04	TME	Seawater	3106-590	1.33	F092711A
DUP	PS04	TME	Seawater	3106-590 r2	1.34	F092711A
				Mean	*1.34*	
				RPD	**0.5%**	
AMB08-041	PS10	TME	Seawater	3106-610	1.35	F092711A
DUP	PS10	TME	Seawater	3106-610 r2	1.34	F092711A
				Mean	*1.34*	
				RPD	**1.0%**	
AMB08DD-001	OF018	TME	Seawater	3106-636	1.97	F092711A
DUP	OF018	TME	Seawater	3106-636 r2	1.97	F092711A
				Mean	*1.97*	
				RPD	**0.2%**	
AMB08-269	M2DEEP	TME	Seawater	3106-678	1.45	F092711A
DUP	M2DEEP	TME	Seawater	3106-678 r2	1.47	F092711A
				Mean	*1.46*	
				RPD	**1.5%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.13	F092711A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.19	F092711A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	1.16	F092711A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**2%**	
	SRM CASS-4 (2)			**PD**	**7%**	
	SRM CASS-4 (3)			**PD**	**4%**	

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Ambient Monitoring - AMB08
QC Sample Results for Salinity
ENVVEST September 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	Blank 092311r1	0.0 U	PSU	092311osal
MB		TME	Seawater	Blank 092311r2	0.0 U	PSU	092311osal
MB		TME	Seawater	Blank 092311r3	0.0 U	PSU	092311osal
MB		TME	Seawater	Blank 092311r4	0.0 U	PSU	092311osal
MB		TME	Seawater	Blank 092311r5	0.0 U	PSU	092311osal
MB		TME	Seawater	Blank 092311r6	0.0 U	PSU	092311osal
REPLICATE PRECISION							
AMB08-037	PS09	TME	Seawater	3106-608	28.4	PSU	092311osal
DUP				3106-608 r2	28.4	PSU	092311osal
				Mean	*28.4*	PSU	
				RPD	**0.0%**		
AMB08-078	M3.1	TME	Seawater	3106-630	30.4	PSU	092311osal
DUP				3106-630 r2	30.5	PSU	092311osal
				Mean	*30.5*	PSU	
				RPD	**0.3%**		
AMB08-217	SN08	TME	Seawater	3106-652	29.4	PSU	092311osal
DUP				3106-652 r2	29.3	PSU	092311osal
				Mean	*29.4*	PSU	
				RPD	**0.3%**		
AMB08-257	ILSP	TME	Seawater	3106-672	30.4	PSU	092311osal
DUP				3106-672 r2	30.4	PSU	092311osal
				Mean	*30.4*	PSU	
				RPD	**0.0%**		
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water R1	35.3	PSU	092311osal
SRM		TME	Seawater	Copenhagen Water R2	35.4	PSU	092311osal
SRM		TME	Seawater	Copenhagen Water R3	35.3	PSU	092311osal
SRM		TME	Seawater	Copenhagen Water R4	35.3	PSU	092311osal
SRM		TME	Seawater	Copenhagen Water R5	35.3	PSU	092311osal
SRM		TME	Seawater	Copenhagen Water R6	35.2	PSU	092311osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.89%**		
	SRM-2			**PD**	**1.17%**		
	SRM-3			**PD**	**0.89%**		
	SRM-4			**PD**	**0.89%**		
	SRM-5			**PD**	**0.89%**		
	SRM-6			**PD**	**0.60%**		

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Ambient Monitoring - AMB08
QC Sample Results for Salinity
ENVVEST September 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
LABORATORY CONTROL SAMPLES							
LCS-1				LCS 092311r1	20.3	PSU	092311osal
LCS-2				LCS 092311r2	20.2	PSU	092311osal
LCS-3				LCS 092311r3	20.0	PSU	092311osal
LCS-4				LCS 092311r4	20.2	PSU	092311osal
LCS-5				LCS 092311r5	20.1	PSU	092311osal
LCS-6				LCS 092311r6	20.1	PSU	092311osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**101.5%**		
	LCS-2			**% RECOVERY**	**101.0%**		
	LCS-3			**% RECOVERY**	**100.0%**		
	LCS-4			**% RECOVERY**	**101.0%**		
	LCS-5			**% RECOVERY**	**100.5%**		
	LCS-6			**% RECOVERY**	**100.5%**		
CALIBRATION RESULTS							
ICV-1				Calibration ICV	50.3	mS	092311osal
CCV-1				Calibration CCV1	50.2	mS	092311osal
CCV-2				Calibration CCV2	50.5	mS	092311osal
CCV-3				Calibration CCV3	50.2	mS	092311osal
CCV-4				Calibration CCV4	50.4	mS	092311osal
CCV-5				Calibration CCV5	50.2	mS	092311osal
CCV-6				Calibration CCV6	50.4	mS	092311osal
CCV-7				Calibration CCV7	50.2	mS	092311osal
CCV-8				Calibration CCV8	50.3	mS	092311osal
CCV-9				Calibration CCV9	50.1	mS	092311osal
CCV-10				Calibration CCV10	50.2	mS	092311osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**101%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**101%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**101%**		
	CCV-5			**% RECOVERY**	**100%**		
	CCV-6			**% RECOVERY**	**101%**		
	CCV-7			**% RECOVERY**	**100%**		
	CCV-8			**% RECOVERY**	**101%**		
	CCV-9			**% RECOVERY**	**100%**		
	CCV-10			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB08
QC Sample Results for TSS
ENVVEST September 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.5*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank092311r1	0.5 U	mg/L	092311TSS
MB2		TME	Seawater	Blank092311r2	0.5 U	mg/L	092311TSS
MB3		TME	Seawater	Blank092311r3	0.5 U	mg/L	092311TSS
MB4		TME	Seawater	Blank092311r4	0.5 U	mg/L	092311TSS
MB5		TME	Seawater	Blank092311r5	0.5 U	mg/L	092311TSS
LABORATORY CONTROL SAMPLES							
LCS-1				LCS092311r1	1006	mg/L	092311TSS
LCS-2				LCS092311r2	1002	mg/L	092311TSS
LCS-3				LCS092311r3	999	mg/L	092311TSS
LCS-4				LCS092311r4	997	mg/L	092311TSS
LCS-5				LCS092311r5	1003	mg/L	092311TSS
LCS-6				LCS092311r6	1000	mg/L	092311TSS
LCS-7				LCS092311r7	1025	mg/L	092311TSS
LCS-8				LCS092311r8	1036	mg/L	092311TSS
LCS-9				LCS092311r9	977	mg/L	092311TSS
LCS-10				LCS092311r10	987	mg/L	092311TSS
				TRUE VALUE	**1000**	mg/L	
	LCS-1			**% RECOVERY**	**101%**		
	LCS-2			**% RECOVERY**	**100%**		
	LCS-3			**% RECOVERY**	**100%**		
	LCS-4			**% RECOVERY**	**100%**		
	LCS-5			**% RECOVERY**	**100%**		
	LCS-6			**% RECOVERY**	**100%**		
	LCS-7			**% RECOVERY**	**103%**		
	LCS-8			**% RECOVERY**	**104%**		
	LCS-9			**% RECOVERY**	**98%**		
	LCS-10			**% RECOVERY**	**99%**		

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ENVVEST Ambient Monitoring (AMB08)
ENVVEST September 2011
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, September 2011 (AMB08)

PARAMETER: Total and Dissolved Metals – Al, Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 09/20/11 and 09/21/11. Samples were hand delivered the day of collection to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS were stored at 4.0±2°C in low density polyethylene bottles prior to analysis.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	09/20/11 and 09/21/11
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	09/20/11 and 09/21/11
TSS analysis dates	09/23/2011
CVAF analysis dates (Hg)	09/25/11 through 09/29/11
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	10/11/11
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/26/11, 09/27/11, 10/04/11
FIAS analysis date (As)	09/27/11

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0254	0.081
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a

METHODS (cont): precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All metal results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and denoted with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Freshwater samples such as equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Freshwater samples were analyzed for Hg and As as described above for the seawater. These methods are not selective to salt content and the same for both the seawater and freshwater matrices. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The TSS samples were analyzed following SM2540D using a gravimetric analysis. The data are reported in units of mg/L.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annual Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annual Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals. The required seawater preconcentration procedure to remove salt

interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank detected above the RL for the analytical batch. The reagent blank correction takes into consideration the detected blank for each batch and the data should be reported as corrected in order to more accurately represent the sample concentrations.

The method blank for TSS is a glass fiber filter taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

LABORATORY CONTROL SAMPLES:

A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY:

A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals. The spiking level was not optimized to Al; therefore several matrix spikes were not fortified at levels appropriate for the native sample concentration. These spikes are qualified as insufficient spiking level. There was no impact to data quality as Al is an ancillary parameter.

REPLICATE PRECISION:

Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY:

Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion.

Three different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640d demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion.

Two seawater SRMs were analyzed with each batch. The primary SRM was the coastal SRM CASS-5 and the secondary was the estuarine SRM SLEW-2 for Zn. Both ere prepared with each batch of preconcentrated samples. The PD were within the QC criterion for all metals except two replicates for Pb and two for Zn. The certified value for Pb in CASS-5 was less than the RL and should be evaluated with qualification. The PDs were flagged with a "c" indicating they meet the contingency criterion. The alternate SRM for Zn was SLEW-2, which demonstrated that all batches had acceptable accuracy for Zn in a seawater based SRM. There are no seawater SRMs certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy for these metals. The percent differences were within the QC acceptance criterion for all other metals.

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2011 (AMB08)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB08-004	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-590	WATER	MSL	TSS/OSAL	09/20/11
AMB08-008	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-592	WATER	MSL	TSS/OSAL	09/20/11
AMB08-012	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-594	WATER	MSL	TSS/OSAL	09/20/11
AMB08-016	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-596	WATER	MSL	TSS/OSAL	09/20/11
AMB08-020	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-598	WATER	MSL	TSS/OSAL	09/20/11
AMB08-024	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-600	WATER	MSL	TSS/OSAL	09/20/11
AMB08-028	PS07DUP-TSS/OSAL	TSS/OSAL	PS07DUP	3106-602	WATER	MSL	TSS/OSAL	09/20/11
AMB08-032	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-604	WATER	MSL	TSS/OSAL	09/20/11
AMB08-036	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-606	WATER	MSL	TSS/OSAL	09/20/11
AMB08-040	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-608	WATER	MSL	TSS/OSAL	09/20/11
AMB08-044	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-610	WATER	MSL	TSS/OSAL	09/20/11
AMB08-049	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-612	WATER	MSL	TSS/OSAL	09/20/11
AMB08-053	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-616	WATER	MSL	TSS/OSAL	09/20/11
AMB08-057	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-618	WATER	MSL	TSS/OSAL	09/20/11
AMB08-061	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-620	WATER	MSL	TSS/OSAL	09/20/11
AMB08-065	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-622	WATER	MSL	TSS/OSAL	09/20/11
AMB08-069	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-624	WATER	MSL	TSS/OSAL	09/20/11
AMB08-073	M4-TSS/OSAL	TSS/OSAL	M4	3106-626	WATER	MSL	TSS/OSAL	09/20/11
AMB08-077	BJ-EST-TSS/OSAL	TSS/OSAL	BJ-EST	3106-628	WATER	MSL	TSS/OSAL	09/20/11
AMB08-081	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-630	WATER	MSL	TSS/OSAL	09/20/11
AMB08-085	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-632	WATER	MSL	TSS/OSAL	09/20/11
AMB08-089	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-634	WATER	MSL	TSS/OSAL	09/20/11
AMB08DD-001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-636	WATER	MSL	TSS/OSAL	09/20/11
AMB08DD-006	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-638	WATER	MSL	TSS/OSAL	09/20/11
AMB08DD-011	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-640	WATER	MSL	TSS/OSAL	09/20/11

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2011 (AMB08)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB08-001	PS04-TME	TME	PS04	3106-590	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-001	PS04-DME	DME	PS04	3106-591	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-005	PS03-TME	TME	PS03	3106-592	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-005	PS03-DME	DME	PS03	3106-593	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-009	PS05-TME	TME	PS05	3106-594	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-009	PS05-DME	DME	PS05	3106-595	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-013	PS14-TME	TME	PS14	3106-596	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-013	PS14-DME	DME	PS14	3106-597	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-017	PS06-TME	TME	PS06	3106-598	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-017	PS06-DME	DME	PS06	3106-599	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-021	PS07-TME	TME	PS07	3106-600	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-021	PS07-DME	DME	PS07	3106-601	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-025	PS07DUP-TME	TME	PS07DUP	3106-602	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-025	PS07DUP-DME	DME	PS07DUP	3106-603	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-029	PS08-TME	TME	PS08	3106-604	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-029	PS08-DME	DME	PS08	3106-605	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-033	PS15-TME	TME	PS15	3106-606	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-033	PS15-DME	DME	PS15	3106-607	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-037	PS09-TME	TME	PS09	3106-608	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-037	PS09-DME	DME	PS09	3106-609	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-041	PS10-TME	TME	PS10	3106-610	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-041	PS10-DME	DME	PS10	3106-611	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-045	PS11-TME	TME	PS11	3106-612	WATER	PREP LAB	Total Metals, Hg	09/20/11

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AMB08-045	PS11-DME	DME	PS11	3106-613	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-046	PS11DUP-TME	TME	PS11DUP	3106-614	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-046	PS11DUP-DME	DME	PS11DUP	3106-615	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-050	PS16-TME	TME	PS16	3106-616	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-050	PS16-DME	DME	PS16	3106-617	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-054	PS10.1-TME	TME	PS10.1	3106-618	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-054	PS10.1-DME	DME	PS10.1	3106-619	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-058	PS01-TME	TME	PS01	3106-620	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-058	PS01-DME	DME	PS01	3106-621	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-062	PS02-TME	TME	PS02	3106-622	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-062	PS02-DME	DME	PS02	3106-623	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-066	PS13-TME	TME	PS13	3106-624	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-066	PS13-DME	DME	PS13	3106-625	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-070	M4-TME	TME	M4	3106-626	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-070	M4-DME	DME	M4	3106-627	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-074	BJ-EST-TME	TME	BJ-EST	3106-628	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-074	BJ-EST-DME	DME	BJ-EST	3106-629	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-078	M3.1-TME	TME	M3.1	3106-630	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-078	M3.1-DME	DME	M3.1	3106-631	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-082	M3.1DEEP-TME	TME	M3.1DEEP	3106-632	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-082	M3.1DEEP-DME	DME	M3.1DEEP	3106-633	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08-086	PS12-TME	TME	PS12	3106-634	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08-086	PS12-DME	DME	PS12	3106-635	WATER	PREP LAB	Diss Metals, Hg	09/20/11

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Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB08DD-001	OF018-TME	TME	OF018	3106-636	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08DD-001	OF018-DME	DME	OF018	3106-637	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08DD-006	OF019-TME	TME	OF019	3106-638	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08DD-006	OF019-DME	DME	OF019	3106-639	WATER	PREP LAB	Diss Metals, Hg	09/20/11
AMB08DD-011	OF021-TME	TME	OF021	3106-640	WATER	PREP LAB	Total Metals, Hg	09/20/11
AMB08DD-011	OF021-DME	DME	OF021	3106-641	WATER	PREP LAB	Diss Metals, Hg	09/20/11

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2011 (AMB08)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB08-203	PS07-TSS/OSAL	3106-642	TSS/OSAL	PS07	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-207	M3.3-TSS/OSAL	3106-644	TSS/OSAL	M3.3	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-211	SN03-TSS/OSAL	3106-646	TSS/OSAL	SN03	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-215	SN05-TSS/OSAL	3106-648	TSS/OSAL	SN05	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-220	SN08-TSS/OSAL	3106-652	TSS/OSAL	SN08	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-224	SN10-TSS/OSAL	3106-654	TSS/OSAL	SN10	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-228	SN11-TSS/OSAL	3106-656	TSS/OSAL	SN11	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-232	M8-TSS/OSAL	3106-658	TSS/OSAL	M8	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-236	M6-TSS/OSAL	3106-660	TSS/OSAL	M6	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-240	M7-TSS/OSAL	3106-662	TSS/OSAL	M7	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-244	DYOTS-TSS/OSAL	3106-664	TSS/OSAL	DYOTS	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-248	PWNLP-TSS/OSAL	3106-666	TSS/OSAL	PWNLP	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-252	M1-TSS/OSAL	3106-668	TSS/OSAL	M1	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-256	M1DEEP-TSS/OSAL	3106-670	TSS/OSAL	M1DEEP	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-260	ILSP-TSS/OSAL	3106-672	TSS/OSAL	ILSP	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-264	WP-TSS/OSAL	3106-674	TSS/OSAL	WP	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-268	M2-TSS/OSAL	3106-676	TSS/OSAL	M2	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-272	M2DEEP-TSS/OSAL	3106-678	TSS/OSAL	M2DEEP	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-276	CLAMBAY-TSS/OSAL	3106-680	TSS/OSAL	CLAMBAY	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-280	BM01-TSS/OSAL	3106-682	TSS/OSAL	BM01	Seawater	Hg Lab	TSS, Salinity	09/21/11
AMB08-284	BM01DUP-TSS/OSAL	3106-684	TSS/OSAL	BM01DUP	Seawater	Hg Lab	TSS, Salinity	09/21/11

SOP#: MSL-A-001

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2011 (AMB08)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB08-200	PS07-TME	3106-642	TME	PS07	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-200	PS07-DME	3106-643	DME	PS07	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-204	M3.3-TME	3106-644	TME	M3.3	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-204	M3.3-DME	3106-645	DME	M3.3	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-208	SN03-TME	3106-646	TME	SN03	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-208	SN03-DME	3106-647	DME	SN03	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-212	SN05-TME	3106-648	TME	SN05	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-212	SN05-DME	3106-649	DME	SN05	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-216	SN05DUP-TME	3106-650	TME	SN05DUP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-216	SN05DUP-DME	3106-651	DME	SN05DUP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-217	SN08-TME	3106-652	TME	SN08	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-217	SN08-DME	3106-653	DME	SN08	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-221	SN10-TME	3106-654	TME	SN10	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-221	SN10-DME	3106-655	DME	SN10	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-225	SN11-TME	3106-656	TME	SN11	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-225	SN11-DME	3106-657	DME	SN11	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-229	M8-TME	3106-658	TME	M8	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-229	M8-DME	3106-659	DME	M8	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-233	M6-TME	3106-660	TME	M6	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-233	M6-DME	3106-661	DME	M6	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-237	M7-TME	3106-662	TME	M7	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-237	M7-DME	3106-663	DME	M7	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11

SOP#: MSL-A-001

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2011 (AMB08)**

Sponsor ID	Sample Lable	Battelle Code	Portion	Site Description	Matrix	Storage Location	Requested Parameters	Collection Date
AMB08-241	DYOTS-TME	3106-664	TME	DYOTS	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-241	DYOTS-DME	3106-665	DME	DYOTS	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-245	PWNLP-TME	3106-666	TME	PWNLP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-245	PWNLP-DME	3106-667	DME	PWNLP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-249	M1-TME	3106-668	TME	M1	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-249	M1-DME	3106-669	DME	M1	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-253	M1DEEP-TME	3106-670	TME	M1DEEP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-253	M1DEEP-DME	3106-671	DME	M1DEEP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-257	ILSP-TME	3106-672	TME	ILSP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-257	ILSP-DME	3106-673	DME	ILSP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-261	WP-TME	3106-674	TME	WP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-261	WP-DME	3106-675	DME	WP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-265	M2-TME	3106-676	TME	M2	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-265	M2-DME	3106-677	DME	M2	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-269	M2DEEP-TME	3106-678	TME	M2DEEP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-269	M2DEEP-DME	3106-679	DME	M2DEEP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-273	CLAMBAY-TME	3106-680	TME	CLAMBAY	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-273	CLAMBAY-DME	3106-681	DME	CLAMBAY	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-277	BM01-TME	3106-682	TME	BM01	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-277	BM01-DME	3106-683	DME	BM01	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11
AMB08-281	BM01DUP-TME	3106-684	TME	BM01DUP	Seawater	Prep Lab	Total Metals, Hg	09/21/11
AMB08-281	BM01DUP-DME	3106-685	DME	BM01DUP	Seawater	Prep Lab	Dissolved Metals, Hg	09/21/11

SOP#: MSL-A-001

Station Log

Sample Collector	Johnston, Mollerstuen	PSNS Project ENVVEST		Page 1 of 1
Sampling Team	Gelhart, Brandenberger, Rosen	Ambient Monitoring	AMB08 Day 1	9/20/2011
Organization	PSNS & IMF	Sampling Team: Johnston, Mollerstuen, Gelhart Brandenberger, Rosen / Boat Ops George / Kelly / Steere		
Use pre-assigned id	George & Kelly Boat Ops			

~~AMB08~~ - StationID	Time Arrive Date/Time (m/dd/yy hh:mm)	Time Leave Date/Time (m/dd/yy hh:mm)	Station Type	LAT	LONG	Remarks/ Comments
	0850					Troll in Water
PS04	0905	0934	NS	47.55456 N	122.64753 W	
PS03	0937	0946	NS	47.55564 N	122.65171 W	
PS05	0950	0957	NS	47.55609 N	122.64671	
PS14	1000	1010	NS	47.55241	122.64359	Checked Troll at 1002 still logging
PS06	1013	1023	NS	47.55309	122.64170	
PS07	1025	1039	NS	47.55589	122.64184	
PS08	1044	1049	NS	47.55783	122.63876	
PS15	1051	1105	NS	47.55558	122.63656	
PS09	1108	1115	NS	47.56008	122.63624	Troll still logging 1110
PS10	1122	1131	NS	47.56050	122.63265	
~~PS10~~ PS11	1135	1142	NS	47.56050	122.62913	
PS16	1148	1156	NS	47.55860	122.62828	
PS10.1	1158	1202	NS	47.56101	122.63131	1205 Troll still logging
PS01	1225	1230	NS	47.55363	122.65708	
PS02	1235	1240	NS	47.55415	122.65490	on barrier Seal Lion
PS13	1246	1254	NS	47.55162	122.65414	BJ 72
M4	1300	1306	M	47.64081	122.66415	EM 76
BJEST	1303	1318	NS	47.64490	122.62937	JB 67
M3.1	1332	1342	M	47.55907	122.61372	GR 61
PS12	1350	1401	NS	~~47.55020~~ 47.56050	122.62839	CJ 71
PS04B	1408	1412	NS	~~47.55~~ 55602	122.64811	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Johnston, Mollenstein, Goddard, Brandenberger,							PSNS Project ENVVEST 9/20/2011		
Sampling Team	Rosen (George & Kelly)							Ambient Monitoring AMB08		
Organization								Instrument: Hydra		
Use pre-assigned id	Use allowable code only	9/20/11 mm/dd/yy hh:mm								
~~AMB08~~ SampleID	StationID	Date/Time	Temp C.	pH	Cond	~~Density~~ ~~Turbidity~~	DO	Depth	Remarks/Comments, Salinity	
~~PS04~~	PS04	0925	15.21	~~7.89~~ 7.89	5.07	24.5	9.85	40'	S ~~S~~-3.3%	SD 18
PS03	PS03	0934	15.5	7.89	5.05	24.3	10.14	44'	S 3.3%	SD 16
PS05	PS05	0950	15.26	7.82	5.05	24.3	8.97	25'	S 3.3	SD 20
PS14	PS14	1002	14.95	7.92	5.05	24.4	11.73	52	S 3.3	SD 19
PS14 Deep	PS14 DEEP	1005	14.64	7.87	5.15	25.0	9.26	—	S 3.4	—
PS06	PS06	1013	14.91	7.91	5.06	24.4	11.43	58'	S 3.3	SD 18
PS06 Deep	PS06 Deep	1019	14.66	7.87	5.14	24.9	9.29	—	S 3.3	~~SD 12~~
PS07	PS07	1025	14.87	~~7.89~~ 7.89	5.03	24.3	9.70	27'	S 3.3	SD 12
PS08	PS08	1045	15.07	7.98	5.07	24.5	11.47	31.3	S 3.3	SD 17
PS15	PS15	~~1049~~ 1051	15.06	7.99	5.07	24.4	10.56	55	S 3.3	SD 16
PS09	PS09	1111	15.20	7.91	5.01	24.1	10.27	28	S 3.3	SD 16
PS09 Deep	PS09 Deep	1113	14.45	7.85	5.16	25.0	8.98	—	S 3.4	—
PS10	PS10	1124	15.06	7.90	5.07	24.5	9.08	~~48~~ 40	S 3.3	SD 19
~~PS10.1~~ PS11	~~PS10.1~~ PS11	1137	15.08	7.91	5.09	24.6	9.74	34.8	S 3.3	SD 19
PS16	PS16	1148	14.79	7.91	5.12	24.8	9.23		S 3.3	SD 21
PS10.1	PS10.1	1200	15.62	7.95	5.08	24.4	9.71	31	S 3.3	SD 18
PS01	PS01	1226	15.35	8.00	5.06	24.3	13.25	~~50~~ 45	S 3.3	SD 11
PS02	PS02	1236	15.52	7.97	5.06	24.3	12.33	32	S 3.3	SD 14
PS13	PS13	1247	15.50	7.95	5.02	24.2	10.83	51.2	S 3.3	SD 16
PS13 Deep	PS13 Deep	1250	14.59	7.86	5.16	25.1	9.57	—	S 3.4	—
M4	M4	1301	16.12	8.08	5.05	24.2	12.57	32.5	S 3.3	SD 8
BJEST	BJEST	1314	15.25	7.97	5.03	24.2	13.17	5.3	3.3	Bottom

Water Quality Log

Sample Collector	Johnston, Mullersteun	PSNS Project ENVVEST	
Sampling Team		Ambient Monitoring:	
Organization		Instrument:	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	g/ml	ft	ft	
SampleID	**StationID**	9/20/2011 Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
M3.1	M3.1	1332	7.87	5.12	–	9.82	15.09	–	3.3	24.8	19	129'	
M3.1 Deep	M3.1 Deep	1338	7.83	5.20	–	8.83	14.00	–	3.4	25.3	–	–	
PS12	PS12	1355	7.85	5.13	–	10.06	14.53	–	3.3	24.9	18	21	
PS04B	PS04B	1410	7.81	5.11		12.52	15.37	–	3.3	24.6	18	~~24~~ 28	

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/[illegible]/2011
Page: [illegible] of 7
COC Number: AMB08

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08 Day 1

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TME-OME	NUTS/TOC	DOC	TSS/OSAL	No. of containers	StationID	Comments
	AMB08-		9/20/2011	Seawater (m)							310d* T / D
	001	PS04	0924		✓					PS04	590 591
	002	PS04	"			✓				"	"
	003	"	"				✓	✓		"	"
	004	"	"					✓		"	"
	005	PS03	0940		✓					PS03	visable Sheen 592 593
	006	"	"			✓				"	"
	007	"	"				✓			"	"
	008	"	"					✓		"	"
	009	PS05	0950		✓					PS05	594 595
	010	"	"			✓				"	"
	011	"	"				✓			"	Filter Loose
	012	"	"					✓		"	"
	013	PS14	1002		✓					PS14	596 597
	014	"	"			✓				"	"
	015	"	"				✓			"	"

Relinquished by: [signature] 9/20/11 1800
Signature Date Time
JM Brandenberger MSL
Printed Name Company

Received by: [signature] 9/21/11
Signature
C. Sussman 1130
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 09/20/2011
Page: 2 of 7
COC Number: AMP08

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TME-DME	NUTS/TOC	DOC	TSSLOSAL	No. of containers	StationID	Comments
	AMB08-		9/20/2011	Seawater (m)							3106* T/D
	016	PS14	1002					✓		PS14	
	017	PS06	1015		✓					PS06	598 599
	018	↓	↓			✓				↓	
	019						✓				glass
	020	↓	↓					✓		↓	
	021	PS07	1025		✓					PS07	600 601
	022	↓				✓				↓	
	023						✓				
	024	↓						✓		↓	
	025	PS07 Dup	1030		✓					PS07 Dup	602 603
	026	↓	↓			✓	✓			↓	
	027							✓			
	028	↓	↓							↓	
	029	PS08	1046		✓					PS08	604 605
	030	↓	↓			✓				↓	

Relinquished by:
JM Brandenberger — Signature
9/21/11 — Date
1800 — Time
Printed Name
MSL — Company

Received by:
C. Sustich — Signature
9/21/11 — Date
1130 — Time
Printed Name

Total # of Containers
Shipment Method: Hand delivery

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 09/20/2011
Page: 3 of 7
COC Number: AMB08

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters: Seawater (m); TMG-DME; Nuts/Toc; DOC; TSS/OSAL; No. of containers

Observations, Instructions: 3,006* T / D

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	StationID	Comments
	031	PS08	1046		PS08	
	032	PS08	↓		↓	
	033	PS15	1058		PS15	604 607
	034	↓	↓		↓	
	035					
	036	↓	↓		↓	
	037	PS09	1112		PS09	608 609
	038	↓	↓		↓	
	039					
	040	↓	↓		↓	
	041	PS10	1129		PS10	610 611
	042	↓	↓		↓	
	043					
	044	↓	↓		↓	
	045	~~PS10.1~~ PS11	1138		~~PS10.1~~ PS11	612 613

Relinquished by: [signature] 9/21/11 1800
Signature Date Time
JM Brandenberger MSL
Printed Name Company

Received by: [signature] 9/21/11
Signature
C. Susun 1130
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/20/2011
Page: 4 of 7
COC Number: AMB08

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix (Seawater (m))	TME-DME	NUTS/TOC	DOC	TSS/OSAL	No. of containers	StationID	Comments (31067 T/D)
	AMB08		9/20/2011								
	046	~~PS10.1~~ PS11DUP	1138		✓	✓	✓	✓		PS11 Dup	614 615
	047	PS11	↓			✓	✓	✓		PS11	
	048	PS11 ↓					✓	✓		↓	
	049	PS11	↓					✓			
	050	PS16	1150		✓					PS16	616 617
	051	↓	↓			✓				↓	
	052	↓					✓				
	053	↓	↓					✓			
	054	PS10.1	1159		✓					PS10.1	618 619
	055	↓	↓			✓				↓	
	056						✓				
	057		↓					✓			
	058	PS01	1227		✓					PS01	620 621
	059	↓	↓			✓				↓	
	060						✓				

Relinquished by: JM Brandenberger — 9/20/11 — 1800 — MSL
Signature / Printed Name — Date — Time — Company

Received by: C. Sisson — 9/21/11 — 1130
Signature / Printed Name — Date — Time

Total # of Containers
Shipment Method: Hand Delivered

Relinquished by:
Signature / Printed Name — Date — Time — Company

Received by:
Signature / Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 9/20/2011
Page: 5 of 7
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TMB - DMS	NUTS / TDC	DOC	TSS / OSAL						No. of containers	StationID	Observations, Instructions / Comments
	AMB08		9/20/2011	Seawater (m)												3106 T/D
	061	PS01	1227					✓							PS01	
	062	PS02	1230		✓										PS02	622 623
	063	↓	↓			✓									↓	
	064						✓									
	065							✓								
	066	PS13	1247		✓										PS13	624 625
	067	↓	↓			✓									↓	
	068						✓									
	069							✓								
	070	M4	1303		✓										M4	626 627
	071	↓	↓			✓									↓	
	072						✓									
	073							✓								
	074	BJEST	1314		✓										BJEST	628 629
	075	↓	1			✓									1	

Relinquished by: JM Brandenberger — Signature — 9/20/11 Date — 1800 Time — JM Brandenberger Printed Name — MSL Company

Received by: C Sussman — Signature — 9/21/11 Date — 1130 Time — C Sussman Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered

Relinquished by: _____ Signature — Date — Time — Printed Name — Company

Received by: _____ Signature — Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 9/20/2011
Page: 6 of 7
COC Number: AMB08

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Seawater(m)	TIME-DME	NUTS/TOC	DOC	TSS/OSAL						No. of containers	StationID	Observations, Instructions / Comments
	AMB08		9/20/2011														3 10L* T/D
	076	BJEST	1314					✓	✓							BJEST	
	077	↓	↓						✓							BJEST	
	078	m3.1	1338			✓										m3.1	630 631
	079	Surface					✓									Surface	
	080							✓									
	081	↓	↓						✓							↓	
	082	m3.1 Dup	1336			✓										m3.1 Dup	9 meters 632 633
	083						✓										
	084							✓									
	085	↓	↓						✓							↓	
	086	PS12	1354			✓										PS12	634 635
	087						✓										
	088							✓									
	089	↓	↓						✓							↓	
	~~090~~	JMB															

Relinquished by: _____ Signature; 9/20/11 Date; 1800 Time
JM Brandenberger Printed Name; MSL Company

Received by: _____ Signature; 9/21/11
C. Sullivan 1130 Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered

Relinquished by: _____ Signature; Date; Time
Printed Name; Company

Received by: _____ Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/20/11

Page: 7 of 7

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

** To match previously reported results, "OF" samples were re-assigned AMB08-~~xx~~ to AMB08DD-001 thru -015 9/22/11

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TMELOME	NUT/TOC	DOC	TSS/OSG	O&G						No. of containers	StationID	Comments
AMB08DD-	** AMB08		9/20/11														3106* T/D
-001	-090	OF18	26hr comp 1400		X											005	pump needs cal 636/637
-002	-091					X											
-003	-092						X										
-004	-093							X									
-005	-094								X								
-006	-095	OF19	22hr comp 0800		X											006	pump needs cal 638/639
-007	-096					X											
-008	-097						X										
-009	-098							X									
-010	-099								X								
-011	-100	OF021	21hr comp 0830		X												now on R/O reject 640/641
-012	-101					X											
-013	-102						X										
-014	-103							X									
-015 ~~xx~~	-104								X								

Relinquished by:
Signature — Date: 9/21 — Time: 1800
JM Brandenberger — MSL
Printed Name — Company

Received by:
Signature — 9/21/11
C. Susuan — 1130
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivered

Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Sample Collector	Robert Johnston, et al	PSNS Project ENVVEST		Page 1 of 3 1
Sampling Team		Ambient Monitoring		9/21/2011
Organization	PSNS & IMF	Johnston, Young, Brandenburger, Beckley		Bremerton Tides
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm		Steve / Kelly Boat OPs.

AMB08B – StationID	9/21/11 Time Arrive Date/Time	9/21/11 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
DS07 ~~BSP~~	0845	~~0845~~ 0855	NS	47.55582	122.64165	
M3.3	0859	0906	M	47.54741	122.64331	
SN03	0910	0915	NS	47.54672	122.67077	Red algae
SN05	0925	0932	NS	47.53197	122.68528	" "
SN08	0939	0945	NS	47.54039	122.66213	Red algae
SN10	0951	0957	NS	47.54136	122.64313	visable sheen
SN11	1003	1008	NS	47.54381	122.63524	
M8	1030	1035	M	47.57195	122.67520	Red algae
M6	1045	1051	M	47.60318	122.67965	@1040 troll still Logging
M7	1054	1100	M	47.62718	122.69020	
DYOTS	1104	1143	NS	47.64231	122.69373	Brownish tint to water
PWNLP	1147	1152	NS	47.58556	122.64619	Low flow at BST01 outfall
M1	1207	1230	M	47.64080	122.58730	Bucket water is 19.6°C by Bobs thermometer
ILSP	1235	1240	NS	47.60091	122.59413	Salinity is 0% by refractometer
WP	1246	1252	NS	47.58410	122.57125	troll still logging @ 1245
M2	1257	1306	M	47.57604	122.53877	Sun coming out
CLAMBAY	1318	1324	NS	47.57027	122.55065	
BM01	1338	1348	NS	47.56480	122.62061	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Robert Johnston, et al (Beckley)	PSNS Project ENVVEST	9/21/2011 AMB08B (Day 2)
Sampling Team	~~PS~~ " " " "	Ambient Monitoring:	
Organization	PSNS Johnston, Young, Brandenberger, Beddg	Instrument:	Horiba / Troll logging

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	lbs/ft ~~g/ml~~	ft	ft	
AMB08B-SampleID	StationID	9/21/11 Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bottom	Remarks/ Comments
~~AMB08B-PS07~~	~~PS07Deep~~	0847	7.86	5.11	—	14.75	15.06	—	3.3	24.6	18	39	Troll in water @ 0820
-M3.3	M3.3	0901	8.24	5.12	—	19.99	16.09	—	3.3	24.6	15	42.9	Troll logging data @ 0905
	SN03	0911	7.98	5.11	—	16.34	15.44	—	3.3	24.6	8	27	Red algae
	SN05	0926	7.77	5.12	—	15.93	15.22	—	3.3	24.7	2	25	Red algae
	SN08	0940	8.36	5.01	—	19.99	16.83	—	3.3	23.8	5	10	" "
	SN10	0952	8.25	5.01	—	16.58	16.09	—	3.3	24.0	11	34	Sheen on water
	SN11	1004	8.12	5.05	—	15.14	15.84	—	3.3	24.3	10	23	
	M8	1031	8.08	5.03	—	15.7	16.19	—	3.3	24.1	4	14	Red algae
	M6	1047	8.02	5.14	—	13.57	15.78	—	3.4	24.7	12	40	
	M7	1056	8.07	5.12	—	13.0	16.15	—	3.3	24.6	16	48	
	DYOTS	1104	8.04	5.05	—	18.02	17.07	—	3.3	24.0	7	17	Brownish tint to water
	PWNP	1149	7.91	5.17	—	12.10	15.0	—	3.4	25.0	Bottom depth	12	
	M1	1207	8.03	5.18	—	16.37	15.24	—	3.4	25.0	12	146	
	M1 deep	1218	7.82	5.25	—	11.20	13.94	—	3.4	25.6	12	146	10½ meters depth (2.6% refractometer)
	ILSP	1237	7.93	5.15	—	12.89	15.06	—	3.4	24.9	14	34	
	WP	1248	7.99	5.20	—	19.68	14.4	—	3.4	25.2	16	39	
	M2	1258	7.78	5.25	—	11.17	13.36	—	3.4	25.6	17	75	
	M2 Deep	1302	7.75	5.32	—	8.41	12.67	—	3.5	26.7	17	75	[10½ meters (2.7% refrac)
	CLAMBAY	1320	7.91	5.16	—	12.71	14.45	—	3.4	25.1	Bottom Depth	6	(14.2°C by Bobometer)]
	BM01	1338	7.86	5.19	—	11.13	14.67	—	3.4	25.2	17	32	oil sheen

SAMPLE CHAIN OF CUSTODY FORM
Date: 9/21/11
Page: 1 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVVEST
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08 Day 2

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB08-)	Sample Label	Collection Date/Time	Matrix	TME/DME	NUT/TOC	DOC	TSS/OSAL							No. of containers	StationID	Comments
	-200	PS07 ~~Dup~~ 2	9/21/11 0847	Seawater	X										1	PS07 ~~Dup~~	Duplicate from Day 1 642/643
	-201	↓	↓	↓		X									1	↓	
	-202	↓	↓	↓			X								1	↓	
	-203	↓	↓	↓				X							1	↓	
	-204	M3.3	0900	↓	X										1	M3.3	644 645
	-205	↓	↓	↓		X									1	↓	
	-206	↓	↓	↓			X								1	↓	
	-207	↓	↓	↓				X							1	↓	
	-208	SN03	0910	↓	X											SN03	Red algae 646 647
	-209	↓	↓	↓		X										↓	
	-210	↓	↓	↓			X									↓	
	-211	↓	↓	↓				X								↓	
	-212	SN05	0925	↓	X											SN05	648 649
	-213	↓	↓	↓		X										↓	
	-214	↓	↓	↓			X									↓	

3106 * T/D

Relinquished by:	Signature	Date	Time	Received by:	Signature	Date
		9/21/11	1630			9/22/11
Printed Name	Company			Printed Name		1030
Jill Brandenberger	MSL			C. Sussin		

Total # of Containers
Shipment Method:
Shipment Method: Hand
Sample Disposition:

Relinquished by:	Signature	Date	Time	Received by:	Signature
Printed Name	Company			Printed Name	

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/21/11

Page: 2 of 6

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TME/DmE	Nut/TDoC	DoC	TSS/OSAL							No. of containers	StationID	Comments
	AMB08-		9/21/11														3106* T/D
	-215	SNOS	0925	Saltwater				X							1	SNOS	Red algae
	-216	SNOS DUP	0930		X										1	SNOSDUP	" " 650 651
	-217	SNOB	0940		X										1		Red algae 652 653
	-218	↓	↓			X									1		
	-219						X								1		
	-220	↓	↓					X							1	↓	↓
	-221	SN10	0951		X										1	SN10	visable sheen 654 655
	-222	↓	↓			X									1	↓	↓
	-223						X								1		
	-224	↓	↓					X							1	↓	↓
	-225	SN11	1003		X										1	SN11	656 657
	-226	↓	↓			X									1	↓	
	-227						X								1		
	-228	↓	↓					X							1	↓	
	-229	MB	1032	↓	X										1	MB	Red algae 658 659

Relinquished by: _____ 9/21/11 1630
Signature Date Time
Jill Brandenberger MSL
Printed Name Company

Received by: _____ 9/22/11
Signature
C. Sequim 1030
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 9/21/11
Page: 3 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382
Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TME/DME	Nut/TDC	DOC	TSS/OSAL						No. of containers	StationID	Comments
	AMB08-		9/21/11													310* T/D
	230	M8	1032	Salt water		x								1	M8	Red algae
	231	↓	↓	↓			x							1	↓	↓
	232	↓	↓	↓				x						1	↓	↓ 660 661
	233	M6	1046		x									1	M6	
	234	↓	↓	↓		x								1	↓	
	235	↓	↓	↓			x							1	↓	
	236	↓	↓	↓				x						1	↓	
	237	M7	1055	↓	x										M7	662 663
	238	↓	↓	↓		x									↓	
	239	↓	↓	↓			x								↓	
	240	↓	↓	↓				x							↓	
	241	DYOTS	1105	↓	x										DYOTS	Brownish tint to water
	242	↓	↓	↓		x									↓	metals 664 665
	243	↓	↓	↓			x								↓	
	244	↓	↓	↓				x							↓	↓

Relinquished by: _____ 9/21/11 1630
Signature Date Time
Jill Brandenberger MSL
Printed Name Company

Received by: _____ 9/22/11
Signature
C. Susuki 1030
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/21/11

Page: 4 of 6

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TME/DME	Nut/TDOC	DOC	TSS/OSAL						No. of containers	StationID	Comments
	AMB08-	~~[illegible]~~	9/21/11													3 bot T/D
	245	PWNLP	1148	Salt Water	X									1	PWNLP	Low flow @ BST01 666 667
	246	↓	↓	↓		X								1		outfall ↓
	247						X	&						1		
	248	↓	↓					X						1	↓	↓
	249	M1	1208		X									1	M1	668 669
	250	↓	↓			X								1	↓	
	251						X							1		
	252	↓	↓					X						1	↓	
	253	M1 deep	1218		X									1	M1 deep	5 meters depth 670 671
	254	↓	↓			X								1	↓	↓
	255						X							1		
	256	↓	↓					X						1	↓	
	257	LSP	1235		X									1	LSP	672 673
	258	↓	↓			X								1		
	259	↓	↓	↓			X							1	↓	

Relinquished by: [signature] 9/21/11 1630
Signature Date Time
Jill Brandenberger MSL
Printed Name Company

Received by: [signature] 9/22/11
Signature
C. Sullivan 1030
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/21/11
Page: 5 of 6
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Dme/Dme	Nut/Doc	Doc	TSS/OSAL						No. of containers	StationID	Comments
	AMB08-		9/21/11													3106* T/D
	-260	LSP	1236	Seq water				X						1	LSP	
	-261	WP	1248		X										WP	674 675
	-262	↓	↓			X									↓	
	-263						X									
	-264							X								
	-265	M2	1303		X										M2	676 677
	-266					X										
	-267						X									
	-268							X								
	-269	M2 Deep	~~1259~~ 1302		X										M2Deep	8 meters Deep 678 679
	-270					X										
	-271						X									
	-272							X								
	-273	CLAMBAY	1319		X										CLAMBAY	680 681
	-274	↓	↓	↓		X									↓	

Relinquished by: _____ Signature
9/21/11 Date
1630 Time
Jill Brandenberger Printed Name
MSL Company

Received by: _____ Signature
9/22/11
C. Sussman 1030 Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand

Relinquished by: _____ Signature
Date
Time
Printed Name
Company

Received by: _____ Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/21/11

Page: 6 of 6

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB08 Day 2

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger
Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TME/DME	Nut/TOC	DOC	TSS/OSAL						No. of containers	StationID	Comments
	AMB08		9/21/11													3106 T/D
	276	CLAMBAY	1319	sea water			X							1	CLAMBAY	
	276	↓	↓	↓				X						1	↓	
	277	BM01	1338		X									1	BM01	682 683
	278	↓	↓			X								1	↓	
	279						X							1		
	280							X						1		
	281	BM01Dup	1338		X									1	BM01Dup	684 685
	282	↓	↓			X								1	↓	
	283						X							1		
	284							X						1		
	~~285~~															
	~~286~~															
	~~287~~															
	~~288~~															
	~~289~~															

Relinquished by: _____ 9/21/11 1630
Signature Date Time

Jim Brandenberger MSL
Printed Name Company

Received by: _____ 9/22/11
Signature

C. Susuki 1030
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand

Sample Disposition:

Relinquished by: _____
Signature Date Time

Printed Name Company

Received by: _____
Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST ENVVEST

Reference SOP# MSL-A-001

Central File #: 3104 Sample No(s): 590 - 641 Batch: 15

Project Name: AMB08 ENVVEST Project Manager: JMS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater / FCO WP#

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
	✓	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

✓		Filter Samples: Amount: Entire sample Half of sample
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
✓		Special instructions: ship Nutrients/TOC/DOC to CAS

Sample Preservation Instructions: TSS 4°C / metals 0.2% HNO_3 after filtration

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
✓			Cooler temperature (acceptable range: 4±2°C or solids:frozen) #1: all 4 1 2 °C
			(if multiple coolers, note temp. of each) °C
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
			Comment/Remedy:
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: JMS Date/Time: 9/20/11 1730

SAMPLE PRESERVATION

			Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
			Random pH checked for ~10% of samples (use dip paper) Sample IDs:
			Complete pH check required for project (use pH meter and record on pH Record form)
✓			Sample(s) were preserved at MSL

Type:			
✓	0.2% HNO_3	Notes: Fisher Optima	Lot# 121010
	0.5% HCl (Hg samples)	Notes:	Lot#
	Refrigerate/Freeze	Notes:	
	Other	Notes:	

Completed By: Date/Time: 9/21/11 1530

Storage Shelf: L-5-B, L-5-C, L-6-D prep lab

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 642 - 685 - ~~689~~ (EB's) Batch: 16

Project Name: AMB08 ENVVEST Project Manager: JMS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater WP#

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples:	Amount: Entire sample / Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☑	☐	Special instructions:	ship nutrients / TOC / DOC to CAS

Sample Preservation Instructions: TSS 4 ± 2°C / metals 0.2% HNO_3 after filtration

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present — Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) — cell 4 ± 2 °C; °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Comment/Remedy:

Sample condition(s): Acceptable / Other (explain):

Container type: Teflon / Poly / Glass / Cap. Vial / Other:

Notes:

Completed By: Date/Time: 9/21/11 1630

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO_3	Notes: Fisher Optima	Lot# 121010
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: Date/Time: ~~9/21/11 1530~~ 9/22/11

Storage Shelf: L-5-B L-5-C L-6-D duplicates & J-4 ABCD &

Battelle Marine Sciences Labs, 1529 West Sequim Bay Rd, Sequim, Washington 98362 PH: (360) 681-4565

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1109025
Project:	September 2011 AMB08	**Date Received:**	9/23/11
Sample Matrix:	Seawater/Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Ninety-five seawater/water samples were received for analysis at Columbia Analytical Services on 9/23/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Oil and Grease by EPA Method 1664:
The matrix spike recovery of Total Oil and Grease for sample Batch QC was outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential low bias. No further corrective action was taken.

Nitrogen, Total Kjeldahl (TKN) by EPA Method 351.4:
The Relative Percent Difference (RPD) in the replicate matrix spike analyses of sample AMB08-270 M2DEEP was outside control criteria. All spike recoveries in the MS, DMS, and associated Laboratory Control Sample (LCS) were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by Howard Holum **Date** 10-11-11

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1109025
Project:	September 2011 Ambient Monitoring (AMB08)	**Date Collected:**	9/20/11
Sample Matrix:	Water	**Date Received:**	9/23/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-005 OF018	K1109025-047	**1.2**	J	5.9	0.9	1	10/ 1/11	10/1/11 14:40	
AMB08DD-010 OF019	K1109025-050	ND	U	6.3	0.9	1	10/ 1/11	10/1/11 14:40	
AMB08DD-015 OF021	K1109025-053	**1.1**	J	6.0	0.9	1	10/ 1/11	10/1/11 14:40	
Method Blank	K1109025-MB1	ND	U	5.0	0.8	1	10/ 1/11	10/1/11 14:40	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: NA
Date Received: NA
Date Analyzed: 10/ 1/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1109157-001

Units: mg/L
Basis: NA

Analytical Method: 1664
Prep Method: Method

Batch QCMS
Matrix Spike
K1109157-001MS21

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Oil and Grease, Total (HEM)	ND	34.1	57.7	59	*	78 - 114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Analyzed: 10/ 1/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS1			Duplicate Lab Control Sample K1109025-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	1664	52.3	60.0	87	55.1	60.0	92	78 - 114	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received: 9/23/11

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08-002 PS04	K1109025-001	**0.057**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-006 PS03	K1109025-003	**0.061**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-010 PS05	K1109025-005	**0.092**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-014 PS14	K1109025-007	**0.046**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-018 PS06	K1109025-009	**0.063**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-022 PS07	K1109025-011	**0.067**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-026 PS07DUP	K1109025-013	**0.058**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-030 PS08	K1109025-015	**0.040**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-034 PS15	K1109025-017	**0.026**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-038 PS09	K1109025-019	**0.099**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-042 PS10	K1109025-021	**0.049**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-047 PS11	K1109025-023	**0.046**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-051 PS16	K1109025-025	**0.042**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-055 PS10.1	K1109025-027	**0.053**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-059 PS01	K1109025-029	**0.060**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-063 PS02	K1109025-031	**0.059**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-067 PS13	K1109025-033	**0.072**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-071 M4	K1109025-035	**0.060**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-075 BJ-EST	K1109025-037	**0.033**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-079 M3.1	K1109025-039	**0.025**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-083 M3.1DEEP	K1109025-041	**0.024**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-087 PS12	K1109025-043	**0.038**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-201 PS07	K1109025-054	**0.083**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-205 M3.3	K1109025-056	**0.031**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-209 SN03	K1109025-058	**0.213**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-213 SN05	K1109025-060	**0.021**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-218 SN08	K1109025-062	**0.006**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-222 SN10	K1109025-064	**0.037**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-226 SN11	K1109025-066	**0.040**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-230 M8	K1109025-068	**0.010**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-234 M6	K1109025-070	**0.007**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-238 M7	K1109025-072	**0.009**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-242 DYOTS	K1109025-074	**0.028**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-246 PWNLP	K1109025-076	**0.019**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-250 M1	K1109025-078	ND	U	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-254 M1DEEP	K1109025-080	**0.006**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-258 ILSP	K1109025-082	**0.010**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-262 WP	K1109025-084	**0.023**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-266 M2	K1109025-086	**0.005**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-270 M2DEEP	K1109025-088	**0.007**	J	0.010	0.003	1	NA	9/27/11 10:31	
AMB08-274 CLAMBAY	K1109025-090	**0.027**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-278 BM01	K1109025-092	**0.028**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08-282 BM01DUP	K1109025-094	**0.027**		0.010	0.003	1	NA	9/27/11 10:31	
Method Blank	K1109025-MB1	ND	U	0.010	0.003	1	NA	9/27/11 10:31	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received:

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1109025-MB2	**0.004**	J	0.010	0.003	1	NA	9/27/11 10:31	
Method Blank	K1109025-MB3	**0.007**	J	0.010	0.003	1	NA	9/27/11 10:31	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-002 OF018	K1109025-045	**0.282**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08DD-007 OF019	K1109025-048	**0.189**		0.010	0.003	1	NA	9/27/11 10:31	
AMB08DD-012 OF021	K1109025-051	**0.020**		0.010	0.003	1	NA	9/27/11 10:31	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/27/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-002 PS04
Lab Code: K1109025-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-002 PS04DUP Duplicate Sample K1109025-001DUP16 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.057	0.056	0.0566	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/27/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-083 M3.1DEEP
Lab Code: K1109025-041

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-083 M3.1DEEPDUP Duplicate Sample K1109025-041DUP56 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.024	0.023	0.0236	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/27/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-270 M2DEEP
Lab Code: K1109025-088

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-270 M2DEEPDUP Duplicate Sample K1109025-088DUP100 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.007 J	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/27/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-002 PS04
Lab Code: K1109025-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	AMB08-002 PS04MS Matrix Spike K1109025-001MS3 Result	Spike Amount	% Rec	AMB08-002 PS04DMS Duplicate Matrix Spike K1109025-001DMS3 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.057	0.269	0.200	106	0.262	0.200	103	90 - 110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/27/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-083 M3.1DEEP
Lab Code: K1109025-041

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB08-083 M3.1DEEPMS Matrix Spike K1109025-041MS8			AMB08-083 M3.1DEEPDMS Duplicate Matrix Spike K1109025-041DMS8					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.024	0.229	0.200	102	0.231	0.200	103	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/27/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-270 M2DEEP
Lab Code: K1109025-088

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB08-270 M2DEEPMS Matrix Spike K1109025-088MS17			AMB08-270 M2DEEPDMS Duplicate Matrix Spike K1109025-088DMS17					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.007	0.217	0.200	105	0.212	0.200	103	90 - 110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/27/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	13.3	13.9	95	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/27/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1109025-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.3	13.9	96	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/27/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Ammonia as Nitrogen	350.1	13.3	13.9	96	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	263013	KQ1110321-25	9/27/11 10:31	0.250	0.246	98	90 - 110
CCV2	263013	KQ1110321-26	9/27/11 10:31	0.250	0.247	99	90 - 110
CCV3	263013	KQ1110321-27	9/27/11 10:31	0.250	0.248	99	90 - 110
CCV4	263013	KQ1110321-28	9/27/11 10:31	0.250	0.247	99	90 - 110
CCV5	263013	KQ1110321-29	9/27/11 10:31	0.250	0.249	99	90 - 110
CCV6	263013	KQ1110321-30	9/27/11 10:31	0.250	0.248	99	90 - 110
CCV7	263013	KQ1110321-31	9/27/11 10:31	0.250	0.248	99	90 - 110
CCV8	263013	KQ1110321-32	9/27/11 10:31	0.250	0.247	99	90 - 110
CCV9	263013	KQ1110321-33	9/27/11 10:31	0.250	0.248	99	90 - 110

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	263013	KQ1110321-16	9/27/11 10:31	0.003	0.010	**0.004**	J
CCB2	263013	KQ1110321-17	9/27/11 10:31	0.003	0.010	ND	U
CCB3	263013	KQ1110321-18	9/27/11 10:31	0.003	0.010	**0.003**	J
CCB4	263013	KQ1110321-19	9/27/11 10:31	0.003	0.010	**0.003**	J
CCB5	263013	KQ1110321-20	9/27/11 10:31	0.003	0.010	**0.006**	J
CCB6	263013	KQ1110321-21	9/27/11 10:31	0.003	0.010	**0.007**	J
CCB7	263013	KQ1110321-22	9/27/11 10:31	0.003	0.010	**0.006**	J
CCB8	263013	KQ1110321-23	9/27/11 10:31	0.003	0.010	**0.006**	J
CCB9	263013	KQ1110321-24	9/27/11 10:31	0.003	0.010	**0.005**	J

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1109025
Project:	September 2011 Ambient Monitoring (AMB08)	**Date Collected:**	9/20/11 - 9/21/11
Sample Matrix:	Ocean Water	**Date Received:**	9/23/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08-002 PS04	K1109025-001	**0.66**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-006 PS03	K1109025-003	**0.64**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-010 PS05	K1109025-005	**0.68**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-014 PS14	K1109025-007	**0.57**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-018 PS06	K1109025-009	**0.51**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-022 PS07	K1109025-011	**0.58**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-026 PS07DUP	K1109025-013	**0.58**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-030 PS08	K1109025-015	**0.70**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-034 PS15	K1109025-017	**0.67**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-038 PS09	K1109025-019	**0.80**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-042 PS10	K1109025-021	**0.54**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-047 PS11	K1109025-023	**0.48**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-051 PS16	K1109025-025	**0.64**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-055 PS10.1	K1109025-027	**0.51**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-059 PS01	K1109025-029	**0.88**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-063 PS02	K1109025-031	**0.54**		0.40	0.14	2	10/ 3/11	10/4/11 12:50	
AMB08-067 PS13	K1109025-033	**1.9**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-071 M4	K1109025-035	**1.3**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-075 BJ-EST	K1109025-037	**1.4**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-079 M3.1	K1109025-039	**1.1**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-083 M3.1DEEP	K1109025-041	**1.0**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-087 PS12	K1109025-043	**1.1**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-201 PS07	K1109025-054	**1.2**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-205 M3.3	K1109025-056	**1.2**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-209 SN03	K1109025-058	**1.2**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-213 SN05	K1109025-060	**2.8**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-218 SN08	K1109025-062	**2.2**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-222 SN10	K1109025-064	**1.0**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-226 SN11	K1109025-066	**1.2**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-230 M8	K1109025-068	**2.2**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-234 M6	K1109025-070	**1.3**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-238 M7	K1109025-072	**1.0**	J	1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-242 DYOTS	K1109025-074	**1.9**		1.0	0.4	2	10/ 5/11	10/6/11 11:00	
AMB08-246 PWNLP	K1109025-076	**0.9**	J	1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-250 M1	K1109025-078	**1.3**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-254 M1DEEP	K1109025-080	**1.1**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-258 ILSP	K1109025-082	**1.5**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-262 WP	K1109025-084	**1.4**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-266 M2	K1109025-086	**1.0**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-270 M2DEEP	K1109025-088	**1.1**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-274 CLAMBAY	K1109025-090	**1.9**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-278 BM01	K1109025-092	**1.0**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
AMB08-282 BM01DUP	K1109025-094	**1.4**		1.0	0.4	2	10/ 6/11	10/10/11 12:05	
Method Blank	K1109025-MB1	ND	U	0.20	0.14	2	10/ 3/11	10/4/11 12:50	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1109025
Project:	September 2011 Ambient Monitoring (AMB08)	**Date Collected:**	9/20/11 - 9/21/11
Sample Matrix:	Ocean Water	**Date Received:**	
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1109025-MB2	ND	U	0.20	0.14	2	10/ 5/11	10/6/11 11:00	
Method Blank	K1109025-MB3	ND	U	0.20	0.14	2	10/ 6/11	10/10/11 12:05	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1109025
Project:	September 2011 Ambient Monitoring (AMB08)	**Date Collected:**	9/20/11
Sample Matrix:	Water	**Date Received:**	9/23/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-002 OF018	K1109025-045	**0.86**		0.40	0.14	2	10/ 5/11	10/6/11 11:00	
AMB08DD-007 OF019	K1109025-048	**0.74**		0.40	0.14	2	10/ 5/11	10/6/11 11:00	
AMB08DD-012 OF021	K1109025-051	**0.58**		0.40	0.14	2	10/ 5/11	10/6/11 11:00	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-002 OF018
Lab Code: K1109025-045

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-002 OF018DUP Duplicate Sample K1109025-045DUP60 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	0.40	0.14	0.86	0.82	0.842	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/10/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-270 M2DEEP
Lab Code: K1109025-088

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-270 M2DEEPDUP Duplicate Sample K1109025-088DUP100 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.1	0.9 J	1.01	14	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08DD-002 OF018
Lab Code: K1109025-045

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

Analyte Name	Sample Result	AMB08DD-002 OF018MS Matrix Spike K1109025-045MS11 Result	Spike Amount	% Rec	AMB08DD-002 OF018DMS Duplicate Matrix Spike K1109025-045DMS11 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	0.86	21.9	20.0	105	43.2	40.0	106	40 - 160	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/10/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-270 M2DEEP
Lab Code: K1109025-088

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

Analyte Name	Sample Result	AMB08-270 M2DEEPMS Matrix Spike K1109025-088MS17 Result	Spike Amount	% Rec	AMB08-270 M2DEEPDMS Duplicate Matrix Spike K1109025-088DMS17 Result	Spike Amount	% Rec	% Rec Limits	RPD		RPD Limit
Nitrogen, Total Kjeldahl (TKN)	1.1	47.2	50.0	92	139	100	138	40 - 160	40	*	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/ 4/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	2.82	2.47	114	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	6.29	6.2	102	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/10/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	2.37	2.47	96	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	264074	KQ1110702-09	10/4/11 12:50	10.0	10.5	105	90 - 110
CCV2	264074	KQ1110702-10	10/4/11 12:50	10.0	10.5	105	90 - 110
CCV3	264074	KQ1110702-11	10/4/11 12:50	10.0	10.3	103	90 - 110
CCV4	264074	KQ1110702-12	10/4/11 12:50	10.0	10.2	102	90 - 110
CCV5	264426	KQ1110802-05	10/6/11 11:00	10.0	10.3	103	90 - 110
CCV6	264426	KQ1110802-06	10/6/11 11:00	10.0	10.1	101	90 - 110
CCV7	264426	KQ1110802-07	10/6/11 11:00	10.0	10.3	103	90 - 110
CCV8	264426	KQ1110802-08	10/6/11 11:00	10.0	10.4	104	90 - 110
CCV9	264701	KQ1110909-07	10/10/11 12:05	10.0	9.83	98	90 - 110
CCV10	264701	KQ1110909-08	10/10/11 12:05	10.0	9.69	97	90 - 110
CCV11	264701	KQ1110909-09	10/10/11 12:05	10.0	9.83	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	264074	KQ1110702-01	10/4/11 12:50	0.07	0.20	**0.08**	J
CCB2	264074	KQ1110702-02	10/4/11 12:50	0.07	0.20	ND	U
CCB3	264074	KQ1110702-03	10/4/11 12:50	0.07	0.20	ND	U
CCB4	264074	KQ1110702-04	10/4/11 12:50	0.07	0.20	ND	U
CCB5	264426	KQ1110802-01	10/6/11 11:00	0.07	0.20	ND	U
CCB6	264426	KQ1110802-02	10/6/11 11:00	0.07	0.20	ND	U
CCB7	264426	KQ1110802-03	10/6/11 11:00	0.07	0.20	ND	U
CCB8	264426	KQ1110802-04	10/6/11 11:00	0.07	0.20	ND	U
CCB9	264701	KQ1110909-01	10/10/11 12:05	0.07	0.20	ND	U
CCB10	264701	KQ1110909-02	10/10/11 12:05	0.07	0.20	ND	U
CCB11	264701	KQ1110909-03	10/10/11 12:05	0.07	0.20	ND	U

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received: 9/23/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08-002 PS04	K1109025-001	**0.139**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-006 PS03	K1109025-003	**0.144**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-010 PS05	K1109025-005	**0.156**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-014 PS14	K1109025-007	**0.134**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-018 PS06	K1109025-009	**0.153**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-022 PS07	K1109025-011	**0.148**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-026 PS07DUP	K1109025-013	**0.148**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-030 PS08	K1109025-015	**0.141**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-034 PS15	K1109025-017	**0.128**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-038 PS09	K1109025-019	**0.220**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-042 PS10	K1109025-021	**0.151**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-047 PS11	K1109025-023	**0.147**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-051 PS16	K1109025-025	**0.154**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-055 PS10.1	K1109025-027	**0.143**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-059 PS01	K1109025-029	**0.125**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-063 PS02	K1109025-031	**0.137**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-067 PS13	K1109025-033	**0.133**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-071 M4	K1109025-035	**0.103**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-075 BJ-EST	K1109025-037	**0.123**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-079 M3.1	K1109025-039	**0.162**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-083 M3.1DEEP	K1109025-041	**0.195**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-087 PS12	K1109025-043	**0.146**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-201 PS07	K1109025-054	**0.153**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-205 M3.3	K1109025-056	**0.044**	J	0.050	0.009	1	NA	9/29/11 08:58	
AMB08-209 SN03	K1109025-058	**0.131**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-213 SN05	K1109025-060	**0.029**	J	0.050	0.009	1	NA	9/29/11 08:58	
AMB08-218 SN08	K1109025-062	ND	U	0.050	0.009	1	NA	9/29/11 08:58	
AMB08-222 SN10	K1109025-064	**0.068**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-226 SN11	K1109025-066	**0.071**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-230 M8	K1109025-068	ND	U	0.050	0.009	1	NA	9/29/11 08:58	
AMB08-234 M6	K1109025-070	**0.058**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-238 M7	K1109025-072	**0.065**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-242 DYOTS	K1109025-074	**0.032**	J	0.050	0.009	1	NA	9/29/11 08:58	
AMB08-246 PWNLP	K1109025-076	**0.144**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-250 M1	K1109025-078	**0.091**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-254 M1DEEP	K1109025-080	**0.116**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-258 ILSP	K1109025-082	**0.132**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-262 WP	K1109025-084	**0.178**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-266 M2	K1109025-086	**0.256**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-270 M2DEEP	K1109025-088	**0.286**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-274 CLAMBAY	K1109025-090	**0.151**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-278 BM01	K1109025-092	**0.186**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08-282 BM01DUP	K1109025-094	**0.177**		0.050	0.009	1	NA	9/29/11 08:58	
Method Blank	K1109025-MB1	ND	U	0.050	0.009	1	NA	9/29/11 08:58	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received:

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1109025-MB2	ND	U	0.050	0.009	1	NA	9/29/11 08:58	
Method Blank	K1109025-MB3	ND	U	0.050	0.009	1	NA	9/29/11 08:58	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-002 OF018	K1109025-045	**1.52**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08DD-007 OF019	K1109025-048	**0.391**		0.050	0.009	1	NA	9/29/11 08:58	
AMB08DD-012 OF021	K1109025-051	**0.521**		0.050	0.009	1	NA	9/29/11 08:58	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-002 PS04
Lab Code: K1109025-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-002 PS04DUP Duplicate Sample K1109025-001DUP16 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.139	0.138	0.139	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-007 OF019
Lab Code: K1109025-048

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-007 OF019DUP Duplicate Sample K1109025-048DUP62 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.391	0.391	0.391	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-230 M8
Lab Code: K1109025-068

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-230 M8DUP Duplicate Sample K1109025-068DUP80 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-002 PS04
Lab Code: K1109025-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB08-002 PS04MS Matrix Spike K1109025-001MS3			AMB08-002 PS04DMS Duplicate Matrix Spike K1109025-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.139	2.17	2.00	102	2.17	2.00	102	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08DD-007 OF019
Lab Code: K1109025-048

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	AMB08DD-007 OF019MS Matrix Spike K1109025-048MS12 Result	Spike Amount	% Rec	AMB08DD-007 OF019DMS Duplicate Matrix Spike K1109025-048DMS12 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.391	2.39	2.00	100	2.39	2.00	100	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-230 M8
Lab Code: K1109025-068

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	AMB08-230 M8MS Matrix Spike K1109025-068MS14 Result	Spike Amount	% Rec	AMB08-230 M8DMS Duplicate Matrix Spike K1109025-068DMS14 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	ND	1.96	2.00	98	1.93	2.00	97	86 - 117	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	17.3	17.7	98	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	17.2	17.7	97	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrate+Nitrite as Nitrogen	353.2	17.1	17.7	97	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	263357	KQ1110463-25	9/29/11 08:58	2.00	1.96	98	90 - 110
CCV2	263357	KQ1110463-26	9/29/11 08:58	2.00	1.97	98	90 - 110
CCV3	263357	KQ1110463-27	9/29/11 08:58	2.00	1.97	98	90 - 110
CCV4	263357	KQ1110463-28	9/29/11 08:58	2.00	1.95	98	90 - 110
CCV5	263357	KQ1110463-29	9/29/11 08:58	2.00	1.94	97	90 - 110
CCV6	263357	KQ1110463-30	9/29/11 08:58	2.00	1.94	97	90 - 110
CCV7	263357	KQ1110463-31	9/29/11 08:58	2.00	1.93	97	90 - 110
CCV8	263357	KQ1110463-32	9/29/11 08:58	2.00	1.93	97	90 - 110
CCV9	263357	KQ1110463-33	9/29/11 08:58	2.00	1.94	97	90 - 110

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	263357	KQ1110463-16	9/29/11 08:58	0.009	0.050	ND	U
CCB2	263357	KQ1110463-17	9/29/11 08:58	0.009	0.050	ND	U
CCB3	263357	KQ1110463-18	9/29/11 08:58	0.009	0.050	ND	U
CCB4	263357	KQ1110463-19	9/29/11 08:58	0.009	0.050	ND	U
CCB5	263357	KQ1110463-20	9/29/11 08:58	0.009	0.050	ND	U
CCB6	263357	KQ1110463-21	9/29/11 08:58	0.009	0.050	ND	U
CCB7	263357	KQ1110463-22	9/29/11 08:58	0.009	0.050	ND	U
CCB8	263357	KQ1110463-23	9/29/11 08:58	0.009	0.050	ND	U
CCB9	263357	KQ1110463-24	9/29/11 08:58	0.009	0.050	ND	U

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received: 9/23/11

Prep Method: Method
Analysis Method: 365.3

Units: mg/L
Basis: NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08-002 PS04	K1109025-001	**0.081**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-006 PS03	K1109025-003	**0.081**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-010 PS05	K1109025-005	**0.097**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-014 PS14	K1109025-007	**0.083**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-018 PS06	K1109025-009	**0.087**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-022 PS07	K1109025-011	**0.090**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-026 PS07DUP	K1109025-013	**0.092**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-030 PS08	K1109025-015	**0.095**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-034 PS15	K1109025-017	**0.074**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-038 PS09	K1109025-019	**0.101**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-042 PS10	K1109025-021	**0.086**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-047 PS11	K1109025-023	**0.081**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-051 PS16	K1109025-025	**0.083**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-055 PS10.1	K1109025-027	**0.082**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-059 PS01	K1109025-029	**0.095**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-063 PS02	K1109025-031	**0.091**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-067 PS13	K1109025-033	**0.096**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-071 M4	K1109025-035	**0.078**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-075 BJ-EST	K1109025-037	**0.075**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-079 M3.1	K1109025-039	**0.077**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-083 M3.1DEEP	K1109025-041	**0.078**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-087 PS12	K1109025-043	**0.082**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08-201 PS07	K1109025-054	**0.089**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-205 M3.3	K1109025-056	**0.070**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-209 SN03	K1109025-058	**0.102**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-213 SN05	K1109025-060	**0.172**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-218 SN08	K1109025-062	**0.111**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-222 SN10	K1109025-064	**0.075**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-226 SN11	K1109025-066	**0.079**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-230 M8	K1109025-068	**0.165**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-234 M6	K1109025-070	**0.072**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-238 M7	K1109025-072	**0.065**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-242 DYOTS	K1109025-074	**0.100**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-246 PWNLP	K1109025-076	**0.076**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-250 M1	K1109025-078	**0.067**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-254 M1DEEP	K1109025-080	**0.070**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-258 ILSP	K1109025-082	**0.071**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-262 WP	K1109025-084	**0.076**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-266 M2	K1109025-086	**0.076**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-270 M2DEEP	K1109025-088	**0.076**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-274 CLAMBAY	K1109025-090	**0.076**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-278 BM01	K1109025-092	**0.079**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
AMB08-282 BM01DUP	K1109025-094	**0.079**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
Method Blank	K1109025-MB1	ND	U	0.010	0.004	1	10/ 4/11	10/6/11 12:30	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received:

Prep Method: Method
Analysis Method: 365.3

Units: mg/L
Basis: NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1109025-MB2	ND	U	0.010	0.004	1	10/ 4/11	10/6/11 12:30	
Method Blank	K1109025-MB4	ND	U	0.010	0.004	1	10/ 6/11	10/6/11 12:05	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11

Prep Method: Method
Analysis Method: 365.3

Units: mg/L
Basis: NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-002 OF018	K1109025-045	**0.175**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08DD-007 OF019	K1109025-048	**0.123**		0.010	0.004	1	10/ 4/11	10/6/11 12:30	
AMB08DD-012 OF021	K1109025-051	**0.091**		0.010	0.004	1	10/ 6/11	10/6/11 12:05	
Method Blank	K1109025-MB3	ND	U	0.010	0.004	1	10/ 6/11	10/6/11 12:05	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-006 PS03
Lab Code: K1109025-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-006 PS03DUP Duplicate Sample K1109025-003DUP18 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.081	0.082	0.0816	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-022 PS07
Lab Code: K1109025-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-022 PS07DUP Duplicate Sample K1109025-011DUP26 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.090	0.086	0.0878	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-012 OF021
Lab Code: K1109025-051

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-012 OF021DUP Duplicate Sample K1109025-051DUP64 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.091	0.093	0.0916	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-282 BM01DUP
Lab Code: K1109025-094

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-282 BM01DUPDUP Duplicate Sample K1109025-094DUP106 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.079	0.081	0.0797	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-006 PS03
Lab Code: K1109025-003

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB08-006 PS03MS Matrix Spike K1109025-003MS6			AMB08-006 PS03DMS Duplicate Matrix Spike K1109025-003DMS6					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.081	0.619	0.500	108	1.11	1.00	103	60 - 135	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-022 PS07
Lab Code: K1109025-011

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB08-022 PS07MS **Matrix Spike** K1109025-011MS7			AMB08-022 PS07DMS **Duplicate Matrix Spike** K1109025-011DMS7					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.090	0.524	0.500	87	0.944	1.00	85	60 - 135	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08DD-012 OF021
Lab Code: K1109025-051

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB08DD-012 OF021MS Matrix Spike K1109025-051MS13			AMB08DD-012 OF021DMS Duplicate Matrix Spike K1109025-051DMS13					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.091	0.618	0.500	105	1.18	1.00	109	60 - 135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-282 BM01DUP
Lab Code: K1109025-094

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB08-282 BM01DUPMS Matrix Spike K1109025-094MS18			AMB08-282 BM01DUPDMS Duplicate Matrix Spike K1109025-094DMS18					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.079	0.534	0.500	91	0.978	1.00	90	60 - 135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	3.52	3.41	103	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	3.64	3.41	107	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS5			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	3.57	3.41	105	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Analyzed: 10/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1109025-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	3.57	3.41	105	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	264489	KQ1110831-06	10/6/11 12:05	0.500	0.495	99	90 - 110
CCV2	264489	KQ1110831-07	10/6/11 12:05	0.500	0.496	99	90 - 110
CCV3	264489	KQ1110831-08	10/6/11 12:05	0.500	0.495	99	90 - 110
CCV4	264489	KQ1110831-09	10/6/11 12:05	0.500	0.488	98	90 - 110
CCV5	264489	KQ1110831-10	10/6/11 12:05	0.500	0.491	98	90 - 110
CCV6	264449	KQ1110818-07	10/6/11 12:30	0.500	0.484	97	90 - 110
CCV7	264449	KQ1110818-08	10/6/11 12:30	0.500	0.491	98	90 - 110
CCV8	264449	KQ1110818-09	10/6/11 12:30	0.500	0.494	99	90 - 110
CCV9	264449	KQ1110818-10	10/6/11 12:30	0.500	0.493	99	90 - 110
CCV10	264449	KQ1110818-11	10/6/11 12:30	0.500	0.492	98	90 - 110
CCV11	264449	KQ1110818-12	10/6/11 12:30	0.500	0.489	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	264489	KQ1110831-01	10/6/11 12:05	0.004	0.010	ND	U
CCB2	264489	KQ1110831-02	10/6/11 12:05	0.004	0.010	**0.004**	J
CCB3	264489	KQ1110831-03	10/6/11 12:05	0.004	0.010	**0.007**	J
CCB4	264489	KQ1110831-04	10/6/11 12:05	0.004	0.010	ND	U
CCB5	264489	KQ1110831-05	10/6/11 12:05	0.004	0.010	**0.004**	J
CCB6	264449	KQ1110818-01	10/6/11 12:30	0.004	0.010	ND	U
CCB7	264449	KQ1110818-02	10/6/11 12:30	0.004	0.010	ND	U
CCB8	264449	KQ1110818-03	10/6/11 12:30	0.004	0.010	**0.004**	J
CCB9	264449	KQ1110818-04	10/6/11 12:30	0.004	0.010	ND	U
CCB10	264449	KQ1110818-05	10/6/11 12:30	0.004	0.010	**0.008**	J
CCB11	264449	KQ1110818-06	10/6/11 12:30	0.004	0.010	**0.004**	J

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received: 9/23/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08-003 PS04	K1109025-002	**2.1**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-007 PS03	K1109025-004	**2.3**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-011 PS05	K1109025-006	**1.7**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-015 PS14	K1109025-008	**1.8**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-019 PS06	K1109025-010	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-023 PS07	K1109025-012	**1.6**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-027 PS07DUP	K1109025-014	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-031 PS08	K1109025-016	**1.9**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-035 PS15	K1109025-018	**1.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-039 PS09	K1109025-020	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-043 PS10	K1109025-022	**1.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-048 PS11	K1109025-024	**1.8**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-052 PS16	K1109025-026	**1.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-056 PS10.1	K1109025-028	**1.3**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-060 PS01	K1109025-030	**1.6**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-064 PS02	K1109025-032	**1.7**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-068 PS13	K1109025-034	**1.6**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-072 M4	K1109025-036	**1.6**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-076 BJ-EST	K1109025-038	**1.7**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-080 M3.1	K1109025-040	**1.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-084 M3.1DEEP	K1109025-042	**1.3**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-088 PS12	K1109025-044	**1.8**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-202 PS07	K1109025-055	**1.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-206 M3.3	K1109025-057	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-210 SN03	K1109025-059	**1.7**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-214 SN05	K1109025-061	**3.0**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-219 SN08	K1109025-063	**2.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-223 SN10	K1109025-065	**1.6**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-227 SN11	K1109025-067	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-231 M8	K1109025-069	**3.2**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-235 M6	K1109025-071	**1.4**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-239 M7	K1109025-073	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-243 DYOTS	K1109025-075	**1.6**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-247 PWNLP	K1109025-077	**1.2**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-251 M1	K1109025-079	**1.3**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-255 M1DEEP	K1109025-081	**1.3**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-259 ILSP	K1109025-083	**1.2**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08-263 WP	K1109025-085	**1.6**		1.0	0.2	2	NA	10/6/11 12:25	
AMB08-267 M2	K1109025-087	**1.5**		1.0	0.2	2	NA	10/6/11 12:25	
AMB08-271 M2DEEP	K1109025-089	**1.0**		1.0	0.2	2	NA	10/6/11 12:25	
AMB08-275 CLAMBAY	K1109025-091	**1.4**		1.0	0.2	2	NA	10/6/11 12:25	
AMB08-279 BM01	K1109025-093	**1.3**		1.0	0.2	2	NA	10/6/11 12:25	
AMB08-283 BM01DUP	K1109025-095	**1.4**		1.0	0.2	2	NA	10/6/11 12:25	
Method Blank	K1109025-MB1	**0.35**	J	0.50	0.07	1	NA	9/29/11 12:00	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received:

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1109025-MB2	ND	U	0.50	0.07	1	NA	9/29/11 12:00	
Method Blank	K1109025-MB3	ND	U	0.50	0.07	1	NA	9/29/11 12:00	
Method Blank	K1109025-MB4	ND	U	0.50	0.07	1	NA	9/29/11 12:00	
Method Blank	K1109025-MB5	ND	U	0.50	0.07	1	NA	10/6/11 12:25	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11

Units: mg/L
Basis: NA

Analysis Method: SM 5310 C

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-003 OF018	K1109025-046	**2.2**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08DD-008 OF019	K1109025-049	**1.5**		1.0	0.2	2	NA	9/29/11 12:00	
AMB08DD-013 OF021	K1109025-052	**4.5**		1.0	0.2	2	NA	9/29/11 12:00	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-003 PS04
Lab Code: K1109025-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-003 PS04DUP Duplicate Sample K1109025-002DUP17 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.1	2.2	2.16	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-007 PS03
Lab Code: K1109025-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-007 PS03DUP Duplicate Sample K1109025-004DUP19 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.3	2.1	2.20	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-011 PS05
Lab Code: K1109025-006

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-011 PS05DUP Duplicate Sample K1109025-006DUP21 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.8	1.73	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-015 PS14
Lab Code: K1109025-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-015 PS14DUP Duplicate Sample K1109025-008DUP23 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	1.5	1.62	18	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-019 PS06
Lab Code: K1109025-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-019 PS06DUP Duplicate Sample K1109025-010DUP25 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.5	1.50	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-023 PS07
Lab Code: K1109025-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-023 PS07DUP Duplicate Sample K1109025-012DUP27 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.6	1.60	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-027 PS07DUP
Lab Code: K1109025-014

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-027 PS07DUPDUP Duplicate Sample K1109025-014DUP29 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.6	1.54	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-031 PS08
Lab Code: K1109025-016

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-031 PS08DUP Duplicate Sample K1109025-016DUP31 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.9	1.7	1.77	12	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-035 PS15
Lab Code: K1109025-018

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-035 PS15DUP Duplicate Sample K1109025-018DUP33 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.4	1.42	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-039 PS09
Lab Code: K1109025-020

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-039 PS09DUP Duplicate Sample K1109025-020DUP35 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.5	1.48	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-043 PS10
Lab Code: K1109025-022

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-043 PS10DUP Duplicate Sample K1109025-022DUP37 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.3	1.34	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-048 PS11
Lab Code: K1109025-024

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-048 PS11DUP Duplicate Sample K1109025-024DUP39 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	1.9	1.84	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-052 PS16
Lab Code: K1109025-026

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-052 PS16DUP Duplicate Sample K1109025-026DUP41 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.3	1.36	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-056 PS10.1
Lab Code: K1109025-028

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-056 PS10.1DUP Duplicate Sample K1109025-028DUP43 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.3	1.29	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-060 PS01
Lab Code: K1109025-030

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-060 PS01DUP Duplicate Sample K1109025-030DUP45 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.5	1.53	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-064 PS02
Lab Code: K1109025-032

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-064 PS02DUP Duplicate Sample K1109025-032DUP47 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.7	1.69	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-068 PS13
Lab Code: K1109025-034

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-068 PS13DUP Duplicate Sample K1109025-034DUP49 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.6	1.58	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-072 M4
Lab Code: K1109025-036

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-072 M4DUP Duplicate Sample K1109025-036DUP51 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.4	1.49	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-076 BJ-EST
Lab Code: K1109025-038

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-076 BJ-ESTDUP Duplicate Sample K1109025-038DUP53 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.6	1.68	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-080 M3.1
Lab Code: K1109025-040

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-080 M3.1DUP Duplicate Sample K1109025-040DUP55 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.4	1.40	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-084 M3.1DEEP
Lab Code: K1109025-042

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-084 M3.1DEEPDUP Duplicate Sample K1109025-042DUP57 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.4	1.32	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-088 PS12
Lab Code: K1109025-044

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-088 PS12DUP Duplicate Sample K1109025-044DUP59 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.8	1.5	1.64	17	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-003 OF018
Lab Code: K1109025-046

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-003 OF018DUP Duplicate Sample K1109025-046DUP61 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.2	2.2	2.17	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-008 OF019
Lab Code: K1109025-049

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-008 OF019DUP Duplicate Sample K1109025-049DUP63 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.5	1.51	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-013 OF021
Lab Code: K1109025-052

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-013 OF021DUP Duplicate Sample K1109025-052DUP65 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	4.5	4.3	4.38	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-202 PS07
Lab Code: K1109025-055

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-202 PS07DUP Duplicate Sample K1109025-055DUP67 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.5	1.48	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-206 M3.3
Lab Code: K1109025-057

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-206 M3.3DUP Duplicate Sample K1109025-057DUP69 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.3	1.36	13	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-210 SN03
Lab Code: K1109025-059

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-210 SN03DUP Duplicate Sample K1109025-059DUP71 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.7	1.4	1.56	20	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-214 SN05
Lab Code: K1109025-061

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-214 SN05DUP Duplicate Sample K1109025-061DUP73 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	3.0	3.0	3.02	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-219 SN08
Lab Code: K1109025-063

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-219 SN08DUP Duplicate Sample K1109025-063DUP75 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	2.4	2.4	2.40	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-223 SN10
Lab Code: K1109025-065

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-223 SN10DUP Duplicate Sample K1109025-065DUP77 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.6	1.61	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-227 SN11
Lab Code: K1109025-067

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-227 SN11DUP Duplicate Sample K1109025-067DUP79 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.4	1.48	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-231 M8
Lab Code: K1109025-069

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-231 M8DUP Duplicate Sample K1109025-069DUP81 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	3.2	3.2	3.20	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-235 M6
Lab Code: K1109025-071

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-235 M6DUP Duplicate Sample K1109025-071DUP83 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.4	1.41	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-239 M7
Lab Code: K1109025-073

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-239 M7DUP Duplicate Sample K1109025-073DUP85 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.5	1.50	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-243 DYOTS
Lab Code: K1109025-075

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-243 DYOTSDUP Duplicate Sample K1109025-075DUP87 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.5	1.53	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-247 PWNLP
Lab Code: K1109025-077

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-247 PWNLPDUP Duplicate Sample K1109025-077DUP89 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.2	1.2	1.18	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-251 M1
Lab Code: K1109025-079

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-251 M1DUP Duplicate Sample K1109025-079DUP91 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.3	1.29	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-255 M1DEEP
Lab Code: K1109025-081

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-255 M1DEEPDUP Duplicate Sample K1109025-081DUP93 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.3	1.30	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-259 ILSP
Lab Code: K1109025-083

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-259 ILSPDUP Duplicate Sample K1109025-083DUP95 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.2	1.3	1.24	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-263 WP
Lab Code: K1109025-085

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-263 WPDUP Duplicate Sample K1109025-085DUP97 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.6	1.3	1.47	24	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-267 M2
Lab Code: K1109025-087

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-267 M2DUP Duplicate Sample K1109025-087DUP99 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.2	1.36	22	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-271 M2DEEP
Lab Code: K1109025-089

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-271 M2DEEPDUP Duplicate Sample K1109025-089DUP101 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.0	1.0 J	1.01	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-275 CLAMBAY
Lab Code: K1109025-091

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-275 CLAMBAYDUP Duplicate Sample K1109025-091DUP103 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.6	1.50	19	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-279 BM01
Lab Code: K1109025-093

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-279 BM01DUP Duplicate Sample K1109025-093DUP105 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.3	1.4	1.30	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-283 BM01DUP
Lab Code: K1109025-095

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-283 BM01DUPDUP Duplicate Sample K1109025-095DUP107 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.4	1.4	1.36	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-003 PS04
Lab Code: K1109025-002

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB08-003 PS04MS
Matrix Spike
K1109025-002MS5

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	2.1	50.5	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-084 M3.1DEEP
Lab Code: K1109025-042

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB08-084 M3.1DEEPMS
Matrix Spike
K1109025-042MS10

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	1.3	49.6	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 10/ 6/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-263 WP
Lab Code: K1109025-085

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB08-263 WPMS
Matrix Spike
K1109025-085MS16

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	1.6	49.8	50.0	96	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1109025-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1109025-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.0	26.0	96	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	24.5	26.0	94	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS5			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Dissolved Organic (DOC)	SM 5310 C	24.4	26.0	94	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 10/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1109025-LCS6 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.1	26.0	96	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	263423	KQ1110641-79	9/29/11 12:00	25.0	24.2	97	90 - 110
CCV2	263423	KQ1110641-80	9/29/11 12:00	25.0	24.3	97	90 - 110
CCV3	263423	KQ1110641-81	9/29/11 12:00	25.0	23.9	95	90 - 110
CCV4	263423	KQ1110641-82	9/29/11 12:00	25.0	23.6	94	90 - 110
CCV5	263423	KQ1110641-83	9/29/11 12:00	25.0	23.8	95	90 - 110
CCV6	263423	KQ1110641-84	9/29/11 12:00	25.0	23.8	95	90 - 110
CCV7	263423	KQ1110641-85	9/29/11 12:00	25.0	23.9	96	90 - 110
CCV8	263423	KQ1110641-86	9/29/11 12:00	25.0	23.7	95	90 - 110
CCV9	263423	KQ1110641-87	9/29/11 12:00	25.0	23.9	96	90 - 110
CCV10	264364	KQ1110837-28	10/6/11 12:25	25.0	23.9	96	90 - 110
CCV11	264364	KQ1110837-29	10/6/11 12:25	25.0	24.6	98	90 - 110
CCV12	264364	KQ1110837-30	10/6/11 12:25	25.0	24.1	96	90 - 110
CCV13	264364	KQ1110837-31	10/6/11 12:25	25.0	23.5	94	90 - 110
CCV14	264364	KQ1110837-32	10/6/11 12:25	25.0	23.6	95	90 - 110

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Service Request: K1109025

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	263423	KQ1110641-88	9/29/11 12:00	0.07	0.50	**0.36**	J
CCB2	263423	KQ1110641-89	9/29/11 12:00	0.07	0.50	**0.16**	J
CCB3	263423	KQ1110641-90	9/29/11 12:00	0.07	0.50	**0.10**	J
CCB4	263423	KQ1110641-91	9/29/11 12:00	0.07	0.50	ND	U
CCB5	263423	KQ1110641-92	9/29/11 12:00	0.07	0.50	ND	U
CCB6	263423	KQ1110641-93	9/29/11 12:00	0.07	0.50	ND	U
CCB7	263423	KQ1110641-94	9/29/11 12:00	0.07	0.50	ND	U
CCB8	263423	KQ1110641-95	9/29/11 12:00	0.07	0.50	ND	U
CCB9	263423	KQ1110641-96	9/29/11 12:00	0.07	0.50	ND	U
CCB10	264364	KQ1110837-33	10/6/11 12:25	0.07	0.50	ND	U
CCB11	264364	KQ1110837-34	10/6/11 12:25	0.07	0.50	**0.29**	J
CCB12	264364	KQ1110837-35	10/6/11 12:25	0.07	0.50	ND	U
CCB13	264364	KQ1110837-36	10/6/11 12:25	0.07	0.50	ND	U
CCB14	264364	KQ1110837-37	10/6/11 12:25	0.07	0.50	ND	U

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received: 9/23/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08-002 PS04	K1109025-001	1.9		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-006 PS03	K1109025-003	1.9		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-010 PS05	K1109025-005	1.6		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-014 PS14	K1109025-007	1.5		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-018 PS06	K1109025-009	1.3		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-022 PS07	K1109025-011	1.6		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-026 PS07DUP	K1109025-013	1.4		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-030 PS08	K1109025-015	1.3		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-034 PS15	K1109025-017	1.2		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-038 PS09	K1109025-019	1.3		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-042 PS10	K1109025-021	1.2		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-047 PS11	K1109025-023	1.1		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-051 PS16	K1109025-025	1.1		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-055 PS10.1	K1109025-027	0.9	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-059 PS01	K1109025-029	1.5		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-063 PS02	K1109025-031	1.1		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-067 PS13	K1109025-033	1.2		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-071 M4	K1109025-035	1.1		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-075 BJ-EST	K1109025-037	1.4		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-079 M3.1	K1109025-039	0.9	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-083 M3.1DEEP	K1109025-041	0.9	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-087 PS12	K1109025-043	1.2		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-201 PS07	K1109025-054	0.8	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-205 M3.3	K1109025-056	1.0	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-209 SN03	K1109025-058	1.0	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-213 SN05	K1109025-060	3.0		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-218 SN08	K1109025-062	2.2		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-222 SN10	K1109025-064	0.6	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-226 SN11	K1109025-066	0.9	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-230 M8	K1109025-068	3.1		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-234 M6	K1109025-070	1.0	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-238 M7	K1109025-072	0.8	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-242 DYOTS	K1109025-074	1.4		1.0	0.2	2	NA	9/26/11 11:00	
AMB08-246 PWNLP	K1109025-076	0.8	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-250 M1	K1109025-078	0.7	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-254 M1DEEP	K1109025-080	0.6	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-258 ILSP	K1109025-082	0.5	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-262 WP	K1109025-084	0.7	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-266 M2	K1109025-086	0.7	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-270 M2DEEP	K1109025-088	0.5	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-274 CLAMBAY	K1109025-090	0.8	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-278 BM01	K1109025-092	0.6	J	1.0	0.2	2	NA	9/26/11 11:00	
AMB08-282 BM01DUP	K1109025-094	0.5	J	1.0	0.2	2	NA	9/26/11 11:00	
Method Blank	K1109025-MB1	0.30	J	0.50	0.07	1	NA	9/26/11 11:00	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11 - 9/21/11
Date Received:

Units: mg/L
Basis: NA

Analysis Method: SM 5310 C

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1109025-MB2	ND	U	0.50	0.07	1	NA	9/26/11 11:00	
Method Blank	K1109025-MB3	ND	U	0.50	0.07	1	NA	9/26/11 11:00	
Method Blank	K1109025-MB4	ND	U	0.50	0.07	1	NA	9/26/11 11:00	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11

Units: mg/L
Basis: NA

Analysis Method: SM 5310 C

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB08DD-002 OF018	K1109025-045	**1.1**		1.0	0.2	2	NA	9/26/11 11:00	
AMB08DD-007 OF019	K1109025-048	**1.2**		1.0	0.2	2	NA	9/26/11 11:00	
AMB08DD-012 OF021	K1109025-051	**3.8**		1.0	0.2	2	NA	9/26/11 11:00	

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-002 PS04
Lab Code: K1109025-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-002 PS04DUP Duplicate Sample K1109025-001DUP16 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.9	2.1	2.00	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-006 PS03
Lab Code: K1109025-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-006 PS03DUP Duplicate Sample K1109025-003DUP18 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.9	1.8	1.85	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-010 PS05
Lab Code: K1109025-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-010 PS05DUP Duplicate Sample K1109025-005DUP20 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.6	1.8	1.70	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-014 PS14
Lab Code: K1109025-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-014 PS14DUP Duplicate Sample K1109025-007DUP22 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.5	1.4	1.42	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-018 PS06
Lab Code: K1109025-009

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-018 PS06DUP Duplicate Sample K1109025-009DUP24 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.3	1.4	1.33	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-022 PS07
Lab Code: K1109025-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-022 PS07DUP Duplicate Sample K1109025-011DUP26 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.6	1.5	1.52	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-026 PS07DUP
Lab Code: K1109025-013

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-026 PS07DUPDUP Duplicate Sample K1109025-013DUP28 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.4	1.3	1.39	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-030 PS08
Lab Code: K1109025-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-030 PS08DUP Duplicate Sample K1109025-015DUP30 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.3	1.2	1.28	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-034 PS15
Lab Code: K1109025-017

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-034 PS15DUP Duplicate Sample K1109025-017DUP32 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.1	1.12	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-038 PS09
Lab Code: K1109025-019

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-038 PS09DUP Duplicate Sample K1109025-019DUP34 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.3	1.2	1.24	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-042 PS10
Lab Code: K1109025-021

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-042 PS10DUP Duplicate Sample K1109025-021DUP36 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.2	1.17	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-047 PS11
Lab Code: K1109025-023

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-047 PS11DUP Duplicate Sample K1109025-023DUP38 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	1.3	1.18	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-051 PS16
Lab Code: K1109025-025

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-051 PS16DUP Duplicate Sample K1109025-025DUP40 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	1.0 J	1.03	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-055 PS10.1
Lab Code: K1109025-027

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-055 PS10.1DUP Duplicate Sample K1109025-027DUP42 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.925	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-059 PS01
Lab Code: K1109025-029

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-059 PS01DUP Duplicate Sample K1109025-029DUP44 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.5	1.3	1.40	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-063 PS02
Lab Code: K1109025-031

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-063 PS02DUP Duplicate Sample K1109025-031DUP46 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	1.3	1.20	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-067 PS13
Lab Code: K1109025-033

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-067 PS13DUP Duplicate Sample K1109025-033DUP48 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.3	1.25	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-071 M4
Lab Code: K1109025-035

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-071 M4DUP Duplicate Sample K1109025-035DUP50 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	0.9 J	0.994	13	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-075 BJ-EST
Lab Code: K1109025-037

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-075 BJ-ESTDUP Duplicate Sample K1109025-037DUP52 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.4	1.5	1.43	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-079 M3.1
Lab Code: K1109025-039

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-079 M3.1DUP Duplicate Sample K1109025-039DUP54 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	1.0 J	0.931	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-083 M3.1DEEP
Lab Code: K1109025-041

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-083 M3.1DEEPDUP Duplicate Sample K1109025-041DUP56 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.833	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-087 PS12
Lab Code: K1109025-043

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-087 PS12DUP Duplicate Sample K1109025-043DUP58 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.1	1.19	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-002 OF018
Lab Code: K1109025-045

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-002 OF018DUP Duplicate Sample K1109025-045DUP60 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	1.3	1.20	21	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-007 OF019
Lab Code: K1109025-048

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-007 OF019DUP Duplicate Sample K1109025-048DUP62 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.1	1.16	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08DD-012 OF021
Lab Code: K1109025-051

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08DD-012 OF021DUP Duplicate Sample K1109025-051DUP64 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	3.8	3.6	3.70	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-201 PS07
Lab Code: K1109025-054

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-201 PS07DUP Duplicate Sample K1109025-054DUP66 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.844	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-205 M3.3
Lab Code: K1109025-056

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-205 M3.3DUP Duplicate Sample K1109025-056DUP68 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0 J	1.0 J	0.951	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-209 SN03
Lab Code: K1109025-058

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-209 SN03DUP Duplicate Sample K1109025-058DUP70 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0 J	1.0 J	0.965	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-213 SN05
Lab Code: K1109025-060

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-213 SN05DUP Duplicate Sample K1109025-060DUP72 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	3.0	3.2	3.09	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-218 SN08
Lab Code: K1109025-062

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-218 SN08DUP Duplicate Sample K1109025-062DUP74 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	2.2	2.1	2.15	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-222 SN10
Lab Code: K1109025-064

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-222 SN10DUP Duplicate Sample K1109025-064DUP76 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.6 J	0.7 J	0.644	20	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-226 SN11
Lab Code: K1109025-066

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-226 SN11DUP Duplicate Sample K1109025-066DUP78 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	1.0 J	0.920	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-230 M8
Lab Code: K1109025-068

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-230 M8DUP Duplicate Sample K1109025-068DUP80 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	3.1	3.1	3.09	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-234 M6
Lab Code: K1109025-070

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-234 M6DUP Duplicate Sample K1109025-070DUP82 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0 J	0.7 J	0.854	27	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-238 M7
Lab Code: K1109025-072

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-238 M7DUP Duplicate Sample K1109025-072DUP84 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.750	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-242 DYOTS
Lab Code: K1109025-074

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-242 DYOTSDUP Duplicate Sample K1109025-074DUP86 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.4	1.4	1.40	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-246 PWNLP
Lab Code: K1109025-076

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-246 PWNLPDUP Duplicate Sample K1109025-076DUP88 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.718	19	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-250 M1
Lab Code: K1109025-078

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-250 M1DUP Duplicate Sample K1109025-078DUP90 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.8 J	0.723	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-254 M1DEEP
Lab Code: K1109025-080

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-254 M1DEEPDUP Duplicate Sample K1109025-080DUP92 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.6 J	0.7 J	0.658	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-258 ILSP
Lab Code: K1109025-082

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-258 ILSPDUP Duplicate Sample K1109025-082DUP94 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.5 J	0.6 J	0.528	17	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-262 WP
Lab Code: K1109025-084

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-262 WPDUP Duplicate Sample K1109025-084DUP96 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.5 J	0.624	26	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-266 M2
Lab Code: K1109025-086

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-266 M2DUP Duplicate Sample K1109025-086DUP98 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.5 J	0.633	28	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-270 M2DEEP
Lab Code: K1109025-088

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-270 M2DEEPDUP Duplicate Sample K1109025-088DUP100 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.5 J	0.4 J	0.454	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-274 CLAMBAY
Lab Code: K1109025-090

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-274 CLAMBAYDUP Duplicate Sample K1109025-090DUP102 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	1.0 J	0.905	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-278 BM01
Lab Code: K1109025-092

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-278 BM01DUP Duplicate Sample K1109025-092DUP104 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.6 J	0.6 J	0.613	10	33

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB08-282 BM01DUP
Lab Code: K1109025-094

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB08-282 BM01DUPDUP Duplicate Sample K1109025-094DUP106 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.5 J	0.6 J	0.549	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-002 PS04
Lab Code: K1109025-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB08-002 PS04MS
Matrix Spike
K1109025-001MS4

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.9	51.5	50.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/20/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-083 M3.1DEEP
Lab Code: K1109025-041

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB08-083 M3.1DEEPMS
Matrix Spike
K1109025-041MS9

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	0.9	49.3	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Collected: 9/21/11
Date Received: 9/23/11
Date Analyzed: 9/26/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB08-262 WP
Lab Code: K1109025-084

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB08-262 WPMS
Matrix Spike
K1109025-084MS15

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	0.7	49.2	50.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS2			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	27.1	26.0	104	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	26.7	26.0	103	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS4			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	26.1	26.0	101	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)
Sample Matrix: Ocean Water

Service Request: K1109025
Date Analyzed: 9/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1109025-LCS5			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	25.8	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	262887	KQ1110396-71	9/26/11 11:00	25.0	24.6	98	90 - 110
CCV2	262887	KQ1110396-72	9/26/11 11:00	25.0	24.6	98	90 - 110
CCV3	262887	KQ1110396-73	9/26/11 11:00	25.0	24.4	98	90 - 110
CCV4	262887	KQ1110396-74	9/26/11 11:00	25.0	24.4	98	90 - 110
CCV5	262887	KQ1110396-75	9/26/11 11:00	25.0	24.3	97	90 - 110
CCV6	262887	KQ1110396-77	9/26/11 11:00	25.0	24.4	98	90 - 110
CCV7	262887	KQ1110396-78	9/26/11 11:00	25.0	24.2	97	90 - 110
CCV8	262887	KQ1110396-87	9/26/11 11:00	25.0	24.0	96	90 - 110

Client: Battelle Marine Sciences Lab
Project: September 2011 Ambient Monitoring (AMB08)

Service Request: K1109025

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	262887	KQ1110396-79	9/26/11 11:00	0.07	0.50	**0.37**	J
CCB2	262887	KQ1110396-80	9/26/11 11:00	0.07	0.50	**0.27**	J
CCB3	262887	KQ1110396-81	9/26/11 11:00	0.07	0.50	**0.14**	J
CCB4	262887	KQ1110396-82	9/26/11 11:00	0.07	0.50	ND	U
CCB5	262887	KQ1110396-83	9/26/11 11:00	0.07	0.50	ND	U
CCB6	262887	KQ1110396-85	9/26/11 11:00	0.07	0.50	ND	U
CCB7	262887	KQ1110396-86	9/26/11 11:00	0.07	0.50	ND	U
CCB8	262887	KQ1110396-88	9/26/11 11:00	0.07	0.50	ND	U

K1109025

PROJECT ENVVEST
Project Name: September 2011 Ambient Monitoring (AMB08)
SAMPLE TEAM: Navy, Battelle
DATE: 9/22/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB08-002	PS04	09/20/11	seawater			X	X					1	
2	AMB08-003	PS04	09/20/11	seawater					X				1	
3	AMB08-006	PS03	09/20/11	seawater			X	X					1	
4	AMB08-007	PS03	09/20/11	seawater					X				1	
5	AMB08-010	PS05	09/20/11	seawater			X	X					1	
6	AMB08-011	PS05	09/20/11	seawater					X				1	
7	AMB08-014	PS14	09/20/11	seawater			X	X					1	
8	AMB08-015	PS14	09/20/11	seawater					X				1	
9	AMB08-018	PS06	09/20/11	seawater			X	X					1	
10	AMB08-019	PS06	09/20/11	seawater					X				1	
11	AMB08-022	PS07	09/20/11	seawater			X	X					1	
12	AMB08-023	PS07	09/20/11	seawater					X				1	
13	AMB08-026	PS07DUP	09/20/11	seawater			X	X					1	
14	AMB08-027	PS07DUP	09/20/11	seawater					X				1	
15	AMB08-030	PS08	09/20/11	seawater			X	X					1	
16	AMB08-031	PS08	09/20/11	seawater					X				1	
17	AMB08-034	PS15	09/20/11	seawater			X	X					1	
18	AMB08-035	PS15	09/20/11	seawater					X				1	
19	AMB08-038	PS09	09/20/11	seawater			X	X					1	
20	AMB08-039	PS09	09/20/11	seawater					X				1	
21	AMB08-042	PS10	09/20/11	seawater			X	X					1	
22	AMB08-043	PS10	09/20/11	seawater					X				1	
23	AMB08-047	PS11	09/20/11	seawater			X	X					1	
24	AMB08-048	PS11	09/20/11	seawater					X				1	
25	AMB08-051	PS16	09/20/11	seawater			X	X					1	
26	AMB08-052	PS16	09/20/11	seawater					X				1	

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SOP#: MSL-A-001

9/23/11 0915

K1109029

PROJECT ENVVEST
Project Name: September 2011 Ambient Monitoring (AMB08)
SAMPLE TEAM: Navy, Battelle
DATE: 9/22/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

					Testing Parameters per QAPP										
27	AMB08-055	PS10.1	09/20/11	seawater			X	X						1	
28	AMB08-056	PS10.1	09/20/11	seawater					X					1	
29	AMB08-059	PS01	09/20/11	seawater			X	X						1	
30	AMB08-060	PS01	09/20/11	seawater					X					1	
31	AMB08-063	PS02	09/20/11	seawater			X	X						1	
32	AMB08-064	PS02	09/20/11	seawater					X					1	
33	AMB08-067	PS13	09/20/11	seawater			X	X						1	
34	AMB08-068	PS13	09/20/11	seawater					X					1	
35	AMB08-071	M4	09/20/11	seawater			X	X						1	
36	AMB08-072	M4	09/20/11	seawater					X					1	
37	AMB08-075	BJ-EST	09/20/11	seawater			X	X						1	
38	AMB08-076	BJ-EST	09/20/11	seawater					X					1	
39	AMB08-079	M3.1	09/20/11	seawater			X	X						1	
40	AMB08-080	M3.1	09/20/11	seawater					X					1	
41	AMB08-083	M3.1DEEP	09/20/11	seawater			X	X						1	
42	AMB08-084	M3.1DEEP	09/20/11	seawater					X					1	
43	AMB08-087	PS12	09/20/11	seawater			X	X						1	
44	AMB08-088	PS12	09/20/11	seawater					X					1	
45	AMB08DD-002	OF018	09/20/11	water			X	X						1	
46	AMB08DD-003	OF018	09/20/11	water					X					1	
47	AMB08DD-005	OF018	09/20/11	water						X				1	
48	AMB08DD-007	OF019	09/20/11	water			X	X						1	
49	AMB08DD-008	OF019	09/20/11	water					X					1	
50	AMB08DD-010	OF019	09/20/11	water						X				1	
51	AMB08DD-012	OF021	09/20/11	water			X	X						1	
52	AMB08DD-013	OF021	09/20/11	water					X					1	
53	AMB08DD-015	OF021	09/20/11	water						X				1	
54	AMB08-201	PS07	09/21/11	seawater			X	X						1	
55	AMB08-202	PS07	09/21/11	seawater					X					1	
56	AMB08-205	M3.3	09/21/11	seawater			X	X						1	
57	AMB08-206	M3.3	09/21/11	seawater					X					1	
58	AMB08-209	SN03	09/21/11	seawater			X	X						1	
59	AMB08-210	SN03	09/21/11	seawater					X					1	
60	AMB08-213	SN05	09/21/11	seawater			X	X						1	
61	AMB08-214	SN05	09/21/11	seawater					X					1	
62	AMB08-218	SN08	09/21/11	seawater			X	X						1	

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SOP#: MSL-A-001

9/23/11 0915

GB

K1109029

| PROJECT ENVVEST | | |

K1109029

PROJECT ENVVEST			
Project Name: September 2011 Ambient Monitoring (AMB08)			**CHAIN OF CUSTODY FORM**
SAMPLE TEAM:	Navy, Battelle		
DATE:	9/22/2011		
Laboratory:	Columbia Analytical		Testing Parameters per QAPP
Relinquished By:		Company: Battelle MSL	
C. Suslick		9/22/2011	
Signature/Printed Name		Date/Time	
Received By:		Company:	
Signature/Printed Name		Date/Time	

11

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 410

Client / Project: Battelle Service Request K11 9075

Received: 9/23/11 Opened: 9/23/11 By: UL Unloaded: 9/23/11 By: UL

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
5.7	—	306		7975 4875 1103		
3.7	—	311		7975 4875 1191		
5.4	—	275		7975 4875 1147		
4.6	—	313		7975 4875 1055		

7. Packing material used. (*Inserts*) *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

*Page 1 of*_____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring December 2011 (AMB09)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring
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CVAF Analysis of Samples for Hg

Analytical raw data available upon request

FIAS Analysis of Samples for As

Analytical raw data available upon request

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Analytical raw data available upon request

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB09
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.002**	**0.50**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**
Seawater Reporting Limit (MDL* 3.18)								**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**
Laboratory Achieved Detection Limits (Freshwater)						--	--	0.0001	0.0267	0.0032	0.2	0.0033	0.051	0.0053
Freshwater Reporting Limit (MDL* 3.18)						--	--	0.00032	0.085	0.010	0.6	0.011	0.16	0.017
AMB09-001	PS03	TME	Seawater	**3106-690**	12/06/11	29.2	0.50 U	0.000859	1.23	0.0042 Ub	13.2 b	0.0758 b	0.132 b	1.40 b
AMB09-001	PS03	DME	Seawater	**3106-691**	12/06/11	--	--	0.000355	--	0.0042 Ub	2.14 Ub	0.0683 b	0.100 b	1.04 b
AMB09-002	PS04	TME	Seawater	**3106-692**	12/06/11	29.2	0.54	0.000559	1.26	0.0042 Ub	15.4 b	0.0803 b	0.168 b	1.21 b
AMB09-002	PS04	DME	Seawater	**3106-693**	12/06/11	--	--	0.000217 J	--	0.0042 Ub	2.14 Ub	0.0703 b	0.0880 Jb	2.59 b
AMB09-003	PS05	TME	Seawater	**3106-694**	12/06/11	29.6	0.50 U	0.000598	1.31	0.0042 Ub	16.8 b	0.0809 b	0.170 b	1.06 b
AMB09-003	PS05	DME	Seawater	**3106-695**	12/06/11	--	--	0.000304 J	--	0.0042 Ub	2.14 Ub	0.0759 b	0.103 b	0.879 b
AMB09-004	PS14	TME	Seawater	**3106-696**	12/06/11	29.4	0.50 U	0.000581	1.30	0.0042 Ub	13.9 b	0.0733 b	0.133 b	0.819 b
AMB09-004	PS14	DME	Seawater	**3106-697**	12/06/11	--	--	0.000273 J	--	0.0042 Ub	2.14 Ub	0.0706 b	0.158 b	0.766 b
AMB09-005	PS06	TME	Seawater	**3106-698**	12/06/11	29.0	0.50 U	0.000846	1.27	0.0042 Ub	15.0 b	0.0785 b	0.182 b	1.03 b
AMB09-005	PS06	DME	Seawater	**3106-699**	12/06/11	--	--	0.000341	--	0.0042 Ub	2.14 Ub	0.0718 b	0.107 b	0.734 b
AMB09-006	PS07	TME	Seawater	**3106-700**	12/06/11	29.0	0.50 U	0.000866	1.31	0.0042 Ub	7.89 b	0.0789 b	0.153 b	1.51 b
AMB09-006	PS07	DME	Seawater	**3106-701**	12/06/11	--	--	0.000496	--	0.0042 Ub	2.14 Ub	0.0761 b	0.157 b	1.34 b
AMB09-007	PS08	TME	Seawater	**3106-702**	12/06/11	29.2	0.50 U	0.000501	1.27	0.0042 Ub	10.7 b	0.0800 b	0.178 b	3.62 b
AMB09-007	PS08	DME	Seawater	**3106-703**	12/06/11	--	--	0.000257 J	--	0.0042 Ub	2.14 Ub	0.0840 b	0.135 b	3.40 b
AMB09-008	PS08DUP	TME	Seawater	**3106-704**	12/06/11	29.0	0.64	0.000585	1.28	0.0042 Ub	10.5 b	0.0763 b	0.193 b	2.41 b
AMB09-008	PS08DUP	DME	Seawater	**3106-705**	12/06/11	--	--	0.000244 J	--	0.0042 Ub	2.14 Ub	0.0767 b	0.123 b	2.08 b
AMB09-009	PS15	TME	Seawater	**3106-706**	12/06/11	29.3	0.50 U	0.000601	1.29	0.0042 Ub	15.2 b	0.0710 b	0.164 b	1.08 b
AMB09-009	PS15	DME	Seawater	**3106-707**	12/06/11	--	--	0.000238 J	--	0.0042 Ub	2.14 Ub	0.0720 b	0.105 b	0.769 b
AMB09-010	PS09	TME	Seawater	**3106-708**	12/06/11	28.6	0.50 U	0.00171	1.38	0.00523 Jb	15.3 b	0.0861 b	0.217 b	1.69 b
AMB09-010	PS09	DME	Seawater	**3106-709**	12/06/11	--	--	0.000633	--	0.0042 Ub	2.14 Ub	0.0808 b	0.156 b	1.26 b
AMB09-011	PS10	TME	Seawater	**3106-710**	12/06/11	28.3	2.58	0.0107	1.47	0.0272 b	47.2 b	0.1019 b	0.601 b	7.25 b
AMB09-011	PS10	DME	Seawater	**3106-711**	12/06/11	--	--	0.000500	--	0.0042 Ub	2.14 Ub	0.0857 b	0.134 b	1.05 b
AMB09-012	PS10.1	TME	Seawater	**3106-712**	12/06/11	29.3	1.69	0.00232	1.28	0.0042 Ub	22.8 b	0.0830 b	0.192 b	2.71 b
AMB09-012	PS10.1	DME	Seawater	**3106-713**	12/06/11	--	--	0.000253 J	--	0.0042 Ub	2.14 Ub	0.0802 b	0.188 b	1.19 b
AMB09-013	PS11	TME	Seawater	**3106-714**	12/06/11	29.2	0.78	0.00175	1.31	0.0042 Ub	20.0 b	0.0852 b	0.273 b	2.48 b
AMB09-013	PS11	DME	Seawater	**3106-715**	12/06/11	--	--	0.000289 J	--	0.0042 Ub	2.14 Ub	0.0788 b	0.167 b	1.64 b
AMB09-014	PS16	TME	Seawater	**3106-716**	12/06/11	29.3	0.90	0.000509	1.25	0.0042 Ub	16.4 b	0.0815 b	0.201 b	0.918 b
AMB09-014	PS16	DME	Seawater	**3106-717**	12/06/11	--	--	0.000226 J	--	0.0042 Ub	2.14 Ub	0.0833 b	0.111 b	0.699 b
AMB09-015	PS01	TME	Seawater	**3106-718**	12/06/11	29.2	0.50 U	0.000974	1.36	0.0042 Ub	15.8 b	0.0833 b	0.185 b	1.42 b
AMB09-015	PS01	DME	Seawater	**3106-719**	12/06/11	--	--	0.000576	--	0.0042 Ub	2.14 Ub	0.0829 b	0.177 b	1.11 b
AMB09-016	PS01DUP	TME	Seawater	**3106-720**	12/06/11	29.0	0.70	0.000931	1.33	0.0042 Ub	15.6 b	0.0843 b	0.158 b	1.33 b
AMB09-016	PS01DUP	DME	Seawater	**3106-721**	12/06/11	--	--	0.000406	--	0.0042 Ub	2.14 Ub	0.0821 b	0.135 b	1.05 b
AMB09-017	PS02	TME	Seawater	**3106-722**	12/06/11	29.2	0.70	0.00118	1.29	0.0042 Ub	17.7 b	0.0839 b	0.196 b	1.48 b
AMB09-017	PS02	DME	Seawater	**3106-723**	12/06/11	--	--	0.000764	--	0.0042 Ub	2.14 Ub	0.0800 b	0.192 b	1.20 b
AMB09-018	M4	TME	Seawater	**3106-724**	12/06/11	28.9	1.63	0.000829	1.17	0.0042 Ub	32.1 b	0.0787 b	0.252 b	0.963 b
AMB09-018	M4	DME	Seawater	**3106-725**	12/06/11	--	--	0.000288 J	--	0.0042 Ub	2.14 Ub	0.0733 b	0.101 b	0.677 b

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Ambient Monitoring - AMB09
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB09-019	BJEST	TME	Seawater	**3106-726**	12/06/11	28.4	NA	0.000935	1.18	0.0042 Ub	45.5 b	0.0819 b	0.295 b	1.09 b
AMB09-019	BJEST	DME	Seawater	**3106-727**	12/06/11	--	--	0.000234 J	--	0.0042 Ub	2.14 Ub	0.0786 b	0.160 b	0.824 b
AMB09-020	M3.1	TME	Seawater	**3106-728**	12/06/11	29.0	0.70	0.000643	1.24	0.0042 Ub	19.0 b	0.0834 b	0.161 b	0.979 b
AMB09-020	M3.1	DME	Seawater	**3106-729**	12/06/11	--	--	0.000255 J	--	0.0042 Ub	2.14 Ub	0.0786 b	0.099 b	0.751 b
AMB09-021	PS12	TME	Seawater	**3106-730**	12/06/11	29.2	NA	0.00145	1.20	0.0042 Ub	20.1 b	0.0852 b	0.213 b	2.31 b
AMB09-021	PS12	DME	Seawater	**3106-731**	12/06/11	--	--	0.000402	--	0.0042 Ub	2.14 Ub	0.0784 b	0.0813 Jb	1.27 b
AMB09-022	PS03B	TME	Seawater	**3106-732**	12/06/11	29.0	NA	0.000794	1.20	0.0042 Ub	14.4 b	0.0939 b	0.178 b	2.50 b
AMB09-022	PS03B	DME	Seawater	**3106-733**	12/06/11	--	--	0.000492	--	0.0042 Ub	2.14 Ub	0.0785 b	0.0983 b	1.94 b
AMB09DD-001	OF018A	TME	Seawater	**3106-734**	12/06/11	19.3	0.60	0.0122	2.20	0.0341 b	4.43 Jb	0.0987 b	0.776 b	2.33 b
AMB09DD-001	OF018A	DME	Seawater	**3106-735**	12/06/11	--	--	0.00211	--	0.0042 Ub	2.14 Ub	0.0619 b	0.296 b	0.586 b
AMB09DD-002	OF019	TME	Seawater	**3106-736**	12/06/11	19.1	0.57	0.00909	1.61	0.0309 b	4.95 Jb	0.0970 b	3.72 b	1.97 b
AMB09DD-002	OF019	DME	Seawater	**3106-737**	12/06/11	--	--	0.00190	--	0.0042 Ub	2.14 Ub	0.0884 b	0.169 b	0.584 b
AMB09DD-003	OF021	TME	Freshwater	**3106-738**	12/06/11	0.3	0.5U	0.00219	2.33	0.0032 U	6.62	0.00585 J	2.81	0.496
AMB09DD-003	OF021	DME	Freshwater	**3106-739**	12/06/11	--	--	0.00206	--	0.0032 U	6.21	0.00590 J	3.03	0.687
AMB09-100	M5	TME	Seawater	**3106-742**	12/07/11	28.9	1.08	0.000789	1.21	0.0042 Ub	23.1 b	0.0855 b	0.145 b	0.618 b
AMB09-100	M5	DME	Seawater	**3106-743**	12/07/11	--	--	0.000342	--	0.0042 Ub	2.14 Ub	0.0778 b	0.0923 Jb	0.438 b
AMB09-101	M8	TME	Seawater	**3106-744**	12/07/11	28.7	1.46	0.000898	1.15	0.0042 Ub	30.6 b	0.0817 b	0.142 b	0.564 b
AMB09-101	M8	DME	Seawater	**3106-745**	12/07/11	--	--	0.000268 J	--	0.0042 Ub	2.14 Ub	0.0743 b	0.0693 Jb	0.377 b
AMB09-102	M7	TME	Seawater	**3106-746**	12/07/11	28.7	0.98	0.000604	1.18	0.0042 Ub	17.8 b	0.0811 b	0.141 b	0.659 b
AMB09-102	M7	DME	Seawater	**3106-747**	12/07/11	--	--	0.000240 J	--	0.0042 Ub	2.14 Ub	0.114 b	0.0823 Jb	0.457 b
AMB09-103	DYOTS	TME	Seawater	**3106-748**	12/07/11	27.5	1.7	0.000638	1.22	0.0042 Ub	15.3 b	0.0703 b	0.209 b	0.611 b
AMB09-103	DYOTS	DME	Seawater	**3106-749**	12/07/11	--	--	0.000316 J	--	0.0042 Ub	2.14 Ub	0.0667 b	0.114 b	0.398 b
AMB09-104	WP	TME	Seawater	**3106-750**	12/07/11	29.1	0.90	0.000701	1.23	0.0042 Ub	16.4 b	0.0795 b	0.233 b	0.573 b
AMB09-104	WP	DME	Seawater	**3106-751**	12/07/11	--	--	0.000277 J	--	0.0042 Ub	2.14 Ub	0.0810 b	0.0813 Jb	0.413 b
AMB09-105	M2	TME	Seawater	**3106-752**	12/07/11	28.5	0.89	0.000393	1.23	0.0042 Ub	8.34 b	0.0833 b	0.177 b	0.667 b
AMB09-105	M2	DME	Seawater	**3106-753**	12/07/11	--	--	0.000262 J	--	0.0042 Ub	2.14 Ub	0.0711 b	0.0898 Jb	0.475 b
AMB09-106	M2DEEP	TME	Seawater	**3106-754**	12/07/11	29.4	0.61	0.000346	1.31	0.0042 Ub	10.5 b	0.0797 b	0.295 b	0.701 b
AMB09-106	M2DEEP	DME	Seawater	**3106-755**	12/07/11	--	--	0.000267 J	--	0.0042 Ub	2.14 Ub	0.0828 b	0.177 b	0.484 b
AMB09-107	CLMBAY	TME	Seawater	**3106-756**	12/07/11	28.9	1.20	0.000555	1.21	0.0042 Ub	17.3 b	0.0810 b	0.230 b	0.777 b
AMB09-107	CLMBAY	DME	Seawater	**3106-757**	12/07/11	--	--	0.000263 J	--	0.0042 Ub	2.14 Ub	0.0763 b	0.145 b	0.539 b
AMB09-108	ILSP	TME	Seawater	**3106-758**	12/07/11	28.9	0.70	0.000437	1.22	0.0042 Ub	12.2 b	0.0806 b	0.153 b	0.563 b
AMB09-108	ILSP	DME	Seawater	**3106-759**	12/07/11	--	--	0.000267 J	--	0.0042 Ub	2.14 Ub	0.0799 b	0.129 b	0.455 b
AMB09-109	M1	TME	Seawater	**3106-760**	12/07/11	28.8	2.15	0.000411	1.21	0.0042 Ub	10.4 b	0.0815 b	0.199 b	0.695 b
AMB09-109	M1	DME	Seawater	**3106-761**	12/07/11	--	--	0.000339	--	0.0042 Ub	2.14 Ub	0.0773 b	0.176 b	0.555 b
AMB09-110	M1DEEP	TME	Seawater	**3106-762**	12/07/11	29.2	0.74	0.000400	1.20	0.0042 Ub	11.6 b	0.0808 b	0.241 b	0.657 b
AMB09-110	M1DEEP	DME	Seawater	**3106-763**	12/07/11	--	--	0.000306 J	--	0.0042 Ub	2.14 Ub	0.0768 b	0.118 b	0.466 b
AMB09-111	SN03	TME	Seawater	**3106-764**	12/07/11	29.0	2.96	0.00121	1.21	0.0042 Ub	31.4 b	0.0793 b	0.187 b	1.14 b
AMB09-111	SN03	DME	Seawater	**3106-765**	12/07/11	--	--	0.000265 J	--	0.0042 Ub	2.14 Ub	0.0785 b	0.106 b	0.793 b
AMB09-112	SN05	TME	Seawater	**3106-766**	12/07/11	8.2	3.57	0.00195	0.777	0.0042 Ub	226 b	0.0490 b	1.15 b	1.04 b
AMB09-112	SN05	DME	Seawater	**3106-767**	12/07/11	--	--	0.000511	--	0.0042 Ub	4.71 Jb	0.0435 b	0.629 b	0.403 b

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Ambient Monitoring - AMB09
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	Hg	As	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB09-113	SN05DUP	TME	Seawater	**3106-768**	12/07/11	6.6	2.74	0.00121	0.579	0.0042 Ub	90.9 b	0.0274 b	1.23 b	0.614 b
AMB09-113	SN05DUP	DME	Seawater	**3106-769**	12/07/11	--	--	0.000590	--	0.0042 Ub	6.39 Jb	0.0254 b	1.03 b	1.47 b
AMB09-114	SN08	TME	Seawater	**3106-770**	12/07/11	24.6	2.36	0.00105	1.18	0.0042 Ub	45.4 b	0.0768 b	0.338 b	1.11 b
AMB09-114	SN08	DME	Seawater	**3106-771**	12/07/11	--	--	0.000281 J	--	0.0042 Ub	2.14 Ub	0.0744 b	0.155 b	0.705 b
AMB09-115	SN10	TME	Seawater	**3106-772**	12/07/11	28.4	1.85	0.000600	1.16	0.0042 Ub	17.2 b	0.0861 b	0.259 b	1.77 b
AMB09-115	SN10	DME	Seawater	**3106-773**	12/07/11	--	--	0.000337	--	0.0042 Ub	2.14 Ub	0.0773 b	0.117 b	1.30 b
AMB09-116	SN11	TME	Seawater	**3106-774**	12/07/11	20.0	1.46	0.000811	1.07	0.0042 Ub	34.1 b	0.0638 b	0.362 b	1.03 b
AMB09-116	SN11	DME	Seawater	**3106-775**	12/07/11	--	--	0.000391	--	0.0042 Ub	5.52 Jb	0.0600 b	0.227 b	0.679 b
AMB09-117	M3.3	TME	Seawater	**3106-776**	12/07/11	28.5	0.99	0.000672	1.19	0.0042 Ub	22.8 b	0.0811 b	0.252 b	1.04 b
AMB09-117	M3.3	DME	Seawater	**3106-777**	12/07/11	--	--	0.000229 J	--	0.0042 Ub	2.14 Ub	0.0769 b	0.113 b	0.811 b
AMB09-118	EB01	DME	Freshwater	**3106-778**	12/07/11	--	--	0.000164 J	0.0267 U	0.0032 U	0.2 U	0.0033 U	0.109 J	0.0053 U
AMB09-119	EB02	DME	Freshwater	**3106-779**	12/07/11	--	--	0.000138 J	0.0267 U	0.0032 U	0.2 U	0.0033 U	0.0565 J	0.0053 U
AMB09-200	N end of barge	TME	Seawater	**3106-781**	12/12/11	28.8	0.79	0.000579	1.19	0.0042 Ub	12.5 b	0.0768 b	0.152 b	4.38 b
AMB09-200	N end of barge	DME	Seawater	**3106-782**	12/12/11	--	--	0.000358	--	0.0042 Ub	2.14 Ub	0.0799 b	0.129 b	1.32 b
AMB09-201	S end of barge	TME	Seawater	**3106-783**	12/12/11	--	--	0.000646	1.20	0.0042 Ub	12.5 b	0.0791 b	0.216 b	5.58 b
AMB09-201	S end of barge	DME	Seawater	**3106-784**	12/12/11	--	--	0.000255 J	--	0.0042 Ub	2.14 Ub	0.0798 b	0.103 b	4.48 b

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Ambient Monitoring - AMB09
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0254**	**0.0019**	**0.0263**					
Seawater Reporting Limit (MDL* 3.18)					**0.081**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					0.0042	0.0022	0.02					
Freshwater Reporting Limit (MDL* 3.18)					0.013	0.0070	0.06					
AMB09-001	PS03	TME	Seawater	**3106-690**	0.466 b	0.0758 b	2.70 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-001	PS03	DME	Seawater	**3106-691**	0.380 b	0.0073 b	2.67 b	121311HGA	--	122111-6100	--	--
AMB09-002	PS04	TME	Seawater	**3106-692**	0.578 b	0.0694 b	3.25 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-002	PS04	DME	Seawater	**3106-693**	0.362 b	0.00424 Jb	4.87 b	121311HGA	--	122111-6100	--	--
AMB09-003	PS05	TME	Seawater	**3106-694**	0.718 b	0.0736 b	2.76 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-003	PS05	DME	Seawater	**3106-695**	0.381 b	0.00533 Jb	2.66 b	121311HGA	--	122111-6100	--	--
AMB09-004	PS14	TME	Seawater	**3106-696**	0.434 b	0.0676 b	2.52 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-004	PS14	DME	Seawater	**3106-697**	0.748 b	0.00914 b	2.15 b	121311HGA	--	122111-6100	--	--
AMB09-005	PS06	TME	Seawater	**3106-698**	0.685 b	0.0915 b	3.52 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-005	PS06	DME	Seawater	**3106-699**	0.450 b	0.0105 b	3.29 b	121311HGA	--	122111-6100	--	--
AMB09-006	PS07	TME	Seawater	**3106-700**	0.658 b	0.0532 b	6.92 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-006	PS07	DME	Seawater	**3106-701**	0.897 b	0.0297 b	6.83 b	121311HGA	--	122111-6100	--	--
AMB09-007	PS08	TME	Seawater	**3106-702**	0.868 b	0.0591 b	8.24 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-007	PS08	DME	Seawater	**3106-703**	0.821 b	0.00740 b	7.87 b	121311HGA	--	010512-6100	--	--
AMB09-008	PS08DUP	TME	Seawater	**3106-704**	0.976 b	0.0551 b	7.03 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-008	PS08DUP	DME	Seawater	**3106-705**	0.464 b	0.00884 b	7.29 b	121311HGA	--	122111-6100	--	--
AMB09-009	PS15	TME	Seawater	**3106-706**	0.703 b	0.0789 b	3.49 b	121311HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-009	PS15	DME	Seawater	**3106-707**	0.398 b	0.00734 b	3.11 b	121311HGA	--	122111-6100	--	--
AMB09-010	PS09	TME	Seawater	**3106-708**	0.771 b	0.0878 b	9.47 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-010	PS09	DME	Seawater	**3106-709**	0.679 b	0.00912 b	8.89 b	121411HGA	--	010512-6100	--	--
AMB09-011	PS10	TME	Seawater	**3106-710**	1.48 b	0.839 b	14.5 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-011	PS10	DME	Seawater	**3106-711**	0.568 b	0.0134 b	7.62 b	121411HGA	--	010512-6100	--	--
AMB09-012	PS10.1	TME	Seawater	**3106-712**	0.572 b	0.198 b	7.62 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-012	PS10.1	DME	Seawater	**3106-713**	0.671 b	0.0116 b	6.19 b	121411HGA	--	010512-6100	--	--
AMB09-013	PS11	TME	Seawater	**3106-714**	1.04 b	0.149 b	5.84 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-013	PS11	DME	Seawater	**3106-715**	0.764 b	0.0222 b	4.91 b	121411HGA	--	010512-6100	--	--
AMB09-014	PS16	TME	Seawater	**3106-716**	0.998 b	0.0646 b	3.86 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-014	PS16	DME	Seawater	**3106-717**	0.497 b	0.00558 Jb	4.01 b	121411HGA	--	010512-6100	--	--
AMB09-015	PS01	TME	Seawater	**3106-718**	0.912 b	0.0930 b	2.68 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-015	PS01	DME	Seawater	**3106-719**	0.988 b	0.0141 b	2.72 b	121411HGA	--	010512-6100	--	--
AMB09-016	PS01DUP	TME	Seawater	**3106-720**	0.518 b	0.0920 b	3.13 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-016	PS01DUP	DME	Seawater	**3106-721**	0.471 b	0.00902 b	2.90 b	121411HGA	--	010512-6100	--	--
AMB09-017	PS02	TME	Seawater	**3106-722**	0.604 b	0.106 b	3.07 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-017	PS02	DME	Seawater	**3106-723**	1.16 b	0.0212 b	3.12 b	121411HGA	--	010512-6100	--	--
AMB09-018	M4	TME	Seawater	**3106-724**	0.571 b	0.132 b	2.80 b	121411HGA	F010412A	122111-6100	120711osal	121211TSS
AMB09-018	M4	DME	Seawater	**3106-725**	0.409 b	0.00894 b	2.83 b	121411HGA	--	122111-6100	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB09
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB09-019	BJEST	TME	Seawater	**3106-726**	0.608 b	0.135 b	2.99 b	121411HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-019	BJEST	DME	Seawater	**3106-727**	0.472 b	0.0116 b	2.74 b	121411HGA	--	010512-6100	--	--
AMB09-020	M3.1	TME	Seawater	**3106-728**	0.545 b	0.0845 b	2.14 b	121511HGA	F010412A	010512-6100	120711osal	121211TSS
AMB09-020	M3.1	DME	Seawater	**3106-729**	0.450 b	0.00364 Jb	2.33 b	121511HGA	--	010612-6100	--	--
AMB09-021	PS12	TME	Seawater	**3106-730**	0.932 b	0.148 b	5.64 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-021	PS12	DME	Seawater	**3106-731**	0.504 b	0.0182 b	4.53 b	121511HGA	--	010612-6100	--	--
AMB09-022	PS03B	TME	Seawater	**3106-732**	0.813 b	0.0816 b	4.02 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-022	PS03B	DME	Seawater	**3106-733**	0.618 b	0.00971 b	3.87 b	121511HGA	--	010612-6100	--	--
AMB09DD-001	OF018A	TME	Seawater	**3106-734**	2.89 b	0.270 b	13.7 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09DD-001	OF018A	DME	Seawater	**3106-735**	2.47 b	0.0152 b	11.3 b	121511HGA	--	010612-6100	--	--
AMB09DD-002	OF019	TME	Seawater	**3106-736**	15.5 b	0.0620 b	25.3 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09DD-002	OF019	DME	Seawater	**3106-737**	12.7 b	0.0019 Ub	21.3 b	121511HGA	--	010612-6100	--	--
AMB09DD-003	OF021	TME	Freshwater	**3106-738**	2.98	0.0137	0.318	121511HGA	F010412A	121911-6100	120711osal	121211TSS
AMB09DD-003	OF021	DME	Freshwater	**3106-739**	3.07	0.00967	0.471	121511HGA	--	121911-6100	--	--
AMB09-100	M5	TME	Seawater	**3106-742**	0.555 b	0.0909 b	1.37 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-100	M5	DME	Seawater	**3106-743**	0.449 b	0.0153 b	1.27 b	121511HGA	--	010612-6100	--	--
AMB09-101	M8	TME	Seawater	**3106-744**	0.493 b	0.116 b	1.45 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-101	M8	DME	Seawater	**3106-745**	0.405 b	0.0106 b	1.20 b	121511HGA	--	010612-6100	--	--
AMB09-102	M7	TME	Seawater	**3106-746**	0.591 b	0.0899 b	1.32 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-102	M7	DME	Seawater	**3106-747**	0.507 b	0.00631 b	1.23 b	121511HGA	--	010612-6100	--	--
AMB09-103	DYOTS	TME	Seawater	**3106-748**	1.13 b	0.0707 b	1.21 b	121511HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-103	DYOTS	DME	Seawater	**3106-749**	0.463 b	0.00791 b	1.07 b	121511HGA	--	010612-6100	--	--
AMB09-104	WP	TME	Seawater	**3106-750**	1.66 b	0.0510 b	1.04 b	121611HGA	F010412A	010612-6100	120711osal	121211TSS
AMB09-104	WP	DME	Seawater	**3106-751**	0.418 b	0.00334 Jb	0.858 Bb	121611HGA	--	010612-6100	--	--
AMB09-105	M2	TME	Seawater	**3106-752**	1.52 b	0.0485 b	0.666 Bb	121611HGA	F010412A	010612-6100	120711osal	121311TSS
AMB09-105	M2	DME	Seawater	**3106-753**	0.418 b	0.00224 Jb	0.568 Bb	121611HGA	--	011212-6100	--	--
AMB09-106	M2DEEP	TME	Seawater	**3106-754**	1.65 b	0.0374 b	0.684 Bb	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-106	M2DEEP	DME	Seawater	**3106-755**	0.984 b	0.0132 b	0.725 Bb	121611HGA	--	011212-6100	--	--
AMB09-107	CLMBAY	TME	Seawater	**3106-756**	1.34 b	0.0458 b	0.962 b	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-107	CLMBAY	DME	Seawater	**3106-757**	0.690 b	0.0140 b	0.852 Bb	121611HGA	--	011212-6100	--	--
AMB09-108	ILSP	TME	Seawater	**3106-758**	0.643 b	0.0328 b	0.796 Bb	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-108	ILSP	DME	Seawater	**3106-759**	0.559 b	0.0277 b	0.848 Bb	121611HGA	--	011212-6100	--	--
AMB09-109	M1	TME	Seawater	**3106-760**	1.21 b	0.0354 b	0.749 Bb	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-109	M1	DME	Seawater	**3106-761**	1.08 b	0.0127 b	0.677 Bb	121611HGA	--	011212-6100	--	--
AMB09-110	M1DEEP	TME	Seawater	**3106-762**	1.50 b	0.0469 b	1.34 b	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-110	M1DEEP	DME	Seawater	**3106-763**	0.486 b	0.0136 b	0.952 b	121611HGA	--	011212-6100	--	--
AMB09-111	SN03	TME	Seawater	**3106-764**	0.610 b	0.146 b	2.31 b	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-111	SN03	DME	Seawater	**3106-765**	0.517 b	0.0136 b	2.28 b	121611HGA	--	011212-6100	--	--
AMB09-112	SN05	TME	Seawater	**3106-766**	1.44 b	0.312 b	2.08 b	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-112	SN05	DME	Seawater	**3106-767**	0.477 b	0.0133 b	1.17 b	121611HGA	--	011212-6100	--	--

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Ambient Monitoring - AMB09
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB09-113	SN05DUP	TME	Seawater	**3106-768**	0.824 b	0.157 b	1.24 b	121611HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-113	SN05DUP	DME	Seawater	**3106-769**	1.45 b	0.0302 b	0.855 Bb	121611HGA	--	011212-6100	--	--
AMB09-114	SN08	TME	Seawater	**3106-770**	0.857 b	0.193 b	3.55 b	122211HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-114	SN08	DME	Seawater	**3106-771**	0.511 b	0.0273 b	2.28 b	122211HGA	--	011212-6100	--	--
AMB09-115	SN10	TME	Seawater	**3106-772**	1.05 b	0.0981 b	4.87 b	122211HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-115	SN10	DME	Seawater	**3106-773**	0.486 b	0.0107 b	4.20 b	122211HGA	--	011212-6100	--	--
AMB09-116	SN11	TME	Seawater	**3106-774**	0.703 b	0.0940 b	2.40 b	122211HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-116	SN11	DME	Seawater	**3106-775**	0.506 b	0.00975 b	2.07 b	122211HGA	--	011212-6100	--	--
AMB09-117	M3.3	TME	Seawater	**3106-776**	0.812 b	0.103 b	2.33 b	122211HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-117	M3.3	DME	Seawater	**3106-777**	0.454 b	0.00905 b	2.17 b	122211HGA	--	011212-6100	--	--
AMB09-118	EB01	DME	Freshwater	**3106-778**	0.00802 J	0.0022 U	0.02 U	122211HGA	see ICPMS	121911-6100	--	--
AMB09-119	EB02	DME	Freshwater	**3106-779**	0.00578 J	0.0022 U	0.02 U	122211HGA	see ICPMS	121911-6100	--	--
AMB09-200	N end of barge	TME	Seawater	**3106-781**	0.549 b	0.0718 b	7.13 b	122211HGA	F010412A	011212-6100	120711osal	121311TSS
AMB09-200	N end of barge	DME	Seawater	**3106-782**	0.519 b	0.0264 b	6.60 b	122211HGA	--	011212-6100	--	--
AMB09-201	S end of barge	TME	Seawater	**3106-783**	0.660 b	0.0792 b	23.7 b	122211HGA	F010412A	011212-6100	--	--
AMB09-201	S end of barge	DME	Seawater	**3106-784**	0.437 b	0.0159 b	22.9 b	122211HGA	--	011212-6100	--	--

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Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB09
QC Sample Results for ICP-MS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
TRM_BLK1	TME	Freshwater		TRMblk1_121911	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.00560 J	0.0022 U	0.02 U	121911-6100
MB	TME	Seawater		DIBlk1_122111 r1	0.000 U	0.301 U	0.0000470 U	0.0122 U	0.0355 J	0.0193 U	0.00186 U	0.0719 J	122111-6100
MB	TME	Seawater		DIBlk1_122111 r2	0.000 U	0.305 U	0.0000350 U	0.0182 U	0.0278 U	0.0144 U	0.00131 U	0.0674 J	122111-6100
MB	TME	Seawater		DIBlk1_122111 r3	0.000 U	0.293 U	0.0000720 U	0.0295 J	0.0284 U	0.00495 U	0.00122 U	0.0641 J	122111-6100
MEAN REAGENT BLANK		Seawater		***BMRB_122111***	**0.000** U	**0.300** U	**0.0000513** U	**0.0200** U	**0.0306** U	**0.0129** U	**0.00146** U	**0.0678** J	122111-6100
MB	TME	Seawater		DIBlk_010512r1	0.000 U	0.315 U	0.000000 U	0.0326 J	0.0253 U	0.0125 U	0.00157 U	0.0993	010512-6100
MB	TME	Seawater		DIBlk_010512r2	0.000 U	0.300 U	0.000127 U	0.0338 J	0.0264 U	0.00822 U	0.00152 U	0.0920	010512-6100
MB	TME	Seawater		DIBlk_010512r3	0.000 U	0.319 U	0.000103 U	0.0347 J	0.0426 J	0.0455 J	0.00195 J	0.101	010512-6100
MEAN REAGENT BLANK		Seawater		***BMRB_010512***	**0.000** U	**0.311** U	**0.0000767** U	**0.0337** J	**0.0314** U	**0.0221** U	**0.00168** U	**0.0974**	010512-6100
MB	TME	Seawater		DIBlk_010612r1	0.000 U	0.438 U	0.000258 U	0.0394 J	0.0477 J	0.0120 U	0.00158 U	0.0955	010612-6100
MB	TME	Seawater		DIBlk_010612r2	0.000 U	0.393 U	0.000204 U	0.0395 J	0.0395 J	0.0130 U	0.00219 J	0.103	010612-6100
MB	TME	Seawater		DIBlk_010612r3	0.000 U	0.377 U	0.000000 U	0.0402 J	0.0891 J	0.0109 U	0.00790	0.104	010612-6100
MEAN REAGENT BLANK		Seawater		***BMRB_010612***	**0.000** U	**0.403** U	**0.000154** *U*	**0.0397** *J*	**0.0588** *J*	**0.0120** *U*	**0.00389** *J*	**0.101**	010612-6100
MB	TME	Seawater		DIBlk_011212r1	0.000 U	0.295 U	0.000209 U	0.0214 U	0.0314 U	0.0170 U	0.00156 U	0.0885	011212-6100
MB	TME	Seawater		DIBlk_011212r2	0.000 U	0.303 U	0.000159 U	0.0337 J	0.0318 U	0.0181 U	0.00118 U	0.0814 J	011212-6100
MB	TME	Seawater		DIBlk_011212r3	0.000 U	0.296 U	0.0000700 U	0.0311 J	0.0308 U	0.0153 U	0.00134 U	0.113	011212-6100
MB	TME	Seawater		DIBlk_011212r4	0.000 U	0.288 U	0.000155 U	0.0386 J	0.0319 U	0.0181 U	0.00178 U	0.0823 J	011212-6100
MB	TME	Seawater		DIBlk_011212r5	0.000 U	0.301 U	0.0000300 U	0.0484 J	0.0294 U	0.0121 U	0.00103 U	0.0860	011212-6100
MB	TME	Seawater		DIBlk_011212r6	0.000 U	0.272 U	0.0000840 U	0.0443 J	0.0251 U	0.0136 U	0.00122 U	0.0797 J	011212-6100
MEAN REAGENT BLANK		Seawater		***BMRB_011212***	**0.000** U	**0.293** U	**0.000118** U	**0.0363** *J*	**0.0301** *U*	**0.0157** *U*	**0.0014** *U*	**0.0885**	011212-6100

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Ambient Monitoring - AMB09
QC Sample Results for ICP-MS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		TME	Freshwater	TRMblk1_121911	0.0032 U	0.2 U	0.0033 U	0.051 U	0.0053 U	0.00560 J	0.0022 U	0.02 U	121911-6100
LCS		TME	Freshwater	TRM_LCS_121911	1.93	2.25	2.01	2.05	2.00	2.02	2.04	2.03	121911-6100
				Percent Recovery, LCS	**97%**	**113%**	**101%**	**103%**	**100%**	**101%**	**102%**	**102%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlkr1_122111	0.0042 Ub	2.14 Ub	0.0767 b	0.121 b	0.267 b	0.337 b	0.00286 Jb	0.190 b	122111-6100
LCS		TME	Seawater	SBLCS-r1_122111	1.86 b	2.00 b	1.93 b	2.07 b	2.11 b	2.18 b	1.97 b	2.00 b	122111-6100
				Percent Recovery, LCS	**93%**	**100%**	**93%**	**97%**	**92%**	**92%**	**98%**	**91%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlk_010512	0.0042 Ub	2.14 Ub	0.0851 b	0.144 b	0.306 b	0.388 b	0.00300 Jb	0.194 b	010512-6100
LCS		TME	Seawater	SBLCS_010512	1.73 b	1.98 b	1.89 b	2.00 b	2.10 b	2.17 b	1.92 b	2.01 b	010512-6100
				Percent Recovery, LCS	**86%**	**99%**	**90%**	**93%**	**90%**	**89%**	**96%**	**91%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlk_010612	0.0042 Ub	2.14 Ub	0.0750 b	0.114 b	0.259 b	0.363 b	0.0019 Ub	0.155 b	010612-6100
LCS		TME	Seawater	SBLCS_010612	1.82 b	2.02 b	1.92 b	1.95 b	2.14 b	2.26 b	1.97 b	1.97 b	010612-6100
				Percent Recovery, LCS	**91%**	**101%**	**92%**	**92%**	**94%**	**95%**	**98%**	**91%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlk_011212R1	0.0042 Ub	2.14 Ub	0.0786 b	0.119 b	0.271 b	0.342 b	0.00282 Jb	0.157 b	011212-6100
LCS		TME	Seawater	SBLCS_011212R1	1.75 b	2.01 b	1.86 b	1.91 b	2.07 b	2.13 b	1.88 b	1.86 b	011212-6100
				Percent Recovery, LCS	**88%**	**100%**	**89%**	**90%**	**90%**	**90%**	**94%**	**85%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		TME	Seawater	SBBlk_011212R2	0.0042 Ub	2.14 Ub	0.0786 b	0.135 b	0.296 b	0.375 b	0.00281 Jb	0.186 b	011212-6100
LCS		TME	Seawater	SBLCS_011212R2	1.86 b	2.16 b	2.03 b	2.05 b	2.23 b	2.29 b	2.03 b	2.05 b	011212-6100
				Percent Recovery, LCS	**93%**	**108%**	**98%**	**96%**	**97%**	**96%**	**101%**	**93%**	

BATTELLE MARINE SCIENCE LABORATORIES
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Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB09
QC Sample Results for ICP-MS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB09DD-003	OF021	DME	Freshwater	**3106-739**	0.0032 U	6.21	0.00590 J	3.03	0.687	3.07	0.00967	0.471	121911-6100
MS				3106-739 MS	1.74	8.24	2.00	5.00	2.54	5.03	2.06	2.44	121911-6100
MSD				3106-739 MSD	1.73	8.17	2.03	5.00	2.51	5.06	2.07	2.43	121911-6100
				Spiking Level	2	2	2	2	2	2	2	2	
				Percent Recovery, MS	**87%**	**102%**	**100%**	**99%**	**93%**	**98%**	**103%**	**98%**	
				Percent Recovery, MSD	**87%**	**98%**	**101%**	**99%**	**91%**	**100%**	**103%**	**98%**	
AMB09-018	M4	DME	Seawater	**3106-725**	0.0042 Ub	2.14 Ub	0.0733 b	0.101 b	0.677 b	0.409 b	0.00894 b	2.83 b	122111-6100
MS				3106-725 MS	0.897 b	5.73 b	1.01 b	1.01 b	1.58 b	1.33 b	0.991 b	7.37 b	122111-6100
MSD				3106-725 MSD	0.904 b	5.01 b	1.01 b	1.02 b	1.61 b	1.33 b	0.999 b	6.89 b	122111-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**90%**	**115%**	**94%**	**91%**	**90%**	**92%**	**98%**	**91%**	
				Percent Recovery, MSD	**90%**	**100%**	**94%**	**92%**	**93%**	**92%**	**99%**	**81%**	
AMB09-020	M3.1	TME	Seawater	**3106-728**	0.0042 Ub	19.0 b	0.0834 b	0.161 b	0.979 b	0.545 b	0.0845 b	2.14 b	010512-6100
MS				3106-728 MS	0.895 b	22.4 b	1.01 b	1.14 b	1.89 b	1.51 b	1.09 b	6.69 b	010512-6100
MSD				3106-728 MSD	0.893 b	25.7 b	1.05 b	1.15 b	1.91 b	1.49 b	1.10 b	6.46 b	010512-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**89%**	**NA** c2	**93%**	**98%**	**91%**	**96%**	**100%**	**91%**	
				Percent Recovery, MSD	**89%**	**NA** c2	**97%**	**99%**	**93%**	**94%**	**101%**	**86%**	
AMB09-100	M5	DME	Seawater	**3106-743**	0.0042 Ub	2.14 Ub	0.0778 b	0.0923 Jb	0.438 b	0.449 b	0.0153 b	1.27 b	010612-6100
MS				3106-743 MS	0.927 b	4.79 b	1.02 b	1.00 b	1.45 b	1.48 b	1.03 b	5.94 b	010612-6100
MSD				3106-743 MSD	0.894 b	5.32 b	0.988 b	0.960 b	1.35 b	1.42 b	0.992 b	6.00 b	010612-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**93%**	**96%**	**94%**	**91%**	**101%**	**103%**	**101%**	**93%**	
				Percent Recovery, MSD	**89%**	**106%**	**91%**	**87%**	**91%**	**97%**	**98%**	**95%**	
AMB09-105	M2	DME	Seawater	**3106-753**	0.0042 Ub	2.14 Ub	0.0711 b	0.0898 Jb	0.475 b	0.418 b	0.0022 Jb	0.568 b	011212-6100
MS				3106-753 MS	0.938 b	6.47 b	1.03 b	1.08 b	1.49 b	1.44 b	1.03 b	1.59 b	011212-6100
MSD				3106-753 MSD	0.905 b	6.09 b	0.997 b	0.994 b	1.42 b	1.41 b	0.971 b	1.49 b	011212-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**94%**	**129%**	**96%**	**99%**	**102%**	**103%**	**103%**	**102%**	
				Percent Recovery, MSD	**91%**	**122%**	**93%**	**90%**	**95%**	**100%**	**97%**	**92%**	
AMB09-117	M3.3	TME	Seawater	**3106-776**	0.0042 Ub	22.8 b	0.0811 b	0.252 b	1.04 b	0.812 b	0.103 b	2.33 b	011212-6100
MS				3106-776 MS	0.856 b	29.3 b	0.976 b	1.10 b	1.87 b	1.64 b	1.03 b	7.09 b	011212-6100
MSD				3106-776 MSD	0.876 b	27.7 b	0.976 b	1.10 b	1.89 b	1.69 b	1.06 b	6.90 b	011212-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**86%**	**130%**	**89%**	**85%**	**83%**	**83%**	**93%**	**95%**	
				Percent Recovery, MSD	**88%**	**98%**	**89%**	**85%**	**85%**	**88%**	**96%**	**91%**	

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Ambient Monitoring - AMB09
QC Sample Results for ICP-MS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB09DD-003	OF021	TME	Freshwater	3106-738	0.0032 U	6.62	0.00585 J	2.81	0.496	2.98	0.0137	0.318	121911-6100
DUP				3106-738r2	0.0032 U	6.63	0.00659 J	2.82	0.505	2.94	0.0123	0.357	121911-6100
				Mean	*NA*	*6.63*	*0.00622* J	*2.82*	*0.501*	*2.96*	*0.0130*	*0.338*	
				RPD	NA	**0%**	**12%**	**0%**	**2%**	**1%**	**11%**	**12%**	
AMB09-001	PS03	TME	Seawater	**3106-690**	0.0042 Ub	13.2 b	0.0758 b	0.132 b	1.40 b	0.466 b	0.0758 b	2.70 b	122111-6100
DUP				3106-690r2	0.0042 Ub	12.8 b	0.0733 b	0.142 b	1.43 b	0.475 b	0.0778 b	2.73 b	122111-6100
				Mean	*NA*	*13.0 b*	*0.0746 b*	*0.137 b*	*1.41 b*	*0.471 b*	*0.0768 b*	*2.72 b*	122111-6100
				RPD	NA	**3%**	**3%**	**7%**	**2%**	**2%**	**3%**	**1%**	
AMB09-010	PS09	DME	Seawater	**3106-709**	0.0042 Ub	2.14 Ub	0.0808 b	0.156 b	1.26 b	0.679 b	0.0091 b	8.89 b	010512-6100
DUP				3106-709r2	0.0042 Ub	2.14 Ub	0.0876 b	0.171 b	1.35 b	0.723 b	0.00922 b	9.43 b	010512-6100
				Mean	*NA*	*NA*	*0.0842 b*	*0.164 b*	*1.30 b*	*0.701 b*	*0.00917 b*	*9.16 b*	010512-6100
				RPD	NA	NA	**8%**	**9%**	**7%**	**6%**	**1%**	**6%**	
AMB09-021	PS12	DME	Seawater	**3106-731**	0.0042 Ub	2.14 Ub	0.0784 b	0.0813 Jb	1.27 b	0.504 b	0.0182 b	4.53 b	010612-6100
DUP				3106-731r2	0.0042 Ub	2.14 Ub	0.0781 b	0.0743 Jb	1.24 b	0.491 b	0.0171 b	4.48 b	010612-6100
				Mean	*NA*	*NA*	*0.0783 b*	*0.0778* Jb	*1.26 b*	*0.498 b*	*0.0177 b*	*4.50 b*	010612-6100
				RPD	NA	NA	**0%**	**9%**	**2%**	**3%**	**6%**	**1%**	
AMB09-107	CLMBAY	TME	Seawater	**3106-756**	0.0042 Ub	17.3 b	0.0810 b	0.230 b	0.777 b	1.34 b	0.0458 b	0.962 b	011212-6100
DUP				3106-756r2	0.0042 Ub	17.5 b	0.0796 b	0.214 b	0.772 b	1.32 b	0.0458 b	0.942 b	011212-6100
				Mean	*NA*	*17.4 b*	*0.0803 b*	*0.222 b*	*0.774 b*	*1.33 b*	*0.0458 b*	*0.952 b*	011212-6100
				RPD	NA	**1%**	**2%**	**7%**	**1%**	**1%**	**0%**	**2%**	
AMB09-115	SN10	DME	Seawater	**3106-773**	0.0042 Ub	2.14 Ub	0.0773 b	0.117 b	1.30 b	0.486 b	0.0107 b	4.20 b	011212-6100
				3106-773r2	0.0042 Ub	2.14 Ub	0.0761 b	0.120 b	1.30 b	0.481 b	0.0107 b	4.26 b	011212-6100
				Mean	*NA*	*NA*	*0.0767 b*	*0.118 b*	*1.30 b*	*0.484 b*	*0.0107 b*	*4.23 b*	011212-6100
				RPD	NA	NA	**2%**	**3%**	**0%**	**1%**	**0%**	**1%**	

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Ambient Monitoring - AMB09
QC Sample Results for ICP-MS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		TME	Seawater	CASS-5 122111	0.0042 Ub	2.14 Ub	0.0267 b	0.112 b	0.371 b	0.303 b	0.00831 b	0.597 b	122111-6100
SRM CASS-5		TME	Seawater	CASS-5 010512	0.0042 Ub	2.14 Ub	0.0306 b	0.128 b	0.422 b	0.351 b	0.0108 b	0.613 b	010512-6100
SRM CASS-5		TME	Seawater	CASS-5 010612	0.0042 Ub	2.14 Ub	0.0295 b	0.114 b	0.427 b	0.371 b	0.00851 b	0.576 b	010612-6100
SRM CASS-5		TME	Seawater	CASS-5 011212r1	0.0042 Ub	2.14 Ub	0.0271 b	0.114 b	0.426 b	0.343 b	0.00985 b	0.600 b	011212-6100
SRM CASS-5		TME	Seawater	CASS-5 011212r2	0.0042 Ub	2.14 Ub	0.0260 b	0.114 b	0.409 b	0.333 b	0.00965 b	0.595 b	011212-6100
				Certified Value	NC	NC	**0.0215**	**0.106**	**0.38**	**0.33**	**0.011**	**0.719**	
				PD	--	--	**24%** &	**6%**	**2%**	**8%**	**24%** c1	**17%**	
				PD	--	--	**42%** &	**21%** c1	**11%**	**6%**	**2%**	**15%**	
				PD	--	--	**37%** &	**8%**	**12%**	**12%**	**23%** c1	**20%**	
				PD	--	--	**26%** &	**7%**	**12%**	**4%**	**10%**	**17%**	
				PD	--	--	**21%** &	**7%**	**8%**	**1%**	**12%**	**17%**	
SRM SLEW-2		TME	Seawater	SLEW-2 122111	0.0042 Ub	2.14 Ub	0.0186 b	0.152 b	1.41 b	0.624 b	0.0189 b	0.982 b	122111-6100
SRM SLEW-2		TME	Seawater	SLEW-2 010512	0.0042 Ub	2.14 Ub	0.0208 b	0.156 b	1.47 b	0.648 b	0.0198 b	1.04 b	010512-6100
SRM SLEW-2		TME	Seawater	SLEW-2 010612	0.0042 Ub	2.14 Ub	0.0190 b	0.138 b	1.43 b	0.661 b	0.0163 b	1.01 b	010612-6100
SRM SLEW-2		TME	Seawater	SLEW-2 011212r1	0.0042 Ub	2.14 Ub	0.0192 b	0.134 b	1.44 b	0.632 b	0.0195 b	0.982 b	011212-6100
SRM SLEW-2		TME	Seawater	SLEW-2 011212r2	0.0042 Ub	2.14 Ub	0.0203 b	0.145 b	1.39 b	0.611 b	0.0174 b	0.982 b	011212-6100
				Certified Value	NC	NC	**0.0190**	**0.169**	**1.62**	**0.709**	**0.0270**	**1.10**	
				PD	--	--	**2%**	**10%**	**13%**	**12%**	**30%** c3	**11%**	
				PD	--	--	**10%**	**8%**	**9%**	**9%**	**27%** c3	**5%**	
				PD	--	--	**0%**	**18%**	**12%**	**7%**	**40%** c3	**8%**	
				PD	--	--	**1%**	**21%** c1	**11%**	**11%**	**28%** c3	**11%**	
				PD	--	--	**7%**	**14%**	**14%**	**14%**	**35%** c3	**11%**	
STANDARD REFERENCE MATERIAL INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640d		TME	Freshwater	1640_121911	6.38	57.5	23.0	38.8	88.4	28.2	28.5	57.4	121911-6100
SRM 1640d		TME	Freshwater	1640_122111	6.94	51.4	22.9	38.1	89.1	27.7	27.7	56.4	122111-6100
SRM 1640d		TME	Freshwater	1640_010512	6.69	55.9	23.3	38.5	88.3	27.1	28.2	56.9	010512-6100
SRM 1640d		TME	Freshwater	1640_010612	6.48	56.8	23.2	36.8	88.2	27.5	28.6	56.2	010612-6100
SRM 1640d		TME	Freshwater	1640_011212	6.62	54.4	23.7	38.8	89.3	28.1	28.4	56.7	011212-6100
				Certified Value	**7.62**	**52.0**	**22.8**	**38.6**	**85.2**	**27.4**	**27.9**	**53.2**	
				PD	**16%**	**11%**	**1%**	**1%**	**4%**	**3%**	**2%**	**8%**	
				PD	**9%**	**1%**	**0%**	**1%**	**5%**	**1%**	**1%**	**6%**	
				PD	**12%**	**8%**	**2%**	**0%**	**4%**	**1%**	**1%**	**7%**	
				PD	**15%**	**9%**	**2%**	**5%**	**4%**	**0%**	**3%**	**6%**	
				PD	**13%**	**5%**	**4%**	**1%**	**5%**	**3%**	**2%**	**7%**	

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Ambient Monitoring - AMB09
QC Sample Results for CVAF
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		CVAF Batch ID
				Instrument:	*CVAF*		
Laboratory Achieved Detection Limits					**0.0001**		
Reporting Limit (MDL* 3.18)					**0.00032**		
METHOD BLANKS							
MB-1	TME		Water	MB1_121211	0.0001	U	121311HGA
MB-2	TME		Water	MB2_121211	0.0001	U	121311HGA
MB-3	TME		Water	MB3_121211	0.0001	U	121311HGA
MB-4	TME		Water	MB1_121311	0.0001	U	121411HGA
MB-5	TME		Water	MB2_121311	0.0001	U	121411HGA
MB-6	TME		Water	MB3_121311	0.0001	U	121411HGA
MB-7	TME		Water	MB1_121411	0.0001	U	121511HGA
MB-8	TME		Water	MB2_121411	0.0001	U	121511HGA
MB-9	TME		Water	MB3_121411	0.0001	U	121511HGA
MB-10	TME		Water	MB1_121511	0.0001	U	121611HGA
MB-11	TME		Water	MB2_121511	0.0001	U	121611HGA
MB-12	TME		Water	MB3_121511	0.0001	U	121611HGA
MB-13	TME		Water	MB1_122011	0.0001	U	122211HGA
MB-14	TME		Water	MB2_122011	0.0001	U	122211HGA
MB-15	TME		Water	MB3_122011	0.0001	U	122211HGA
LABORATORY CONTROL SAMPLES							
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 121211 run1	0.00501		121311HGA
LCS (2)	TME		Water	OPR 121211 run2	0.00505		121311HGA
LCS Blank (1)	TME		Water	BLANK 121211	0.000133	J	121311HGA
				Percent Recovery, LCS 1	**98%**		
				Percent Recovery, LCS 2	**99%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 121311 run1	0.00490		121411HGA
LCS (2)	TME		Water	OPR 121311 run2	0.00508		121411HGA
LCS Blank (1)	TME		Water	BLANK 121311	0.0001	U	121411HGA
				Percent Recovery, LCS 1	**99%**		
				Percent Recovery, LCS 2	**102%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 121411 run1	0.00517		121511HGA
LCS (2)	TME		Water	OPR 121411 run2	0.00518		121511HGA
LCS Blank (1)	TME		Water	BLANK 121411	0.000127	J	121511HGA
				Percent Recovery, LCS 1	**102%**		
				Percent Recovery, LCS 2	**102%**		
Spiking Level					0.00496		
LCS (1)	TME		Water	OPR 121511 run1	0.00520		121611HGA
LCS (2)	TME		Water	OPR 121511 run2	0.00519		121611HGA
LCS Blank (1)	TME		Water	BLANK 121511	0.000133	J	121611HGA
				Percent Recovery, LCS 1	**102%**		
				Percent Recovery, LCS 2	**102%**		

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Ambient Monitoring - AMB09
QC Sample Results for CVAF
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Spiking Level					0.00496	
LCS (1)		TME	Water	OPR 122011 run1	0.00494	122211HGA
LCS (2)		TME	Water	OPR 122011 run2	0.00488	122211HGA
LCS Blank (1)		TME	Water	BLANK 122011	0.000122 J	122211HGA
				Percent Recovery, LCS 1	**97%**	
				Percent Recovery, LCS 2	**96%**	
MATRIX SPIKE RESULTS						
AMB09-002	PS04	TME	Seawater	3106-692	0.000559	121311HGA
MS				3106-692 MS	0.00636	121311HGA
MSD				3106-692 MSD	0.00541	121311HGA
				Spiking Level, MS	0.00512	
				Spiking Level, MSD	0.00498	
				Percent Recovery, MS	**113%**	
				Percent Recovery, MSD	**97%**	
				RPD	**16.4%**	
AMB09-005	PS06	DME	Seawater	**3106-699**	0.000341	121311HGA
MS				3106-699 MS	0.00537	121311HGA
MSD				3106-699 MSD	0.00533	121311HGA
				Spiking Level, MS	0.00503	
				Spiking Level, MSD	0.00503	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**99%**	
				RPD	**0.8%**	
AMB09-010	PS09	DME	Seawater	**3106-709**	0.000633	121411HGA
MS				3106-709 MS	0.00598	121411HGA
MSD				3106-709 MSD	0.00557	121411HGA
				Spiking Level, MS	0.00510	
				Spiking Level, MSD	0.00499	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**99%**	
				RPD	**6.0%**	
AMB09-015	PS01	TME	Seawater	**3106-718**	0.000974	121411HGA
MS				3106-718 MS	0.00534	121411HGA
MSD				3106-718 MSD	0.00493	121411HGA
				Spiking Level, MS	0.00437	
				Spiking Level, MSD	0.00400	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**99%**	
				RPD	**1.0%**	

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Ambient Monitoring - AMB09
QC Sample Results for CVAF
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB09-020	M3.1	DME	Seawater	**3106-729**	0.000255 J	121511HGA
MS				3106-729 MS	0.00543	121511HGA
MSD				3106-729 MSD	0.00592	121511HGA
				Spiking Level, MS	0.00508	
				Spiking Level, MSD	0.00514	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**110%**	
				RPD	**7.6%**	
AMB09-100	M5	TME	Seawater	**3106-742**	0.000789	121511HGA
MS				3106-742 MS	0.00618	121511HGA
MSD				3106-742 MSD	0.00622	121511HGA
				Spiking Level, MS	0.00512	
				Spiking Level, MSD	0.00512	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**106%**	
				RPD	**0.8%**	
AMB09-104	WP	TME	Seawater	**3106-750**	0.000701	121611HGA
MS				3106-750 MS	0.00560	121611HGA
MSD				3106-750 MSD	0.00580	121611HGA
				Spiking Level, MS	0.00497	
				Spiking Level, MSD	0.00503	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**101%**	
				RPD	**2.8%**	
AMB09-107	CLMBAY	DME	Seawater	**3106-757**	0.000263 J	121611HGA
MS				3106-757 MS	0.00527	121611HGA
MSD				3106-757 MSD	0.00523	121611HGA
				Spiking Level, MS	0.00480	
				Spiking Level, MSD	0.00484	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1.6%**	
AMB09-114	SN08	TME	Seawater	**3106-770**	0.00105	122211HGA
MS				3106-770 MS	0.00589	122211HGA
MSD				3106-770 MSD	0.00598	122211HGA
				Spiking Level, MS	0.00521	
				Spiking Level, MSD	0.00507	
				Percent Recovery, MS	**93%**	
				Percent Recovery, MSD	**97%**	
				RPD	**4.5%**	
AMB09-116	SN11	DME	Seawater	**3106-775**	0.000391	122211HGA
MS				3106-775 MS	0.00545	122211HGA
MSD				3106-775 MSD	0.00522	122211HGA
				Spiking Level, MS	0.00503	
				Spiking Level, MSD	0.00491	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**98%**	
				RPD	**2.3%**	

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Ambient Monitoring - AMB09
QC Sample Results for CVAF
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB09-006	PS07	TME	Seawater	**3106-700**	0.000866	121311HGA
DUP	PS07	TME	Seawater	3106-700 r2	0.000837	121311HGA
				Mean	*0.000852*	
				RPD	**3%**	
AMB09-013	PS11	TME	Seawater	**3106-714**	0.00175	121411HGA
DUP				3106-714r2	0.00162	121411HGA
				Mean	*0.00169*	
				RPD	**8%**	
AMB09DD-003	OF021	TME	Freshwater	**3106-738**	0.00219	121511HGA
DUP				3106-738r2	0.00227	121511HGA
				Mean	*0.00223*	
				RPD	**3%**	
AMB09-109	M1	TME	Seawater	**3106-760**	0.000411	121611HGA
DUP				3106-760r2	0.000437	121611HGA
				Mean	*0.000424*	
				RPD	**6%**	
AMB09-200	N end of barge	TME	Seawater	**3106-781**	0.000579	122211HGA
DUP				3106-781r2	0.000601	122211HGA
				Mean	*0.000590*	
				RPD	**4%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		TME	Freshwater	1641d 121211	1575	121311HGA
SRM 1641 (2)		TME	Freshwater	1641d 121311	1528	121411HGA
SRM 1641 (3)		TME	Freshwater	1641d 121411	1586	121511HGA
SRM 1641 (4)		TME	Freshwater	1641d 121511	1528	121611HGA
SRM 1641 (5)		TME	Freshwater	1641d 122011	1498	122211HGA
				Certified Value	**1557**	
				range	**±20**	
	SRM 1641 (1)			**PD**	**1%**	
	SRM 1641 (2)			**PD**	**2%**	
	SRM 1641 (3)			**PD**	**2%**	
	SRM 1641 (4)			**PD**	**2%**	
	SRM 1641 (5)			**PD**	**4%**	

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Ambient Monitoring - AMB09
QC Sample Results for FIAS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		TME	Water	BLANK R1	0.0267 U	F010412A
MB2		TME	Water	BLANK R2	0.0267 U	F010412A
MB3		TME	Water	BLANK R3	0.0267 U	F010412A
Laboratory Control Samples						
Spiking Level					5	
LCS1		TME	Water	LCS 010412R1	4.94	F010412A
LCS2		TME	Water	LCS 010412R2	4.90	F010412A
LCS3		TME	Water	LCS 010412R3	4.79	F010412A
				Percent Recovery, LCS	**99%**	
				Percent Recovery, LCS	**98%**	
				Percent Recovery, LCS	**96%**	
MATRIX SPIKE RESULTS						
AMB09-002	PS04	TME	Seawater	**3106-692**	1.26	F010412A
MS				3106-692 MS	6.14	F010412A
MSD				3106-692 MSD	6.25	F010412A
				Spiking Level	5	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**100%**	
AMB09-020	M3.1	TME	Seawater	**3106-728**	1.24	F010412A
MS				3106-728 MS	6.13	F010412A
MSD				3106-728 MSD	5.93	F010412A
				Spiking Level	5	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**94%**	
AMB09-108	ILSP	TME	Seawater	**3106-758**	1.22	F010412A
MS				3106-758 MS	5.95	F010412A
MSD				3106-758 MSD	5.88	F010412A
				Spiking Level	5	
				Percent Recovery, MS	**95%**	
				Percent Recovery, MSD	**93%**	

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Ambient Monitoring - AMB09
QC Sample Results for FIAS
ENVVEST December 2011
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB09-006	PS07	TME	Seawater	**3106-700**	1.31	F010412A
DUP				3106-700 r2	1.28	F010412A
				Mean	*1.30*	
				RPD	**2%**	
AMB09-022	PS03B	TME	Seawater	**3106-732**	1.20	F010412A
DUP				3106-732 r2	1.20	F010412A
				Mean	*1.20*	
				RPD	**1%**	
AMB09-110	M1DEEP	TME	Seawater	**3106-762**	1.20	F010412A
DUP				3106-762 r2	1.23	F010412A
				Mean	*1.22*	
				RPD	**2%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.04	F010412A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	0.987	F010412A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	1.01	F010412A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**6%**	
	SRM CASS-4 (2)			**PD**	**11%**	
	SRM CASS-4 (3)			**PD**	**9%**	

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Ambient Monitoring - AMB09
QC Sample Results for TSS
ENVVEST December 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.5*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank121211r1	0.5 U	mg/L	121211TSS
MB2		TME	Seawater	Blank121211r2	0.5 U	mg/L	121211TSS
MB3		TME	Seawater	Blank121211r3	0.5 U	mg/L	121211TSS
MB4		TME	Seawater	Blank121311r1	0.5 U	mg/L	121311TSS
MB5		TME	Seawater	Blank121311r2	0.5 U	mg/L	121311TSS
LABORATORY CONTROL SAMPLES							
LCS-1				LCS121211r1	928	mg/L	121211TSS
LCS-2				LCS121211r2	940	mg/L	121211TSS
LCS-3				LCS121211r3	923	mg/L	121211TSS
LCS-4				LCS121211r4	935	mg/L	121211TSS
LCS-5				LCS121211r5	941	mg/L	121211TSS
LCS-6				LCS121211r6	953	mg/L	121211TSS
LCS-7				LCS121311r1	928	mg/L	121311TSS
LCS-8				LCS121311r2	947	mg/L	121311TSS
LCS-9				LCS121311r3	961	mg/L	121311TSS
LCS-10				LCS121311r4	970	mg/L	121311TSS
				TRUE VALUE	**1000**	mg/L	
	LCS-1			**% RECOVERY**	**93%**		
	LCS-2			**% RECOVERY**	**94%**		
	LCS-3			**% RECOVERY**	**92%**		
	LCS-4			**% RECOVERY**	**93%**		
	LCS-5			**% RECOVERY**	**94%**		
	LCS-6			**% RECOVERY**	**95%**		
	LCS-7			**% RECOVERY**	**93%**		
	LCS-8			**% RECOVERY**	**95%**		
	LCS-9			**% RECOVERY**	**96%**		
	LCS-10			**% RECOVERY**	**97%**		

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Ambient Monitoring - AMB09
QC Sample Results for Salinity
ENVVEST December 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	Blank R1	0.0 U	PSU	120711osal
MB		TME	Seawater	Blank R2	0.0 U	PSU	120711osal
MB		TME	Seawater	Blank R3	0.0 U	PSU	120711osal
MB		TME	Seawater	Blank R4	0.0 U	PSU	120711osal
MB		TME	Seawater	Blank R5	0.0 U	PSU	120711osal
MB		TME	Seawater	Blank R6	0.0 U	PSU	120711osal
FIELD REPLICATE PRECISION							
AMB09-015	PS01	TME	Seawater	**3106-718**	29.2	PSU	120711osal
AMB09-016	PS01DUP	TME	Seawater	**3106-720**	29.0	PSU	120711osal
				Mean	*29.1*	PSU	120711osal
				RPD	**0.7%**		
AMB09-007	PS08	TME	Seawater	**3106-702**	29.2	PSU	120711osal
AMB09-008	PS08DUP	TME	Seawater	**3106-704**	29.0	PSU	120711osal
				Mean	*29.1*	PSU	120711osal
				RPD	**0.7%**		
AMB09-112	SN05	TME	Seawater	**3106-766**	8.2	PSU	120711osal
AMB09-113	SN05DUP	TME	Seawater	**3106-768**	6.6	PSU	120711osal
				Mean	*7.4*	PSU	120711osal
				RPD	**21.6%**		
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water R1	34.5	PSU	120711osal
SRM		TME	Seawater	Copenhagen Water R2	34.3	PSU	120711osal
SRM		TME	Seawater	Copenhagen Water R3	34.4	PSU	120711osal
SRM		TME	Seawater	Copenhagen Water R4	34.4	PSU	120711osal
SRM		TME	Seawater	Copenhagen Water R5	34.8	PSU	120711osal
SRM		TME	Seawater	Copenhagen Water R6	34.5	PSU	120711osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**1.4%**		
	SRM-2			**PD**	**2.0%**		
	SRM-3			**PD**	**1.7%**		
	SRM-4			**PD**	**1.7%**		
	SRM-5			**PD**	**0.5%**		
	SRM-6			**PD**	**1.4%**		

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Ambient Monitoring - AMB09
QC Sample Results for Salinity
ENVVEST December 2011

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	20.7	PSU	120711osal
LCS-2				LCS r2	20.6	PSU	120711osal
LCS-3				LCS r3	20.4	PSU	120711osal
LCS-4				LCS r4	20.2	PSU	120711osal
LCS-5				LCS r5	20.6	PSU	120711osal
LCS-6				LCS r6	20.5	PSU	120711osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**103.5%**		
	LCS-2			**% RECOVERY**	**103.0%**		
	LCS-3			**% RECOVERY**	**102.0%**		
	LCS-4			**% RECOVERY**	**101.0%**		
	LCS-5			**% RECOVERY**	**103.0%**		
	LCS-6			**% RECOVERY**	**102.5%**		
CALIBRATION RESULTS							
ICV-1				Calibration ICV	50.0	mS	120711osal
CCV-1				Calibration CCV1	49.8	mS	120711osal
CCV-2				Calibration CCV2	49.6	mS	120711osal
CCV-3				Calibration CCV3	49.9	mS	120711osal
CCV-4				Calibration CCV4	49.9	mS	120711osal
CCV-5				Calibration CCV5	49.5	mS	120711osal
CCV-6				Calibration CCV6	50.6	mS	120711osal
CCV-7				Calibration CCV7	49.5	mS	120711osal
CCV-8				Calibration CCV8	49.9	mS	120711osal
CCV-9				Calibration CCV9	50.0	mS	120711osal
CCV-10				Calibration CCV10	50.0	mS	120711osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**99%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		
	CCV-5			**% RECOVERY**	**99%**		
	CCV-6			**% RECOVERY**	**101%**		
	CCV-7			**% RECOVERY**	**99%**		
	CCV-8			**% RECOVERY**	**100%**		
	CCV-9			**% RECOVERY**	**100%**		
	CCV-10			**% RECOVERY**	**100%**		

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ENVVEST Ambient Monitoring (AMB09)
ENVVEST December 2011
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, December 2011 (AMB09)

PARAMETER: Total and Dissolved Metals – Al, Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater, Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 12/06/11, 12/07/11 and 12/12/11. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	12/06/11, 12/07/11, and 12/12/11
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	12/06/11, 12/07/11, and 12/12/11
TSS analysis dates	12/12/11 and 12/13/11
OSAL analysis dates	12/12/11 and 12/13/11
CVAF analysis dates (Hg)	12/13/11 through 12/16/11 and 12/22/11
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	12/19/11
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	12/21/11, 01/05/12, 01/06/12, and 01/12/12
FIAS analysis date (As)	01/04/12

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
OSAL	Probe	NA	≤20%	≤30%	NA	NA
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0254	0.081
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption (HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

METHODS (cont): Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All metal results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and denoted with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Freshwater samples such as equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Freshwater samples were analyzed for Hg and As as described above for the seawater. These methods are not selective to salt content and the same for both the seawater and freshwater matrices. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The TSS samples were analyzed following SM2540D using a gravimetric analysis. The data are reported in units of mg/L. The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU).

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

QA/QC NARRATIVE

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn due to contributions from the Fe/Pd reagents. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank detected above the RL for the analytical batch. The reagent blank correction takes into consideration the detected blank for each batch and the data should be reported as corrected in order to more accurately represent the sample concentrations.

The method blank for TSS is a glass fiber filter taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals. The spiking level was not optimized to Al; therefore several matrix spikes were not fortified at levels appropriate for the native sample concentration. These spikes are qualified as insufficient spiking level. There was no impact to data quality as Al is an ancillary parameter.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion.

Three different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640d demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion. There are no seawater SRMs certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

Two seawater SRMs were analyzed with each batch. The primary SRM was the coastal SRM CASS-5 and the secondary was the estuarine SRM SLEW-2. Both were prepared with each batch of preconcentrated samples. The PDs were within the QC criterion for all metals certified greater than 10x the MDL. The only exceptions were: all replicates of CASS-5 for Cd, but all replicates of SLEW-2 were acceptable; one replicate of CASS-5 for Cr and one replicate of SLEW-2 for Cr, both PDs were

flagged with a “c1” indicating they meet the contingency criterion #1; and all replicates of SLEW-2 for Pb were flagged with a “c3” indicating they meet the contingency criterion #3.

ANALYTICAL NOTES: Three of the TSS results are reported “NA” due to tears in the filter during sample processing.

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, DECEMBER 2011 (AMB09)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-001	PS03-TME	TME	PS03	3106-690	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-001	PS03-DME	DME	PS03	3106-691	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-002	PS04-TME	TME	PS04	3106-692	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-002	PS04-DME	DME	PS04	3106-693	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-003	PS05-TME	TME	PS05	3106-694	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-003	PS05-DME	DME	PS05	3106-695	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-004	PS14-TME	TME	PS14	3106-696	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-004	PS14-DME	DME	PS14	3106-697	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-005	PS06-TME	TME	PS06	3106-698	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-005	PS06-DME	DME	PS06	3106-699	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-006	PS07-TME	TME	PS07	3106-700	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-006	PS07-DME	DME	PS07	3106-701	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-007	PS08-TME	TME	PS08	3106-702	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-007	PS08-DME	DME	PS08	3106-703	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-008	PS08DUP-TME	TME	PS08DUP	3106-704	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-008	PS08DUP-DME	DME	PS08DUP	3106-705	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-009	PS15-TME	TME	PS15	3106-706	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-009	PS15-DME	DME	PS15	3106-707	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-010	PS09-TME	TME	PS09	3106-708	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-010	PS09-DME	DME	PS09	3106-709	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-011	PS10-TME	TME	PS10	3106-710	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-011	PS10-DME	DME	PS10	3106-711	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-012	PS10.1-TME	TME	PS10.1	3106-712	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-012	PS10.1-DME	DME	PS10.1	3106-713	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-013	PS11-TME	TME	PS11	3106-714	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-013	PS11-DME	DME	PS11	3106-715	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-014	PS16-TME	TME	PS16	3106-716	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-014	PS16-DME	DME	PS16	3106-717	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-015	PS01-TME	TME	PS01	3106-718	WATER	PREP LAB	Total Metals, Hg	12/06/11

SOP#: MSL-A-001

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, DECEMBER 2011 (AMB09)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-015	PS01-DME	DME	PS01	3106-719	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-016	PS01DUP-TME	TME	PS01DUP	3106-720	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-016	PS01DUP-DME	DME	PS01DUP	3106-721	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-017	PS02-TME	TME	PS02	3106-722	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-017	PS02-DME	DME	PS02	3106-723	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-018	M4-TME	TME	M4	3106-724	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-018	M4-DME	DME	M4	3106-725	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-019	BJEST-TME	TME	BJEST	3106-726	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-019	BJEST-DME	DME	BJEST	3106-727	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-020	M3.1-TME	TME	M3.1	3106-728	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-020	M3.1-DME	DME	M3.1	3106-729	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-021	PS12-TME	TME	PS12	3106-730	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-021	PS12-DME	DME	PS12	3106-731	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09-022	PS03B-TME	TME	PS03B	3106-732	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09-022	PS03B-DME	DME	PS03B	3106-733	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09DD-001	OF018A-TME	TME	OF018A	3106-734	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09DD-001	OF018A-DME	DME	OF018A	3106-735	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09DD-002	OF019-TME	TME	OF019	3106-736	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09DD-002	OF019-DME	DME	OF019	3106-737	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11
AMB09DD-003	OF021-TME	TME	OF021	3106-738	WATER	PREP LAB	Total Metals, Hg	12/06/11
AMB09DD-003	OF021-DME	DME	OF021	3106-739	WATER	PREP LAB	Dissolved Metals, Hg	12/06/11

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Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-690	WATER	MSL	TSS/OSAL	12/06/11
AMB09-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-692	WATER	MSL	TSS/OSAL	12/06/11
AMB09-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-694	WATER	MSL	TSS/OSAL	12/06/11
AMB09-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-696	WATER	MSL	TSS/OSAL	12/06/11
AMB09-005	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-698	WATER	MSL	TSS/OSAL	12/06/11
AMB09-006	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-700	WATER	MSL	TSS/OSAL	12/06/11
AMB09-007	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-702	WATER	MSL	TSS/OSAL	12/06/11
AMB09-008	PS08DUP-TSS/OSAL	TSS/OSAL	PS08DUP	3106-704	WATER	MSL	TSS/OSAL	12/06/11
AMB09-009	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-706	WATER	MSL	TSS/OSAL	12/06/11
AMB09-010	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-708	WATER	MSL	TSS/OSAL	12/06/11
AMB09-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-710	WATER	MSL	TSS/OSAL	12/06/11
AMB09-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-712	WATER	MSL	TSS/OSAL	12/06/11
AMB09-013	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-714	WATER	MSL	TSS/OSAL	12/06/11
AMB09-014	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-716	WATER	MSL	TSS/OSAL	12/06/11
AMB09-015	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-718	WATER	MSL	TSS/OSAL	12/06/11
AMB09-016	PS01DUP-TSS/OSAL	TSS/OSAL	PS01DUP	3106-720	WATER	MSL	TSS/OSAL	12/06/11
AMB09-017	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-722	WATER	MSL	TSS/OSAL	12/06/11
AMB09-018	M4-TSS/OSAL	TSS/OSAL	M4	3106-724	WATER	MSL	TSS/OSAL	12/06/11
AMB09-019	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-726	WATER	MSL	TSS/OSAL	12/06/11
AMB09-020	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-728	WATER	MSL	TSS/OSAL	12/06/11
AMB09-021	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-730	WATER	MSL	TSS/OSAL	12/06/11
AMB09-022	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-732	WATER	MSL	TSS/OSAL	12/06/11
AMB09DD-001	OF018A-TSS	TSS	OF018A	3106-734	WATER	MSL	TSS/OSAL	12/06/11
AMB09DD-002	OF019-TSS	TSS	OF019	3106-736	WATER	MSL	TSS/OSAL	12/06/11
AMB09DD-003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-739	WATER	MSL	TSS/OSAL	12/06/11

SOP#: MSL-A-001

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, DECEMBER 2011 (AMB09)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-100	M5-TME	TME	M5	3106-742	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-100	M5-DME	DME	M5	3106-743	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-101	M8-TME	TME	M8	3106-744	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-101	M8-DME	DME	M8	3106-745	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-102	M7-TME	TME	M7	3106-746	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-102	M7-DME	DME	M7	3106-747	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-103	DYOTS-TME	TME	DYOTS	3106-748	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-103	DYOTS-DME	DME	DYOTS	3106-749	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-104	WP-TME	TME	WP	3106-750	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-104	WP-DME	DME	WP	3106-751	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-105	M2-TME	TME	M2	3106-752	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-105	M2-DME	DME	M2	3106-753	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-106	M2DEEP-TME	TME	M2DEEP	3106-754	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-106	M2DEEP-DME	DME	M2DEEP	3106-755	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-107	CLMBAY-TME	TME	CLMBAY	3106-756	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-107	CLMBAY-DME	DME	CLMBAY	3106-757	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-108	ILSP-TME	TME	ILSP	3106-758	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-108	ILSP-DME	DME	ILSP	3106-759	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-109	M1-TME	TME	M1	3106-760	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-109	M1-DME	DME	M1	3106-761	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-110	M1DEEP-TME	TME	M1DEEP	3106-762	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-110	M1DEEP-DME	DME	M1DEEP	3106-763	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-111	SN03-TME	TME	SN03	3106-764	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-111	SN03-DME	DME	SN03	3106-765	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-112	SN05-TME	TME	SN05	3106-766	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-112	SN05-DME	DME	SN05	3106-767	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-113	SN05DUP-TME	TME	SN05DUP	3106-768	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-113	SN05DUP-DME	DME	SN05DUP	3106-769	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-114	SN08-TME	TME	SN08	3106-770	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-114	SN08-DME	DME	SN08	3106-771	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-115	SN10-TME	TME	SN10	3106-772	WATER	PREP LAB	Total Metals, Hg	12/07/11

SOP#: MSL-A-001

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, DECEMBER 2011 (AMB09)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-115	SN10-DME	DME	SN10	3106-773	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-116	SN11-TME	TME	SN11	3106-774	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-116	SN11-DME	DME	SN11	3106-775	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-117	M3.3-TME	TME	M3.3	3106-776	WATER	PREP LAB	Total Metals, Hg	12/07/11
AMB09-117	M3.3-DME	DME	M3.3	3106-777	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-118	EB01-DME	DME	EB01	3106-778	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11
AMB09-119	EB02-DME	DME	EB02	3106-779	WATER	PREP LAB	Dissolved Metals, Hg	12/07/11

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Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-100	M5-TSS/OSAL	TSS/OSAL	M5	3106-742	WATER	MSL	TSS/OSAL	12/07/11
AMB09-101	M8-TSS/OSAL	TSS/OSAL	M8	3106-744	WATER	MSL	TSS/OSAL	12/07/11
AMB09-102	M7-TSS/OSAL	TSS/OSAL	M7	3106-746	WATER	MSL	TSS/OSAL	12/07/11
AMB09-103	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-748	WATER	MSL	TSS/OSAL	12/07/11
AMB09-104	WP-TSS/OSAL	TSS/OSAL	WP	3106-750	WATER	MSL	TSS/OSAL	12/07/11
AMB09-105	M2-TSS/OSAL	TSS/OSAL	M2	3106-752	WATER	MSL	TSS/OSAL	12/07/11
AMB09-106	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-754	WATER	MSL	TSS/OSAL	12/07/11
AMB09-107	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-756	WATER	MSL	TSS/OSAL	12/07/11
AMB09-108	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-758	WATER	MSL	TSS/OSAL	12/07/11
AMB09-109	M1-TSS/OSAL	TSS/OSAL	M1	3106-760	WATER	MSL	TSS/OSAL	12/07/11
AMB09-110	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-762	WATER	MSL	TSS/OSAL	12/07/11
AMB09-111	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-764	WATER	MSL	TSS/OSAL	12/07/11
AMB09-112	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-766	WATER	MSL	TSS/OSAL	12/07/11
AMB09-113	SN05DUP-TSS/OSAL	TSS/OSAL	SN05DUP	3106-768	WATER	MSL	TSS/OSAL	12/07/11
AMB09-114	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-770	WATER	MSL	TSS/OSAL	12/07/11
AMB09-115	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-772	WATER	MSL	TSS/OSAL	12/07/11
AMB09-116	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-774	WATER	MSL	TSS/OSAL	12/07/11
AMB09-117	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-776	WATER	MSL	TSS/OSAL	12/07/11

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 12/13/2011
Batch: 21
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2011 (AMB09)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB09-200	P7SUB-001	TME	N end of barge	3106-781	WATER	PREP LAB	Total Metals, Hg	12/12/11
AMB09-200	P7SUB-001	DME	N end of barge	3106-782	WATER	PREP LAB	Dissolved Metals, Hg	12/12/11
AMB09-200	P7SUB-001	TSS	N end of barge	3106-781	WATER	refrigerator	TSS	12/12/11
AMB09-201	P7SUB-002	TME	S end of barge	3106-783	WATER	PREP LAB	Total Metals, Hg	12/12/11
AMB09-201	P7SUB-002	DME	S end of barge	3106-784	WATER	PREP LAB	Dissolved Metals, Hg	12/12/11

SOP#: MSL-A-001

SAMPLE CHAIN OF CUSTODY FORM
Date: 12/6/11
Page: 1 of 2
COC Number:

NOTE: Did not receive PS07 NUT/TOC sample.
CS, 12/08/11

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:
TOC added per JMB 12/7/11

Laboratory: Battelle MSL ABB09
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
12/6/11
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TME/DM	Nutrients/TOC	TSS	DGAL	DOC					No. of containers	StationID	Comments: TOTAL/TSS	Comments: DISS
	ABB09-001	PS03	0916	SW	x	x	✓	✓	✓						PS03	690	691
	-002	PS04	0937	m	✓	✓	✓	✓	✓						PS04	692	693
	-003	PS05	0945	m	✓	✓	✓	✓	✓						PS05	694	695
	-004	PS14	1004	m	✓	✓	✓	✓	✓						PS14	696	697
	-005	PS06	1020	m	✓	✓	✓	✓	✓						PS06	698	699
	-006	PS07	1037	m	✓	✓	✓	✓	✓						PS07	700	701
	-007	PS08	1055	m	✓	✓	✓	✓	✓						PS08	702	703
	-008	PS08 Dup.	1057	m	✓	✓	✓	✓	✓						PS08 Dup	704	705
	-009	PS15	1115	m	✓	✓	✓	✓	✓						PS15	706	707
	-010	PS09	1131	m	✓	✓	✓	✓	✓						PS09	708	709
	-011	PS10	1152	m	✓	✓	✓	✓	✓						PS10	710	711
	-012	PS10.1	1219	m	✓	✓	✓	✓	✓						PS10.1	712	713
	-013	PS11	1233	m	✓	✓	✓	✓	✓						PS11	714	715
	-014	PS16	1245	m	✓	✓	✓	✓	✓						PS16	716	717
	-15	PS01	1314	m	✓	✓	✓	✓	✓					●	PS01	718	719

Relinquished by:
J. Brandenberger — Signature
12/6/11 — Date
1800 — Time
Printed Name
MSL — Company

Received by:
C. Sullivan — Signature
12/6/11 1800
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Carry to MSL
Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 12/6/11

Page: 2 of 2

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TME/DM	Nutrients / TOC	TSS	O&G	DOC	FPH Oil & Grease				No. of containers	StationID	Observations, Instructions: Comments	
																3106	
			12/6 ~~12/4~~ CDT													TOC/TSS	DISS
	AB09-016	PS01 Dup	1315	M	X	X	X	X	X						PS01 Dup	720	721
	-017	PS02	1339	M	X	X	X	X	X						PS02	722	723
	-018	PS M4	1350	M	X	X	X	X	X						M4	724	725
	-019	BUOY	1407	M	X	X	X	X	X						BUOY	726	727
	-020	M3.1	1424	M	X	X	X	X	X						M3.1	728	729
	-021	PS12	1434	M	X	X	X	X	X						PS12	730	731
	-022	PS03B	1450	M	X	X	X	X	X						PS03B	732	733
AMB09DD-001	-023	OF18A			X		X		X						OF18A	734	735
-002	-024	OF19			X		X		X						OF19	736	737
-003	-025	OF21			X	X	X	X	X	X					OF21	738	739

Relinquished by:
J. Brandenburger — Signature
12/6/11 — Date
1800 — Time
Printed Name
MSL — Company

Received by:
C. Susuan — Signature
12/6/11
1800
Printed Name

Total # of Containers

Shipment Method: Hand Carry to MSL

Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Sample Collector	Johnston, Rosen, Molkurstuen, Gebhart	Page 1 of 1
Sampling Team	BenM - Boat OP	AMB09 DAY1 12/6/2011
Organization		Bremerton Tides
Use pre-assigned id	m/dd/yy hh:mm/dd/yy hh:mm 12/6/2011	Weather: Overcast, Foggy, Cool ~38-40°

StationID	6 Dec 11 Time Arrive Date/Time	6 Dec 11 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS03	0903	0925	NS	47.55573	122.65159	
PS04	0933	0940	NS	47.55446	122.64759	
PS05	0944	0952	NS	47.55596	122.64542	
PS14	1000	1011	NS	47.55239	122.64325	
PS06	1016	1032	NS	47.55308	122.64222	
PS07	1036	1044	NS	47.55591	122.64168	
PS08	1052	1116	NS	47.55573	122.63879	Sub at Pier 3 Pumping over side
PS15	1112	1125	NS	47.55560	122.63676	
PS09	1130	1140	NS	47.56004	122.63615	
PS10	1149	1155	NS	47.56034	122.53279	
PS10.1	1216	1223	NS	47.56127	122.63134	
PS11	1231	1238	NS	47.56041	122.62914	
PS16	1242	1246	NS	47.55864	122.62836	Sensors Pulled 1246 125 Sea Lions
PS01	1316	1326	NS	47.55382	122.65725	Sensors in 1315 out 1326
PS02	1332	1340	NS	47.55446	122.65459	Sensors in 1332 out 1340
~~PS~~ M4	1345	1358	~~NS~~M	47.54082	122.66335	Sensors in 1345 out 1358
BJEST	1403	1415	NS	47.~~54556~~ 54379	122.62~~846~~ 752	in 1403 out 1415
M3.1	1423	1430	M	47.55534	122.61691	in 1423 out 1430
PS12	1434	1440	NS	47.56046	122.62832	in 1434 out 1440
PS03B	1448	1453	NS	47.55556	122.65174	in 1448 out

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Johnston, Wolkerstorfer, Gebhart, Rosen Beylyn	PSNS Project ENVVEST	AMB09 DAY 1
Sampling Team	PSNS C/106.32	Ambient Monitoring:	12/6/2011
Organization	PSNS	Instrument:	Horbia

Troll Logging @ 0850

Use pre-assigned id	Use allowable code only	12/6/2011 mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	g/ml	ft	ft	
SampleID	StationID	Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
	PS03	0916	7.92	5.25		9.03	9.34	2	3.4	26.0	20		
	PS04	0934	7.93	5.27		8.14	9.57		3.4	26.1	17		
	PS05	0944	7.94	5.26		8.02	9.58		3.4	26.1	20		
	PS14	1000	7.92	5.27		7.79	9.82		3.4	26.1	15		
	PS14 ~~Profile~~ Deep	1009	7.88	5.27		7.71	9.98		3.4	26.2	-		Profile
	PS06	1020	7.93	5.24		7.80	9.87		3.4	26.0	16		
	PS07	1038	7.92	5.24		7.67	9.65		3.4	26.0	22		
	PS08	1057	7.92	5.25		7.75	9.88		3.4	26.0	21		
	~~PS08DUP~~												CB
	PS15	1115	7.92	5.26		7.77	9.89		3.4	26.1	18		
	PS09	1130	7.92	5.23		7.77	9.97		3.4	26.0	21		
	PS09 Deep	1136	7.92	5.24		7.58	10.02		3.4	26.2	—		Profile
	PS10	1159	7.93	5.21		7.78	10.04		3.4	25.8	17		
	PS10.1	1217	7.94	5.24		7.92	9.67		3.4	26.0	17		oil sheen (small)
	PS11	1235	7.93	5.23		7.88	9.69		3.4	25.5	19		
	PS16	1243	7.93	5.25		7.85	9.95		3.4	26.0	20		Pulled out sensors
	PS01	1315	7.90	5.24		9.23	9.48		3.4	26.0	17		? 125 Sea lions
	PS02	1334	7.91	5.23		8.47	9.63		3 4	26.0	18		↳ sensors in water
	M4	1353	7.93	5.18		7.94	9.48		3.3	25.8	10		↳ sheen on water
	BUEST	1409	7.93	5.07		8.24	9.01		3.3	25.2	bottom		↳ Jelly fish Plum
	M3.1	1426	7.94	5.23		8.10	9.69		3.4	25.9	16		
	PS12	1435	7.92	5.19		8.31	9.88		3.3	25.7	bottom		
	PS03B	1448	7.93	5.25		8.23	9.50		3.4	26.1	21		oil sheen

SAMPLE CHAIN OF CUSTODY FORM

Date: 12/7/11

Page: 1 of 2

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB09-Day2

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters: TNE/DNE, NUT/TDC, TSS/OSAL, DOC

Observations, Instructions

Start w/ AMB09-026 100 3/11/13

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	No. of containers	StationID	Comments: TOTAL/TSS	Comments: DISS
	AMB09-026/100	M5	0926	M		M5	742	743
	-101	M8	1021	M		M8	744	745
	-102	M7	1041	M	3	M7	746	747
MUSSEL	MW12-008	DYOBAP	0945 TSS	~~M~~	3	DYOBAP	~~776~~ 780	~~779~~ 780 & mussel
	-103	DYOTS	1054	M		WFDYO TS	748	749
	-104	WP	1140	M		WP	750	751
	-105	M2	1200	M		M2	752	753
	-106	M2 Deep	1155	M		M2 Deep	6.5 meters	754 / 755
	-107	Clm Bay	1218	M		ClmBAY	756	757
	-108	ICSF	1250	M		ICSF	758	759
	-109	M1 1304	~~1400~~	M		M1	760	761
	-110	M1 Deep	1309	M		M1 Deep	9.5 meters 762	763
	-111	SNO3	1344	M		SNO3	764	765
	-112	SNO5	1354	M		SNO5	766	767
	-113 Dup	SNO5 Dup	1355	M		SNO5 Dup	768	769

Total # of Containers

Shipment Method:

Shipment Method: Hand Delivery

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Relinquished by: _____ Signature; 12/7/11 Date; 1700 Time

J. Brandenberger Printed Name; Company

Received by: _____ Signature; 1700

C. Sullivan 12/7/11 Printed Name

Relinquished by: _____ Signature; Date; Time

Printed Name; Company

Received by: _____ Signature

Printed Name

SAMPLE CHAIN OF CUSTODY FORM

Date: 12/7/11

Page: 2 of 2

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106-

Lab. Use only: Lab ID	Sample ID	Sample Lable	12/7/11 Collection Date/Time	Matrix	TME/DME	NUT/TDC	TSS/OSAL	DOC	No. of containers	StationID	Comments	
	AMB09-114	SN08	1409	M	X	X	X	X	1	SN08	TOTAL/TSS 770	DISS 771
	-115	SN10	1421	M					1	SN10	772	773
	-116	SN11	1430	M					1	SN11	774	775
	-117	M3.3	1435	M					1	M3.3	776	777
	118	EB01	1730	W							FOR BLK (DME only)	778
added 12/8/11	119	EB02	1730	W							FOP BLK " "	779

Relinquished by: _____ 12/7/11 1700
Signature Date Time
J. Brandenberger
Printed Name Company

Received by: _____ 1700
Signature
C. Sullivan 12/7/11
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivered

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Sample Collector	Johnston, Mollerstuen, Gebhart, Brandenburger	Page__1_ of _1___
Sampling Team	Beyerle	
Organization		Bremerton Tides

Use pre-assigned id m/dd/yy hh:mm/dd/yy hh:mm Weather: 41°F overcast / fog

StationID	12/7/11 Time Arrive Date/Time	12/7/11 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
M5	0925	0930	M	47.60149	122.67908	
M8	1020	1027	M	47.57366	122.67671	
M7	1038	1045	M	47.62329	122.69061	
DYOTS	1051	1058	NS	47-64175	122.69487	
WP	1130	1142	NS	47.58365	122.57135	
M2	1153	1200	M	47.57842	122.53778	
~~M4~~ CLAMBAY	1217	1221	NS	47.57060	122.54958	
LSP	1248	1259	NS	47.66030	122.59423	
M1	1302	1315	M	47.63198	122.58533	
~~M1 DUP~~						DUP
SN03	1340	1346	NS	47.54605	122.67231	
SN05	1358	1401	NS	47.52805	122.69598	
SN08	1408	1413	NS	47.53996	122.66228	
SN10	1420	1423	NS	47.54166	122.64111	
SN11	1429	1432	NS	47.54312	122.63428	
M3.3	1437	1442	M	47.54676	122.64327	
~~PS13~~						

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector		PSNS Project ENVVEST	
Sampling Team		Ambient Monitoring:	
Organization		Instrument:	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	g/ml	ft	ft	
SampleID	StationID	Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
AMB09B-100	M5	0927	7.91	5.23		8.53	9.46		3.4	26.0	20		Calm/Foggy
-101	M8	1020	7.89	5.14		7.90	9.11		3.3	25.5	16		
-102	M7	1041	7.92	5.23		7.56	9.56		3.4	25.9	21		
-103	DYOTS	1054	7.91	5.21		10.05	9.43		3.3	25.9	16		
-104	WF	1138	7.89	5.21		10.63	10.00		3.4	26.2	24		
-105	M2	1156	7.94	5.07		9.10	9.72		3.3	25.8	22		
-106	M2 Profile	1200	7.92	5.31		8.37	10.33		3.4	26.3	—		Profile
-107	CLM BAY	1218	7.98	5.18		8.38	9.82		3.3	25.7	bottom		
-108	LCSP	1250	7.97	5.21		7.59	9.32		3.3	25.8	20		
-109	M1	1303	8.00	5.17		8.52	9.09		3.3	25.6	17		
-110	M1 Profile	1309	7.94	5.29		7.67	9.83		3.4	26.3	—		Profile
-111	SNO 3	1343	7.92	5.24		7.36	10.04		3.4	25.9	15		
-112	SNO5	1357	7.78	5.24		6.02	10.18		3.4	25.9	4ft		
-113	SNO8	1409	7.92	5.22		7.75	9.63		3.4	25.9	bottom		
-114	SN10	1420	7.96	5.18		8.09	9.11		3.3	25.7	15		
-115	SN11	1432	7.95	5.22		7.88	9.50		3.4	25.9	15		
-116	M3.3	1439	7.94	5.23		7.95	9.60		3.4	25.9	15		

SAMPLE CHAIN OF CUSTODY FORM

Date: 12/12/2011
Page: 1 of 1
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVVEST
Project Name: Johnston, mollerstuen
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: Pier 7 Sub (AMB09) 8

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TSS	TOC	TMET/DMET	CF# 3,104 TOT	CF# 3,104 DISS	No. of containers	StationID	Comments
												New York City Cincinnati tied up at pier 7
	P7SUB-											Pier 7 Sub
AMB09-200	P7SUB-001	N End of Barge	12/12/11 1440	WS	√	√	√	-781	-782	3	P7SUB-1	North End of Barge w/ ~~50ft~~ of Sub NY City Aft end
AMB09-201	P7SUB-002	S End of Barge	11 1453	NS			X	-783	-784	1	P7SUB-2	Sound End of Barge mid ship of NY City

Relinquished by: K C Johnston 12/12/2011 1920
Signature Date Time
Printed Name Company

Received by:
Signature 12/13/11
Li-Jung Kuo 18:20
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 742-779 Batch: 18198

Project Name: ENVVEST AMB09 - Day 2 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Water WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples:	*Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☐	☐	Special instructions:	

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL? (Metals)

Hand delivered

4±2 °C

°C

Comment/Remedy:

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Other:

Notes: Filter Blks collected @ MSL

Completed By: Date/Time: 12/7/11 1700

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☐ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes: Metals - Optima	Lot# 121020
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: Date/Time: 12/7/11 1900

Storage Shelf: prep Lab

AmB09 - Day 1

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 690-739 Batch: 17

Project Name: ENVVEST AmB09 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples:	*Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☐	☐	Special instructions:	

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Hand delivered

4±2 °C

°C

Comment/Remedy: _____

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) Glass Cap. Vial Other:

Notes: _____

Completed By: _____ Date/Time: 12/6/11 1800

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes:	Metals Optima Lot# 1211020
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☑	Refrigerate/Freeze - Mussels	Notes:	TSS, CAS
☐	Other	Notes:	

Completed By: _____ Date/Time: ~~12/6/11~~ E 12/7/11 10:30

Storage Shelf: K6 A,B,D

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 781-784 Batch: 21

Project Name: AMB09 / PSSUS Project Manager: JMS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☑	☐	Custody seal present — Seal intact? YES NO
☑	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Hand delivered 12/12/11

4±2 °C

°C

Comment/Remedy:

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: _____ Date/Time: 12/13/11 1100

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes: optima	Lot# 121010
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: _____ Date/Time: 12/13/11 11:50 AM

Storage Shelf: K6A

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1111962
Project:	ENVVEST AMB09	**Date Received:**	12/9/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-three water samples were received for analysis at Columbia Analytical Services on 12/9/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Oil and Grease by EPA Method 1664A:
The matrix spike recovery of Total Oil and Grease for the Batch QC sample was outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential low bias. No further corrective action was taken.

Total Organic Carbon by SM 5310 C:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Organic Carbon in samples AMB09-001 PS03, AMB09-007 PS08 and AMB09-104 WP were not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 2-7-12

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11
Sample Matrix:	Ocean Water	**Date Received:**	12/ 9/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664A	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09DD-003 OF021	K1111962-025	**2.0**	J	5.2	0.8	1	12/15/11	12/16/11 12:25	
Method Blank	K1111962-MB1	**1.2**	J	5.0	0.8	1	12/15/11	12/16/11 12:25	
Method Blank	K1111962-MB2	**1.2**	J	5.0	0.8	1	12/15/11	12/16/11 12:25	

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: NA
Date Received: NA
Date Analyzed: 12/16/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1112084-001

Units: mg/L
Basis: NA

Analytical Method: 1664A
Prep Method: Method

Batch QCMS
Matrix Spike
K1112084-001MS11

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec		% Rec Limits
Oil and Grease, Total (HEM)	1.5	26.9	63.2	40	*	78 - 114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/16/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS1 Result	Spike Amount	% Rec	Duplicate Lab Control Sample K1111962-DLCS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	1664A	58.9	60.0	98	57.6	60.0	96	78 - 114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/16/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS2 Result	Spike Amount	% Rec	Duplicate Lab Control Sample K1111962-DLCS2 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	1664A	58.9	60.0	98	57.6	60.0	96	78 - 114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11 - 12/ 7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/ 9/11
		Units:	mg/L
Analysis Method:	350.1	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-001 PS03	K1111962-001	**0.070**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-002 PS04	K1111962-002	**0.052**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-003 PS05	K1111962-003	**0.054**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-004 PS14	K1111962-004	**0.045**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-005 PS06	K1111962-005	**0.057**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-007 PS08	K1111962-007	**0.046**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-008 PS08DUP	K1111962-008	**0.045**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-009 PS15	K1111962-009	**0.047**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-010 PS09	K1111962-010	**0.097**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-011 PS10	K1111962-011	**0.049**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-012 PS10.1	K1111962-012	**0.052**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-013 PS11	K1111962-013	**0.051**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-014 PS16	K1111962-014	**0.033**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-015 PS01	K1111962-015	**0.077**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-016 PS01DUP	K1111962-016	**0.072**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-017 PS02	K1111962-017	**0.069**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-018 M4	K1111962-018	**0.101**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-019 BJEST	K1111962-019	**0.076**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-020 M3.1	K1111962-020	**0.042**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-021 PS12	K1111962-021	**0.049**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-022 PS03B	K1111962-022	**0.066**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09DD-003 OF021	K1111962-025	ND	U	0.010	0.003	1	NA	12/13/11 13:17	
AMB09-100 M5	K1111962-026	**0.053**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-101 M8	K1111962-027	**0.078**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09102 M7	K1111962-028	**0.044**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-103 DYOTS	K1111962-029	**0.059**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-104 WP	K1111962-030	**0.025**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-105 M2	K1111962-031	**0.008**	J	0.010	0.003	1	NA	12/13/11 13:17	
AMB09-106 M2DEEP	K1111962-032	ND	U	0.010	0.003	1	NA	12/13/11 13:17	
AMB09-107 CLMBAY	K1111962-033	**0.005**	J	0.010	0.003	1	NA	12/13/11 13:17	
AMB09-108 ILSP	K1111962-034	**0.025**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-109 M1	K1111962-035	**0.013**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-110 M1DEEP	K1111962-036	**0.021**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-111 SN03	K1111962-037	**0.229**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-112 SN05	K1111962-038	**0.067**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-113 SN05DUP	K1111962-039	**0.080**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-114 SN08	K1111962-040	**0.083**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-115 SN10	K1111962-041	**0.085**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-116 SN11	K1111962-042	**0.086**		0.010	0.003	1	NA	12/13/11 13:17	
AMB09-117 M3.3	K1111962-043	**0.078**		0.010	0.003	1	NA	12/13/11 13:17	
Method Blank	K1111962-MB1	ND	U	0.010	0.003	1	NA	12/13/11 13:17	
Method Blank	K1111962-MB2	ND	U	0.010	0.003	1	NA	12/13/11 13:17	

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-001 PS03DUP Duplicate Sample K1111962-001DUP1 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.070	0.069	0.0694	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-010 PS09
Lab Code: K1111962-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-010 PS09DUP Duplicate Sample K1111962-010DUP10 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.097	0.094	0.0955	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB09-001 PS03MS Matrix Spike K1111962-001MS1			AMB09-001 PS03DMS Duplicate Matrix Spike K1111962-001DMS1					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.070	0.279	0.200	105	0.279	0.200	104	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-010 PS09
Lab Code: K1111962-010

Units: mg/L
Basis: NA

Analytical Method: 350.1

		AMB09-010 PS09MS Matrix Spike K1111962-010MS3			AMB09-010 PS09DMS Duplicate Matrix Spike K1111962-010DMS3					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.097	0.301	0.200	102	0.302	0.200	102	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/13/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.5	13.9	97	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/13/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.5	13.9	97	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	272963	KQ1113487-19	12/13/11 13:17	0.250	0.246	98	90 - 110
CCV2	272963	KQ1113487-20	12/13/11 13:17	0.250	0.245	98	90 - 110
CCV3	272963	KQ1113487-21	12/13/11 13:17	0.250	0.245	98	90 - 110
CCV4	272963	KQ1113487-22	12/13/11 13:17	0.250	0.245	98	90 - 110
CCV5	272963	KQ1113487-23	12/13/11 13:17	0.250	0.245	98	90 - 110
CCV6	272963	KQ1113487-24	12/13/11 13:17	0.250	0.245	98	90 - 110
CCV7	272963	KQ1113487-25	12/13/11 13:17	0.250	0.245	98	90 - 110
CCV8	272963	KQ1113487-26	12/13/11 13:17	0.250	0.245	98	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	272963	KQ1113487-11	12/13/11 13:17	0.003	0.010	ND	U
CCB2	272963	KQ1113487-12	12/13/11 13:17	0.003	0.010	ND	U
CCB3	272963	KQ1113487-13	12/13/11 13:17	0.003	0.010	ND	U
CCB4	272963	KQ1113487-14	12/13/11 13:17	0.003	0.010	ND	U
CCB5	272963	KQ1113487-15	12/13/11 13:17	0.003	0.010	ND	U
CCB6	272963	KQ1113487-16	12/13/11 13:17	0.003	0.010	ND	U
CCB7	272963	KQ1113487-17	12/13/11 13:17	0.003	0.010	ND	U
CCB8	272963	KQ1113487-18	12/13/11 13:17	0.003	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11 - 12/ 7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/ 9/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-001 PS03	K1111962-001	**2.0**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-002 PS04	K1111962-002	**3.3**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-003 PS05	K1111962-003	**1.5**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-004 PS14	K1111962-004	**2.3**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-005 PS06	K1111962-005	**1.9**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-007 PS08	K1111962-007	**2.0**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-008 PS08DUP	K1111962-008	**2.9**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-009 PS15	K1111962-009	**1.8**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-010 PS09	K1111962-010	**1.2**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-011 PS10	K1111962-011	**2.0**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-012 PS10.1	K1111962-012	**1.5**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-013 PS11	K1111962-013	**2.3**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-014 PS16	K1111962-014	**1.9**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-015 PS01	K1111962-015	**2.3**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-016 PS01DUP	K1111962-016	**1.8**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-017 PS02	K1111962-017	**2.1**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-018 M4	K1111962-018	**3.1**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-019 BJEST	K1111962-019	**1.9**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-020 M3.1	K1111962-020	**2.7**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-021 PS12	K1111962-021	**1.5**		1.0	0.4	2	12/15/11	12/19/11 08:45	
AMB09-022 PS03B	K1111962-022	**4.0**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09DD-003 OF021	K1111962-025	**1.5**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-100 M5	K1111962-026	**2.5**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-101 M8	K1111962-027	**1.8**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09102 M7	K1111962-028	**2.4**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-103 DYOTS	K1111962-029	**2.1**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-104 WP	K1111962-030	**2.1**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-105 M2	K1111962-031	**1.4**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-106 M2DEEP	K1111962-032	**1.3**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-107 CLMBAY	K1111962-033	**1.4**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-108 ILSP	K1111962-034	**1.7**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-109 M1	K1111962-035	**2.9**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-110 M1DEEP	K1111962-036	**0.9**	J	1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-111 SN03	K1111962-037	**2.5**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-112 SN05	K1111962-038	**2.7**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-113 SN05DUP	K1111962-039	**1.8**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-114 SN08	K1111962-040	**2.1**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-115 SN10	K1111962-041	**2.2**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-116 SN11	K1111962-042	**2.0**		1.0	0.4	2	12/19/11	12/21/11 10:30	
AMB09-117 M3.3	K1111962-043	**0.9**	J	1.0	0.4	2	12/22/11	12/23/11 10:30	
Method Blank	K1111962-MB1	ND	U	0.20	0.14	2	12/15/11	12/19/11 08:45	
Method Blank	K1111962-MB2	ND	U	0.20	0.14	2	12/19/11	12/21/11 10:30	
Method Blank	K1111962-MB3	ND	U	0.20	0.14	2	12/22/11	12/23/11 10:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/19/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-001 PS03DUP Duplicate Sample K1111962-001DUP1 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	2.0	1.9	1.99	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/6/11
Sample Matrix:	Ocean Water	**Date Received:**	12/9/11
		Date Analyzed:	12/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB09-011 PS10	**Units:**	mg/L
Lab Code:	K1111962-011	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-011 PS10DUP Duplicate Sample K1111962-011DUP11 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	2.0	2.1	2.07	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/19/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB09-001 PS03MS Matrix Spike K1111962-001MS1			AMB09-001 PS03DMS Duplicate Matrix Spike K1111962-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	2.0	51.5	50.0	99	106	100	104	40 - 160	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-011 PS10
Lab Code: K1111962-011

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		AMB09-011 PS10MS Matrix Spike K1111962-011MS4			AMB09-011 PS10DMS Duplicate Matrix Spike K1111962-011DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	2.0	62.0	50.0	120	116	100	114	40 - 160	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/19/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111962-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Nitrogen, Total Kjeldahl (TKN)	351.4	2.72	2.47	110	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	2.74	2.47	111	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS5 Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	2.55	2.47	103	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	273754	KQ1113701-05	12/19/11 08:45	10.0	10.6	106	90 - 110
CCV2	273754	KQ1113701-06	12/19/11 08:45	10.0	10.2	102	90 - 110
CCV3	273754	KQ1113701-07	12/19/11 08:45	10.0	10.2	102	90 - 110
CCV4	273754	KQ1113701-08	12/19/11 08:45	10.0	9.84	98	90 - 110
CCV7	274314	KQ1113873-07	12/21/11 10:30	10.0	9.66	97	90 - 110
CCV9	274364	KQ1113887-04	12/23/11 10:30	10.0	10.1	101	90 - 110
CCV10	274364	KQ1113887-05	12/23/11 10:30	10.0	9.91	99	90 - 110
CCV11	274364	KQ1113887-06	12/23/11 10:30	10.0	9.35	94	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	273754	KQ1113701-01	12/19/11 08:45	0.07	0.20	**0.08**	J
CCB2	273754	KQ1113701-02	12/19/11 08:45	0.07	0.20	ND	U
CCB3	273754	KQ1113701-03	12/19/11 08:45	0.07	0.20	ND	U
CCB4	273754	KQ1113701-04	12/19/11 08:45	0.07	0.20	ND	U
CCB5	274314	KQ1113873-01	12/21/11 10:30	0.07	0.20	ND	U
CCB6	274314	KQ1113873-02	12/21/11 10:30	0.07	0.20	ND	U
CCB7	274314	KQ1113873-03	12/21/11 10:30	0.07	0.20	ND	U
CCB8	274314	KQ1113873-04	12/21/11 10:30	0.07	0.20	ND	U
CCB9	274364	KQ1113887-01	12/23/11 10:30	0.07	0.20	ND	U
CCB10	274364	KQ1113887-02	12/23/11 10:30	0.07	0.20	ND	U
CCB11	274364	KQ1113887-03	12/23/11 10:30	0.07	0.20	**0.08**	J

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/ 6/11 - 12/ 7/11
Date Received: 12/ 9/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-001 PS03	K1111962-001	**0.380**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-002 PS04	K1111962-002	**0.381**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-003 PS05	K1111962-003	**0.377**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-004 PS14	K1111962-004	**0.375**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-005 PS06	K1111962-005	**0.370**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-007 PS08	K1111962-007	**0.380**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-008 PS08DUP	K1111962-008	**0.387**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-009 PS15	K1111962-009	**0.376**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-010 PS09	K1111962-010	**0.423**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-011 PS10	K1111962-011	**0.416**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-012 PS10.1	K1111962-012	**0.386**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-013 PS11	K1111962-013	**0.387**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-014 PS16	K1111962-014	**0.385**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-015 PS01	K1111962-015	**0.389**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-016 PS01DUP	K1111962-016	**0.389**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-017 PS02	K1111962-017	**0.386**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-018 M4	K1111962-018	**0.389**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-019 BJEST	K1111962-019	**0.385**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-020 M3.1	K1111962-020	**0.378**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-021 PS12	K1111962-021	**0.378**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-022 PS03B	K1111962-022	**0.386**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09DD-003 OF021	K1111962-025	**0.488**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-100 M5	K1111962-026	**0.374**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-101 M8	K1111962-027	**0.394**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09102 M7	K1111962-028	**0.368**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-103 DYOTS	K1111962-029	**0.395**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-104 WP	K1111962-030	**0.378**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-105 M2	K1111962-031	**0.367**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-106 M2DEEP	K1111962-032	**0.386**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-107 CLMBAY	K1111962-033	**0.383**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-108 ILSP	K1111962-034	**0.369**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-109 M1	K1111962-035	**0.369**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-110 M1DEEP	K1111962-036	**0.377**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-111 SN03	K1111962-037	**0.410**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-112 SN05	K1111962-038	**0.675**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-113 SN05DUP	K1111962-039	**0.589**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-114 SN08	K1111962-040	**0.403**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-115 SN10	K1111962-041	**0.377**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-116 SN11	K1111962-042	**0.433**		0.050	0.009	1	NA	12/14/11 12:13	
AMB09-117 M3.3	K1111962-043	**0.380**		0.050	0.009	1	NA	12/14/11 12:13	
Method Blank	K1111962-MB1	ND	U	0.050	0.009	1	NA	12/14/11 12:13	
Method Blank	K1111962-MB2	ND	U	0.050	0.009	1	NA	12/14/11 12:13	

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-001 PS03DUP Duplicate Sample K1111962-001DUP1 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050		0.380	0.377	0.379	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-010 PS09
Lab Code: K1111962-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-010 PS09DUP Duplicate Sample K1111962-010DUP10 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050		0.423	0.417	0.420	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB09-001 PS03MS Matrix Spike K1111962-001MS1			AMB09-001 PS03DMS Duplicate Matrix Spike K1111962-001DMS1					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.380	2.43	2.00	102	2.55	2.00	108	86 - 117	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-010 PS09
Lab Code: K1111962-010

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB09-010 PS09MS Matrix Spike K1111962-010MS3			AMB09-010 PS09DMS Duplicate Matrix Spike K1111962-010DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.423	2.48	2.00	103	2.46	2.00	102	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.5	17.7	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.5	17.7	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Service Request: K1111962

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	273156	KQ1113525-18	12/14/11 12:13	2.00	1.97	99	90 - 110
CCV2	273156	KQ1113525-19	12/14/11 12:13	2.00	1.96	98	90 - 110
CCV3	273156	KQ1113525-20	12/14/11 12:13	2.00	1.96	98	90 - 110
CCV4	273156	KQ1113525-21	12/14/11 12:13	2.00	1.96	98	90 - 110
CCV5	273156	KQ1113525-22	12/14/11 12:13	2.00	1.97	99	90 - 110
CCV6	273156	KQ1113525-23	12/14/11 12:13	2.00	1.96	98	90 - 110
CCV7	273156	KQ1113525-24	12/14/11 12:13	2.00	1.96	98	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	273156	KQ1113525-11	12/14/11 12:13	0.009	0.050	ND	U
CCB2	273156	KQ1113525-12	12/14/11 12:13	0.009	0.050	ND	U
CCB3	273156	KQ1113525-13	12/14/11 12:13	0.009	0.050	ND	U
CCB4	273156	KQ1113525-14	12/14/11 12:13	0.009	0.050	ND	U
CCB5	273156	KQ1113525-15	12/14/11 12:13	0.009	0.050	ND	U
CCB6	273156	KQ1113525-16	12/14/11 12:13	0.009	0.050	ND	U
CCB7	273156	KQ1113525-17	12/14/11 12:13	0.009	0.050	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11 - 12/ 7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/ 9/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	365.3	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-001 PS03	K1111962-001	**0.094**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-002 PS04	K1111962-002	**0.087**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-003 PS05	K1111962-003	**0.114**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-004 PS14	K1111962-004	**0.089**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-005 PS06	K1111962-005	**0.090**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-007 PS08	K1111962-007	**0.089**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-008 PS08DUP	K1111962-008	**0.089**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-009 PS15	K1111962-009	**0.087**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-010 PS09	K1111962-010	**0.110**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-011 PS10	K1111962-011	**0.123**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-012 PS10.1	K1111962-012	**0.094**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-013 PS11	K1111962-013	**0.098**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-014 PS16	K1111962-014	**0.086**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-015 PS01	K1111962-015	**0.091**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-016 PS01DUP	K1111962-016	**0.095**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-017 PS02	K1111962-017	**0.093**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-018 M4	K1111962-018	**0.092**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-019 BJEST	K1111962-019	**0.086**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-020 M3.1	K1111962-020	**0.091**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-021 PS12	K1111962-021	**0.105**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-022 PS03B	K1111962-022	**0.099**		0.010	0.004	1	12/13/11	12/14/11	
AMB09DD-003 OF021	K1111962-025	**0.434**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-100 M5	K1111962-026	**0.094**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-101 M8	K1111962-027	**0.085**		0.010	0.004	1	12/13/11	12/14/11	
AMB09102 M7	K1111962-028	**0.083**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-103 DYOTS	K1111962-029	**0.082**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-104 WP	K1111962-030	**0.092**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-105 M2	K1111962-031	**0.080**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-106 M2DEEP	K1111962-032	**0.085**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-107 CLMBAY	K1111962-033	**0.084**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-108 ILSP	K1111962-034	**0.087**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-109 M1	K1111962-035	**0.091**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-110 M1DEEP	K1111962-036	**0.091**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-111 SN03	K1111962-037	**0.119**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-112 SN05	K1111962-038	**0.062**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-113 SN05DUP	K1111962-039	**0.071**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-114 SN08	K1111962-040	**0.103**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-115 SN10	K1111962-041	**0.101**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-116 SN11	K1111962-042	**0.085**		0.010	0.004	1	12/13/11	12/14/11	
AMB09-117 M3.3	K1111962-043	**0.101**		0.010	0.004	1	12/13/11	12/14/11	
Method Blank	K1111962-MB1	ND	U	0.010	0.004	1	12/13/11	12/14/11	
Method Blank	K1111962-MB2	ND	U	0.010	0.004	1	12/13/11	12/14/11	

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-001 PS03DUP Duplicate Sample K1111962-001DUP1 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.094	0.093	0.0935	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-022 PS03B
Lab Code: K1111962-022

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-022 PS03BDUP Duplicate Sample K1111962-022DUP22 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.099	0.097	0.0979	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB09-001 PS03MS Matrix Spike K1111962-001MS1			AMB09-001 PS03DMS Duplicate Matrix Spike K1111962-001DMS1					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.094	0.463	0.500	74	0.844	1.00	75	60 - 135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-022 PS03B
Lab Code: K1111962-022

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		AMB09-022 PS03BMS Matrix Spike K1111962-022MS7			AMB09-022 PS03BDMS Duplicate Matrix Spike K1111962-022DMS7					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.099	0.452	0.500	71	0.784	1.00	69	60 - 135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1111962-LCS3			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Phosphorus, Total	365.3	3.50	3.41	103	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	3.52	3.41	103	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	273152	KQ1113672-09	12/14/11	0.500	0.521	104	90 - 110
CCV2	273152	KQ1113672-10	12/14/11	0.500	0.520	104	90 - 110
CCV3	273152	KQ1113672-11	12/14/11	0.500	0.524	105	90 - 110
CCV4	273152	KQ1113672-12	12/14/11	0.500	0.526	105	90 - 110
CCV5	273152	KQ1113672-13	12/14/11	0.500	0.524	105	90 - 110
CCV6	273152	KQ1113672-14	12/14/11	0.500	0.521	104	90 - 110
CCV7	273152	KQ1113672-15	12/14/11	0.500	0.523	105	90 - 110
CCV8	273152	KQ1113672-16	12/14/11	0.500	0.527	105	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	273152	KQ1113672-01	12/14/11	0.004	0.010	ND	U
CCB2	273152	KQ1113672-02	12/14/11	0.004	0.010	ND	U
CCB3	273152	KQ1113672-03	12/14/11	0.004	0.010	ND	U
CCB4	273152	KQ1113672-04	12/14/11	0.004	0.010	ND	U
CCB5	273152	KQ1113672-05	12/14/11	0.004	0.010	ND	U
CCB6	273152	KQ1113672-06	12/14/11	0.004	0.010	ND	U
CCB7	273152	KQ1113672-07	12/14/11	0.004	0.010	ND	U
CCB8	273152	KQ1113672-08	12/14/11	0.004	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11 - 12/ 7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/ 9/11
Analysis Method:	SM 5310 C	**Units:**	mg/L
		Basis:	NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-001 PS03	K1111962-001	0.7	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-002 PS04	K1111962-002	1.0	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-003 PS05	K1111962-003	0.8	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-004 PS14	K1111962-004	0.8	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-005 PS06	K1111962-005	0.8	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-006 PS07	K1111962-006	0.9	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-007 PS08	K1111962-007	0.9	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-008 PS08DUP	K1111962-008	0.9	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-009 PS15	K1111962-009	0.8	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-010 PS09	K1111962-010	0.8	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-011 PS10	K1111962-011	0.7	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-012 PS10.1	K1111962-012	0.7	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-013 PS11	K1111962-013	1.0	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-014 PS16	K1111962-014	0.9	J	1.0	0.2	2	NA	12/15/11 20:50	
AMB09-015 PS01	K1111962-015	0.9	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-016 PS01DUP	K1111962-016	0.9	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-017 PS02	K1111962-017	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-018 M4	K1111962-018	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-019 BJEST	K1111962-019	0.9	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-020 M3.1	K1111962-020	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-021 PS12	K1111962-021	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-022 PS03B	K1111962-022	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09DD-001 OF018A	K1111962-023	0.5	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09DD-002 OF019	K1111962-024	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09DD-003 OF021	K1111962-025	0.5	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-100 M5	K1111962-026	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-101 M8	K1111962-027	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09102 M7	K1111962-028	0.7	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-103 DYOTS	K1111962-029	1.0	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-104 WP	K1111962-030	0.7	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-105 M2	K1111962-031	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-106 M2DEEP	K1111962-032	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-107 CLMBAY	K1111962-033	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-108 ILSP	K1111962-034	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-109 M1	K1111962-035	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-110 M1DEEP	K1111962-036	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-111 SN03	K1111962-037	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-112 SN05	K1111962-038	1.1		1.0	0.2	2	NA	12/16/11 14:54	
AMB09-113 SN05DUP	K1111962-039	1.0	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-114 SN08	K1111962-040	0.7	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-115 SN10	K1111962-041	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
AMB09-116 SN11	K1111962-042	1.5		1.0	0.2	2	NA	12/16/11 14:54	
AMB09-117 M3.3	K1111962-043	0.8	J	1.0	0.2	2	NA	12/16/11 14:54	
Method Blank	K1111962-MB1	ND	U	0.50	0.07	1	NA	12/15/11 20:50	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11 - 12/ 7/11
Sample Matrix:	Ocean Water	**Date Received:**	
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Method Blank	K1111962-MB2	ND	U	0.50	0.07	1	NA	12/16/11 14:54	
Method Blank	K1111962-MB3	ND	U	0.50	0.07	1	NA	12/16/11 14:54	

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-001 PS03DUP Duplicate Sample K1111962-001DUP1 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.7 J	0.7 J	0.722	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-002 PS04
Lab Code: K1111962-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-002 PS04DUP Duplicate Sample K1111962-002DUP2 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.0 J	0.8 J	0.883	20	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-003 PS05
Lab Code: K1111962-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-003 PS05DUP Duplicate Sample K1111962-003DUP3 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.807	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-004 PS14
Lab Code: K1111962-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-004 PS14DUP Duplicate Sample K1111962-004DUP4 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.825	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-005 PS06
Lab Code: K1111962-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-005 PS06DUP Duplicate Sample K1111962-005DUP5 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.862	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-006 PS07
Lab Code: K1111962-006

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-006 PS07DUP Duplicate Sample K1111962-006DUP6 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.838	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-007 PS08
Lab Code: K1111962-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-007 PS08DUP Duplicate Sample K1111962-007DUP7 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.883	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/6/11
Sample Matrix:	Ocean Water	**Date Received:**	12/9/11
		Date Analyzed:	12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB09-008 PS08DUP	**Units:**	mg/L
Lab Code:	K1111962-008	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-008 PS08DUPDUP Duplicate Sample K1111962-008DUP8 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.840	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-009 PS15
Lab Code: K1111962-009

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-009 PS15DUP Duplicate Sample K1111962-009DUP9 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.846	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-010 PS09
Lab Code: K1111962-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-010 PS09DUP Duplicate Sample K1111962-010DUP10 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.811	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-011 PS10
Lab Code: K1111962-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-011 PS10DUP Duplicate Sample K1111962-011DUP11 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.7 J	0.9 J	0.809	16	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-012 PS10.1
Lab Code: K1111962-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-012 PS10.1DUP Duplicate Sample K1111962-012DUP12 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.7 J	0.8 J	0.759	11	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-013 PS11
Lab Code: K1111962-013

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-013 PS11DUP Duplicate Sample K1111962-013DUP13 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.0 J	0.9 J	0.935	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-014 PS16
Lab Code: K1111962-014

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-014 PS16DUP Duplicate Sample K1111962-014DUP14 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.864	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-015 PS01
Lab Code: K1111962-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-015 PS01DUP Duplicate Sample K1111962-015DUP15 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.889	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-016 PS01DUP
Lab Code: K1111962-016

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-016 PS01DUPDUP Duplicate Sample K1111962-016DUP16 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.900	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-017 PS02
Lab Code: K1111962-017

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-017 PS02DUP Duplicate Sample K1111962-017DUP17 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.806	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-018 M4
Lab Code: K1111962-018

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-018 M4DUP Duplicate Sample K1111962-018DUP18 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.844	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-019 BJEST
Lab Code: K1111962-019

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-019 BJESTDUP Duplicate Sample K1111962-019DUP19 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.876	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-020 M3.1
Lab Code: K1111962-020

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-020 M3.1DUP Duplicate Sample K1111962-020DUP20 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.824	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-021 PS12
Lab Code: K1111962-021

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-021 PS12DUP Duplicate Sample K1111962-021DUP21 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.776	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-022 PS03B
Lab Code: K1111962-022

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-022 PS03BDUP Duplicate Sample K1111962-022DUP22 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.747	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09DD-001 OF018A
Lab Code: K1111962-023

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09DD-001 OF018ADUP Duplicate Sample K1111962-023DUP23 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.5 J	0.6 J	0.550	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09DD-002 OF019
Lab Code: K1111962-024

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09DD-002 OF019DUP Duplicate Sample K1111962-024DUP24 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.736	13	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09DD-003 OF021
Lab Code: K1111962-025

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09DD-003 OF021DUP Duplicate Sample K1111962-025DUP25 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.5 J	0.4 J	0.454	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-100 M5
Lab Code: K1111962-026

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-100 M5DUP Duplicate Sample K1111962-026DUP26 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.847	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-101 M8
Lab Code: K1111962-027

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-101 M8DUP Duplicate Sample K1111962-027DUP27 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.738	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09102 M7
Lab Code: K1111962-028

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09102 M7DUP Duplicate Sample K1111962-028DUP28 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.7 J	0.7 J	0.696	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-103 DYOTS
Lab Code: K1111962-029

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-103 DYOTSDUP Duplicate Sample K1111962-029DUP29 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.0 J	0.8 J	0.915	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-104 WP
Lab Code: K1111962-030

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-104 WPDUP Duplicate Sample K1111962-030DUP30 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.7 J	0.7 J	0.688	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-105 M2
Lab Code: K1111962-031

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-105 M2DUP Duplicate Sample K1111962-031DUP31 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	1.1	0.944	25	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-106 M2DEEP
Lab Code: K1111962-032

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-106 M2DEEPDUP Duplicate Sample K1111962-032DUP32 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.781	16	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-107 CLMBAY
Lab Code: K1111962-033

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-107 CLMBAYDUP Duplicate Sample K1111962-033DUP33 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.756	18	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-108 ILSP
Lab Code: K1111962-034

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-108 ILSPDUP Duplicate Sample K1111962-034DUP34 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.811	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/9/11
		Date Analyzed:	12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB09-109 M1	**Units:**	mg/L
Lab Code:	K1111962-035	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-109 M1DUP Duplicate Sample K1111962-035DUP35 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.757	17	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-110 M1DEEP
Lab Code: K1111962-036

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-110 M1DEEPDUP Duplicate Sample K1111962-036DUP36 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.771	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-111 SN03
Lab Code: K1111962-037

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-111 SN03DUP Duplicate Sample K1111962-037DUP37 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.799	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-112 SN05
Lab Code: K1111962-038

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-112 SN05DUP Duplicate Sample K1111962-038DUP38 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.1	1.0	1.04	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-113 SN05DUP
Lab Code: K1111962-039

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-113 SN05DUPDUP Duplicate Sample K1111962-039DUP39 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.0 J	0.9 J	0.934	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-114 SN08
Lab Code: K1111962-040

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-114 SN08DUP Duplicate Sample K1111962-040DUP40 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.7 J	0.7 J	0.713	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-115 SN10
Lab Code: K1111962-041

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-115 SN10DUP Duplicate Sample K1111962-041DUP41 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.754	11	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-116 SN11
Lab Code: K1111962-042

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-116 SN11DUP Duplicate Sample K1111962-042DUP42 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	1.5	1.5	1.50	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-117 M3.3
Lab Code: K1111962-043

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-117 M3.3DUP Duplicate Sample K1111962-043DUP43 Result	Average	RPD	RPD Limit
Carbon, Dissolved Organic (DOC)	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.763	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/15/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-001 PS03MS
Matrix Spike
K1111962-001MS2

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	0.7	45.0	50.0	88	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-015 PS01
Lab Code: K1111962-015

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-015 PS01MS
Matrix Spike
K1111962-015MS5

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	0.9	46.2	50.0	90	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/16/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-109 M1
Lab Code: K1111962-035

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-109 M1MS
Matrix Spike
K1111962-035MS9

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	0.8	43.9	50.0	86	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/15/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.0	26.0	96	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/16/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.3	26.0	97	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/16/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS5 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 C	25.5	26.0	98	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Verification (CCV) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	273176	KQ1113590-18	12/15/11 20:50	25.0	25.2	101	90 - 110
CCV2	273176	KQ1113590-19	12/15/11 20:50	25.0	24.7	99	90 - 110
CCV3	273176	KQ1113590-20	12/15/11 20:50	25.0	25.4	101	90 - 110
CCV4	273176	KQ1113590-21	12/15/11 20:50	25.0	25.0	100	90 - 110
CCV5	273176	KQ1113590-22	12/15/11 20:50	25.0	25.2	101	90 - 110
CCV6	273176	KQ1113590-23	12/15/11 20:50	25.0	25.4	102	90 - 110
CCV7	273446	KQ1113676-36	12/16/11 14:54	25.0	24.3	97	90 - 110
CCV8	273446	KQ1113676-37	12/16/11 14:54	25.0	25.0	100	90 - 110
CCV9	273446	KQ1113676-38	12/16/11 14:54	25.0	24.3	97	90 - 110
CCV10	273446	KQ1113676-39	12/16/11 14:54	25.0	24.3	97	90 - 110
CCV11	273446	KQ1113676-40	12/16/11 14:54	25.0	24.4	97	90 - 110
CCV12	273446	KQ1113676-41	12/16/11 14:54	25.0	24.0	96	90 - 110
CCV13	273446	KQ1113676-42	12/16/11 14:54	25.0	25.2	101	90 - 110
CCV14	273446	KQ1113676-43	12/16/11 14:54	25.0	24.1	96	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Blank (CCB) Summary
Carbon, Dissolved Organic (DOC)

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	273176	KQ1113590-24	12/15/11 20:50	0.07	0.50	ND	U
CCB2	273176	KQ1113590-25	12/15/11 20:50	0.07	0.50	ND	U
CCB3	273176	KQ1113590-26	12/15/11 20:50	0.07	0.50	ND	U
CCB4	273176	KQ1113590-27	12/15/11 20:50	0.07	0.50	ND	U
CCB5	273176	KQ1113590-28	12/15/11 20:50	0.07	0.50	ND	U
CCB6	273176	KQ1113590-29	12/15/11 20:50	0.07	0.50	ND	U
CCB7	273446	KQ1113676-44	12/16/11 14:54	0.07	0.50	ND	U
CCB8	273446	KQ1113676-45	12/16/11 14:54	0.07	0.50	ND	U
CCB9	273446	KQ1113676-46	12/16/11 14:54	0.07	0.50	ND	U
CCB10	273446	KQ1113676-47	12/16/11 14:54	0.07	0.50	ND	U
CCB11	273446	KQ1113676-48	12/16/11 14:54	0.07	0.50	ND	U
CCB12	273446	KQ1113676-49	12/16/11 14:54	0.07	0.50	ND	U
CCB13	273446	KQ1113676-50	12/16/11 14:54	0.07	0.50	ND	U
CCB14	273446	KQ1113676-51	12/16/11 14:54	0.07	0.50	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/ 6/11 - 12/ 7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/ 9/11
		Units:	mg/L
Analysis Method:	SM 5310 C	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-001 PS03	K1111962-001	**2.1**		1.0	0.2	2	NA	12/13/11 15:47	
AMB09-002 PS04	K1111962-002	**1.3**		1.0	0.2	2	NA	12/13/11 15:47	
AMB09-003 PS05	K1111962-003	**1.4**		1.0	0.2	2	NA	12/13/11 15:47	
AMB09-004 PS14	K1111962-004	**1.1**		1.0	0.2	2	NA	12/13/11 15:47	
AMB09-005 PS06	K1111962-005	**0.9**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-007 PS08	K1111962-007	**0.9**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-008 PS08DUP	K1111962-008	**0.9**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-009 PS15	K1111962-009	**0.9**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-010 PS09	K1111962-010	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-011 PS10	K1111962-011	**0.8**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-012 PS10.1	K1111962-012	**0.9**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-013 PS11	K1111962-013	**0.8**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-014 PS16	K1111962-014	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-015 PS01	K1111962-015	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-016 PS01DUP	K1111962-016	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-017 PS02	K1111962-017	**0.8**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-018 M4	K1111962-018	**1.1**		1.0	0.2	2	NA	12/13/11 15:47	
AMB09-019 BJEST	K1111962-019	**0.9**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-020 M3.1	K1111962-020	**0.8**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-021 PS12	K1111962-021	**0.8**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-022 PS03B	K1111962-022	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09DD-003 OF021	K1111962-025	**0.5**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-100 M5	K1111962-026	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-101 M8	K1111962-027	**0.8**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09102 M7	K1111962-028	**0.7**	J	1.0	0.2	2	NA	12/13/11 15:47	
AMB09-103 DYOTS	K1111962-029	**1.2**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-104 WP	K1111962-030	**1.2**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-105 M2	K1111962-031	**0.9**	J	1.0	0.2	2	NA	12/14/11 20:50	
AMB09-106 M2DEEP	K1111962-032	**0.9**	J	1.0	0.2	2	NA	12/14/11 20:50	
AMB09-107 CLMBAY	K1111962-033	**1.0**	J	1.0	0.2	2	NA	12/14/11 20:50	
AMB09-108 ILSP	K1111962-034	**0.9**	J	1.0	0.2	2	NA	12/14/11 20:50	
AMB09-109 M1	K1111962-035	**1.1**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-110 M1DEEP	K1111962-036	**0.8**	J	1.0	0.2	2	NA	12/14/11 20:50	
AMB09-111 SN03	K1111962-037	**1.0**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-112 SN05	K1111962-038	**1.2**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-113 SN05DUP	K1111962-039	**1.3**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-114 SN08	K1111962-040	**0.9**	J	1.0	0.2	2	NA	12/14/11 20:50	
AMB09-115 SN10	K1111962-041	**1.0**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-116 SN11	K1111962-042	**1.9**		1.0	0.2	2	NA	12/14/11 20:50	
AMB09-117 M3.3	K1111962-043	**1.0**	J	1.0	0.2	2	NA	12/14/11 20:50	
Method Blank	K1111962-MB1	ND	U	0.50	0.07	1	NA	12/13/11 15:47	
Method Blank	K1111962-MB2	ND	U	0.50	0.07	1	NA	12/13/11 15:47	
Method Blank	K1111962-MB3	ND	U	0.50	0.07	1	NA	12/14/11 20:50	

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-001 PS03DUP Duplicate Sample K1111962-001DUP1 Result	Average	RPD		RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	2.1	1.1	1.62	62	*	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-002 PS04
Lab Code: K1111962-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-002 PS04DUP Duplicate Sample K1111962-002DUP2 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.3	1.0	1.18	27	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-003 PS05
Lab Code: K1111962-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-003 PS05DUP Duplicate Sample K1111962-003DUP3 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.4	1.1	1.25	29	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-004 PS14
Lab Code: K1111962-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-004 PS14DUP Duplicate Sample K1111962-004DUP4 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	0.9 J	0.990	22	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-005 PS06
Lab Code: K1111962-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-005 PS06DUP Duplicate Sample K1111962-005DUP5 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.911	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-007 PS08
Lab Code: K1111962-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-007 PS08DUP Duplicate Sample K1111962-007DUP7 Result	Average	RPD		RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	1.3	1.14	34	*	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-008 PS08DUP
Lab Code: K1111962-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-008 PS08DUPDUP Duplicate Sample K1111962-008DUP8 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.819	11	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-009 PS15
Lab Code: K1111962-009

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-009 PS15DUP Duplicate Sample K1111962-009DUP9 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.843	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-010 PS09
Lab Code: K1111962-010

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-010 PS09DUP Duplicate Sample K1111962-010DUP10 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	1.0 J	0.864	30	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-011 PS10
Lab Code: K1111962-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-011 PS10DUP Duplicate Sample K1111962-011DUP11 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.9 J	0.826	14	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-012 PS10.1
Lab Code: K1111962-012

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-012 PS10.1DUP Duplicate Sample K1111962-012DUP12 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	1.0 J	0.939	12	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-013 PS11
Lab Code: K1111962-013

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-013 PS11DUP Duplicate Sample K1111962-013DUP13 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	1.0 J	0.866	25	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-014 PS16
Lab Code: K1111962-014

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-014 PS16DUP Duplicate Sample K1111962-014DUP14 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.7 J	0.737	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-015 PS01
Lab Code: K1111962-015

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-015 PS01DUP Duplicate Sample K1111962-015DUP15 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.8 J	0.766	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-016 PS01DUP
Lab Code: K1111962-016

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-016 PS01DUPDUP Duplicate Sample K1111962-016DUP16 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.8 J	0.795	13	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-017 PS02
Lab Code: K1111962-017

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-017 PS02DUP Duplicate Sample K1111962-017DUP17 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.780	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-018 M4
Lab Code: K1111962-018

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-018 M4DUP Duplicate Sample K1111962-018DUP18 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	1.3	1.21	20	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-019 BJEST
Lab Code: K1111962-019

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-019 BJESTDUP Duplicate Sample K1111962-019DUP19 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.868	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-020 M3.1
Lab Code: K1111962-020

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-020 M3.1DUP Duplicate Sample K1111962-020DUP20 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.797	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-021 PS12
Lab Code: K1111962-021

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-021 PS12DUP Duplicate Sample K1111962-021DUP21 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.789	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-022 PS03B
Lab Code: K1111962-022

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-022 PS03BDUP Duplicate Sample K1111962-022DUP22 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.8 J	0.751	6	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09DD-003 OF021
Lab Code: K1111962-025

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09DD-003 OF021DUP Duplicate Sample K1111962-025DUP25 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.5 J	0.4 J	0.425	12	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-100 M5
Lab Code: K1111962-026

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-100 M5DUP Duplicate Sample K1111962-026DUP26 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.8 J	0.742	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-101 M8
Lab Code: K1111962-027

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-101 M8DUP Duplicate Sample K1111962-027DUP27 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.8 J	0.815	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09102 M7
Lab Code: K1111962-028

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09102 M7DUP Duplicate Sample K1111962-028DUP28 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.7 J	0.7 J	0.690	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-103 DYOTS
Lab Code: K1111962-029

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-103 DYOTSDUP Duplicate Sample K1111962-029DUP29 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.1	1.18	8	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-104 WP
Lab Code: K1111962-030

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-104 WPDUP Duplicate Sample K1111962-030DUP30 Result	Average	RPD		RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	0.8 J	0.958	43	*	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-105 M2
Lab Code: K1111962-031

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-105 M2DUP Duplicate Sample K1111962-031DUP31 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	1.1	0.982	15	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-106 M2DEEP
Lab Code: K1111962-032

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-106 M2DEEPDUP Duplicate Sample K1111962-032DUP32 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.8 J	0.835	15	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-107 CLMBAY
Lab Code: K1111962-033

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-107 CLMBAYDUP Duplicate Sample K1111962-033DUP33 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0 J	1.0 J	0.964	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1111962
Project:	ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011	**Date Collected:**	12/7/11
Sample Matrix:	Ocean Water	**Date Received:**	12/9/11
		Date Analyzed:	12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB09-108 ILSP	**Units:**	mg/L
Lab Code:	K1111962-034	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-108 ILSPDUP Duplicate Sample K1111962-034DUP34 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	1.0 J	0.951	4	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-109 M1
Lab Code: K1111962-035

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-109 M1DUP Duplicate Sample K1111962-035DUP35 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.1	1.0 J	1.02	7	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-110 M1DEEP
Lab Code: K1111962-036

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-110 M1DEEPDUP Duplicate Sample K1111962-036DUP36 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.8 J	0.7 J	0.765	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-111 SN03
Lab Code: K1111962-037

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-111 SN03DUP Duplicate Sample K1111962-037DUP37 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0	1.0 J	1.01	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-112 SN05
Lab Code: K1111962-038

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-112 SN05DUP Duplicate Sample K1111962-038DUP38 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.2	1.2	1.21	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-113 SN05DUP
Lab Code: K1111962-039

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-113 SN05DUPDUP Duplicate Sample K1111962-039DUP39 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.3	1.2	1.22	5	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-114 SN08
Lab Code: K1111962-040

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-114 SN08DUP Duplicate Sample K1111962-040DUP40 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	0.9 J	0.9 J	0.946	<1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-115 SN10
Lab Code: K1111962-041

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-115 SN10DUP Duplicate Sample K1111962-041DUP41 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0	0.9 J	0.970	11	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-116 SN11
Lab Code: K1111962-042

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-116 SN11DUP Duplicate Sample K1111962-042DUP42 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.9	1.9	1.92	2	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-117 M3.3
Lab Code: K1111962-043

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-117 M3.3DUP Duplicate Sample K1111962-043DUP43 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.0 J	0.9 J	0.941	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: NA
Date Received: NA
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1112032-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1112032-001DUP44 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	7.5	7.3	7.40	3	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: NA
Date Received: NA
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1112032-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1112032-002DUP45 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	5.7	5.2	5.43	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: NA
Date Received: NA
Date Analyzed: 12/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1112032-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1112032-003DUP46 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	5.7	5.6	5.62	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-001 PS03
Lab Code: K1111962-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-001 PS03MS
Matrix Spike
K1111962-001MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	2.1	43.9	50.0	84	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/6/11
Date Received: 12/9/11
Date Analyzed: 12/13/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-019 BJEST
Lab Code: K1111962-019

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-019 BJESTMS
Matrix Spike
K1111962-019MS6

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	0.9	43.8	50.0	86	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Collected: 12/7/11
Date Received: 12/9/11
Date Analyzed: 12/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-103 DYOTS
Lab Code: K1111962-029

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-103 DYOTSMS
Matrix Spike
K1111962-029MS8

Analyte Name	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.2	44.3	50.0	86	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/13/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	23.9	26.0	92	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/13/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.7	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011
Sample Matrix: Ocean Water

Service Request: K1111962
Date Analyzed: 12/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1111962-LCS5 Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.6	26.0	99	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	272910	KQ1113545-36	12/13/11 15:47	25.0	24.0	96	90 - 110
CCV2	272910	KQ1113545-37	12/13/11 15:47	25.0	24.2	97	90 - 110
CCV3	272910	KQ1113545-38	12/13/11 15:47	25.0	24.2	97	90 - 110
CCV4	272910	KQ1113545-39	12/13/11 15:47	25.0	24.6	98	90 - 110
CCV5	272910	KQ1113545-40	12/13/11 15:47	25.0	24.4	98	90 - 110
CCV6	272910	KQ1113545-41	12/13/11 15:47	25.0	23.8	95	90 - 110
CCV7	272910	KQ1113545-42	12/13/11 15:47	25.0	23.8	95	90 - 110
CCV8	272910	KQ1113545-43	12/13/11 15:47	25.0	23.9	96	90 - 110
CCV9	273175	KQ1113589-19	12/14/11 20:50	25.0	25.2	101	90 - 110
CCV10	273175	KQ1113589-20	12/14/11 20:50	25.0	24.2	97	90 - 110
CCV11	273175	KQ1113589-21	12/14/11 20:50	25.0	24.8	99	90 - 110
CCV12	273175	KQ1113589-22	12/14/11 20:50	25.0	24.7	99	90 - 110
CCV13	273175	KQ1113589-23	12/14/11 20:50	25.0	25.4	101	90 - 110

Client: Battelle Marine Sciences Lab **Service Request:** K1111962
Project: ENVVEST (AMB09) Ambient Monitoring/DECEMBER 2011

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	272910	KQ1113545-44	12/13/11 15:47	0.07	0.50	ND	U
CCB2	272910	KQ1113545-45	12/13/11 15:47	0.07	0.50	ND	U
CCB3	272910	KQ1113545-46	12/13/11 15:47	0.07	0.50	ND	U
CCB4	272910	KQ1113545-47	12/13/11 15:47	0.07	0.50	ND	U
CCB5	272910	KQ1113545-48	12/13/11 15:47	0.07	0.50	ND	U
CCB6	272910	KQ1113545-49	12/13/11 15:47	0.07	0.50	ND	U
CCB7	272910	KQ1113545-50	12/13/11 15:47	0.07	0.50	ND	U
CCB8	272910	KQ1113545-51	12/13/11 15:47	0.07	0.50	ND	U
CCB9	273175	KQ1113589-24	12/14/11 20:50	0.07	0.50	ND	U
CCB10	273175	KQ1113589-25	12/14/11 20:50	0.07	0.50	ND	U
CCB11	273175	KQ1113589-26	12/14/11 20:50	0.07	0.50	ND	U
CCB12	273175	KQ1113589-27	12/14/11 20:50	0.07	0.50	ND	U
CCB13	273175	KQ1113589-28	12/14/11 20:50	0.07	0.50	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1112090
Project:	December 2011 AMB 09	**Date Received:**	12/14/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 12/14/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 1-6-12

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-200 P7SUB-001	K1112090-001	**0.037**		0.010	0.003	1	NA	12/19/11 14:33	
Method Blank	K1112090-MB	ND	U	0.010	0.003	1	NA	12/19/11 14:33	

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11
Date Analyzed: 12/19/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-200 P7SUB-001
Lab Code: K1112090-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-200 P7SUB-001DUP Duplicate Sample K1112090-001DUP1 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.037	0.033	0.0352	10	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11
Date Analyzed: 12/19/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-200 P7SUB-001
Lab Code: K1112090-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	AMB09-200 P7SUB-001MS Matrix Spike K1112090-001MS1 Result	Spike Amount	% Rec	AMB09-200 P7SUB-001DMS Duplicate Matrix Spike K1112090-001DMS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.037	0.241	0.200	102	0.246	0.200	105	90 - 110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Analyzed: 12/19/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1112090-LCS Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.0	13.9	94	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Verification (CCV) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	273689	KQ1113685-09	12/19/11 14:33	0.250	0.238	95	90 - 110
CCV2	273689	KQ1113685-10	12/19/11 14:33	0.250	0.243	97	90 - 110
CCV3	273689	KQ1113685-11	12/19/11 14:33	0.250	0.242	97	90 - 110

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analytical Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	273689	KQ1113685-06	12/19/11 14:33	0.003	0.010	ND	U
CCB2	273689	KQ1113685-07	12/19/11 14:33	0.003	0.010	ND	U
CCB3	273689	KQ1113685-08	12/19/11 14:33	0.003	0.010	ND	U

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1112090
Project:	December 2011 Ambient Monitoring (AMB09)	**Date Collected:**	12/12/11
Sample Matrix:	Ocean Water	**Date Received:**	12/14/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	351.4	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-200 P7SUB-001	K1112090-001	**1.0**	J	1.0	0.4	2	12/22/11	12/23/11 10:30	
Method Blank	K1112090-MB	ND	U	0.20	0.14	2	12/22/11	12/23/11 10:30	

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: NA
Date Received: NA
Date Analyzed: 12/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113831-06

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample KQ1113831-06DUP12 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	0.14	0.14	6.04	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: NA
Date Received: NA
Date Analyzed: 12/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1113831-06

Units: mg/L
Basis: NA

Analytical Method: 351.4
Prep Method: Method

		Batch QCMS Matrix Spike KQ1113831-06MS7			Batch QCDMS Duplicate Matrix Spike KQ1113831-06DMS7					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	6.04	29.4	20.0	117	45.2	40.0	98	40 - 160	18	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Analyzed: 12/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1112090-LCS Result	Spike Amount	% Rec	% Rec Limits
Nitrogen, Total Kjeldahl (TKN)	351.4	2.55	2.47	103	75 - 125

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Verification (CCV) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	274364	KQ1113887-04	12/23/11 10:30	10.0	10.1	101	90 - 110
CCV2	274364	KQ1113887-05	12/23/11 10:30	10.0	9.91	99	90 - 110
CCV3	274364	KQ1113887-06	12/23/11 10:30	10.0	9.35	94	90 - 110

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analytical Method: 351.4

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	274364	KQ1113887-01	12/23/11 10:30	0.07	0.20	ND	U
CCB2	274364	KQ1113887-02	12/23/11 10:30	0.07	0.20	ND	U
CCB3	274364	KQ1113887-03	12/23/11 10:30	0.07	0.20	**0.08**	J

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11

Analysis Method: 353.2

Units: mg/L
Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-200 P7SUB-001	K1112090-001	**0.404**		0.050	0.009	1	NA	12/20/11 12:47	
Method Blank	K1112090-MB	**0.014**	J	0.050	0.009	1	NA	12/20/11 12:47	

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11
Date Analyzed: 12/20/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-200 P7SUB-001
Lab Code: K1112090-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-200 P7SUB-001DUP Duplicate Sample K1112090-001DUP1 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.404	0.400	0.402	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11
Date Analyzed: 12/20/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-200 P7SUB-001
Lab Code: K1112090-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

		AMB09-200 P7SUB-001MS Matrix Spike K1112090-001MS1			AMB09-200 P7SUB-001DMS Duplicate Matrix Spike K1112090-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.404	2.46	2.00	103	2.44	2.00	102	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Analyzed: 12/20/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1112090-LCS Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.3	17.7	98	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Verification (CCV) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	273840	KQ1113723-10	12/20/11 12:47	2.00	1.96	98	90 - 110
CCV2	273840	KQ1113723-11	12/20/11 12:47	2.00	1.97	98	90 - 110
CCV3	273840	KQ1113723-12	12/20/11 12:47	2.00	1.97	99	90 - 110
CCV4	273840	KQ1113723-13	12/20/11 12:47	2.00	1.95	98	90 - 110
CCV5	273840	KQ1113723-15	12/20/11 12:47	2.00	1.96	98	90 - 110

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Blank (CCB) Summary
Nitrate+Nitrite as Nitrogen

Analytical Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	273840	KQ1113723-06	12/20/11 12:47	0.009	0.050	**0.017**	J
CCB2	273840	KQ1113723-07	12/20/11 12:47	0.009	0.050	**0.011**	J
CCB3	273840	KQ1113723-08	12/20/11 12:47	0.009	0.050	**0.011**	J
CCB4	273840	KQ1113723-09	12/20/11 12:47	0.009	0.050	**0.014**	J
CCB5	273840	KQ1113723-14	12/20/11 12:47	0.009	0.050	**0.011**	J

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11

Prep Method: Method
Analysis Method: 365.3

Units: mg/L
Basis: NA

Phosphorus, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-200 P7SUB-001	K1112090-001	**0.088**		0.010	0.004	1	12/28/11	12/29/11 14:35	
Method Blank	K1112090-MB	ND	U	0.010	0.004	1	12/28/11	12/29/11 14:35	

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: NA
Date Received: NA
Date Analyzed: 12/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1112127-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1112127-001DUP2 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.169	0.169	0.169	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: NA
Date Received: NA
Date Analyzed: 12/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1112127-001

Units: mg/L
Basis: NA

Analytical Method: 365.3
Prep Method: Method

		Batch QCMS Matrix Spike K1112127-001MS3			Batch QCDMS Duplicate Matrix Spike K1112127-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.169	0.661	0.500	98	1.16	1.00	99	60 - 135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Analyzed: 12/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1112090-LCS Result	Spike Amount	% Rec	% Rec Limits
Phosphorus, Total	365.3	3.55	3.41	104	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Verification (CCV) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	275009	KQ1114073-05	12/29/11 14:35	0.500	0.496	99	90 - 110
CCV2	275009	KQ1114073-06	12/29/11 14:35	0.500	0.494	99	90 - 110
CCV3	275009	KQ1114073-07	12/29/11 14:35	0.500	0.493	99	90 - 110
CCV4	275009	KQ1114073-08	12/29/11 14:35	0.500	0.496	99	90 - 110

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analytical Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	275009	KQ1114073-01	12/29/11 14:35	0.004	0.010	ND	U
CCB2	275009	KQ1114073-02	12/29/11 14:35	0.004	0.010	ND	U
CCB3	275009	KQ1114073-03	12/29/11 14:35	0.004	0.010	ND	U
CCB4	275009	KQ1114073-04	12/29/11 14:35	0.004	0.010	ND	U

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
AMB09-200 P7SUB-001	K1112090-001	**1.7**		1.0	0.2	2	NA	12/23/11 18:00	
Method Blank	K1112090-MB	**0.15**	J	0.50	0.07	1	NA	12/23/11 18:00	

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11
Date Analyzed: 12/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: AMB09-200 P7SUB-001
Lab Code: K1112090-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	AMB09-200 P7SUB-001DUP Duplicate Sample K1112090-001DUP1 Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	1.0	0.2	1.7	1.7	1.70	1	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Collected: 12/12/11
Date Received: 12/14/11
Date Analyzed: 12/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: AMB09-200 P7SUB-001
Lab Code: K1112090-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

AMB09-200 P7SUB-001MS
Matrix Spike
K1112090-001MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.7	45.2	50.0	87	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Sample Matrix: Ocean Water

Service Request: K1112090
Date Analyzed: 12/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1112090-LCS			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Carbon, Total Organic	SM 5310 C	24.4	26.0	94	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)

Service Request: K1112090

Continuing Calibration Verification (CCV) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	274391	KQ1113926-18	12/23/11 18:00	25.0	23.9	96	90 - 110
CCV2	274391	KQ1113926-19	12/23/11 18:00	25.0	23.8	95	90 - 110
CCV3	274391	KQ1113926-20	12/23/11 18:00	25.0	23.6	94	90 - 110

Client: Battelle Marine Sciences Lab
Project: December 2011 Ambient Monitoring (AMB09)
Service Request: K1112090

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analytical Method: SM 5310 C
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MDL	MRL	Result	Q
CCB1	274391	KQ1113926-21	12/23/11 18:00	0.07	0.50	**0.26**	J
CCB2	274391	KQ1113926-22	12/23/11 18:00	0.07	0.50	ND	U
CCB3	274391	KQ1113926-23	12/23/11 18:00	0.07	0.50	ND	U

K1111962

PROJECT ENVVEST
Project Name: DECEMBER 2011 Ambient Monitoring (AMB09)
SAMPLE TEAM: Navy, Battelle
DATE: 12/7/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

					Testing Parameters per QAPP												
14	AMB09-014	PS16	12/06/11	seawater			X	X								1	
	AMB09-014	PS16	12/06/11	seawater					X							1	
15	AMB09-015	PS01	12/06/11	seawater			X	X								1	
	AMB09-015	PS01	12/06/11	seawater					X							1	
16	AMB09-016	PS01DUP	12/06/11	seawater			X	X								1	
	AMB09-016	PS01DUP	12/06/11	seawater					X							1	
17	AMB09-017	PS02	12/06/11	seawater			X	X								1	
	AMB09-017	PS02	12/06/11	seawater					X							1	
18	AMB09-018	M4	12/06/11	seawater			X	X								1	
	AMB09-018	M4	12/06/11	seawater					X							1	
19	AMB09-019	BJEST	12/06/11	seawater			X	X								1	
	AMB09-019	BJEST	12/06/11	seawater					X							1	
	AMB09-020	M3.1	12/06/11	seawater			X	X								1	
20	AMB09-020	M3.1	12/06/11	seawater					X							1	
	AMB09-021	PS12	12/06/11	seawater			X	X								1	
21	AMB09-021	PS12	12/06/11	seawater					X							1	
	AMB09-022	PS03B	12/06/11	seawater			X	X								1	
22	AMB09-022	PS03B	12/06/11	seawater					X							1	
23	AMB09DD-001	OF018A	12/06/11	water					X							1	
24	AMB09DD-002	OF019	12/06/11	water					X							1	
25	AMB09DD-003	OF021	12/06/11	water			X	X								1	
	AMB09DD-003	OF021	12/06/11	water					X							1	
	AMB09DD-003	OF021	12/06/11	water						X						1	
	--end--																

Total: 49

Relinquished By: C. Suslick — Company: Battelle MSL — 12/7/2011 — Signature/Printed Name — Date/Time

→ Shipped via Fedex 12/8/11 EG

Received By: — Company: CAS — 12/9/11 940 — Signature/Printed Name — Date/Time

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K1111962

PROJECT ENVVEST
Project Name: DECEMBER 2011 Ambient Monitoring (AMB09)
SAMPLE TEAM: Navy, Battelle
DATE: 12/8/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
26	AMB09-100	M5	12/07/11	seawater			X	X					1	
	AMB09-100	M5	12/07/11	seawater					X				1	
27	AMB09-101	M8	12/07/11	seawater			X	X					1	
	AMB09-101	M8	12/07/11	seawater					X				1	
28	AMB09-102	M7	12/07/11	seawater			X	X					1	
	AMB09-102	M7	12/07/11	seawater					X				1	
29	AMB09-103	DYOTS	12/07/11	seawater			X	X					1	
	AMB09-103	DYOTS	12/07/11	seawater					X				1	
30	AMB09-104	WP	12/07/11	seawater			X	X					1	
	AMB09-104	WP	12/07/11	seawater					X				1	
31	AMB09-105	M2	12/07/11	seawater			X	X					1	
	AMB09-105	M2	12/07/11	seawater					X				1	
32	AMB09-106	M2DEEP	12/07/11	seawater			X	X					1	
	AMB09-106	M2DEEP	12/07/11	seawater					X				1	
33	AMB09-107	CLMBAY	12/07/11	seawater			X	X					1	
	AMB09-107	CLMBAY	12/07/11	seawater					X				1	
34	AMB09-108	ILSP	12/07/11	seawater			X	X					1	
	AMB09-108	ILSP	12/07/11	seawater					X				1	
35	AMB09-109	M1	12/07/11	seawater			X	X					1	
	AMB09-109	M1	12/07/11	seawater					X				1	
36	AMB09-110	M1DEEP	12/07/11	seawater			X	X					1	
	AMB09-110	M1DEEP	12/07/11	seawater					X				1	
37	AMB09-111	SN03	12/07/11	seawater			X	X					1	
	AMB09-111	SN03	12/07/11	seawater					X				1	
38	AMB09-112	SN05	12/07/11	seawater			X	X					1	
	AMB09-112	SN05	12/07/11	seawater					X				1	

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SOP#: MSL-A-001

K1111962

PROJECT ENVVEST
Project Name: DECEMBER 2011 Ambient Monitoring (AMB09)
SAMPLE TEAM: Navy, Battelle
DATE: 12/8/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

AMB09-113	SN05DUP	12/07/11	seawater			X	X						1	
AMB09-113	SN05DUP	12/07/11	seawater					X					1	
AMB09-114	SN08	12/07/11	seawater			X	X						1	
AMB09-114	SN08	12/07/11	seawater					X					1	
AMB09-115	SN10	12/07/11	seawater			X	X						1	
AMB09-115	SN10	12/07/11	seawater					X					1	
AMB09-116	SN11	12/07/11	seawater			X	X						1	
AMB09-116	SN11	12/07/11	seawater					X					1	
AMB09-117	M3.3	12/07/11	seawater			X	X						1	
AMB09-117	M3.3	12/07/11	seawater					X					1	
--end--														

Total: 36

Relinquished By: C. Suslick
Company: Battelle MSL
12/8/2011
Signature/Printed Name — Date/Time

Received By:
Company: CAS
12/9/11 0940
Signature/Printed Name — Date/Time

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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 112

Client / Project: Battelle Service Request K11 11902

Received: 12/9/11 Opened: 12/9/11 By: BT Unloaded: 12/9/11 By: BT

1. Samples were received via? *Mail* *(Fed Ex)* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
1.1	N/A	316	1		X
1.0	N/A	314			X
-0.3	N/A	294			X
-0.7	N/A	311			X

7. Packing material used. *Inserts* *Baggies* *(Bubble Wrap)* *(Gel Packs)* *Wet Ice* *Sleeves* *Other*_____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

*Page 1 of*_____

K1111962

PROJECT ENVVEST
Project Name: DECEMBER 2011 Ambient Monitoring (AMB09)
SAMPLE TEAM: Navy, Battelle
DATE: 12/7/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB09-001	PS03	12/06/11	seawater			X	X					1	
	AMB09-001	PS03	12/06/11	seawater					X				1	
2	AMB09-002	PS04	12/06/11	seawater			X	X					1	
	AMB09-002	PS04	12/06/11	seawater					X				1	
3	AMB09-003	PS05	12/06/11	seawater			X	X					1	
	AMB09-003	PS05	12/06/11	seawater					X				1	
4	AMB09-004	PS14	12/06/11	seawater			X	X					1	
	AMB09-004	PS14	12/06/11	seawater					X				1	
5	AMB09-005	PS06	12/06/11	seawater			X	X					1	
	AMB09-005	PS06	12/06/11	seawater					X				1	
6	AMB09-006	PS07	12/06/11	seawater			~~X~~	~~X~~					1	not Shipped 12/8/11
	AMB09-006	PS07	12/06/11	seawater					X				1	
7	AMB09-007	PS08	12/06/11	seawater			X	X					1	
	AMB09-007	PS08	12/06/11	seawater					X				1	
8	AMB09-008	PS08DUP	12/06/11	seawater			X	X					1	
	AMB09-008	PS08DUP	12/06/11	seawater					X				1	
9	AMB09-009	PS15	12/06/11	seawater			X	X					1	
	AMB09-009	PS15	12/06/11	seawater					X				1	
10	AMB09-010	PS09	12/06/11	seawater			X	X					1	
	AMB09-010	PS09	12/06/11	seawater					X				1	
11	AMB09-011	PS10	12/06/11	seawater			X	X					1	
	AMB09-011	PS10	12/06/11	seawater					X				1	
12	AMB09-012	PS10.1	12/06/11	seawater			X	X					1	
	AMB09-012	PS10.1	12/06/11	seawater					X				1	
13	AMB09-013	PS11	12/06/11	seawater			X	X					1	
	AMB09-013	PS11	12/06/11	seawater					X				1	

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SOP#: MSL-A-001

Page 1 of 2

K1112090

PROJECT ENVVEST
Project Name: DECEMBER 2011 Ambient Monitoring (AMB09)
SAMPLE TEAM: Navy, Battelle
DATE: 12/13/2011
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB09-200	P7SUB-001	12/12/11	seawater			X						1	N end of barge
--end--											Total:	1	

Relinquished By: C. Suslick — Company: Battelle MSL — 12/13/2011
Signature/Printed Name — Date/Time

Received By: SWOLF — Company: — 12/14/11 0930
Signature/Printed Name — Date/Time

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K1112090

PROJECT ENVVEST															
Project Name: DECEMBER 2011 Ambient Monitoring (AMB09)						CHAIN OF CUSTODY FORM									
SAMPLE TEAM:		Navy, Battelle													
DATE:	12/13/2011														
Laboratory:	Columbia Analytical					Testing Parameters per QAPP									
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	**COMMENTS**		
AMB09-200	P7SUB-001	12/12/11	seawater			X	X					1	N end of barge		
--end--															
											Total:	1			
Relinquished By:		Company:	Battelle MSL												
C. Suslick			12/13/2011												
Signature/Printed Name			Date/Time												
Received By:		Company:													
Signature/Printed Name			Date/Time												

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emailed COC

PC 412

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K11 12090

Received: 12/14/11 Opened: 12/14/11 By: SRW Unloaded: 12/14/11 By: SRW

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.4	—	287		7978 3729 3997	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* paper
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

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Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring March 2012 (AMB10)

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring
Seawater, Freshwater Chemistry

Chemistry Analysis of Metals in Site Water

Field Data Summary Report 3
QA/QC Summary Reports 12
QA/QC Narrative 32

Narrative, Batch K1202450 37
Summary Report, Batch K1202450 38

Narrative, Batch K1202512 74
Summary Report, Batch K1202512 75

Sample Custody Information

Sample Collection, 031312 99
Sample Collection, 031412 109
Sample Collection, 031612 117

Chain of Custody, Batch K1111962 125
Chain of Custody, Batch K1112090 128

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS		TOC/ DOC	TOC/ DOC	Hg	As	Ag	Al	Cd
						Units			HTCO	HTCO					
				Instrument:		(PSU)	mg/L		(mg/L)	(µM)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.62**		**0.030**	**2.5**	**0.0001**	**0.0267**	**0.0042**	**2.14**	**0.00110**
Seawater Reporting Limit (MDL* 3.18)									**0.095**	**8.0**	**0.00032**	**0.085**	**0.013**	**6.8**	**0.0035**
Laboratory Achieved Detection Limits (Freshwater)						--	--				0.0001	0.0267	0.0032	0.2	0.0033
Freshwater Reporting Limit (MDL* 3.18)						--	--				0.00032	0.085	0.010	0.6	0.011
AMB10-001	PS03	Total	Seawater	**3106-810**	03/13/12	26.3	1.48		0.975	81.2	0.00281	1.18	0.0042 Ub	20.2 b	0.0769 b
AMB10-001	PS03	Diss	Seawater	**3106-811**	03/13/12	--	--		0.969	80.7	0.000833	--	0.0042 Ub	2.14 Ub	0.0800 b
AMB10-002	PS04	Total	Seawater	**3106-812**	03/13/12	28.3	1.27		0.966	80.5	0.000745	1.28	0.0042 Ub	6.66 Jb	0.0816 b
AMB10-002	PS04	Diss	Seawater	**3106-813**	03/13/12	--	--		0.904	75.3	0.000343	--	0.0042 Ub	2.14 Ub	0.0812 b
AMB10-003	PS05	Total	Seawater	**3106-814**	03/13/12	28.2	0.62	U	0.906	75.5	0.000845	1.16	0.0042 Ub	8.20 b	0.0770 b
AMB10-003	PS05	Diss	Seawater	**3106-815**	03/13/12	--	--		0.966	80.5	0.000366	--	0.0042 Ub	2.14 Ub	0.0815 b
AMB10-004	PS14	Total	Seawater	**3106-816**	03/13/12	28.6	1.61		0.878	73.2	0.000621	1.27	0.0042 Ub	7.66 b	0.0768 b
AMB10-004	PS14	Diss	Seawater	**3106-817**	03/13/12	--	--		0.842	70.2	0.000338	--	0.0042 Ub	2.14 Ub	0.0735 b
AMB10-005	PS06	Total	Seawater	**3106-818**	03/13/12	28.4	0.62	U	0.866	72.2	0.00102	1.20	0.0042 Ub	9.27 b	0.0759 b
AMB10-005	PS06	Diss	Seawater	**3106-819**	03/13/12	--	--		0.826	68.8	0.000430	--	0.0042 Ub	2.14 Ub	0.0791 b
AMB10-006	PS07	Total	Seawater	**3106-820**	03/13/12	28.7	1.56		0.862	71.8	0.000700	1.19	0.0042 Ub	7.06 b	0.0792 b
AMB10-006	PS07	Diss	Seawater	**3106-821**	03/13/12	--	--		0.842	70.2	0.000392	--	0.0042 Ub	2.14 Ub	0.0747 b
AMB10-007	PS08	Total	Seawater	**3106-822**	03/13/12	28.9	0.88		0.855	71.2	0.000471	1.20	0.0042 Ub	6.87 b	0.0801 b
AMB10-007	PS08	Diss	Seawater	**3106-823**	03/13/12	--	--		0.856	71.3	0.000206	--	0.0042 Ub	2.14 Ub	0.0760 b
AMB10-008	PS15	Total	Seawater	**3106-824**	03/13/12	28.8	0.66		0.873	72.7	0.000534	1.18	0.0042 Ub	9.99 b	0.0805 b
AMB10-008	PS15	Diss	Seawater	**3106-825**	03/13/12	--	--		0.881	73.4	0.000238	--	0.0042 Ub	2.14 Ub	0.0763 b
AMB10-009	PS09	Total	Seawater	**3106-826**	03/13/12	28.7	0.62	U	0.841	70.1	0.000639	1.19	0.0042 Ub	7.75 b	0.0791 b
AMB10-009	PS09	Diss	Seawater	**3106-827**	03/13/12	--	--		0.839	69.9	0.000315	--	0.0042 Ub	2.14 Ub	0.0763 b
AMB10-010	PS09DUP	Total	Seawater	**3106-828**	03/13/12	--	--		--	--	0.000684	1.21	0.0042 Ub	7.80 b	0.0806 b
AMB10-010	PS09DUP	Diss	Seawater	**3106-829**	03/13/12	--	--		--	--	0.000305	--	0.0042 Ub	2.14 Ub	0.0787 b
AMB10-011	PS10	Total	Seawater	**3106-830**	03/13/12	28.2	0.62	U	0.945	78.7	0.000780	1.25	0.0042 Ub	6.42 b	0.0844 b
AMB10-011	PS10	Diss	Seawater	**3106-831**	03/13/12	--	--		0.872	72.7	0.000357	--	0.0042 Ub	2.14 Ub	0.0820 b
AMB10-012	PS10.1	Total	Seawater	**3106-832**	03/13/12	28.3	0.79		0.909	75.7	0.000847	1.17	0.0042 Ub	6.11 b	0.0830 b
AMB10-012	PS10.1	Diss	Seawater	**3106-833**	03/13/12	--	--		0.845	70.4	0.000326	--	0.0042 Ub	2.14 Ub	0.0835 b
AMB10-013	PS11	Total	Seawater	**3106-834**	03/13/12	28.1	0.72		0.844	70.3	0.000651	1.16	0.0042 Ub	5.89 b	0.0853 b
AMB10-013	PS11	Diss	Seawater	**3106-835**	03/13/12	--	--		0.859	71.6	0.000373	--	0.0042 Ub	2.14 Ub	0.0846 b
AMB10-014	PIER7	Total	Seawater	**3106-836**	03/13/12	28.5	0.49	[1]	0.879	73.2	0.000537	1.23	0.0042 Ub	6.64 b	0.0783 b
AMB10-014	PIER7	Diss	Seawater	**3106-837**	03/13/12	--	--		0.848	70.7	0.000241	--	0.0042 Ub	2.14 Ub	0.0794 b
AMB10-015	PS16	Total	Seawater	**3106-838**	03/13/12	28.7	1.06		0.873	72.7	0.000674	1.22	0.0042 Ub	8.80 b	0.0782 b
AMB10-015	PS16	Diss	Seawater	**3106-839**	03/13/12	--	--		0.887	73.9	0.000233	--	0.0042 Ub	2.14 Ub	0.0793 b
AMB10-016	PS01	Total	Seawater	**3106-840**	03/13/12	28.6	2.20		0.982	81.8	0.000598	1.18	0.0042 Ub	14.4 b	0.0815 b
AMB10-016	PS01	Diss	Seawater	**3106-841**	03/13/12	--	--		0.866	72.2	0.000303	--	0.0042 Ub	2.14 Ub	0.0794 b
AMB10-017	PS01DUP	Total	Seawater	**3106-842**	03/13/12	--	--		--	--	0.000575	1.14	0.0042 Ub	14.6 b	0.0788 b
AMB10-017	PS01DUP	Diss	Seawater	**3106-843**	03/13/12	--	--		--	--	0.000247	--	0.0042 Ub	2.14 Ub	0.0770 b
AMB10-018	PS02	Total	Seawater	**3106-844**	03/13/12	27.4	1.14		1.03	85.8	0.000957	1.20	0.0042 Ub	20.4 b	0.0812 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS		TOC/ DOC	TOC/ DOC		Hg	As	Ag	Al	Cd
						Units			HTCO	HTCO						
				Instrument:		(PSU)	mg/L		(mg/L)	(µM)		*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB10-018	PS02	Diss	Seawater	**3106-845**	03/13/12	--	--		0.919	76.6		0.000443	--	0.0042 Ub	2.14 Ub	0.0778 b
AMB10-019	PS13	Total	Seawater	**3106-846**	03/13/12	28.2	2.37		0.965	80.4		0.000644	1.20	0.0042 Ub	8.58 b	0.0827 b
AMB10-019	PS13	Diss	Seawater	**3106-847**	03/13/12	--	--		0.900	75.0		0.000268	--	0.0042 Ub	2.14 Ub	0.0803 b
AMB10-020	M4	Total	Seawater	**3106-848**	03/13/12	28.4	1.22		1.01	84.2		0.000527	1.17	0.0042 Ub	10.1 b	0.0797 b
AMB10-020	M4	Diss	Seawater	**3106-849**	03/13/12	--	--		0.912	76.0		0.000251	--	0.0042 Ub	2.14 Ub	0.0812 b
AMB10-021	BJEST	Total	Seawater	**3106-850**	03/13/12	27.3	3.13		1.40	117		0.00217	1.26	0.0042 Ub	472 b	0.0885 b
AMB10-021	BJEST	Diss	Seawater	**3106-851**	03/13/12	--	--		1.12	93.3	E	0.000285	--	0.0042 Ub	2.79 Jb	0.0788 b
AMB10-022	M3.1	Total	Seawater	**3106-852**	03/13/12	28.5	1.14		1.02	85.0		0.000612	1.14	0.0042 Ub	8.51 b	0.0811 b
AMB10-022	M3.1	Diss	Seawater	**3106-853**	03/13/12	--	--		lost	lost		0.000234	--	0.0042 Ub	2.14 Ub	0.0776 b
AMB10-023	M3.1DEEP	Total	Seawater	**3106-854**	03/13/12	28.5	0.49	[1]U	0.935	77.9		0.000604	1.17	0.0042 Ub	10.8 b	0.0776 b
AMB10-023	M3.1DEEP	Diss	Seawater	**3106-855**	03/13/12	--	--		0.924	77.0		0.000222	--	0.0042 Ub	2.14 Ub	0.0750 b
AMB10DD-001	OF018B	Total	Seawater	**3106-856**	03/13/12	16.7	2.50	[1]	--	--		0.0191	1.85	0.0386 b	22.0 b	0.137 b
AMB10DD-001	OF018B	Diss	Seawater	**3106-857**	03/13/12	--	--		--	--		0.00403	--	0.0146 b	2.14 Ub	0.119 b
AMB10DD-002	OF019	Total	Seawater	**3106-858**	03/13/12	24.1	1.69	[1]	0.929	77.4		0.00483	1.40	0.0141 b	22.1 b	0.0880 b
AMB10DD-002	OF019	Diss	Seawater	**3106-859**	03/13/12	--	--		0.821	68.4		0.00137	--	0.00737 Jb	2.14 Ub	0.0825 b
AMB10DD-003	OF021	Total	Freshwater	**3106-860**	03/13/12	0.3	0.49	[1]U	1.26	105		0.00243	2.62	0.0032 U	7.74	0.00561 J
AMB10DD-003	OF021	Diss	Freshwater	**3106-861**	03/13/12	--	--		1.13	94.2		0.00219	--	0.0032 U	7.37	0.00408 J
AMB10-100	WP	Total	Seawater	**3106-862**	03/14/12	28.5	0.62	U	0.923	76.9		0.000552	1.17	0.0042 Ub	18.1 b	0.0747 b
AMB10-100	WP	Diss	Seawater	**3106-863**	03/14/12	--	--		0.855	71.2		0.000247	--	0.0042 Ub	2.14 Ub	0.0731 b
AMB10-101	M2	Total	Seawater	**3106-864**	03/14/12	29.3	0.64		0.834	69.5		0.000531	1.22	0.0042 Ub	17.9 b	0.102 b
AMB10-101	M2	Diss	Seawater	**3106-865**	03/14/12	--	--		0.748	62.3		0.000201	--	0.0042 Ub	2.14 Ub	0.0759 b
AMB10-102	CLMBAY	Total	Seawater	**3106-866**	03/14/12	25.6	1.45		1.31	109		0.00107	1.12	0.0042 Ub	60.3 b	0.0753 b
AMB10-102	CLMBAY	Diss	Seawater	**3106-867**	03/14/12	--	--		1.04	86.7		0.000576	--	0.0042 Ub	7.32 Jb	0.0684 b
AMB10-103	ILSP	Total	Seawater	**3106-868**	03/14/12	29.0	1.51		0.869	72.4		0.000463	1.12	0.0042 Ub	18.3 b	0.0758 b
AMB10-103	ILSP	Diss	Seawater	**3106-869**	03/14/12	--	--		0.771	64.2		0.000227	--	0.0042 Ub	2.14 Ub	0.0800 b
AMB10-104	M1	Total	Seawater	**3106-870**	03/14/12	28.7	0.62	U	0.908	75.7		0.000458	1.06	0.0042 Ub	17.5 b	0.0854 b
AMB10-104	M1	Diss	Seawater	**3106-871**	03/14/12	--	--		0.809	67.4		0.000178	--	0.0042 Ub	2.14 Ub	0.0790 b
AMB10-105	M1DEEP	Total	Seawater	**3106-872**	03/14/12	28.8	0.82		0.931	77.6		0.000473	1.08	0.0042 Ub	16.0 b	0.0861 b
AMB10-105	M1DEEP	Diss	Seawater	**3106-873**	03/14/12	--	--		0.907	75.6		0.000208	--	0.0042 Ub	2.14 Ub	0.0830 b
AMB10-106	PWNLP	Total	Seawater	**3106-874**	03/14/12	29.0	0.62	U	1.80	150		0.000656	1.06	0.0042 Ub	18.1 b	0.0822 b
AMB10-106	PWNLP	Diss	Seawater	**3106-875**	03/14/12	--	--		0.918	76.5		0.000208	--	0.0042 Ub	2.14 Ub	0.0761 b
AMB10-107	M8	Total	Seawater	**3106-876**	03/14/12	28.1	1.12		1.10	91.7		0.000779	1.10	0.0042 Ub	23.3 b	0.0931 b
AMB10-107	M8	Diss	Seawater	**3106-877**	03/14/12	--	--		0.880	73.3		0.000300	--	0.0042 Ub	2.14 Ub	0.0879 b
AMB10-108	M6	Total	Seawater	**3106-878**	03/14/12	27.8	0.62	U	0.963	80.2		0.000628	1.11	0.0042 Ub	19.3 b	0.0902 b
AMB10-108	M6	Diss	Seawater	**3106-879**	03/14/12	--	--		0.893	74.4		0.000293	--	0.0042 Ub	2.14 Ub	0.0865 b
AMB10-109	DYOTS	Total	Seawater	**3106-880**	03/14/12	14.7	3.97		2.72	227		0.00223	0.910	0.0042 Ub	154 b	0.0551 b
AMB10-109	DYOTS	Diss	Seawater	**3106-881**	03/14/12	--	--		2.57	214		0.00104	--	0.0042 Ub	16.4 b	0.0555 b
AMB10-110	M7	Total	Seawater	**3106-882**	03/14/12	25.3	1.42		1.61	134		0.00101	1.03	0.0042 Ub	50.3 b	0.0809 b
AMB10-110	M7	Diss	Seawater	**3106-883**	03/14/12	--	--		1.49	124		0.000362	--	0.0042 Ub	2.69 Jb	0.0819 b

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1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS		TOC/ DOC	TOC/ DOC	Hg	As	Ag	Al	Cd
						Units			HTCO	HTCO					
				Instrument:		(PSU)	mg/L		(mg/L)	(µM)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB10-111	PS12	Total	Seawater	**3106-884**	03/14/12	28.6	0.62	U	0.943	78.6	0.000680	1.19	0.0042 Ub	15.7 b	0.0872 b
AMB10-111	PS12	Diss	Seawater	**3106-885**	03/14/12	--	--		0.923	76.9	0.000408	--	0.0042 Ub	2.14 Ub	0.0859 b
AMB10-112	SN11	Total	Seawater	**3106-886**	03/14/12	28.3	0.62	U	0.957	79.7	0.000505	1.14	0.0042 Ub	12.8 b	0.0845 b
AMB10-112	SN11	Diss	Seawater	**3106-887**	03/14/12	--	--		0.904	75.3	0.000223	--	0.0042 Ub	2.14 Ub	0.0819 b
AMB10-113	M3.3	Total	Seawater	**3106-888**	03/14/12	28.4	0.62	U	0.971	80.9	0.000499	1.07	0.0042 Ub	10.4 b	0.0740 b
AMB10-113	M3.3	Diss	Seawater	**3106-889**	03/14/12	--	--		0.859	71.6	0.000209	--	0.0042 Ub	2.14 Ub	0.0765 b
AMB10-114	PS03B	Total	Seawater	**3106-890**	03/14/12	26.1	2.14		1.37	114	0.00285	1.17	0.0042 Ub	35.8 b	0.0861 b
AMB10-114	PS03B	Diss	Seawater	**3106-891**	03/14/12	--	--		1.05	87.5	0.000744	--	0.0042 Ub	2.14 Ub	0.0784 b
AMB10-200	SN05	Total	Seawater	**3106-892**	03/16/12	25.1	2.85		1.30	108	0.00113	0.907	0.0042 Ub	95.0 b	0.0717 b
AMB10-200	SN05	Diss	Seawater	**3106-893**	03/16/12	--	--		1.18	98.3	0.000483	--	0.0042 Ub	6.97 b	0.0649 b
AMB10-201	SN03	Total	Seawater	**3106-894**	03/16/12	27.9	0.62	U	1.14	95.0	0.000734	1.15	0.0042 Ub	18.9 b	0.0800 b
AMB10-201	SN03	Diss	Seawater	**3106-895**	03/16/12	--	--		1.01	84.2	0.000298	--	0.0042 Ub	2.14 Ub	0.0784 b
AMB10-202	SN08	Total	Seawater	**3106-896**	03/16/12	28.2	0.62	U	1.15	95.8	0.000540	1.12	0.0042 Ub	20.1 b	0.0820 b
AMB10-202	SN08	Diss	Seawater	**3106-897**	03/16/12	--	--		0.975	81.2	0.000241	--	0.0042 Ub	2.14 Ub	0.0785 b
AMB10-203	SN08DUP	Total	Seawater	**3106-898**	03/16/12	--	--		--	--	0.000487	1.09	0.0042 Ub	20.1 b	0.0803 b
AMB10-203	SN08DUP	Diss	Seawater	**3106-899**	03/16/12	--	--		--	--	0.000491	--	0.0042 Ub	2.14 Ub	0.0769 b
AMB10-204	SN10	Total	Seawater	**3106-900**	03/16/12	27.8	0.62	U	1.08	90.0	0.000602	1.07	0.0042 Ub	29.9 b	0.0782 b
AMB10-204	SN10	Diss	Seawater	**3106-901**	03/16/12	--	--		1.02	85.0	0.000375	--	0.0042 Ub	3.93 Jb	0.0755 b
AMB10-205	BM01	Total	Seawater	**3106-902**	03/16/12	28.9	0.62	U	0.910	75.8	0.000518	1.11	0.0042 Ub	14.9 b	0.0831 b
AMB10-205	BM01	Diss	Seawater	**3106-903**	03/16/12	--	--		0.884	73.7	0.000263	--	0.0042 Ub	2.14 Ub	0.0748 b
AMB10-206	PS03C	Total	Seawater	**3106-904**	03/16/12	25.6	0.62	U	1.04	86.7	0.00203	1.15	0.0042 Ub	11.9 b	0.0791 b
AMB10-206	PS03C	Diss	Seawater	**3106-905**	03/16/12	--	--		1.00	83.3	0.00137	--	0.0042 Ub	2.70 Jb	0.0756 b
AMB10-207	FB031612	Total	Freshwater	**3106-906**	03/16/12	--	--		--	--	0.0001 U	0.0458 J	0.0032 U	0.2 U	0.0033 U
AMB10-207	FB031612	Diss	Freshwater	**3106-907**	03/16/12	--	--		--	--	0.0001 U	--	0.0032 U	0.2 U	0.0033 U

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Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)					**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)					0.051	0.0053	0.0042	0.0022	0.02
Freshwater Reporting Limit (MDL* 3.18)					0.16	0.017	0.013	0.0070	0.06
AMB10-001	PS03	Total	Seawater	**3106-810**	0.239 b	2.13 b	0.734 b	0.268 b	6.09 b
AMB10-001	PS03	Diss	Seawater	**3106-811**	0.153 b	1.57 b	0.528 b	0.0346 b	5.45 b
AMB10-002	PS04	Total	Seawater	**3106-812**	0.131 b	2.75 b	0.521 b	0.0847 b	23.1 b
AMB10-002	PS04	Diss	Seawater	**3106-813**	0.111 b	2.27 b	0.428 b	0.0287 b	22.3 b
AMB10-003	PS05	Total	Seawater	**3106-814**	0.142 b	1.76 b	0.620 b	0.0876 b	6.37 b
AMB10-003	PS05	Diss	Seawater	**3106-815**	0.110 b	1.45 b	0.488 b	0.0275 b	6.71 b
AMB10-004	PS14	Total	Seawater	**3106-816**	0.120 b	1.33 b	0.471 b	0.0709 b	4.63 b
AMB10-004	PS14	Diss	Seawater	**3106-817**	0.101 b	1.01 b	0.406 b	0.0184 b	4.18 b
AMB10-005	PS06	Total	Seawater	**3106-818**	0.127 b	1.57 b	0.548 b	0.0679 b	6.25 b
AMB10-005	PS06	Diss	Seawater	**3106-819**	0.110 b	1.31 b	0.528 b	0.0148 b	6.56 b
AMB10-006	PS07	Total	Seawater	**3106-820**	0.144 b	1.33 b	0.583 b	0.0515 b	4.29 b
AMB10-006	PS07	Diss	Seawater	**3106-821**	0.0907 Jb	0.963 b	0.483 b	0.00950 b	4.10 b
AMB10-007	PS08	Total	Seawater	**3106-822**	0.132 b	2.37 b	0.505 b	0.0632 b	6.78 b
AMB10-007	PS08	Diss	Seawater	**3106-823**	0.113 b	1.84 b	0.517 b	0.0147 b	6.29 b
AMB10-008	PS15	Total	Seawater	**3106-824**	0.196 b	0.943 b	0.794 b	0.0494 b	2.97 b
AMB10-008	PS15	Diss	Seawater	**3106-825**	0.125 b	0.720 b	0.432 b	0.00803 b	2.83 b
AMB10-009	PS09	Total	Seawater	**3106-826**	0.213 b	1.35 b	0.705 b	0.0501 b	5.96 b
AMB10-009	PS09	Diss	Seawater	**3106-827**	0.140 b	1.02 b	0.464 b	0.00695 b	5.65 b
AMB10-010	PS09DUP	Total	Seawater	**3106-828**	0.220 b	1.42 b	0.991 b	0.0644 b	6.36 b
AMB10-010	PS09DUP	Diss	Seawater	**3106-829**	0.133 b	1.05 b	0.511 b	0.00347 b	5.49 b
AMB10-011	PS10	Total	Seawater	**3106-830**	0.159 b	3.02 b	0.520 b	0.0816 b	9.35 b
AMB10-011	PS10	Diss	Seawater	**3106-831**	0.146 b	2.31 b	0.450 b	0.0169 b	8.45 b
AMB10-012	PS10.1	Total	Seawater	**3106-832**	0.173 b	2.57 b	0.495 b	0.0800 b	12.9 b
AMB10-012	PS10.1	Diss	Seawater	**3106-833**	0.176 b	2.11 b	0.519 b	0.0182 b	12.8 b
AMB10-013	PS11	Total	Seawater	**3106-834**	0.180 b	1.93 b	0.561 b	0.0647 b	8.02 b
AMB10-013	PS11	Diss	Seawater	**3106-835**	0.158 b	1.60 b	0.577 b	0.0151 b	7.95 b
AMB10-014	PIER7	Total	Seawater	**3106-836**	0.162 b	1.55 b	0.434 b	0.0393 b	5.19 b
AMB10-014	PIER7	Diss	Seawater	**3106-837**	0.139 b	1.22 b	0.417 b	0.00843 b	4.91 b
AMB10-015	PS16	Total	Seawater	**3106-838**	0.177 b	0.953 b	0.605 b	0.0415 b	3.18 b
AMB10-015	PS16	Diss	Seawater	**3106-839**	0.148 b	0.775 b	0.467 b	0.00743 b	3.18 b
AMB10-016	PS01	Total	Seawater	**3106-840**	0.199 b	0.690 b	0.531 b	0.0867 b	1.99 b
AMB10-016	PS01	Diss	Seawater	**3106-841**	0.145 b	0.588 b	0.566 b	0.0139 b	1.69 b
AMB10-017	PS01DUP	Total	Seawater	**3106-842**	0.173 b	0.680 b	0.472 b	0.0648 b	1.97 b
AMB10-017	PS01DUP	Diss	Seawater	**3106-843**	0.121 b	0.482 b	0.407 b	0.0116 b	1.69 b
AMB10-018	PS02	Total	Seawater	**3106-844**	0.199 b	0.969 b	0.563 b	0.108 b	2.96 b

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360/681-4564

Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB10-018	PS02	Diss	Seawater	**3106-845**	0.144 b	0.695 b	0.450 b	0.0195 b	2.53 b
AMB10-019	PS13	Total	Seawater	**3106-846**	0.171 b	1.32 b	0.580 b	0.0618 b	5.16 b
AMB10-019	PS13	Diss	Seawater	**3106-847**	0.131 b	1.02 b	0.441 b	0.0156 b	4.87 b
AMB10-020	M4	Total	Seawater	**3106-848**	0.131 b	0.602 b	0.502 b	0.0568 b	1.36 b
AMB10-020	M4	Diss	Seawater	**3106-849**	0.107 b	0.452 b	0.468 b	0.00980 b	1.23 b
AMB10-021	BJEST	Total	Seawater	**3106-850**	1.38 b	1.23 b	2.14 b	0.496 b	3.76 b
AMB10-021	BJEST	Diss	Seawater	**3106-851**	0.153 b	0.499 b	0.476 b	0.00772 b	1.48 b
AMB10-022	M3.1	Total	Seawater	**3106-852**	0.144 b	0.621 b	0.435 b	0.0383 b	1.45 b
AMB10-022	M3.1	Diss	Seawater	**3106-853**	0.115 b	0.474 b	0.426 b	0.00623 b	1.34 b
AMB10-023	M3.1DEEP	Total	Seawater	**3106-854**	0.226 b	0.604 b	0.585 b	0.0499 b	1.40 b
AMB10-023	M3.1DEEP	Diss	Seawater	**3106-855**	0.121 b	0.447 b	0.421 b	0.00716 b	1.25 b
AMB10DD-001	OF018B	Total	Seawater	**3106-856**	0.995 b	10.0 b	7.58 b	1.14 b	52.0 b
AMB10DD-001	OF018B	Diss	Seawater	**3106-857**	0.328 b	2.95 b	2.23 b	0.00740 b	40.6 b
AMB10DD-002	OF019	Total	Seawater	**3106-858**	5.73 b	5.70 b	8.16 b	0.185 b	21.0 b
AMB10DD-002	OF019	Diss	Seawater	**3106-859**	0.237 b	2.81 b	5.19 b	0.00741 b	16.7 b
AMB10DD-003	OF021	Total	Freshwater	**3106-860**	0.708	0.860	2.50	0.00829	0.385
AMB10DD-003	OF021	Diss	Freshwater	**3106-861**	0.963	0.757	2.29	0.00176	0.515
AMB10-100	WP	Total	Seawater	**3106-862**	0.195 b	0.576 b	0.765 b	0.0429 b	0.984 b
AMB10-100	WP	Diss	Seawater	**3106-863**	0.136 b	0.417 b	0.470 b	0.00583 Jb	0.886 b
AMB10-101	M2	Total	Seawater	**3106-864**	0.170 b	0.515 b	0.480 b	0.0325 b	0.707 b
AMB10-101	M2	Diss	Seawater	**3106-865**	0.113 b	0.343 b	0.388 b	0.0019 Ub	0.510 b
AMB10-102	CLMBAY	Total	Seawater	**3106-866**	0.283 b	0.549 b	0.752 b	0.0645 b	0.860 b
AMB10-102	CLMBAY	Diss	Seawater	**3106-867**	0.160 b	0.366 b	0.425 b	0.0114 b	0.749 b
AMB10-103	ILSP	Total	Seawater	**3106-868**	0.212 b	0.466 b	0.681 b	0.0414 b	0.966 b
AMB10-103	ILSP	Diss	Seawater	**3106-869**	0.123 b	0.349 b	0.439 b	0.00339 Jb	0.894 b
AMB10-104	M1	Total	Seawater	**3106-870**	0.169 b	0.473 b	0.436 b	0.0486 b	0.956 b
AMB10-104	M1	Diss	Seawater	**3106-871**	0.116 b	0.323 b	0.342 b	0.00299 Jb	0.760 b
AMB10-105	M1DEEP	Total	Seawater	**3106-872**	0.183 b	0.490 b	0.442 b	0.0401 b	0.966 b
AMB10-105	M1DEEP	Diss	Seawater	**3106-873**	0.128 b	0.338 b	0.383 b	0.00381 Jb	0.867 b
AMB10-106	PWNLP	Total	Seawater	**3106-874**	0.199 b	0.736 b	1.07 b	0.0602 b	1.17 b
AMB10-106	PWNLP	Diss	Seawater	**3106-875**	0.102 b	0.445 b	0.439 b	0.00844 b	0.923 b
AMB10-107	M8	Total	Seawater	**3106-876**	0.242 b	0.647 b	0.809 b	0.0984 b	1.50 b
AMB10-107	M8	Diss	Seawater	**3106-877**	0.151 b	0.581 b	0.541 b	0.0158 b	1.23 b
AMB10-108	M6	Total	Seawater	**3106-878**	0.186 b	0.560 b	0.469 b	0.0684 b	1.29 b
AMB10-108	M6	Diss	Seawater	**3106-879**	0.163 b	0.428 b	0.493 b	0.00966 b	1.10 b
AMB10-109	DYOTS	Total	Seawater	**3106-880**	0.964 b	1.17 b	1.59 b	0.490 b	5.72 b
AMB10-109	DYOTS	Diss	Seawater	**3106-881**	0.445 b	0.747 b	0.734 b	0.0381 b	4.06 b
AMB10-110	M7	Total	Seawater	**3106-882**	0.315 b	0.665 b	0.765 b	0.107 b	1.53 b
AMB10-110	M7	Diss	Seawater	**3106-883**	0.172 b	0.475 b	0.452 b	0.00956 b	1.51 b

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Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB10-111	PS12	Total	Seawater	**3106-884**	0.210 b	1.21 b	0.640 b	0.106 b	5.77 b
AMB10-111	PS12	Diss	Seawater	**3106-885**	0.172 b	0.897 b	0.464 b	0.0155 b	5.48 b
AMB10-112	SN11	Total	Seawater	**3106-886**	0.246 b	0.875 b	0.899 b	0.0592 b	2.41 b
AMB10-112	SN11	Diss	Seawater	**3106-887**	0.145 b	0.639 b	0.518 b	0.00886 b	2.40 b
AMB10-113	M3.3	Total	Seawater	**3106-888**	0.213 b	0.631 b	1.21 b	0.0644 b	1.22 b
AMB10-113	M3.3	Diss	Seawater	**3106-889**	0.101 b	0.455 b	0.446 b	0.00874 b	1.25 b
AMB10-114	PS03B	Total	Seawater	**3106-890**	0.249 b	1.61 b	0.601 b	0.291 b	6.14 b
AMB10-114	PS03B	Diss	Seawater	**3106-891**	0.130 b	0.989 b	0.460 b	0.0418 b	4.59 b
AMB10-200	SN05	Total	Seawater	**3106-892**	0.404 b	0.642 b	0.635 b	0.0984 b	1.56 b
AMB10-200	SN05	Diss	Seawater	**3106-893**	0.183 b	0.388 b	0.395 b	0.00934 b	1.15 b
AMB10-201	SN03	Total	Seawater	**3106-894**	0.147 b	0.651 b	0.567 b	0.0764 b	1.88 b
AMB10-201	SN03	Diss	Seawater	**3106-895**	0.102 b	0.494 b	0.456 b	0.0121 b	1.60 b
AMB10-202	SN08	Total	Seawater	**3106-896**	0.155 b	0.634 b	0.484 b	0.0629 b	1.62 b
AMB10-202	SN08	Diss	Seawater	**3106-897**	0.0969 b	0.481 b	0.387 b	0.00904 b	1.36 b
AMB10-203	SN08DUP	Total	Seawater	**3106-898**	0.147 b	0.605 b	0.526 b	0.0508 b	1.50 b
AMB10-203	SN08DUP	Diss	Seawater	**3106-899**	0.0949 b	0.485 b	0.404 b	0.00797 b	1.28 b
AMB10-204	SN10	Total	Seawater	**3106-900**	0.183 b	1.05 b	0.515 b	0.0979 b	2.99 b
AMB10-204	SN10	Diss	Seawater	**3106-901**	0.112 b	0.827 b	0.416 b	0.0101 b	2.81 b
AMB10-205	BM01	Total	Seawater	**3106-902**	0.139 b	0.521 b	0.468 b	0.0438 b	1.16 b
AMB10-205	BM01	Diss	Seawater	**3106-903**	0.0969 b	0.413 b	0.379 b	0.00596 b	1.01 b
AMB10-206	PS03C	Total	Seawater	**3106-904**	0.187 b	1.80 b	0.513 b	0.138 b	6.16 b
AMB10-206	PS03C	Diss	Seawater	**3106-905**	0.184 b	1.57 b	0.622 b	0.0498 b	5.93 b
AMB10-207	FB031612	Total	Freshwater	**3106-906**	0.199	0.0053 U	0.0042 U	0.0022 U	0.0373 J
AMB10-207	FB031612	Diss	Freshwater	**3106-907**	0.223	0.0053 U	0.0042 U	0.0022 U	0.0216 J

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:						
Laboratory Achieved Detection Limits (Seawater)										
Seawater Reporting Limit (MDL* 3.18)										
Laboratory Achieved Detection Limits (Freshwater)										
Freshwater Reporting Limit (MDL* 3.18)										
AMB10-001	PS03	Total	Seawater	**3106-810**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-001	PS03	Diss	Seawater	**3106-811**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-002	PS04	Total	Seawater	**3106-812**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-002	PS04	Diss	Seawater	**3106-813**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-003	PS05	Total	Seawater	**3106-814**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-003	PS05	Diss	Seawater	**3106-815**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-004	PS14	Total	Seawater	**3106-816**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-004	PS14	Diss	Seawater	**3106-817**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-005	PS06	Total	Seawater	**3106-818**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-005	PS06	Diss	Seawater	**3106-819**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-006	PS07	Total	Seawater	**3106-820**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-006	PS07	Diss	Seawater	**3106-821**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-007	PS08	Total	Seawater	**3106-822**	032212HGA	F033012A	032712-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-007	PS08	Diss	Seawater	**3106-823**	032212HGA	--	032712-6100	--	DOC060712	--
AMB10-008	PS15	Total	Seawater	**3106-824**	032212HGA	F033012A	033012-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-008	PS15	Diss	Seawater	**3106-825**	032212HGA	--	033012-6100	--	DOC060712	--
AMB10-009	PS09	Total	Seawater	**3106-826**	032212HGA	F033012A	033012-6100	SALAMB10	TOC061412	TSS 1A_GF
AMB10-009	PS09	Diss	Seawater	**3106-827**	032212HGA	--	033012-6100	--	DOC060712	--
AMB10-010	PS09DUP	Total	Seawater	**3106-828**	032212HGA	F033012A	033012-6100	--	--	--
AMB10-010	PS09DUP	Diss	Seawater	**3106-829**	032212HGA	--	033012-6100	--	--	--
AMB10-011	PS10	Total	Seawater	**3106-830**	032312HGA	F033012A	033012-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-011	PS10	Diss	Seawater	**3106-831**	032312HGA	--	033012-6100	--	DOC060712	--
AMB10-012	PS10.1	Total	Seawater	**3106-832**	032312HGA	F033012A	033012-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-012	PS10.1	Diss	Seawater	**3106-833**	032312HGA	--	033012-6100	--	DOC060712	--
AMB10-013	PS11	Total	Seawater	**3106-834**	032312HGA	F033012A	033012-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-013	PS11	Diss	Seawater	**3106-835**	032312HGA	--	033012-6100	--	DOC060712	--
AMB10-014	PIER7	Total	Seawater	**3106-836**	032312HGA	F033012A	033012-6100	SALAMB10	TOC061512	TSS 1B_NP
AMB10-014	PIER7	Diss	Seawater	**3106-837**	032312HGA	--	033012-6100	--	DOC060712	--
AMB10-015	PS16	Total	Seawater	**3106-838**	032312HGA	F033012A	033012-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-015	PS16	Diss	Seawater	**3106-839**	032312HGA	--	033012-6100	--	DOC060712	--
AMB10-016	PS01	Total	Seawater	**3106-840**	032312HGA	F033012A	033012-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-016	PS01	Diss	Seawater	**3106-841**	032312HGA	--	033012-6100	--	DOC060712	--
AMB10-017	PS01DUP	Total	Seawater	**3106-842**	032312HGA	F033012A	040512-6100	--	--	--
AMB10-017	PS01DUP	Diss	Seawater	**3106-843**	032312HGA	--	040512-6100	--	--	--
AMB10-018	PS02	Total	Seawater	**3106-844**	032312HGA	F033012A	040512-6100	SALAMB10	TOC061912	TSS 1A_GF

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:						
AMB10-018	PS02	Diss	Seawater	**3106-845**	032312HGA	--	040512-6100	--	DOC060712	--
AMB10-019	PS13	Total	Seawater	**3106-846**	032312HGA	F033012A	040512-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-019	PS13	Diss	Seawater	**3106-847**	032312HGA	--	040512-6100	--	DOC060712	--
AMB10-020	M4	Total	Seawater	**3106-848**	032312HGA	F033012A	032712-6100	SALAMB10	TOC061512	TSS 1A_GF
AMB10-020	M4	Diss	Seawater	**3106-849**	032312HGA	--	032712-6100	--	DOC060812	--
AMB10-021	BJEST	Total	Seawater	**3106-850**	032612HGA	F033012A	040512-6100	SALAMB10	TOC061912	TSS 1A_GF
AMB10-021	BJEST	Diss	Seawater	**3106-851**	032612HGA	--	040512-6100	--	DOC060812	--
AMB10-022	M3.1	Total	Seawater	**3106-852**	032612HGA	F033012A	033012-6100	SALAMB10	TOC061912	TSS 1A_GF
AMB10-022	M3.1	Diss	Seawater	**3106-853**	032612HGA	--	033012-6100	--	DOC061212	--
AMB10-023	M3.1DEEP	Total	Seawater	**3106-854**	032612HGA	F033012A	040512-6100	SALAMB10	TOC061512	TSS 1B_NP
AMB10-023	M3.1DEEP	Diss	Seawater	**3106-855**	032612HGA	--	040512-6100	--	DOC060812	--
AMB10DD-001	OF018B	Total	Seawater	**3106-856**	032612HGA	F033012A	040512-6100	SALAMB10	--	TSS 1B_NP
AMB10DD-001	OF018B	Diss	Seawater	**3106-857**	032612HGA	--	040512-6100	--	--	--
AMB10DD-002	OF019	Total	Seawater	**3106-858**	032612HGA	F033012A	040512-6100	SALAMB10	TOC061912	TSS 1B_NP
AMB10DD-002	OF019	Diss	Seawater	**3106-859**	032612HGA	--	040512-6100	--	DOC060812	--
AMB10DD-003	OF021	Total	Freshwater	**3106-860**	032612HGA	F033012A	032612-6100	SALAMB10	TOC061512	TSS 1B_NP
AMB10DD-003	OF021	Diss	Freshwater	**3106-861**	032612HGA	--	032612-6100	--	DOC060812	--
AMB10-100	WP	Total	Seawater	**3106-862**	032612HGA	F033012A	040512-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-100	WP	Diss	Seawater	**3106-863**	032612HGA	--	040512-6100	--	DOC061212	--
AMB10-101	M2	Total	Seawater	**3106-864**	032612HGA	F033012A	040512-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-101	M2	Diss	Seawater	**3106-865**	032612HGA	--	040512-6100	--	DOC061212	--
AMB10-102	CLMBAY	Total	Seawater	**3106-866**	032612HGA	F033012A	040512-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-102	CLMBAY	Diss	Seawater	**3106-867**	032612HGA	--	040512-6100	--	DOC061212	--
AMB10-103	ILSP	Total	Seawater	**3106-868**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-103	ILSP	Diss	Seawater	**3106-869**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-104	M1	Total	Seawater	**3106-870**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-104	M1	Diss	Seawater	**3106-871**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-105	M1DEEP	Total	Seawater	**3106-872**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-105	M1DEEP	Diss	Seawater	**3106-873**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-106	PWNLP	Total	Seawater	**3106-874**	032712HGA	F033012A	041212-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-106	PWNLP	Diss	Seawater	**3106-875**	032712HGA	--	041212-6100	--	DOC061212	--
AMB10-107	M8	Total	Seawater	**3106-876**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-107	M8	Diss	Seawater	**3106-877**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-108	M6	Total	Seawater	**3106-878**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062112	TSS 2A_GF
AMB10-108	M6	Diss	Seawater	**3106-879**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-109	DYOTS	Total	Seawater	**3106-880**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062212	TSS 2A_GF
AMB10-109	DYOTS	Diss	Seawater	**3106-881**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-110	M7	Total	Seawater	**3106-882**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062212	TSS 2A_GF
AMB10-110	M7	Diss	Seawater	**3106-883**	032712HGA	--	040612-6100	--	DOC061212	--

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:						
AMB10-111	PS12	Total	Seawater	**3106-884**	032712HGA	F033012A	040612-6100	SALAMB10	TOC062212	TSS 2A_GF
AMB10-111	PS12	Diss	Seawater	**3106-885**	032712HGA	--	040612-6100	--	DOC061212	--
AMB10-112	SN11	Total	Seawater	**3106-886**	032812HGA	F033012A	040612-6100	SALAMB10	TOC062212	TSS 2A_GF
AMB10-112	SN11	Diss	Seawater	**3106-887**	032812HGA	--	040612-6100	--	DOC061212	--
AMB10-113	M3.3	Total	Seawater	**3106-888**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 2A_GF
AMB10-113	M3.3	Diss	Seawater	**3106-889**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-114	PS03B	Total	Seawater	**3106-890**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 2A_GF
AMB10-114	PS03B	Diss	Seawater	**3106-891**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-200	SN05	Total	Seawater	**3106-892**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 3A_GF
AMB10-200	SN05	Diss	Seawater	**3106-893**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-201	SN03	Total	Seawater	**3106-894**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 3A_GF
AMB10-201	SN03	Diss	Seawater	**3106-895**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-202	SN08	Total	Seawater	**3106-896**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 3A_GF
AMB10-202	SN08	Diss	Seawater	**3106-897**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-203	SN08DUP	Total	Seawater	**3106-898**	032812HGA	F033012A	041212-6100	--	--	--
AMB10-203	SN08DUP	Diss	Seawater	**3106-899**	032812HGA	--	041212-6100	--	--	--
AMB10-204	SN10	Total	Seawater	**3106-900**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 3A_GF
AMB10-204	SN10	Diss	Seawater	**3106-901**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-205	BM01	Total	Seawater	**3106-902**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 3A_GF
AMB10-205	BM01	Diss	Seawater	**3106-903**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-206	PS03C	Total	Seawater	**3106-904**	032812HGA	F033012A	041212-6100	SALAMB10	TOC062212	TSS 3A_GF
AMB10-206	PS03C	Diss	Seawater	**3106-905**	032812HGA	--	041212-6100	--	DOC061212	--
AMB10-207	FB031612	Total	Freshwater	**3106-906**	032712HGA	F033012A	032612-6100	--	--	--
AMB10-207	FB031612	Diss	Freshwater	**3106-907**	032712HGA	--	032612-6100	--	--	--

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Ambient Monitoring - AMB10
QC Sample Results for ICP-MS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
TRM_BLK1		Total	Freshwater	TRMblk1_032612r1	0.0032 U	0.2 U	0.0033 U	0.161 J	0.0053 U	0.0042 U	0.0022 U	0.02 U	032612-6100
TRM_BLK2		Total	Freshwater	TRMblk1_032612r2	0.0032 U	0.2 U	0.0033 U	0.188	0.0053 U	0.0042 U	0.0022 U	0.02 U	032612-6100
MB		Total	Seawater	DIBlk1_032712 r1	0.000 U	0.458 U	0.0000 U	0.0340 J	0.0605 J	0.00438 U	0.00120 J	0.0712 J	032712-6100
MB		Total	Seawater	DIBlk1_032712 r2	0.007 U	0.501 U	0.0000 U	0.0396 J	0.0653 J	0.0116 U	0.00201 J	0.0672 J	032712-6100
MB		Total	Seawater	DIBlk1_032712 r3	0.000 U	0.499 U	0.0000 U	0.0410 J	0.0812 J	0.00907 U	0.00235 J	0.0629 J	032712-6100
MB		Total	Seawater	DIBlk1_032712 r4	0.001 U	0.553 U	0.0000 U	0.0386 J	0.0612 J	0.00901 U	0.00165 U	0.0635 J	032712-6100
MEAN REAGENT BLANK			Seawater	***BMRB_032712***	**0.002** U	**0.503** U	**0.000** U	**0.0383** J	**0.0671** J	**0.00852** U	**0.00180** U	**0.0662** J	
MB		Total	Seawater	DIBlk_033012r1	0.000 U	0.570 U	0.0000 U	0.0446 J	0.0629 J	0.0164 U	0.00168 U	0.0739 J	033012-6100
MB		Total	Seawater	DIBlk_033012r2	0.001 U	0.651 U	0.0000 U	0.0560 J	0.0731 J	0.0217 U	0.00204 J	0.0736 J	033012-6100
MB		Total	Seawater	DIBlk_033012r3	0.000 U	0.604 U	0.0000 U	0.0406 J	0.0909 J	0.0167 U	0.00467 J	0.0631 J	033012-6100
MB		Total	Seawater	DIBlk_033012r4	0.001 U	0.613 U	0.0000 U	0.0476 J	0.0798 J	0.0194 U	0.00271 J	0.0700 J	033012-6100
MEAN REAGENT BLANK			Seawater	***BMRB_033012***	**0.001** U	**0.610** U	**0.000** U	**0.0472** J	**0.0767** J	**0.0186** U	**0.00278** J	**0.0702** J	
MB		Total	Seawater	DIBlk_040512r1	0.000 U	0.708 U	0.0000 U	0.0279 U	0.0840 J	0.0246 U	0.00194 J	0.0913	040512-6100
MB		Total	Seawater	DIBlk_040512r2	0.000 U	0.558 U	0.0000 U	0.0367 J	0.0962 J	0.0284 J	0.00230 J	0.0852	040512-6100
MB		Total	Seawater	DIBlk_040512r3	0.000 U	0.504 U	0.0000 U	0.0421 J	0.0899 J	0.0204 U	0.00155 U	0.0853	040512-6100
MB		Total	Seawater	DIBlk_040512r4	0.000 U	0.587 U	0.0000 U	0.0351 J	0.0933 J	0.0246 U	0.00195 J	0.0814 J	040512-6100
MEAN REAGENT BLANK			Seawater	***BMRB_040512***	**0.000** U	**0.589** U	**0.000** U	**0.0355** J	**0.0909** J	**0.0245** U	**0.00194** J	**0.0858**	
MB		Total	Seawater	DIBlk_040612r1	0.000 U	0.497 U	0.0000 U	0.0366 J	0.0777 J	0.0127 U	0.00136 U	0.0784 J	040612-6100
MB		Total	Seawater	DIBlk_040612r2	0.000 U	0.347 U	0.0002 U	0.0443 J	0.0771 J	0.0140 U	0.00182 U	0.0734 J	040612-6100
MB		Total	Seawater	DIBlk_040612r3	0.000 U	0.465 U	0.0000 U	0.0507 J	0.110 J	0.0186 U	0.00599 J	0.0675 J	040612-6100
MB		Total	Seawater	DIBlk_040612r4	0.000 U	0.442 U	0.0001 U	0.0531 J	0.0756 J	0.0143 U	0.00140 U	0.0762 J	040612-6100
MEAN REAGENT BLANK			Seawater	***BMRB_040612***	**0.000** U	**0.438** U	**0.000** U	**0.0462** J	**0.0851** J	**0.0149** U	**0.00264** J	**0.0739** J	
MB		Total	Seawater	DIBlk_041212r1	0.000 U	0.706 U	0.0000 U	0.0509 J	0.0542 J	0.0193 U	0.00161 U	0.0650 J	041212-6100
MB		Total	Seawater	DIBlk_041212r2	0.000 U	0.677 U	0.0000 U	0.0594 J	0.0656 J	0.0201 U	0.00168 U	0.0745 J	041212-6100
MB		Total	Seawater	DIBlk_041212r3	0.000 U	0.781 U	0.0000 U	0.0655 J	0.0596 J	0.0197 U	0.00111 U	0.0967	041212-6100
MB		Total	Seawater	DIBlk_041212r4	0.000 U	0.650 U	0.0001 U	0.0448 J	0.0652 J	0.0177 U	0.00185 U	0.0708 J	041212-6100
MEAN REAGENT BLANK			Seawater	***BMRB_041212***	**0.000** U	**0.704** U	**0.000** U	**0.0552** J	**0.0612** J	**0.0192** U	**0.00156** U	**0.0768** J	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB10
QC Sample Results for ICP-MS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		Total	Freshwater	TRMblk1_032612r1	0.0032 U	0.2 U	0.0033 U	0.161 J	0.0053 U	0.0042 U	0.0022 U	0.02 U	032612-6100
LCS		Total	Freshwater	TRM_LCS_032612r1	1.92	1.89	2.00	2.01	1.90	1.86	2.00	1.94	032612-6100
				Percent Recovery, LCS	**96%**	**95%**	**100%**	**92%**	**95%**	**93%**	**100%**	**97%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK2		Total	Freshwater	TRMblk1_032612r2	0.0032 U	0.2 U	0.0033 U	0.188	0.0053 U	0.0042 U	0.0022 U	0.02 U	032612-6100
LCS		Total	Freshwater	TRM_LCS_032612r2	1.95	2.02	1.97	2.14	1.96	1.93	1.98	1.94	032612-6100
				Percent Recovery, LCS	**98%**	**101%**	**99%**	**98%**	**98%**	**97%**	**99%**	**97%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.0042 Ub	2.14 Ub	0.0752 b	0.131 b	0.245 b	0.381 b	0.00216 Jb	0.278 b	032712-6100
LCS		Total	Seawater	SB LCS R1	1.85 b	2.10 Jb	1.94 b	2.07 b	2.15 b	2.37 b	1.99 b	2.01 b	032712-6100
				Percent Recovery, LCS	**92%**	**105%**	**93%**	**97%**	**95%**	**100%**	**99%**	**87%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.0042 Ub	2.14 Ub	0.0715 b	0.141 b	0.198 b	0.341 b	0.0019 Ub	0.250 b	033012-6100
LCS		Total	Seawater	SB LCS R1	1.75 b	2.11 b	1.89 b	2.04 b	1.98 b	2.15 b	1.91 b	1.92 b	033012-6100
				Percent Recovery, LCS	**87%**	**106%**	**91%**	**95%**	**89%**	**91%**	**95%**	**84%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank	0.0042 Ub	2.14 Ub	0.0740 b	0.138 b	0.211 b	0.340 b	0.0019 Ub	0.272 b	040512-6100
LCS		Total	Seawater	SB LCS	1.68 b	2.09 b	1.81 b	2.04 b	2.01 b	2.15 b	1.83 b	1.91 b	040512-6100
				Percent Recovery, LCS	**84%**	**105%**	**87%**	**95%**	**90%**	**90%**	**91%**	**82%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank	0.0042 Ub	2.14 Ub	0.0702 b	0.104 b	0.156 b	0.288 b	0.000318 Jb	0.246 b	040612-6100
LCS		Total	Seawater	SB LCS	1.85 b	2.13 b	1.98 b	2.02 b	1.94 b	2.13 b	2.03 b	2.05 b	040612-6100
				Percent Recovery, LCS	**92%**	**107%**	**95%**	**96%**	**89%**	**92%**	**101%**	**90%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank	0.0042 Ub	2.14 Ub	0.0701 b	0.121 b	0.228 b	0.350 b	0.00175 b	0.275 b	041212-6100
LCS		Total	Seawater	SB LCS	1.72 b	1.95 b	1.87 b	1.86 b	1.95 b	2.09 b	1.86 b	1.93 b	041212-6100
				Percent Recovery, LCS	**86%**	**97%**	**90%**	**87%**	**86%**	**87%**	**93%**	**83%**	

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Ambient Monitoring - AMB10
QC Sample Results for ICP-MS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB10DD-003	OF021	Diss	Freshwater	3106-861	0.0032 U	7.37	0.00408 J	0.963	0.757	2.29	0.00176	0.515	032612-6100
MS				3106-861MS	1.84	9.42	2.01	3.16	2.59	4.15	2.18	2.37	032612-6100
MSD				3106-861MSD	1.87	9.53	2.04	2.84	2.60	4.29	2.17	2.34	032612-6100
				Spiking Level	2	2	2	2	2	2	2	2	
				Percent Recovery, MS	**92%**	**103%**	**100%**	**110%**	**92%**	**93%**	**109%**	**93%**	
				Percent Recovery, MSD	**94%**	**108%**	**102%**	**94%**	**92%**	**100%**	**108%**	**91%**	
AMB10-020	M4	Diss	Seawater	3106-849	0.0042 Ub	2.14 Ub	0.0812 b	0.107 b	0.452 b	0.468 b	0.00980 b	1.23 b	032712-6100
MS				3106-849 MS	4.17	5.60	0.941	0.962	1.30	1.32	0.935	5.45	032712-6100
MSD				3106-849 MSD	4.07	5.28	0.905	0.925	1.26	1.26	0.899	5.14	032712-6100
				Spiking Level	5	5	1	1	1	1	1	5	
				Percent Recovery, MS	**83%**	**112%**	**86%**	**86%**	**85%**	**85%**	**93%**	**84%**	
				Percent Recovery, MSD	**81%**	**106%**	**82%**	**82%**	**81%**	**79%**	**89%**	**78%**	
AMB10-022	M3.1	Total	Seawater	3106-852	0.0042 Ub	8.51 b	0.0811 b	0.144 b	0.621 b	0.435 b	0.0383 b	1.45 b	033012-6100
MS				3106-852 MS	0.895 b	9.49 b	1.02 b	1.14 b	1.56 b	1.36 b	0.991 b	2.37 b	033012-6100
MSD				3106-852 MSD	0.901 b	9.39 b	1.01 b	1.15 b	1.55 b	1.38 b	1.00 b	2.32 b	033012-6100
				Spiking Level	1	1	1	1	1	1	1	1	
				Percent Recovery, MS	**90%**	**98%**	**94%**	**100%**	**94%**	**93%**	**95%**	**92%**	
				Percent Recovery, MSD	**90%**	**88%**	**93%**	**101%**	**93%**	**95%**	**96%**	**87%**	
AMB10-101	M2	Total	Seawater	3106-864	0.0042 Ub	17.9 b	0.102 b	0.170 b	0.515 b	0.480 b	0.0325 b	0.707 b	040512-6100
MS				3106-864 MS	0.857 b	22.3 b	1.00 b	1.12 b	1.40 b	1.40 b	0.969 b	5.04 b	040512-6100
MSD				3106-864 MSD	0.881 b	22.4 b	1.02 b	1.15 b	1.41 b	1.43 b	0.990 b	5.20 b	040512-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**86%**	**88%**	**90%**	**96%**	**88%**	**92%**	**94%**	**87%**	
				Percent Recovery, MSD	**88%**	**90%**	**92%**	**99%**	**89%**	**95%**	**96%**	**90%**	
AMB10-104	M1	Total	Seawater	3106-870	0.0042 Ub	17.5 b	0.0854 b	0.169 b	0.473 b	0.436 b	0.0486 b	0.956 b	040612-6100
MS				3106-870MS	0.960 b	18.2 b	1.09 b	1.13 b	1.36 b	1.32 b	1.09 b	1.90 b	040612-6100
MSD				3106-870MSD	0.950 b	18.3 b	1.06 b	1.11 b	1.38 b	1.38 b	1.08 b	1.88 b	040612-6100
				Spiking Level	1	1	1	1	1	1	1	1	
				Percent Recovery, MS	**96%**	**70%**	**100%**	**97%**	**89%**	**88%**	**104%**	**94%**	
				Percent Recovery, MSD	**95%**	**80%**	**97%**	**95%**	**91%**	**94%**	**103%**	**92%**	
AMB10-113	M3.3	Diss	Seawater	3106-889	0.0042 Ub	2.14 Ub	0.0765 b	0.101 b	0.455 b	0.446 b	0.00874 b	1.25 b	041212-6100
MS				3106-889 MS	0.862 b	5.17 b	0.972 b	0.955 b	1.30 b	1.32 b	0.950 b	5.71 b	041212-6100
MSD				3106-889 MSD	0.855 b	5.16 b	0.974 b	0.965 b	1.31 b	1.31 b	0.969 b	6.72 b	041212-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**86%**	**103%**	**90%**	**85%**	**84%**	**88%**	**94%**	**89%**	
				Percent Recovery, MSD	**86%**	**103%**	**90%**	**86%**	**85%**	**87%**	**96%**	**109%**	

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Ambient Monitoring - AMB10
QC Sample Results for ICP-MS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB10DD-003	OF021	Total	Freshwater	3106-860	0.0032 U	7.74	0.00561 J	0.708	0.860	2.50	0.00829	0.385	032612-6100
DUP				3106-860r2	0.0032 U	7.82	0.0033 U	0.750	0.875	2.50	0.00871	0.435	032612-6100
				Mean	*NA*	*7.78*	*0.00446 J*	*0.729*	*0.868*	*2.50*	*0.00850*	*0.410*	
				RPD	NA	**1%**	NA	**6%**	**2%**	**0%**	**5%**	**12%**	
AMB10-001	PS03	Total	Seawater	3106-810	0.0042 Ub	20.2 b	0.0769 b	0.239 b	2.13 b	0.734 b	0.268 b	6.09 b	032712-6100
DUP				3106-810r2	0.0042 Ub	21.1 b	0.0824 b	0.252 b	2.27 b	0.770 b	0.283 b	6.41 b	032712-6100
				Mean	*NA*	*20.6 b*	*0.0797 b*	*0.245 b*	*2.20 b*	*0.752 b*	*0.276 b*	*6.25 b*	
				RPD	NA	**4%**	**7%**	**5%**	**6%**	**5%**	**5%**	**5%**	
AMB10-008	PS15	Diss	Seawater	3106-825	0.0042 Ub	2.14 Ub	0.0763 b	0.125 b	0.720 b	0.432 b	0.00803 b	2.83 b	033012-6100
DUP				3106-825r2	0.0042 Ub	2.14 Ub	0.0762 b	0.134 b	0.706 b	0.429 b	0.00883 b	2.79 b	033012-6100
				Mean	*NA*	*NA*	*0.0762 b*	*0.129 b*	*0.713 b*	*0.431 b*	*0.00843 b*	*2.81 b*	
				RPD	NA	NA	**0%**	**7%**	**2%**	**1%**	**9%**	**1%**	
AMB10-018	PS02	Total	Seawater	3106-844	0.0042 Ub	20.4 b	0.0812 b	0.199 b	0.969 b	0.563 b	0.108 b	2.96 b	040512-6100
DUP				3106-844r2	0.0042 Ub	20.2 b	0.0840 b	0.207 b	0.979 b	0.559 b	0.108 b	2.94 b	040512-6100
				Mean	*NA*	*20.3 b*	*0.0826 b*	*0.203* b	*0.974 b*	*0.561 b*	*0.108 b*	*2.95 b*	
				RPD	NA	**1%**	**3%**	**4%**	**1%**	**1%**	**0%**	**1%**	
AMB10-103	ILSP	Total	Seawater	3106-868	0.0042 Ub	18.3 *b*	0.0758 *b*	0.212 *b*	0.466 b	0.681 b	0.0414 b	0.966 b	040612-6100
DUP				3106-868r2	0.0042 Ub	19.5 *b*	0.0863 *b*	0.239 *b*	0.505 b	0.752 b	0.0459 b	1.09 b	040612-6100
				Mean	*NA*	*18.9 b*	*0.0811 b*	*0.225 b*	*0.485 b*	*0.717 b*	*0.0436 b*	*1.03 b*	
				RPD	NA	**6%**	**13%**	**12%**	**8%**	**10%**	**10%**	**12%**	
AMB10-114	PS03B	Total	Seawater	3106-890	0.0042 Ub	35.8 b	0.0861 b	0.249 b	1.61 b	0.601 b	0.291 b	6.14 b	041212-6100
				3106-890r2	0.0042 Ub	35.2 b	0.0848 b	0.277 b	1.64 b	0.587 b	0.291 b	6.24 b	041212-6100
				Mean	*NA*	*35.5 b*	*0.0854 b*	*0.263 b*	*1.62 b*	*0.594 b*	*0.291 b*	*6.19 b*	
				RPD	NA	**2%**	**2%**	**11%**	**2%**	**2%**	**0%**	**2%**	

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Ambient Monitoring - AMB10
QC Sample Results for ICP-MS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 032712	0.0042 Ub	2.14 Ub	0.0234 b	0.123 b	0.365 b	0.347 b	0.00980 b	0.527 b	032712-6100
SRM CASS-5		Total	Seawater	CASS-5 033012	0.0042 Ub	2.14 Ub	0.0231 b	0.126 b	0.381 b	0.349 b	0.0105 b	0.576 b	033012-6100
SRM CASS-5		Total	Seawater	CASS-5 040512	0.0042 Ub	2.14 Ub	0.0249 b	0.155 b	0.359 b	0.369 b	0.00977 b	0.619 b	040512-6100
SRM CASS-5		Total	Seawater	CASS-5 040612	0.0042 Ub	2.14 Ub	0.0250 b	0.124 b	0.338 b	0.348 b	0.00876 b	0.620 b	040612-6100
SRM CASS-5		Total	Seawater	CASS-5 041212	0.0042 Ub	2.14 Ub	0.0215 b	0.106 b	0.380 b	0.330 b	0.0110 b	0.719 b	041212-6100
				Certified Value	NC	NC	**0.0215**	**0.106**	**0.38**	**0.33**	**0.011**	**0.719**	
				PD	--	--	**9%**	**16%** c	**4%**	**5%**	**11%**	**27%** &	
				PD	--	--	**7%**	**19%** c	**0%**	**6%**	**4%**	**20%**	
				PD	--	--	**16%**	**46%** c	**5%**	**12%**	**11%**	**14%**	
				PD	--	--	**16%**	**17%** c	**11%**	**5%**	**20%**	**14%**	
				PD	--	--	**0%**	**0%** c	**0%**	**0%**	**0%**	**0%**	
SRM SLEW-2		Total	Seawater	SLEW-2 032712	0.0042 Ub	2.14 Ub	0.0173 b	0.168 b	1.46 b	0.679 b	0.0205 b	0.994 b	032712-6100
SRM SLEW-2		Total	Seawater	SLEW-2 033012	0.0042 Ub	2.14 Ub	0.0197 b	0.171 b	1.35 b	0.599 b	0.0175 b	0.926 b	033012-6100
SRM SLEW-2		Total	Seawater	SLEW-2 040512	0.0042 Ub	2.14 Ub	0.0177 b	0.160 b	1.46 b	0.666 b	0.0185 b	0.934 b	040512-6100
SRM SLEW-2		Total	Seawater	SLEW-2 040612	0.0042 Ub	2.14 Ub	0.0190 b	0.175 b	1.38 b	0.628 b	0.0179 b	1.05 b	040612-6100
SRM SLEW-2		Total	Seawater	SLEW-2 041212	0.0042 Ub	2.14 Ub	0.0186 b	0.155 b	1.40 b	0.632 b	0.0193 b	0.993 b	041212-6100
				Certified Value	NC	NC	**0.0190**	**0.169**	**1.62**	**0.709**	**0.0270**	**1.10**	
				PD	--	--	**9%**	**1%**	**10%**	**4%**	**24%** c	**10%**	
				PD	--	--	**4%**	**1%**	**16%**	**15%**	**35%** c	**16%**	
				PD	--	--	**7%**	**6%**	**10%**	**6%**	**32%** c	**15%**	
				PD	--	--	**0%**	**3%**	**15%**	**11%**	**34%** c	**5%**	
				PD	--	--	**2%**	**8%**	**14%**	**11%**	**28%** c	**10%**	

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Ambient Monitoring - AMB10
QC Sample Results for ICP-MS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640		Total	Freshwater	TRM 1640 10x R1	7.31	48.5	3.72	38.4	77.4	23.1	11.4	53.4	032612-6100
SRM 1640		Total	Freshwater	TRM 1640 10x R2	7.34	53.0	3.69	41.4	81.3	23.5	11.4	53.1	032612-6100
SRM 1640		Total	Freshwater	1640_032712	7.71	54.5	3.81	40.0	83.1	23.9	11.9	54.8	032712-6100
SRM 1640		Total	Freshwater	1640_033012	7.50	53.1	3.90	38.5	82.6	24.2	11.8	53.9	033012-6100
SRM 1640		Total	Freshwater	1640_040512	8.23	56.4	3.90	43.0	90.1	26.7	12.2	57.4	040512-6100
SRM 1640		Total	Freshwater	1640_040612	7.48	52.7	3.94	39.7	82.9	24.3	11.6	55.6	040612-6100
SRM 1640		Total	Freshwater	1640_041212	7.94	54.4	3.96	39.2	84.7	24.9	12.2	55.1	041212-6100
				Certified Value	**8.08**	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**10%**	**8%**	**7%**	**5%**	**10%**	**9%**	**6%**	**4%**	
				PD	**9%**	**0%**	**8%**	**2%**	**5%**	**7%**	**6%**	**5%**	
				PD	**5%**	**3%**	**5%**	**1%**	**3%**	**6%**	**2%**	**2%**	
				PD	**7%**	**0%**	**2%**	**5%**	**4%**	**4%**	**2%**	**3%**	
				PD	**2%**	**6%**	**2%**	**6%**	**5%**	**5%**	**1%**	**3%**	
				PD	**7%**	**1%**	**1%**	**2%**	**3%**	**4%**	**4%**	**0%**	
				PD	**2%**	**3%**	**1%**	**3%**	**1%**	**2%**	**1%**	**1%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB10
QC Sample Results for CVAF
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.0001**	
Reporting Limit (MDL* 3.18)					**0.00032**	
METHOD BLANKS						
MB-1	TME		Water	MB_132212r1	0.0001 U	032212HGA
MB-2	TME		Water	MB_132212r2	0.0001 U	032212HGA
MB-3	TME		Water	MB_132212r3	0.0001 U	032212HGA
MB-4	TME		Water	MB_132312r1	0.0001 U	032312HGA
MB-5	TME		Water	MB_132312r2	0.0001 U	032312HGA
MB-6	TME		Water	MB_132312r3	0.0001 U	032312HGA
MB-7	TME		Water	MB_032612r1	0.0001 U	032612HGA
MB-8	TME		Water	MB_032612r2	0.0001 U	032612HGA
MB-9	TME		Water	MB_032612r3	0.0001 U	032612HGA
MB-10	TME		Water	MB_032712r1	0.0001 U	032712HGA
MB-11	TME		Water	MB_032712r2	0.0001 U	032712HGA
MB-12	TME		Water	MB_032712r3	0.0001 U	032712HGA
MB-13	TME		Water	MB_032812r1	0.0001 U	032812HGA
MB-14	TME		Water	MB_032812r2	0.0001 U	032812HGA
MB-15	TME		Water	MB_032812r3	0.0001 U	032812HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 032112 run1	0.00509	032212HGA
LCS (2)	TME		Water	OPR 032112 run2	0.00511	032212HGA
LCS Blank (1)	TME		Water	BLANK 032112	0.000143	032212HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 032212 run1	0.00526	032312HGA
LCS (2)	TME		Water	OPR 032212 run2	0.00560	032312HGA
LCS Blank (1)	TME		Water	BLANK 032212	0.0001 U	032312HGA
				Percent Recovery, LCS 1	**106%**	
				Percent Recovery, LCS 2	**113%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 032312 run1	0.00499	032612HGA
LCS (2)	TME		Water	OPR 032312 run2	0.00524	032612HGA
LCS Blank (1)	TME		Water	BLANK 032312	0.000104	032612HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**103%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 032612 run1	0.00515	032712HGA
LCS (2)	TME		Water	OPR 032612 run2	0.00543	032712HGA
LCS Blank (1)	TME		Water	BLANK 032612	0.000133	032712HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**107%**	
Spiking Level					0.00496	
LCS (1)	TME		Water	OPR 032712 run1	0.00536	032812HGA
LCS (2)	TME		Water	OPR 032712 run2	0.00533	032812HGA
LCS Blank (1)	TME		Water	BLANK 032712	0.0001 U	032812HGA
				Percent Recovery, LCS 1	**108%**	
				Percent Recovery, LCS 2	**107%**	

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Ambient Monitoring - AMB10
QC Sample Results for CVAF
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB10-002	PS04	Total	Seawater	3106-812	0.000745	032212HGA
MS				3106-812 MS	0.00576	032212HGA
MSD				3106-812 MSD	0.00588	032212HGA
				Spiking Level, MS	0.00497	
				Spiking Level, MSD	0.00498	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.2%**	
AMB10-005	PS06	Diss	Seawater	3106-819	0.000430	032212HGA
MS				3106-819 MS	0.00561	032212HGA
MSD				3106-819 MSD	0.00575	032212HGA
				Spiking Level, MS	0.00502	
				Spiking Level, MSD	0.00503	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**106%**	
				RPD	**2.4%**	
AMB10-011	PS10	Diss	Seawater	3106-831	0.000357	032312HGA
MS				3106-831 MS	0.00591	032312HGA
MSD				3106-831 MSD	0.00617	032312HGA
				Spiking Level, MS	0.00504	
				Spiking Level, MSD	0.00507	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**115%**	
				RPD	**3.8%**	
AMB10-020	M4	Total	Seawater	3106-848	0.000527	032312HGA
MS				3106-848 MS	0.00709	032312HGA
MSD				3106-848 MSD	0.00622	032312HGA
				Spiking Level, MS	0.00509	
				Spiking Level, MSD	0.00501	
				Percent Recovery, MS	**129%**	
				Percent Recovery, MSD	**114%**	
				RPD	**13.4%**	
AMB10-022	M3.1	Total	Seawater	3106-852	0.000612	032612HGA
MS				3106-852 MS	0.00563	032612HGA
MSD				3106-852 MSD	0.00556	032612HGA
				Spiking Level, MS	0.00497	
				Spiking Level, MSD	0.00496	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.3%**	
AMB10-100	WP	Diss	Seawater	3106-863	0.000247	032612HGA
MS				3106-863 MS	0.00547	032612HGA
MSD				3106-863 MSD	0.00548	032612HGA
				Spiking Level, MS	0.00484	
				Spiking Level, MSD	0.00485	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**108%**	
				RPD	**0.1%**	

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Ambient Monitoring - AMB10
QC Sample Results for CVAF
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB10-104	M1	Diss	Seawater	3106-871	0.000178	032712HGA
MS				3106-871 MS	0.00543	032712HGA
MSD				3106-871 MSD	0.00509	032712HGA
				Spiking Level, MS	0.00494	
				Spiking Level, MSD	0.00485	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**101%**	
				RPD	**5.0%**	
AMB10-111	PS12	Total	Seawater	3106-884	0.000680	032712HGA
MS				3106-884 MS	0.00591	032712HGA
MSD				3106-884 MSD	0.00594	032712HGA
				Spiking Level, MS	0.00492	
				Spiking Level, MSD	0.00482	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**109%**	
				RPD	**2.5%**	
AMB10-114	PS03B	Diss	Seawater	3106-891	0.000744	032812HGA
MS				3106-891 MS	0.00613	032812HGA
MSD				3106-891 MSD	0.00571	032812HGA
				Spiking Level, MS	0.00497	
				Spiking Level, MSD	0.00470	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**106%**	
				RPD	**2.6%**	
AMB10-202	SN08	Total	Seawater	3106-896	0.000540	032812HGA
MS				3106-896 MS	0.00621	032812HGA
MSD				3106-896 MSD	0.00620	032812HGA
				Spiking Level, MS	0.00507	
				Spiking Level, MSD	0.00496	
				Percent Recovery, MS	**112%**	
				Percent Recovery, MSD	**114%**	
				RPD	**2.1%**	
REPLICATE PRECISION						
AMB10-009	PS09	Total	Seawater	3106-826	0.000639	032212HGA
DUP	PS07	TME	Seawater	3106-826r2	0.000645	032212HGA
				Mean	*0.000642*	
				RPD	**1%**	
AMB10-018	PS02	Total	Seawater	3106-844	0.000957	032312HGA
DUP				3106-844r2	0.00102	032312HGA
				Mean	*0.000989*	
				RPD	**6%**	
AMB10DD-001	OF018B	Total	Seawater	3106-856	0.0191	032612HGA
DUP				3106-856r2	0.0194	032612HGA
				Mean	*0.0192*	
				RPD	**1%**	

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Ambient Monitoring - AMB10
QC Sample Results for CVAF
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION cont.						
AMB10-109	DYOTS	Total	Seawater	3106-880	0.00223	032712HGA
DUP				3106-880r2	0.00207	032712HGA
				Mean	*0.00215*	
				RPD	**7%**	
AMB10-114	PS03B	Total	Seawater	3106-890	0.000734	032812HGA
DUP				3106-890r2	0.000727	032812HGA
				Mean	*0.000730*	
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 032112	1512	032212HGA
SRM 1641 (2)		Total	Freshwater	1641d 032212	1545	032312HGA
SRM 1641 (3)		Total	Freshwater	1641d 032312	1580	032612HGA
SRM 1641 (4)		Total	Freshwater	1641d 032612	1563	032712HGA
SRM 1641 (5)		Total	Freshwater	1641d 032712	1683	032812HGA
				Certified Value	**1557**	
				range	**±20**	
	SRM 1641 (1)			**PD**	**3%**	
	SRM 1641 (2)			**PD**	**1%**	
	SRM 1641 (3)			**PD**	**1%**	
	SRM 1641 (4)			**PD**	**0%**	
	SRM 1641 (5)			**PD**	**8%**	

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Ambient Monitoring - AMB10
QC Sample Results for FIAS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
Method Blanks						
MB1		Total	Water	BLANK R1	0.0267 U	F033012A
MB2		Total	Water	BLANK R2	0.0267 U	F033012A
MB3		Total	Water	BLANK R3	0.0267 U	F033012A
Laboratory Control Samples						
Spiking Level					5	
LCS1		Total	Water	LCS 033012r1	5.12	F033012A
LCS2		Total	Water	LCS 033012r2	4.95	F033012A
LCS3		Total	Water	LCS 033012r3	4.82	F033012A
				Percent Recovery, LCS	**102%**	
				Percent Recovery, LCS	**99%**	
				Percent Recovery, LCS	**96%**	
MATRIX SPIKE RESULTS						
AMB10-002	PS04	Total	Seawater	3106-812	1.28	F033012A
MS				3106-812 MS	6.11	F033012A
MSD				3106-812 MSD	5.92	F033012A
				Spiking Level	5	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**93%**	
AMB10-020	M4	Total	Seawater	3106-848	1.17	F033012A
MS				3106-848 MS	5.83	F033012A
MSD				3106-848 MSD	5.62	F033012A
				Spiking Level	5	
				Percent Recovery, MS	**93%**	
				Percent Recovery, MSD	**89%**	
AMB10-202	SN08	Total	Seawater	3106-896	1.12	F033012A
MS				3106-896 MS	5.71	F033012A
MSD				3106-896 MSD	5.58	F033012A
				Spiking Level	5	
				Percent Recovery, MS	**92%**	
				Percent Recovery, MSD	**89%**	

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Ambient Monitoring - AMB10
QC Sample Results for FIAS
ENVVEST March 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0267**	
Reporting Limit (MDL* 3.18)					**0.085**	
REPLICATE PRECISION						
AMB10-009	PS09	Total	Seawater	3106-826	1.19	F033012A
DUP				3106-826r2	1.20	F033012A
				Mean	*1.20*	
				RPD	**1%**	
AMB10DD-001	OF018B	Total	Seawater	3106-856	1.85	F033012A
DUP				3106-856r2	1.88	F033012A
				Mean	*1.87*	
				RPD	**2%**	
AMB10-109	DYOTS	Total	Seawater	3106-880	0.910	F033012A
DUP				3106-880r2	0.835	F033012A
				Mean	*0.872*	
				RPD	**9%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-4 (1)		TME	Seawater	CASS-4 R1	1.12	F033012A
SRM CASS-4 (2)		TME	Seawater	CASS-4 R2	1.10	F033012A
SRM CASS-4 (3)		TME	Seawater	CASS-4 R3	1.01	F033012A
				Certified Value	**1.11**	
	SRM CASS-4 (1)			**PD**	**1%**	
	SRM CASS-4 (2)			**PD**	**1%**	
	SRM CASS-4 (3)			**PD**	**9%**	

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Ambient Monitoring - AMB10
QC Sample Results for TOC/DOC by HTCO
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L		TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.030**		**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**		**8.0**		
				Instrument:	HTCO		HTCO		
Method Blanks									
MB			DIWater	MB_DIW060712	0.048	J	4.0	J	DOC060712
MB			DIWater	MB_DIW060812R1	0.030	U	2.5	U	DOC060812
MB			DIWater	MB_DIW060812R2	0.030	U	2.5	U	DOC060812
MB			DIWater	MB_DIW061212R1	0.039	J	3.2	J	DOC061212
MB			DIWater	MB_DIW061212R2	0.030	U	2.5	U	DOC061212
MB			DIWater	MB_DIW061412R1	0.032	J	2.7	J	TOC061412
MB			DIWater	MB_DIW061412R2	0.030	U	2.5	U	TOC061412
MB			DIWater	MB_DIW061512R1	0.030	U	2.5	U	TOC061512
MB			DIWater	MB_DIW061512R2	0.030	U	2.5	U	TOC061512
MB			DIWater	MB_DIW061912	0.030	U	2.5	U	TOC061912
MB			DIWater	MB_DIW062112	0.030	U	2.5	U	TOC062112
MB			DIWater	MB_DIW062212R1	0.030	U	2.5	U	TOC062212
MB			DIWater	MB_DIW062212R2	0.030	U	2.5	U	TOC062212

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Ambient Monitoring - AMB10
QC Sample Results for TOC/DOC by HTCO
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L		TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]									
CRM-1		DOC	Seawater	UM CRM0607R1	0.490		40.9		DOC060712
CRM-2		DOC	Seawater	UM CRM0607R2	0.488		40.6		DOC060712
CRM-3		DOC	Seawater	UM CRM0608R1	0.519		43.3		DOC060812
CRM-4		DOC	Seawater	UM CRM0608R2	0.534		44.5		DOC060812
CRM-5		DOC	Seawater	UM CRM0612R1	0.511		42.6		DOC061212
CRM-6		DOC	Seawater	UM CRM0612R2	0.513		42.7		DOC061212
CRM-7		DOC	Seawater	UM CRM0612R3	0.524		43.7		DOC061212
CRM-8		DOC	Seawater	UM CRM0612R4	0.515		43.0		DOC061212
CRM-9		DOC	Seawater	UM CRM0614R1	0.487		40.6		TOC061412
CRM-10		DOC	Seawater	UM CRM0614R2	0.496		41.3		TOC061512
CRM-11		DOC	Seawater	UM CRM0615R1	0.524		43.6		TOC061512
CRM-12		DOC	Seawater	UM CRM0615R2	0.523		43.5		TOC061512
CRM-13		DOC	Seawater	UM CRM0619R1	0.505		42.1		TOC061912
CRM-14		DOC	Seawater	UM CRM0619R2	0.493		41.1		TOC061912
CRM-15		DOC	Seawater	UM CRM0621R1	0.506		42.1		TOC062112
CRM-16		DOC	Seawater	UM CRM0621R2	0.509		42.4		TOC062112
CRM-17		DOC	Seawater	UM CRM0622R1	0.507		42.2		TOC062212
CRM-18		DOC	Seawater	UM CRM0622R2	0.520		43.3		TOC062212
				Average Consensus Value	0.510		42.5		
				Range	0.492-0.528		41-44		
CRM-1				**PD**	**3.9%**		**3.9%**		
CRM-2				**PD**	**4.4%**		**4.4%**		
CRM-3				**PD**	**1.9%**		**1.8%**		
CRM-4				**PD**	**4.7%**		**4.7%**		
CRM-5				**PD**	**0.2%**		**0.2%**		
CRM-6				**PD**	**0.5%**		**0.5%**		
CRM-7				**PD**	**2.8%**		**2.8%**		
CRM-8				**PD**	**1.1%**		**1.1%**		
CRM-9				**PD**	**4.5%**		**4.5%**		
CRM-10				**PD**	**2.8%**		**2.8%**		
CRM-11				**PD**	**2.7%**		**2.7%**		
CRM-12				**PD**	**2.5%**		**2.5%**		
CRM-13				**PD**	**1.0%**		**1.0%**		
CRM-14				**PD**	**3.4%**		**3.4%**		
CRM-15				**PD**	**0.8%**		**0.8%**		
CRM-16				**PD**	**0.2%**		**0.2%**		
CRM-17				**PD**	**0.6%**		**0.6%**		
CRM-18				**PD**	**1.9%**		**1.9%**		

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Ambient Monitoring - AMB10
QC Sample Results for TOC/DOC by HTCO
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM	Batch ID
REPLICATE PRECISION							
AMB10-011	PS10	Diss	Seawater	**3106-830**	0.872	72.7	DOC060712
AMB10-011DUP	PS10	Diss	Seawater	**3106-830r2**	0.872	72.7	DOC060712
				Mean	*0.872*	*72.7*	
				RPD	**0.03%**	**0.03%**	
AMB10DD-002	OF019	Diss	Seawater	**3106-858**	0.821	68.4	DOC060812
AMB10DD-002DUP	OF019	Diss	Seawater	**3106-858r2**	0.811	67.6	DOC060812
				Mean	*0.816*	*68.0*	
				RPD	**1.18%**	**1.18%**	
AMB10-100	WP	Diss	Seawater	**3106-862**	0.855	71.2	DOC061212
AMB10-100DUP	WP	Diss	Seawater	**3106-862r2**	0.835	69.5	DOC061212
				Mean	*0.845*	*70.4*	
				RPD	**2.38%**	**2.38%**	
AMB10-110	M7	Diss	Seawater	**3106-882**	1.49	124	DOC061212
AMB10-110DUP	M7	Diss	Seawater	**3106-882r2**	1.45	121	DOC061212
				Mean	*1.47*	*123*	
				RPD	**2.38%**	**2.38%**	
AMB10-001	PS03	Total	Seawater	**3106-810**	0.975	81.2	TOC061412
AMB10-001DUP	PS03	Total	Seawater	**3106-810r2**	0.968	80.6	TOC061412
				Mean	*0.971*	*80.9*	
				RPD	**0.72%**	**0.72%**	
AMB10-008	PS15	Total	Seawater	**3106-824**	0.836	69.6	TOC061412
AMB10-008DUP	PS15	Total	Seawater	**3106-824r2**	0.873	72.7	TOC061412
				Mean	*0.854*	*71.2*	
				RPD	**4.34%**	**4.34%**	
AMB10-022	M3.1	Total	Seawater	**3106-852**	1.02	84.7	TOC061912
AMB10-022DUP	M3.1	Total	Seawater	**3106-852r2**	0.993	82.8	TOC061912
				Mean	*1.00*	*83.7*	
				RPD	**2.29%**	**2.29%**	
AMB10-205	BM01	Total	Seawater	**3106-902**	0.910	75.8	TOC061912
AMB10-205DUP	BM01	Total	Seawater	**3106-902r2**	0.912	76.0	TOC061912
				Mean	*0.911*	*75.9*	
				RPD	**0.21%**	**0.21%**	
AMB10-100	WP	Total	Seawater	**3106-862**	0.923	76.9	TOC062112
AMB10-100DUP	WP	Total	Seawater	**3106-862r2**	0.931	77.6	TOC062112
				Mean	*0.927*	*77.3*	
				RPD	**0.85%**	**0.85%**	
AMB10-111	PS12	Total	Seawater	**3106-884**	0.943	78.6	TOC062212
AMB10-111DUP	PS12	Total	Seawater	**3106-884r2**	0.927	77.3	TOC062212
				Mean	*0.935*	*77.9*	
				RPD	**1.69%**	**1.69%**	

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Ambient Monitoring - AMB10
QC Sample Results for TOC/DOC by HTCO
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L		TOC/DOC µM		Batch ID
CALIBRATION RESULTS									
ICV/CCV-1				Calibration CCV1	1.02		84.6		DOC060712
ICV/CCV-2				Calibration CCV2	1.03		86.1		DOC060712
ICV/CCV-3				Calibration CCV3	1.01		84.4		DOC060712
ICV/CCV-4				Calibration CCV4	1.00		83.3		DOC060812
ICV/CCV-5				Calibration CCV5	1.02		85.1		DOC060812
ICV/CCV-6				Calibration CCV6	1.04		86.3		DOC060812
ICV/CCV-7				Calibration CCV7	1.09		90.5		DOC061212
ICV/CCV-8				Calibration CCV8	1.04		86.6		DOC061212
ICV/CCV-9				Calibration CCV9	1.05		87.6		DOC061212
ICV/CCV-10				Calibration CCV10	1.03		86.0		DOC061212
ICV/CCV-11				Calibration CCV11	1.02		84.7		DOC061212
ICV/CCV-12				Calibration CCV12	0.99		82.5		TOC061412
ICV/CCV-13				Calibration CCV13	1.01		84.2		TOC061412
ICV/CCV-14				Calibration CCV14	1.00		83.1		TOC061412
ICV/CCV-15				Calibration CCV15	0.98		81.5		TOC061512
ICV/CCV-16				Calibration CCV16	1.06		88.2		TOC061512
ICV/CCV-17				Calibration CCV17	1.05		87.3		TOC061512
ICV/CCV-18				Calibration CCV18	1.05		87.2		TOC061912
ICV/CCV-19				Calibration CCV19	0.98		82.0		TOC061912
ICV/CCV-20				Calibration CCV20	1.02		84.7		TOC061912
ICV/CCV-21				Calibration CCV21	0.99		82.5		TOC062112
ICV/CCV-22				Calibration CCV22	1.01		84.2		TOC062112
ICV/CCV-23				Calibration CCV23	1.03		85.7		TOC062112
ICV/CCV-24				Calibration CCV24	1.03		85.5		TOC062212
ICV/CCV-25				Calibration CCV25	0.99		82.8		TOC062212
				TRUE VALUE	**1.0**				
ICV/CCV-1				**% RECOVERY**	**102%**				
ICV/CCV-2				**% RECOVERY**	**103%**				
ICV/CCV-3				**% RECOVERY**	**101%**				
ICV/CCV-4				**% RECOVERY**	**100%**				
ICV/CCV-5				**% RECOVERY**	**102%**				
ICV/CCV-6				**% RECOVERY**	**104%**				
ICV/CCV-7				**% RECOVERY**	**109%**				
ICV/CCV-8				**% RECOVERY**	**104%**				
ICV/CCV-9				**% RECOVERY**	**105%**				
ICV/CCV-10				**% RECOVERY**	**103%**				
ICV/CCV-11				**% RECOVERY**	**102%**				
ICV/CCV-12				**% RECOVERY**	**99%**				
ICV/CCV-13				**% RECOVERY**	**101%**				
ICV/CCV-14				**% RECOVERY**	**100%**				
ICV/CCV-15				**% RECOVERY**	**98%**				
ICV/CCV-16				**% RECOVERY**	**106%**				
ICV/CCV-17				**% RECOVERY**	**105%**				
ICV/CCV-18				**% RECOVERY**	**105%**				
ICV/CCV-19				**% RECOVERY**	**98%**				
ICV/CCV-20				**% RECOVERY**	**102%**				
ICV/CCV-21				**% RECOVERY**	**99%**				
ICV/CCV-22				**% RECOVERY**	**101%**				
ICV/CCV-23				**% RECOVERY**	**103%**				
ICV/CCV-24				**% RECOVERY**	**103%**				
ICV/CCV-25				**% RECOVERY**	**99%**				

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Ambient Monitoring - AMB10
QC Sample Results for Salinity
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	Blank R1	0.0 U	PSU	SALAMB10
MB		TME	Seawater	Blank R2	0.0 U	PSU	SALAMB10
MB		TME	Seawater	Blank R3	0.0 U	PSU	SALAMB10
MB		TME	Seawater	Blank R4	0.0 U	PSU	SALAMB10
MB		TME	Seawater	Blank R5	0.0 U	PSU	SALAMB10
MB		TME	Seawater	Blank R6	0.0 U	PSU	SALAMB10
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water R1	34.6	PSU	SALAMB10
SRM		TME	Seawater	Copenhagen Water R2	34.5	PSU	SALAMB10
SRM		TME	Seawater	Copenhagen Water R3	34.9	PSU	SALAMB10
SRM		TME	Seawater	Copenhagen Water R4	34.9	PSU	SALAMB10
SRM		TME	Seawater	Copenhagen Water R5	34.6	PSU	SALAMB10
SRM		TME	Seawater	Copenhagen Water R6	34.4	PSU	SALAMB10
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**1.1%**		
	SRM-2			**PD**	**1.4%**		
	SRM-3			**PD**	**0.3%**		
	SRM-4			**PD**	**0.3%**		
	SRM-5			**PD**	**1.1%**		
	SRM-6			**PD**	**1.7%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	20.8	PSU	SALAMB10
LCS-2				LCS r2	20.6	PSU	SALAMB10
LCS-3				LCS r3	20.9	PSU	SALAMB10
LCS-4				LCS r4	20.8	PSU	SALAMB10
LCS-5				LCS r5	20.7	PSU	SALAMB10
LCS-6				LCS r6	20.5	PSU	SALAMB10
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**104.0%**		
	LCS-2			**% RECOVERY**	**103.0%**		
	LCS-3			**% RECOVERY**	**104.5%**		
	LCS-4			**% RECOVERY**	**104.0%**		
	LCS-5			**% RECOVERY**	**103.5%**		
	LCS-6			**% RECOVERY**	**102.5%**		

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Ambient Monitoring - AMB10
QC Sample Results for Salinity
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				Calibration ICV	49.8	mS	SALAMB10
CCV-1				Calibration CCV1	49.6	mS	SALAMB10
CCV-2				Calibration CCV2	49.7	mS	SALAMB10
CCV-3				Calibration CCV3	50.0	mS	SALAMB10
CCV-4				Calibration CCV4	50.0	mS	SALAMB10
CCV-5				Calibration CCV5	49.6	mS	SALAMB10
CCV-6				Calibration CCV6	50.0	mS	SALAMB10
CCV-7				Calibration CCV7	49.7	mS	SALAMB10
CCV-8				Calibration CCV8	49.8	mS	SALAMB10
CCV-9				Calibration CCV9	49.8	mS	SALAMB10
CCV-10				Calibration CCV10	50.0	mS	SALAMB10
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**99%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		
	CCV-5			**% RECOVERY**	**99%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**99%**		
	CCV-8			**% RECOVERY**	**100%**		
	CCV-9			**% RECOVERY**	**100%**		
	CCV-10			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB10
QC Sample Results for TSS
ENVVEST March 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.62*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank031912r1	0.49 U	mg/L	TSS031912
MB2		TME	Seawater	Blank031912r2	0.49 U	mg/L	TSS031912
MB3		TME	Seawater	Blank031912r3	0.49 U	mg/L	TSS031912
MB4		TME	Seawater	Blank032112r1	0.49 U	mg/L	TSS032112
MB5		TME	Seawater	Blank032112r2	0.49 U	mg/L	TSS032112
MB6		TME	Seawater	Blank032512r1	0.49 U	mg/L	TSS032512
MB7		TME	Seawater	Blank032512r2	0.49 U	mg/L	TSS032512
LABORATORY CONTROL SAMPLES							
LCS-1				LCS031912r1	864	mg/L	TSS031912
LCS-2				LCS031912r2	860	mg/L	TSS031912
LCS-3				LCS031912r3	864	mg/L	TSS031912
LCS-4				LCS032112r1	883	mg/L	TSS032112
LCS-5				LCS032112r2	912	mg/L	TSS032112
LCS-6				LCS032512r1	948	mg/L	TSS032512
LCS-7				LCS032512r2	896	mg/L	TSS032512
				TRUE VALUE	**1000**	mg/L	
LCS-1				**% RECOVERY**	**86%**		
LCS-2				**% RECOVERY**	**86%**		
LCS-3				**% RECOVERY**	**86%**		
LCS-4				**% RECOVERY**	**88%**		
LCS-5				**% RECOVERY**	**91%**		
LCS-6				**% RECOVERY**	**95%**		
LCS-7				**% RECOVERY**	**90%**		

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Ambient Monitoring - AMB10
ENVVEST March 2012
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
HTCO	High Temperature Catalytic Oxidation
E	Small crack in sample bottle; use with caution

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, March 2012 (AMB10)

PARAMETER: Total and Dissolved Metals – Al, Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater, Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 03/13/12, 03/14/12, and 03/16/12. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	3/13/12, 3/14/12, and 3/16/12
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	3/13/12, 3/14/12, and 3/16/12
TSS analysis dates	03/19/12 through 03/21/12
OSAL analysis dates	03/16/12, 03/19/12, 03/20/12, 03/21/12
CVAF analysis dates (Hg)	03/22-03/23/12, 03/26-03/28/12
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	03/26/12
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	03/27/12, 03/30/12, 04/05/12, 04/06/12, 04/12/12
FIAS analysis date (As)	03/30/12

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
OSAL	Probe	NA	≤20%	≤30%	NA	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0254	0.081
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.5 mg/L	0.5 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0267	0.085
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption*

METHODS (cont): *(HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water*. Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All metal results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and denoted with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Freshwater samples such as equipment blank samples and field samples identified as < 5% seawater were analyzed as follows. Freshwater samples were analyzed for Hg and As as described above for the seawater. These methods are not selective to salt content and the same for both the seawater and freshwater matrices. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The TSS samples were analyzed following SM2540D using a gravimetric analysis. The data are reported in units of mg/L. The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU).

The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 min to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data

are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank detected above the RL for the analytical batch. The reagent blank correction takes into consideration the detected blank for each batch and the data should be reported as corrected in order to more accurately represent the true sample concentrations.

The method blank for TSS is a glass fiber (GF/C) filter taken through the analytical process with each batch of samples. The blanks were all less than the MDL. A secondary set of TSS samples was analyzed using a 0.45 μm nucleopore filter. The second set was used to evaluate potential biases from the GF/C filters. The second set is not reported for this batch excepted as footnoted in the data table, but the method will be considered for all future TSS analyses.

Low carbon water (LCW) was purchased from University of Miami and analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-4. The percent recoveries were within the QC acceptance criterion.

Three different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. equipment blanks and outfall 021). Percent recoveries were within the QC acceptance criterion. There are no seawater SRMs certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

Two seawater SRMs were analyzed with each batch. The primary SRM was the coastal SRM CASS-5 and the secondary was the estuarine SRM SLEW-2. Both were prepared with each batch of preconcentrated samples. The PDs were within the QC criterion for all metals certified greater than 10x the MDL. The only exception was one replicate of CASS-5 for Zn. All replicates of SLEW-2 for Zn demonstrated acceptable accuracy for Zn. All replicates of SLEW-2 for Pb were outside the criterion. This has been consistently demonstrated in previous batches. Since all replicates of CASS-5 demonstrated accuracy for Pb, the issues associated with SLEW-2 Pb do not appear to impact the quality of the Pb data.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water
http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
The average of the reference value range was used to calculate the PD for each replicate. The PD ranged from 0.2-4.7%.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1202450
Project:	March 2012 Ambient Monitoring (AMB10)	**Date Received:**	3/16/12
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirty-seven water samples were received for analysis at Columbia Analytical Services on 3/16/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 4-1-12

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB10DD-002 OF019	K1202450-021	**0.9 J**	5.4	0.8	1	03/26/12	3/23/12	
AMB10DD-003 OF021	K1202450-022	ND U	5.2	0.8	1	03/26/12	3/23/12	
Method Blank	K1202450-MB1	ND U	5.0	0.8	1	03/26/12	3/23/12	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	03/26/12
		Date Extracted:	03/23/12

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1202572-002	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1202572-002MS7

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	0.9	48.2	56.6	84	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Analyzed: 03/26/12
Date Extracted: 03/23/12

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: 1664A
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 284667

	Lab Control Sample K1202450-LCS1			Duplicate Lab Control Sample K1202450-DLCS1					
Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	55.8	60.0	93	54.5	60.0	91	78-114	2	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB10-001 PS03	K1202450-001	**0.072**	0.010	0.003	1	03/20/12 10:43	
AMB10-002 PS04	K1202450-002	**0.050**	0.010	0.003	1	03/20/12 10:43	
AMB10-003 PS05	K1202450-003	**0.052**	0.010	0.003	1	03/20/12 10:43	
AMB10-004 PS14	K1202450-004	**0.047**	0.010	0.003	1	03/20/12 10:43	
AMB10-005 PS06	K1202450-005	**0.073**	0.010	0.003	1	03/20/12 10:43	
AMB10-006 PS07	K1202450-006	**0.053**	0.010	0.003	1	03/20/12 10:43	
AMB10-007 PS08	K1202450-007	**0.020**	0.010	0.003	1	03/20/12 10:43	
AMB10-008 PS15	K1202450-008	**0.032**	0.010	0.003	1	03/20/12 10:43	
AMB10-009 PS09	K1202450-009	**0.026**	0.010	0.003	1	03/20/12 10:43	
AMB10-011 PS10	K1202450-010	**0.041**	0.010	0.003	1	03/20/12 10:43	
AMB10-012 PS10.1	K1202450-011	**0.033**	0.010	0.003	1	03/20/12 10:43	
AMB10-013 PS11	K1202450-012	**0.032**	0.010	0.003	1	03/20/12 10:43	
AMB10-015 PS16	K1202450-013	**0.020**	0.010	0.003	1	03/20/12 10:43	
AMB10-016 PS01	K1202450-014	**0.090**	0.010	0.003	1	03/20/12 10:43	
AMB10-018 PS02	K1202450-015	**0.052**	0.010	0.003	1	03/20/12 10:43	
AMB10-019 PS13	K1202450-016	**0.089**	0.010	0.003	1	03/20/12 10:43	
AMB10-020 M4	K1202450-017	**0.024**	0.010	0.003	1	03/20/12 10:43	
AMB10-021 BJEST	K1202450-018	**0.022**	0.010	0.003	1	03/20/12 10:43	
AMB10-022 M3.1	K1202450-019	**0.024**	0.010	0.003	1	03/20/12 10:43	
AMB10-023 M3.1 DEEP	K1202450-020	**0.023**	0.010	0.003	1	03/20/12 10:43	
AMB10DD-002 OF019	K1202450-021	**0.206**	0.010	0.003	1	03/20/12 10:43	
AMB10DD-003 OF021	K1202450-022	ND U	0.010	0.003	1	03/20/12 10:43	
AMB10-100 WP	K1202450-023	**0.017**	0.010	0.003	1	03/20/12 10:43	
AMB10-101 M2	K1202450-024	**0.003 J**	0.010	0.003	1	03/20/12 10:43	
AMB10-102 CLMBAY	K1202450-025	**0.013**	0.010	0.003	1	03/20/12 10:43	
AMB10-103 ILSP	K1202450-026	**0.015**	0.010	0.003	1	03/20/12 10:43	
AMB10-104 M1	K1202450-027	**0.013**	0.010	0.003	1	03/20/12 10:43	
AMB10-105 M1 DEEP	K1202450-028	**0.013**	0.010	0.003	1	03/20/12 10:43	
AMB10-106 PWNLP	K1202450-029	**0.011**	0.010	0.003	1	03/20/12 10:43	
AMB10-107 M8	K1202450-030	**0.036**	0.010	0.003	1	03/20/12 10:43	
AMB10-108 M6	K1202450-031	**0.013**	0.010	0.003	1	03/20/12 10:43	
AMB10-109 DYOTS	K1202450-032	**0.038**	0.010	0.003	1	03/20/12 10:43	
AMB10-110 M7	K1202450-033	**0.016**	0.010	0.003	1	03/20/12 10:43	
AMB10-111 PS12	K1202450-034	**0.028**	0.010	0.003	1	03/20/12 10:43	
AMB10-112 SN11	K1202450-035	**0.026**	0.010	0.003	1	03/20/12 10:43	
AMB10-113 M3.3	K1202450-036	**0.047**	0.010	0.003	1	03/20/12 10:43	
AMB10-114 PS03B	K1202450-037	**0.059**	0.010	0.003	1	03/20/12 10:43	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
Method Blank	K1202450-MB1	**0.007 J**	0.010	0.003	1	03/20/12 10:43	
Method Blank	K1202450-MB2	ND U	0.010	0.003	1	03/20/12 10:43	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB10-001 PS03	K1202450-001DUP1	0.010	0.003	0.072	0.070	0.0710	2	20	03/20/12
AMB10-018 PS02	K1202450-015DUP3	0.010	0.003	0.052	0.054	0.0530	2	20	03/20/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206081 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
		Date Analyzed:	03/20/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB10-001 PS03	**Units:**	mg/L
Lab Code:	K1202450-001	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1202450-001MS1			Duplicate Matrix Spike K1202450-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.072	0.279	0.200	103	0.280	0.200	104	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Collected: 03/13/12
Date Received: 03/16/12
Date Analyzed: 03/20/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: AMB10-018 PS02
Lab Code: K1202450-015
Analysis Method: 350.1

Units: mg/L
Basis: NA

		Matrix Spike K1202450-015MS3			Duplicate Matrix Spike K1202450-015DMS3					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.052	0.270	0.200	109	0.264	0.200	106	90-110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Analyzed: 03/20/12

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: 350.1

Units: mg/L
Basis: NA
Analysis Lot: 284185

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202450-LCS2	13.9	13.9	100	90-110
Lab Control Sample	K1202450-LCS3	14.0	13.9	101	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	284185	KQ1202858-19	03/20/12 10:43	0.250	0.245	98	90-110
CCV2	284185	KQ1202858-20	03/20/12 10:43	0.250	0.246	98	90-110
CCV3	284185	KQ1202858-21	03/20/12 10:43	0.250	0.246	99	90-110
CCV4	284185	KQ1202858-22	03/20/12 10:43	0.250	0.245	98	90-110
CCV5	284185	KQ1202858-23	03/20/12 10:43	0.250	0.245	98	90-110
CCV6	284185	KQ1202858-24	03/20/12 10:43	0.250	0.245	98	90-110
CCV7	284185	KQ1202858-25	03/20/12 10:43	0.250	0.246	98	90-110
CCV8	284185	KQ1202858-26	03/20/12 10:43	0.250	0.244	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	284185	KQ1202858-11	03/20/12 10:43	0.010	0.003	0.007	J
CCB2	284185	KQ1202858-12	03/20/12 10:43	0.010	0.003	0.007	J
CCB3	284185	KQ1202858-13	03/20/12 10:43	0.010	0.003	ND	U
CCB4	284185	KQ1202858-14	03/20/12 10:43	0.010	0.003	ND	U
CCB5	284185	KQ1202858-15	03/20/12 10:43	0.010	0.003	ND	U
CCB6	284185	KQ1202858-16	03/20/12 10:43	0.010	0.003	ND	U
CCB7	284185	KQ1202858-17	03/20/12 10:43	0.010	0.003	ND	U
CCB8	284185	KQ1202858-18	03/20/12 10:43	0.010	0.003	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB10-001 PS03	K1202450-001	**1.0 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-002 PS04	K1202450-002	**2.9**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-003 PS05	K1202450-003	**1.7**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-004 PS14	K1202450-004	**1.3**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-005 PS06	K1202450-005	**1.4**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-006 PS07	K1202450-006	**1.6**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-007 PS08	K1202450-007	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-008 PS15	K1202450-008	**1.4**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-009 PS09	K1202450-009	**1.4**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-011 PS10	K1202450-010	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-012 PS10.1	K1202450-011	**0.8 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-013 PS11	K1202450-012	**0.9 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-015 PS16	K1202450-013	**1.8**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-016 PS01	K1202450-014	**2.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-018 PS02	K1202450-015	**0.9 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-019 PS13	K1202450-016	**1.0**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-020 M4	K1202450-017	**1.5**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-021 BJEST	K1202450-018	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-022 M3.1	K1202450-019	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-023 M3.1 DEEP	K1202450-020	**1.7**	1.0	0.4	2	03/28/12	3/27/12	
AMB10DD-002 OF019	K1202450-021	**0.7 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10DD-003 OF021	K1202450-022	**1.2**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-100 WP	K1202450-023	**1.2**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-101 M2	K1202450-024	**1.6**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-102 CLMBAY	K1202450-025	**1.3**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-103 ILSP	K1202450-026	**1.2**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-104 M1	K1202450-027	**1.3**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-105 M1 DEEP	K1202450-028	**0.7 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-106 PWNLP	K1202450-029	**1.3**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-107 M8	K1202450-030	**1.0 J**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-108 M6	K1202450-031	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-109 DYOTS	K1202450-032	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-110 M7	K1202450-033	**1.3**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-111 PS12	K1202450-034	**1.4**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-112 SN11	K1202450-035	**1.1**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-113 M3.3	K1202450-036	**1.3**	1.0	0.4	2	03/28/12	3/27/12	
AMB10-114 PS03B	K1202450-037	**1.2**	1.0	0.4	2	03/28/12	3/27/12	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Method Blank	K1202450-MB1	ND U	0.20	0.14	2	03/28/12	3/27/12	
Method Blank	K1202450-MB2	ND U	0.20	0.14	2	03/28/12	3/27/12	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Duplicate Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB10-001 PS03	K1202450-001DUP1	1.0	0.4	1.0	1.1	1.02	12	20	03/28/12
AMB10-022 M3.1	K1202450-019DUP4	1.0	0.4	1.1	1.0	1.05	12	20	03/28/12

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206081 rev 00

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Collected: 03/13/12
Date Received: 03/16/12
Date Analyzed: 03/28/12
Date Extracted: 03/27/12

Duplicate Matrix Spike Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name: AMB10-001 PS03
Lab Code: K1202450-001
Analysis Method: 351.4
Prep Method: Method

Units: mg/L
Basis: NA

		Matrix Spike K1202450-001MS1			Duplicate Matrix Spike K1202450-001DMS1					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	1.0	48.3	50.0	95	97.1	100	96	40-160	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Collected: 03/13/12
Date Received: 03/16/12
Date Analyzed: 03/28/12
Date Extracted: 03/27/12

Duplicate Matrix Spike Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name: AMB10-022 M3.1
Lab Code: K1202450-019
Analysis Method: 351.4
Prep Method: Method

Units: mg/L
Basis: NA

		Matrix Spike K1202450-019MS4			Duplicate Matrix Spike K1202450-019DMS4					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	1.1	47.4	50.0	93	94.1	100	93	40-160	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206081 rev 00

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Analyzed: 03/28/12
Date Extracted: 03/27/12

Lab Control Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 285243

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202450-LCS2	3.00	3.30	91	75-125

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Analyzed: 03/28/12
Date Extracted: 03/27/12

Lab Control Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 285254

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202450-LCS3	3.03	3.30	92	75-125

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	285243	KQ1203207-05	03/28/12 11:45	10.0	10.1	101	90-110
CCV2	285243	KQ1203207-06	03/28/12 11:45	10.0	9.47	95	90-110
CCV3	285243	KQ1203207-07	03/28/12 11:45	10.0	9.41	94	90-110
CCV4	285243	KQ1203207-08	03/28/12 11:45	10.0	9.60	96	90-110
CCV5	285254	KQ1203223-05	03/28/12 11:45	10.0	9.41	94	90-110
CCV6	285254	KQ1203223-06	03/28/12 11:45	10.0	9.60	96	90-110
CCV7	285254	KQ1203223-07	03/28/12 11:45	10.0	9.54	95	90-110
CCV8	285254	KQ1203223-08	03/28/12 11:45	10.0	9.41	94	90-110

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Service Request: K1202450

Continuing Calibration Blank (CCB) Summary

Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4
Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	285243	KQ1203207-01	03/28/12 11:45	0.20	0.07	ND	U
CCB2	285243	KQ1203207-02	03/28/12 11:45	0.20	0.07	ND	U
CCB3	285243	KQ1203207-03	03/28/12 11:45	0.20	0.07	ND	U
CCB4	285243	KQ1203207-04	03/28/12 11:45	0.20	0.07	ND	U
CCB5	285254	KQ1203223-01	03/28/12 11:45	0.20	0.07	ND	U
CCB6	285254	KQ1203223-02	03/28/12 11:45	0.20	0.07	ND	U
CCB7	285254	KQ1203223-03	03/28/12 11:45	0.20	0.07	ND	U
CCB8	285254	KQ1203223-04	03/28/12 11:45	0.20	0.07	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB10-001 PS03	K1202450-001	**0.343**	0.050	0.009	1	03/21/12 11:55	
AMB10-002 PS04	K1202450-002	**0.349**	0.050	0.009	1	03/21/12 11:55	
AMB10-003 PS05	K1202450-003	**0.346**	0.050	0.009	1	03/21/12 11:55	
AMB10-004 PS14	K1202450-004	**0.345**	0.050	0.009	1	03/21/12 11:55	
AMB10-005 PS06	K1202450-005	**0.347**	0.050	0.009	1	03/21/12 11:55	
AMB10-006 PS07	K1202450-006	**0.351**	0.050	0.009	1	03/21/12 11:55	
AMB10-007 PS08	K1202450-007	**0.352**	0.050	0.009	1	03/21/12 11:55	
AMB10-008 PS15	K1202450-008	**0.355**	0.050	0.009	1	03/21/12 11:55	
AMB10-009 PS09	K1202450-009	**0.384**	0.050	0.009	1	03/21/12 11:55	
AMB10-011 PS10	K1202450-010	**0.352**	0.050	0.009	1	03/21/12 11:55	
AMB10-012 PS10.1	K1202450-011	**0.346**	0.050	0.009	1	03/21/12 11:55	
AMB10-013 PS11	K1202450-012	**0.386**	0.050	0.009	1	03/21/12 11:55	
AMB10-015 PS16	K1202450-013	**0.354**	0.050	0.009	1	03/21/12 11:55	
AMB10-016 PS01	K1202450-014	**0.355**	0.050	0.009	1	03/21/12 11:55	
AMB10-018 PS02	K1202450-015	**0.344**	0.050	0.009	1	03/21/12 11:55	
AMB10-019 PS13	K1202450-016	**0.342**	0.050	0.009	1	03/21/12 11:55	
AMB10-020 M4	K1202450-017	**0.337**	0.050	0.009	1	03/21/12 11:55	
AMB10-021 BJEST	K1202450-018	**0.329**	0.050	0.009	1	03/21/12 11:55	
AMB10-022 M3.1	K1202450-019	**0.333**	0.050	0.009	1	03/21/12 11:55	
AMB10-023 M3.1 DEEP	K1202450-020	**0.352**	0.050	0.009	1	03/21/12 11:55	
AMB10DD-002 OF019	K1202450-021	**0.288**	0.050	0.009	1	03/21/12 11:55	
AMB10DD-003 OF021	K1202450-022	**0.180**	0.050	0.009	1	03/21/12 11:55	
AMB10-100 WP	K1202450-023	**0.361**	0.050	0.009	1	03/21/12 11:55	
AMB10-101 M2	K1202450-024	**0.390**	0.050	0.009	1	03/21/12 11:55	
AMB10-102 CLMBAY	K1202450-025	**0.409**	0.050	0.009	1	03/21/12 11:55	
AMB10-103 ILSP	K1202450-026	**0.361**	0.050	0.009	1	03/21/12 11:55	
AMB10-104 M1	K1202450-027	**0.350**	0.050	0.009	1	03/21/12 11:55	
AMB10-105 M1 DEEP	K1202450-028	**0.345**	0.050	0.009	1	03/21/12 11:55	
AMB10-106 PWNLP	K1202450-029	**0.324**	0.050	0.009	1	03/21/12 11:55	
AMB10-107 M8	K1202450-030	**0.286**	0.050	0.009	1	03/21/12 11:55	
AMB10-108 M6	K1202450-031	**0.288**	0.050	0.009	1	03/21/12 11:55	
AMB10-109 DYOTS	K1202450-032	**0.281**	0.050	0.009	1	03/21/12 11:55	
AMB10-110 M7	K1202450-033	**0.218**	0.050	0.009	1	03/21/12 11:55	
AMB10-111 PS12	K1202450-034	**0.351**	0.050	0.009	1	03/21/12 11:55	
AMB10-112 SN11	K1202450-035	**0.335**	0.050	0.009	1	03/21/12 11:55	
AMB10-113 M3.3	K1202450-036	**0.338**	0.050	0.009	1	03/21/12 11:55	
AMB10-114 PS03B	K1202450-037	**0.330**	0.050	0.009	1	03/21/12 11:55	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
Method Blank	K1202450-MB1	**0.010 J**	0.050	0.009	1	03/21/12 11:55	
Method Blank	K1202450-MB2	ND U	0.050	0.009	1	03/21/12 11:55	
Method Blank	K1202450-MB3	**0.011 J**	0.050	0.009	1	03/21/12 11:55	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB10-001 PS03	K1202450-001DUP1	0.050	0.009	0.343	0.338	0.341	1	20	03/21/12
AMB10-011 PS10	K1202450-010DUP2	0.050	0.009	0.352	0.349	0.351	<1	20	03/21/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206081 rev 00

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Collected: 03/13/12
Date Received: 03/16/12
Date Analyzed: 03/21/12

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: AMB10-001 PS03
Lab Code: K1202450-001
Analysis Method: 353.2

Units: mg/L
Basis: NA

		Matrix Spike K1202450-001MS1			Duplicate Matrix Spike K1202450-001DMS1					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.343	2.32	2.00	99	2.33	2.00	99	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206081 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
		Date Analyzed:	03/21/12

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB10-011 PS10	**Units:**	mg/L
Lab Code:	K1202450-010	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1202450-010MS2			Duplicate Matrix Spike K1202450-010DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.352	2.34	2.00	100	2.35	2.00	100	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Analyzed: 03/21/12

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L
Basis: NA
Analysis Lot: 284369

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202450-LCS2	17.1	17.7	97	90-110
Lab Control Sample	K1202450-LCS3	16.8	17.7	95	90-110
Lab Control Sample	K1202450-LCS4	16.7	17.7	94	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	284369	KQ1202911-25	03/21/12 11:55	2.00	1.96	98	90-110
CCV2	284369	KQ1202911-26	03/21/12 11:55	2.00	1.96	98	90-110
CCV3	284369	KQ1202911-27	03/21/12 11:55	2.00	1.95	97	90-110
CCV4	284369	KQ1202911-28	03/21/12 11:55	2.00	1.93	97	90-110
CCV5	284369	KQ1202911-29	03/21/12 11:55	2.00	1.92	96	90-110
CCV6	284369	KQ1202911-30	03/21/12 11:55	2.00	1.91	96	90-110
CCV7	284369	KQ1202911-31	03/21/12 11:55	2.00	1.88	94	90-110
CCV8	284369	KQ1202911-32	03/21/12 11:55	2.00	1.88	94	90-110
CCV9	284369	KQ1202911-33	03/21/12 11:55	2.00	1.89	95	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	284369	KQ1202911-16	03/21/12 11:55	0.050	0.009	0.010	J
CCB2	284369	KQ1202911-17	03/21/12 11:55	0.050	0.009	ND	U
CCB3	284369	KQ1202911-18	03/21/12 11:55	0.050	0.009	ND	U
CCB4	284369	KQ1202911-19	03/21/12 11:55	0.050	0.009	ND	U
CCB5	284369	KQ1202911-20	03/21/12 11:55	0.050	0.009	ND	U
CCB6	284369	KQ1202911-21	03/21/12 11:55	0.050	0.009	0.010	J
CCB7	284369	KQ1202911-22	03/21/12 11:55	0.050	0.009	0.009	J
CCB8	284369	KQ1202911-23	03/21/12 11:55	0.050	0.009	0.015	J
CCB9	284369	KQ1202911-24	03/21/12 11:55	0.050	0.009	0.009	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB10-001 PS03	K1202450-001	**0.081**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-002 PS04	K1202450-002	**0.085**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-003 PS05	K1202450-003	**0.079**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-004 PS14	K1202450-004	**0.081**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-005 PS06	K1202450-005	**0.093**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-006 PS07	K1202450-006	**0.080**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-007 PS08	K1202450-007	**0.082**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-008 PS15	K1202450-008	**0.077**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-009 PS09	K1202450-009	**0.073**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-011 PS10	K1202450-010	**0.080**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-012 PS10.1	K1202450-011	**0.078**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-013 PS11	K1202450-012	**0.080**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-015 PS16	K1202450-013	**0.078**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-016 PS01	K1202450-014	**0.082**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-018 PS02	K1202450-015	**0.086**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-019 PS13	K1202450-016	**0.090**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-020 M4	K1202450-017	**0.079**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-021 BJEST	K1202450-018	**0.073**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-022 M3.1	K1202450-019	**0.076**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-023 M3.1 DEEP	K1202450-020	**0.074**	0.010	0.004	1	03/27/12	3/26/12	
AMB10DD-002 OF019	K1202450-021	**0.160**	0.010	0.004	1	03/27/12	3/26/12	
AMB10DD-003 OF021	K1202450-022	**0.356**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-100 WP	K1202450-023	**0.074**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-101 M2	K1202450-024	**0.083**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-102 CLMBAY	K1202450-025	**0.073**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-103 ILSP	K1202450-026	**0.078**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-104 M1	K1202450-027	**0.075**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-105 M1 DEEP	K1202450-028	**0.077**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-106 PWNLP	K1202450-029	**0.072**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-107 M8	K1202450-030	**0.066**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-108 M6	K1202450-031	**0.064**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-109 DYOTS	K1202450-032	**0.052**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-110 M7	K1202450-033	**0.046**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-111 PS12	K1202450-034	**0.083**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-112 SN11	K1202450-035	**0.067**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-113 M3.3	K1202450-036	**0.077**	0.010	0.004	1	03/27/12	3/26/12	
AMB10-114 PS03B	K1202450-037	**0.091**	0.010	0.004	1	03/27/12	3/26/12	

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Superset Reference: 12-0000206081 rev 00

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project:	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Method Blank	K1202450-MB1	ND U	0.010	0.004	1	03/27/12	3/26/12	
Method Blank	K1202450-MB2	ND U	0.010	0.004	1	03/27/12	3/26/12	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202450
Project	MARCH 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/13/12 - 03/14/12
Sample Matrix:	Ocean Water	**Date Received:**	03/16/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Duplicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB10-001 PS03	K1202450-001DUP1	0.010	0.004	0.081	0.081	0.0806	<1	20	03/27/12
AMB10-103 ILSP	K1202450-026DUP5	0.010	0.004	0.078	0.077	0.0775	1	20	03/27/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206081 rev 00

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Collected: 03/13/12
Date Received: 03/16/12
Date Analyzed: 03/27/12
Date Extracted: 03/26/12

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name: AMB10-001 PS03
Lab Code: K1202450-001
Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA

		Matrix Spike K1202450-001MS1			Duplicate Matrix Spike K1202450-001DMS1					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.081	0.597	0.500	103	1.14	1.00	106	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Collected: 03/14/12
Date Received: 03/16/12
Date Analyzed: 03/27/12
Date Extracted: 03/26/12

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name: AMB10-103 ILSP
Lab Code: K1202450-026
Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA

		Matrix Spike K1202450-026MS5			Duplicate Matrix Spike K1202450-026DMS5					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.078	0.579	0.500	100	1.16	1.00	108	60-135	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 3/30/2012 11:17:55 AM

Superset Reference: 12-0000206081 rev 00

Client: Battelle Marine Sciences Lab
Project: MARCH 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202450
Date Analyzed: 03/27/12
Date Extracted: 03/26/12

Lab Control Sample Summary
Phosphorus, Total

Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 284905

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202450-LCS2	3.67	3.41	108	85-115
Lab Control Sample	K1202450-LCS3	3.70	3.41	108	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	284905	KQ1203140-07	03/27/12 11:07	0.500	0.532	106	90-110
CCV2	284905	KQ1203140-08	03/27/12 11:07	0.500	0.531	106	90-110
CCV3	284905	KQ1203140-09	03/27/12 11:07	0.500	0.535	107	90-110
CCV4	284905	KQ1203140-10	03/27/12 11:07	0.500	0.536	107	90-110
CCV5	284905	KQ1203140-11	03/27/12 11:07	0.500	0.536	107	90-110
CCV6	284905	KQ1203140-12	03/27/12 11:07	0.500	0.537	107	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202450
Project: MARCH 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	284905	KQ1203140-01	03/27/12 11:07	0.010	0.004	ND	U
CCB2	284905	KQ1203140-02	03/27/12 11:07	0.010	0.004	ND	U
CCB3	284905	KQ1203140-03	03/27/12 11:07	0.010	0.004	ND	U
CCB4	284905	KQ1203140-04	03/27/12 11:07	0.010	0.004	ND	U
CCB5	284905	KQ1203140-05	03/27/12 11:07	0.010	0.004	ND	U
CCB6	284905	KQ1203140-06	03/27/12 11:07	0.010	0.004	ND	U

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	K1202512
Project:	ENVVEST March 2012 (AMB10)	**Date Received:**	3/20/12
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six water samples were received for analysis at Columbia Analytical Services on 3/20/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes **Date** 4-4-12

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB10-200 SN05	K1202512-001	**0.040**	0.010	0.003	1	03/27/12 15:46	
AMB10-201 SN03	K1202512-002	**0.194**	0.010	0.003	1	03/27/12 15:46	
AMB10-202 SN08	K1202512-003	**0.024**	0.010	0.003	1	03/27/12 15:46	
AMB10-204 SN10	K1202512-004	**0.037**	0.010	0.003	1	03/27/12 15:46	
AMB10-205 BM01	K1202512-005	**0.018**	0.010	0.003	1	03/27/12 15:46	
AMB10-206 PS03C	K1202512-006	**0.066**	0.010	0.003	1	03/27/12 15:46	
Method Blank	K1202512-MB1	**0.008 J**	0.010	0.003	1	03/27/12 15:46	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
		Date Analyzed:	03/27/12

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB10-200 SN05	**Units:**	mg/L
Lab Code:	K1202512-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1202512-001DUP3 Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	350.1	0.010	0.003	0.040	0.037	0.0383	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206223 rev 00

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202512
Date Collected: 03/16/12
Date Received: 03/20/12
Date Analyzed: 03/27/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: AMB10-200 SN05
Lab Code: K1202512-001
Analysis Method: 350.1

Units: mg/L
Basis: NA

		Matrix Spike K1202512-001MS3			Duplicate Matrix Spike K1202512-001DMS3					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.040	0.240	0.200	100	0.237	0.200	99	90-110	1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206223 rev 00

QA/QC Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202512
Date Analyzed: 03/27/12

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: 350.1

Units: mg/L
Basis: NA
Analysis Lot: 285098

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202512-LCS1	14.4	13.9	103	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	285098	KQ1203154-09	03/27/12 15:46	0.250	0.247	99	90-110
CCV2	285098	KQ1203154-10	03/27/12 15:46	0.250	0.247	99	90-110
CCV3	285098	KQ1203154-11	03/27/12 15:46	0.250	0.247	99	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	285098	KQ1203154-06	03/27/12 15:46	0.010	0.003	0.008	J
CCB2	285098	KQ1203154-07	03/27/12 15:46	0.010	0.003	0.009	J
CCB3	285098	KQ1203154-08	03/27/12 15:46	0.010	0.003	0.008	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB10-200 SN05	K1202512-001	**1.1**	1.0	0.4	2	04/02/12	3/28/12	
AMB10-201 SN03	K1202512-002	**1.1**	1.0	0.4	2	04/02/12	3/28/12	
AMB10-202 SN08	K1202512-003	**0.9 J**	1.0	0.4	2	04/02/12	3/28/12	
AMB10-204 SN10	K1202512-004	**1.0**	1.0	0.4	2	04/02/12	3/28/12	
AMB10-205 BM01	K1202512-005	**0.8 J**	1.0	0.4	2	04/02/12	3/28/12	
AMB10-206 PS03C	K1202512-006	**1.0**	1.0	0.4	2	04/02/12	3/28/12	
Method Blank	K1202512-MB1	ND U	0.20	0.14	2	04/02/12	3/28/12	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
		Date Analyzed:	04/02/12

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB10-200 SN05	**Units:**	mg/L
Lab Code:	K1202512-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1202512-001DUP3 Result	Average	RPD	RPD Limit
Nitrogen, Total Kjeldahl (TKN)	351.4	1.0	0.4	1.1	1.1	1.10	8	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
		Date Analyzed:	04/2/12
		Date Extracted:	03/28/12

Duplicate Matrix Spike Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name:	AMB10-200 SN05	**Units:**	mg/L
Lab Code:	K1202512-001	**Basis:**	NA
Analysis Method:	351.4		
Prep Method:	Method		

		Matrix Spike K1202512-001MS3			Duplicate Matrix Spike K1202512-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.1	47.7	50.0	93	98.3	100	97	40-160	4	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Analyzed:**	04/02/12
Sample Matrix:	Ocean Water	**Date Extracted:**	03/28/12

Lab Control Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	285844

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202512-LCS1	3.21	3.30	97	75-125

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	285844	KQ1203445-04	04/02/12 11:30	10.0	9.86	99	90-110
CCV2	285844	KQ1203445-05	04/02/12 11:30	10.0	9.72	97	90-110
CCV3	285844	KQ1203445-06	04/02/12 11:30	10.0	9.79	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	285844	KQ1203445-01	04/02/12 11:30	0.20	0.07	ND	U
CCB2	285844	KQ1203445-02	04/02/12 11:30	0.20	0.07	ND	U
CCB3	285844	KQ1203445-03	04/02/12 11:30	0.20	0.07	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB10-200 SN05	K1202512-001	**0.356**	0.050	0.009	1	03/21/12 11:55	
AMB10-201 SN03	K1202512-002	**0.361**	0.050	0.009	1	03/21/12 11:55	
AMB10-202 SN08	K1202512-003	**0.332**	0.050	0.009	1	03/21/12 11:55	
AMB10-204 SN10	K1202512-004	**0.346**	0.050	0.009	1	03/21/12 11:55	
AMB10-205 BM01	K1202512-005	**0.351**	0.050	0.009	1	03/21/12 11:55	
AMB10-206 PS03C	K1202512-006	**0.313**	0.050	0.009	1	03/21/12 11:55	
Method Blank	K1202512-MB1	**0.010 J**	0.050	0.009	1	03/21/12 11:55	
Method Blank	K1202512-MB2	ND U	0.050	0.009	1	03/21/12 11:55	
Method Blank	K1202512-MB3	**0.011 J**	0.050	0.009	1	03/21/12 11:55	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
		Date Analyzed:	03/21/12

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB10-200 SN05	**Units:**	mg/L
Lab Code:	K1202512-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1202512-001DUP3 Result	Average	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.356	0.356	0.356	<1	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202512
Date Collected: 03/16/12
Date Received: 03/20/12
Date Analyzed: 03/21/12

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: AMB10-200 SN05
Lab Code: K1202512-001
Analysis Method: 353.2

Units: mg/L
Basis: NA

		Matrix Spike K1202512-001MS3			Duplicate Matrix Spike K1202512-001DMS3					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.356	2.28	2.00	96	2.28	2.00	96	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000206223 rev 00

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202512
Date Analyzed: 03/21/12

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L
Basis: NA
Analysis Lot: 284369

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202512-LCS1	17.1	17.7	97	90-110
Lab Control Sample	K1202512-LCS2	16.8	17.7	95	90-110
Lab Control Sample	K1202512-LCS3	16.7	17.7	94	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	284369	KQ1202911-25	03/21/12 11:55	2.00	1.96	98	90-110
CCV2	284369	KQ1202911-26	03/21/12 11:55	2.00	1.96	98	90-110
CCV3	284369	KQ1202911-27	03/21/12 11:55	2.00	1.95	97	90-110
CCV4	284369	KQ1202911-28	03/21/12 11:55	2.00	1.93	97	90-110
CCV5	284369	KQ1202911-29	03/21/12 11:55	2.00	1.92	96	90-110
CCV6	284369	KQ1202911-30	03/21/12 11:55	2.00	1.91	96	90-110
CCV7	284369	KQ1202911-31	03/21/12 11:55	2.00	1.88	94	90-110
CCV8	284369	KQ1202911-32	03/21/12 11:55	2.00	1.88	94	90-110
CCV9	284369	KQ1202911-33	03/21/12 11:55	2.00	1.89	95	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	284369	KQ1202911-16	03/21/12 11:55	0.050	0.009	0.010	J
CCB2	284369	KQ1202911-17	03/21/12 11:55	0.050	0.009	ND	U
CCB3	284369	KQ1202911-18	03/21/12 11:55	0.050	0.009	ND	U
CCB4	284369	KQ1202911-19	03/21/12 11:55	0.050	0.009	ND	U
CCB5	284369	KQ1202911-20	03/21/12 11:55	0.050	0.009	ND	U
CCB6	284369	KQ1202911-21	03/21/12 11:55	0.050	0.009	0.010	J
CCB7	284369	KQ1202911-22	03/21/12 11:55	0.050	0.009	0.009	J
CCB8	284369	KQ1202911-23	03/21/12 11:55	0.050	0.009	0.015	J
CCB9	284369	KQ1202911-24	03/21/12 11:55	0.050	0.009	0.009	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB10-200 SN05	K1202512-001	**0.078**	0.010	0.004	1	03/28/12	3/27/12	
AMB10-201 SN03	K1202512-002	**0.088**	0.010	0.004	1	03/28/12	3/27/12	
AMB10-202 SN08	K1202512-003	**0.079**	0.010	0.004	1	03/28/12	3/27/12	
AMB10-204 SN10	K1202512-004	**0.080**	0.010	0.004	1	03/28/12	3/27/12	
AMB10-205 BM01	K1202512-005	**0.088**	0.010	0.004	1	03/28/12	3/27/12	
AMB10-206 PS03C	K1202512-006	**0.074**	0.010	0.004	1	03/28/12	3/27/12	
Method Blank	K1202512-MB1	ND U	0.010	0.004	1	03/28/12	3/27/12	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
		Date Analyzed:	03/28/12

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB10-200 SN05	**Units:**	mg/L
Lab Code:	K1202512-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1202512-001DUP3 Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.078	0.076	0.0769	2	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1202512
Project:	ENVVEST March 2012 Ambient Monitoring (AMB10)	**Date Collected:**	03/16/12
Sample Matrix:	Ocean Water	**Date Received:**	03/20/12
		Date Analyzed:	03/28/12
		Date Extracted:	03/27/12

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB10-200 SN05	**Units:**	mg/L
Lab Code:	K1202512-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1202512-001MS3			Duplicate Matrix Spike K1202512-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.078	0.614	0.500	107	1.16	1.00	109	60-135	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)
Sample Matrix: Ocean Water

Service Request: K1202512
Date Analyzed: 03/28/12
Date Extracted: 03/27/12

Lab Control Sample Summary
Phosphorus, Total

Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 285077

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1202512-LCS1	3.71	3.41	109	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	285077	KQ1203246-05	03/28/12 09:45	0.500	0.532	106	90-110
CCV2	285077	KQ1203246-06	03/28/12 09:45	0.500	0.533	107	90-110
CCV3	285077	KQ1203246-07	03/28/12 09:45	0.500	0.532	106	90-110
CCV4	285077	KQ1203246-08	03/28/12 09:45	0.500	0.536	107	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1202512
Project: ENVVEST March 2012 Ambient Monitoring (AMB10)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	285077	KQ1203246-01	03/28/12 09:45	0.010	0.004	ND	U
CCB2	285077	KQ1203246-02	03/28/12 09:45	0.010	0.004	ND	U
CCB3	285077	KQ1203246-03	03/28/12 09:45	0.010	0.004	ND	U
CCB4	285077	KQ1203246-04	03/28/12 09:45	0.010	0.004	ND	U

SAMPLE CHAIN OF CUSTODY FORM

Day 1
AMB10

Date: 3/13/12
Page: 1 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB01

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

EVEN=THE
ODD=DME

AMB10

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS (12)	Nuts/TOC	DOC	Osal	Oil&Grease	TOC	No. of containers	StationID	Comments	DME MSL CODE
3100-810	AMB10-001	PS03	3/13/12 0515	Seawater	X		X	X	X	X		X	6			811
812	-002	PS04	0928		V		V	V	V	V		V	6		Stormwater discharge/Sewer	813
814	-003	PS05	0835		X		X	X	X	X		V	6			815
816	-004	PS14	0948		X		X	X	X	X		X	6			817
818	-005	PS06	0859		V		V	X	X	V		V	6			819
820	-006	PS07	1015		X		X	X	X	X		X	6			821
3/14/12 822	-007	PS08	1028		V		V	V	X	X		V	6			823
824	-008	PS15	1040		X		V	X	X	V		X	6			825
826	-009	PS09	1056		V		V	X	X	X		X	6			827
828	-010	PS09 Dup	1056		X								1			829
830	-011	PS10	1115		X		X	X	X	X		X	6			831
832	-012	PS10.1	1126		X		X	X	X	V		X	6			833
834	-013	PS11	1212		X		X	X	X	V		X	6			835
836	-014	Pier 7	1222		X		X		X			X	3			837
3100-838	-015	PS16	1250		X		X	X	X	X		X	6		PS16 on some labels.	839

Relinquished by: _____ 3/13/12 1555
Signature Date Time
Jill Brandenberger PNNL
Printed Name Company

Received by: _____ 3/14/12
Signature
C. Sloan MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand carry

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/13/2012 AMB10 Day 1

Page: _____ of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT: AMB01

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

EVEN=TIME
DDD=DATE

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease	TOC	No. of containers	StationID	Comments	DNIE MSL CODE
3106-840	AMB10-0016	~~PS03~~PS01	3/13/12 1254		X		X	X	X	X		X	6			841
842	-0017	PS01 Dup	1251		X								1			843
844	-0018	PS02	1314		X		X	X	X	X		X	6			845
846	-0019	PS13	1327		X		X	X	X	X		X	6			847
848	-0020	M4	1344		X		X	X	X	X		X	6			849
850	-0021	BJEST	1402		X		X	X	X	X		X	6			851
852	-0022	M3.1	1414		X		X	X	X	X		X	6			853
3106-854	-0023	M3.1 Dup	1426		X		X	X	X	X		X	6		~~3ft~~ Depth 3M	855
	-0024	~~PS03B~~	Not collected AMB													
3106-856	AMB10DP-001	OF18B	3/13/12 1645		X		X						2	DD4	grab sample	857
3106-858	-002	OF019	3/13/12 1645		X		X	X	X	X	X	X	7	comp	24hr.	859
3106-860	-003	OF021	3/13/12 1100		X		X	X	X	X	X	X	7	comp	24 hr.	861

Relinquished by:

Signature: _____ Date: 3/13/12 Time: 1955

Printed Name: JM Brandenberger Company: PNNL

Received by:

Signature: _____ Date: 3/14/12

Printed Name: C. Swick

Total # of Containers

Shipment Method: Hand Carried

Sample Disposition:

Relinquished by:

Signature: _____ Date: _____ Time: _____

Printed Name: _____ Company: _____

Received by:

Signature: _____

Printed Name: _____

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Sample Collector	Johnston, Gebhart			PSNS Project ENVVEST	AMB10 Day 1	Page 1 of 1
Sampling Team	Rosen, Brandenberger, Beyer			Ambient Monitoring	3/13/2012	
Organization	C/100.32					Bremerton Tides
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm				
StationID	Time Arrive Date/Time 3/13/2012	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS03	0855	0922	NS	47.55577	122.65180	
PS04	0928	0934	NS	47.55469	122.64763	stennis discharging/sheen
PS05	0936	0944	NS	47.55596	122.64536	
PS14	0948	0957	NS	47.55247	122.64326	
PS06	0959	1010	NS	47.55310	122.64238	
PS07	1014	1018	NS	47.55594	122.64161	
PS08	1028	1035	NS	47.55758	122.63877	
PS15	1038	1050	NS	47.55507	122.63663	
PS09	1056	1105	NS	47.56013	122.63633	
PS10	1115	1119	NS	47.56050	122.63254	small debris visible
PS10.1	1126	1132	NS	47.56137	122.63124	Visible sheen
PS11	1211	1218	NS	47.56147	122.62901	
~~PS14~~ Pier 7	1223	1228	NS	47.55945	122.62851	
PS16	1226	1236	NS	47.55814	122.62846	1236 Troll up
PS01	1256	1306	NS	47.55410	122.65707	1235 in 9 Small Urchins 1305
PS02	1312	1320	NS	47.55436	122.65922	1312 Troll in 1320 out trollout
PS13	1326	1333	NS	47.55198	122.65392	1326 in 1333 out
M4	1342	1351	M	47.54200	122.66324	~~1345~~ 1342 in
BSEST	1401	1410	NS	47.54670	122.62807	Troll on bottom 1410 out
M3.1	1413	1426	M	47.55609	122.61902	1413 in 1426 out
PS03B	1442	1449	NS	47.55600	122.65145	1440 in 1449 out

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Johnston									PSNS Project ENVVEST			
Sampling Team	Johnston, Gebhart, Rosen, Brandenburger, Beyerle									Ambient Monitoring: AMB10			
Organization	PSNS&IMF c/106.32									Instrument: Troll in water 0845			
Use pre-assigned id	Use allowable code only	3/13/2012 mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	ft	ft	ft	
SampleID	StationID	3/13/12 Date/Time	pH	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi disk	Bottom Depth	Remarks/ Comments
~~PS03~~ cc1	PS03	915	7.85	4.9		7.12	7.14	~2ft	3.0	23.3	23	49.4	
~~PS04~~ cc2	PS04	0928	7.81	5.13		9.32	8.01		3.3	25.4	19	44.9	
~~PS05~~ cc3	PS05	0938	7.88	5.11		9.10	7.7		3.2	25.3	20	47.6	
cc4	PS04	0948	7.87	5.15		7.69	8.03		3.3	25.5	21	58	
cc5	PS04	0959	7.86	5.10		6.87	8.14		3.3	25.3	22	53.2	
	~~PS06~~ PS07	1015	7.85	5.15		6.41	8.26		3.3	25.6	23	39.5	
	PS08	1024	7.85	5.19		7.80	8.18		3.3	25.8	21	26.0	
	PS15	1038	7.85	5.22		8.71	8.19		3.3	25.8	21	55	
	PS09	1056	7.90	5.21		8.04	8.26		3.3	25.7	25	36.5	
	PS10	1115	7.86	5.15		7.76	8.61		3.3	25.7	23	34	
	PS10.1	1126	7.9	5.11		6.62	7.04		3.2	25.3	27	28.3	
	PS11	1212	7.85	5.19		9.08	8.10		3.3	25.6	23	25.3	
	~~PS12~~ Pier1	1223	7.86	5.21		6.72	8.12		3.3	25.9	20	49.2	
	PS16	1230	7.86	5.22		6.32	8.24		3.3	25.9	27	46	Lost depth, Pier.
	PS01	1302	7.87	5.21		9.34	8.26		3.3	25.8	23		
	PS02	1314	7.88	5.08		7.59	8.07		3.2	25.2	28		
	PS13	1327	7.86	5.18		8.65	8.17		3.3	25.8	23		
	M4	1343	7.86	5.19		8.91	8.32		3.3	25.7	23		
	~~BEST~~	1402	7.98	5.20	8.88	~~8.45~~ 8.5	8.43		3.3	25.7	3		
	M3.1	1414	7.95	5.20		8.5	8.26		3.3	~~25.8~~ 25.8	19		
	PS03B	1493	7.89	5.04		7.36	7.92		3.2	24.9	19		

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 810-861 Batch: 24

Project Name: AMB10 Day 1 Project Manager: JMM

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
	✓	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

✓		Filter Samples:	Amount: Entire sample / Half of sample
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
✓		Special instructions:	2 bottles for TSS - PNNL Nutrients and O&G to CAS

Sample Preservation Instructions: Filter metals

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
		✓	Custody seal present	Seal intact? YES NO
✓			Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	8 cooler all 4±2 °C ____ °C
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)	Comment/Remedy:
✓			Were all chain of custody forms signed and dated?	
✓			Were samples filtered at MSL?	

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes:

Completed By: JMM Date/Time: 3/13/12 1935

SAMPLE PRESERVATION

		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
		Complete pH check required for project (use pH meter and record on pH Record form)	
✓		Sample(s) were preserved at MSL	
Type:	✓	0.2% HNO3	Notes: Metals Optima Lot# 121020
		0.5% HCl (Hg samples)	Notes: Lot#
		Refrigerate/Freeze	Notes: TSS/OSAL
		Other	Notes:

Completed By: Date/Time: 3/14/12 16:30

Storage Shelf: L2C ~~L2B~~ L2A L1A

3/13/12 ~~3/14/12~~

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/14/2012
Batch: 24
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-001	PS03-TME	TME	PS03	3106-810	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-001	PS03-DME	DME	PS03	3106-811	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-002	PS04-TME	TME	PS04	3106-812	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-002	PS04-DME	DME	PS04	3106-813	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-003	PS05-TME	TME	PS05	3106-814	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-003	PS05-DME	DME	PS05	3106-815	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-004	PS14-TME	TME	PS14	3106-816	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-004	PS14-DME	DME	PS14	3106-817	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-005	PS06-TME	TME	PS06	3106-818	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-005	PS06-DME	DME	PS06	3106-819	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-006	PS07-TME	TME	PS07	3106-820	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-006	PS07-DME	DME	PS07	3106-821	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-007	PS08-TME	TME	PS08	3106-822	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-007	PS08-DME	DME	PS08	3106-823	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-008	PS15-TME	TME	PS15	3106-824	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-008	PS15-DME	DME	PS15	3106-825	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-009	PS09-TME	TME	PS09	3106-826	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-009	PS09-DME	DME	PS09	3106-827	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-010	PS09DUP-TME	TME	PS09DUP	3106-828	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-010	PS09DUP-DME	DME	PS09DUP	3106-829	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-011	PS10-TME	TME	PS10	3106-830	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-011	PS10-DME	DME	PS10	3106-831	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-012	PS10.1-TME	TME	PS10.1	3106-832	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-012	PS10.1-DME	DME	PS10.1	3106-833	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-013	PS11-TME	TME	PS11	3106-834	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-013	PS11-DME	DME	PS11	3106-835	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-014	PIER7-TME	TME	PIER7	3106-836	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-014	PIER7-DME	DME	PIER7	3106-837	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-015	PS16-TME	TME	PS16	3106-838	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-015	PS16-DME	DME	PS16	3106-839	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/14/2012
Batch: 24
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-016	PS01-TME	TME	PS01	3106-840	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-016	PS01-DME	DME	PS01	3106-841	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-017	PS01DUP-TME	TME	PS01DUP	3106-842	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-017	PS01DUP-DME	DME	PS01DUP	3106-843	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-018	PS02-TME	TME	PS02	3106-844	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-018	PS02-DME	DME	PS02	3106-845	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-019	PS13-TME	TME	PS13	3106-846	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-019	PS13-DME	DME	PS13	3106-847	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-020	M4-TME	TME	M4	3106-848	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-020	M4-DME	DME	M4	3106-849	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-021	BJEST-TME	TME	BJEST	3106-850	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-021	BJEST-DME	DME	BJEST	3106-851	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-022	M3.1-TME	TME	M3.1	3106-852	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-022	M3.1-DME	DME	M3.1	3106-853	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10-023	M3.1DEEP-TME	TME	M3.1DEEP	3106-854	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10-023	M3.1DEEP-DME	DME	M3.1DEEP	3106-855	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10DD-001	OF018B-TME	TME	OF018B	3106-856	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10DD-001	OF018B-DME	DME	OF018B	3106-857	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10DD-002	OF019-TME	TME	OF019	3106-858	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10DD-002	OF019-DME	DME	OF019	3106-859	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12
AMB10DD-003	OF021-TME	TME	OF021	3106-860	WATER	PREP LAB	Total Metals, Hg	03/13/12
AMB10DD-003	OF021-DME	DME	OF021	3106-861	WATER	PREP LAB	Dissolved Metals, Hg	03/13/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/14/2012
Batch: 24
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-810	WATER	MSL	TSS/OSAL	03/13/12
AMB10-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-812	WATER	MSL	TSS/OSAL	03/13/12
AMB10-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-814	WATER	MSL	TSS/OSAL	03/13/12
AMB10-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-816	WATER	MSL	TSS/OSAL	03/13/12
AMB10-005	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-818	WATER	MSL	TSS/OSAL	03/13/12
AMB10-006	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-820	WATER	MSL	TSS/OSAL	03/13/12
AMB10-007	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-822	WATER	MSL	TSS/OSAL	03/13/12
AMB10-008	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-824	WATER	MSL	TSS/OSAL	03/13/12
AMB10-009	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-826	WATER	MSL	TSS/OSAL	03/13/12
AMB10-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-830	WATER	MSL	TSS/OSAL	03/13/12
AMB10-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-832	WATER	MSL	TSS/OSAL	03/13/12
AMB10-013	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-834	WATER	MSL	TSS/OSAL	03/13/12
AMB10-014	PIER7-TSS/OSAL	TSS/OSAL	PIER7	3106-836	WATER	MSL	TSS/OSAL	03/13/12
AMB10-015	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-838	WATER	MSL	TSS/OSAL	03/13/12
AMB10-016	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-840	WATER	MSL	TSS/OSAL	03/13/12
AMB10-018	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-844	WATER	MSL	TSS/OSAL	03/13/12
AMB10-019	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-846	WATER	MSL	TSS/OSAL	03/13/12
AMB10-020	M4-TSS/OSAL	TSS/OSAL	M4	3106-848	WATER	MSL	TSS/OSAL	03/13/12
AMB10-021	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-850	WATER	MSL	TSS/OSAL	03/13/12
AMB10-022	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-852	WATER	MSL	TSS/OSAL	03/13/12
AMB10-023	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-854	WATER	MSL	TSS/OSAL	03/13/12
AMB10DD-001	OF018B-TSS	TSS	OF018B	3106-856	WATER	MSL	TSS/OSAL	03/13/12
AMB10DD-002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-858	WATER	MSL	TSS/OSAL	03/13/12
AMB10DD-003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-860	WATER	MSL	TSS/OSAL	03/13/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/14/2012
Batch: 24
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-001	PS03-TOC	TOC	PS03	3106-810	WATER	Deep Freezer	TOC	03/13/12
AMB10-002	PS04-TOC	TOC	PS04	3106-812	WATER	Deep Freezer	TOC	03/13/12
AMB10-003	PS05-TOC	TOC	PS05	3106-814	WATER	Deep Freezer	TOC	03/13/12
AMB10-004	PS14-TOC	TOC	PS14	3106-816	WATER	Deep Freezer	TOC	03/13/12
AMB10-005	PS06-TOC	TOC	PS06	3106-818	WATER	Deep Freezer	TOC	03/13/12
AMB10-006	PS07-TOC	TOC	PS07	3106-820	WATER	Deep Freezer	TOC	03/13/12
AMB10-007	PS08-TOC	TOC	PS08	3106-822	WATER	Deep Freezer	TOC	03/13/12
AMB10-008	PS15-TOC	TOC	PS15	3106-824	WATER	Deep Freezer	TOC	03/13/12
AMB10-009	PS09-TOC	TOC	PS09	3106-826	WATER	Deep Freezer	TOC	03/13/12
AMB10-011	PS10-TOC	TOC	PS10	3106-830	WATER	Deep Freezer	TOC	03/13/12
AMB10-012	PS10.1-TOC	TOC	PS10.1	3106-832	WATER	Deep Freezer	TOC	03/13/12
AMB10-013	PS11-TOC	TOC	PS11	3106-834	WATER	Deep Freezer	TOC	03/13/12
AMB10-014	PIER7-TOC	TOC	PIER7	3106-836	WATER	Deep Freezer	TOC	03/13/12
AMB10-015	PS16-TOC	TOC	PS16	3106-838	WATER	Deep Freezer	TOC	03/13/12
AMB10-016	PS01-TOC	TOC	PS01	3106-840	WATER	Deep Freezer	TOC	03/13/12
AMB10-018	PS02-TOC	TOC	PS02	3106-844	WATER	Deep Freezer	TOC	03/13/12
AMB10-019	PS13-TOC	TOC	PS13	3106-846	WATER	Deep Freezer	TOC	03/13/12
AMB10-020	M4-TOC	TOC	M4	3106-848	WATER	Deep Freezer	TOC	03/13/12
AMB10-021	BJEST-TOC	TOC	BJEST	3106-850	WATER	Deep Freezer	TOC	03/13/12
AMB10-022	M3.1-TOC	TOC	M3.1	3106-852	WATER	Deep Freezer	TOC	03/13/12
AMB10-023	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-854	WATER	Deep Freezer	TOC	03/13/12
AMB10DD-002	OF019-TOC	TOC	OF019	3106-858	WATER	Deep Freezer	TOC	03/13/12
AMB10DD-003	OF021-TOC	TOC	OF021	3106-860	WATER	Deep Freezer	TOC	03/13/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/14/2012
Batch: 24
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-001	PS03-DOC	DOC	PS03	3106-810	WATER	Deep Freezer	DOC	03/13/12
AMB10-002	PS04-DOC	DOC	PS04	3106-812	WATER	Deep Freezer	DOC	03/13/12
AMB10-003	PS05-DOC	DOC	PS05	3106-814	WATER	Deep Freezer	DOC	03/13/12
AMB10-004	PS14-DOC	DOC	PS14	3106-816	WATER	Deep Freezer	DOC	03/13/12
AMB10-005	PS06-DOC	DOC	PS06	3106-818	WATER	Deep Freezer	DOC	03/13/12
AMB10-006	PS07-DOC	DOC	PS07	3106-820	WATER	Deep Freezer	DOC	03/13/12
AMB10-007	PS08-DOC	DOC	PS08	3106-822	WATER	Deep Freezer	DOC	03/13/12
AMB10-008	PS15-DOC	DOC	PS15	3106-824	WATER	Deep Freezer	DOC	03/13/12
AMB10-009	PS09-DOC	DOC	PS09	3106-826	WATER	Deep Freezer	DOC	03/13/12
AMB10-011	PS10-DOC	DOC	PS10	3106-830	WATER	Deep Freezer	DOC	03/13/12
AMB10-012	PS10.1-DOC	DOC	PS10.1	3106-832	WATER	Deep Freezer	DOC	03/13/12
AMB10-013	PS11-DOC	DOC	PS11	3106-834	WATER	Deep Freezer	DOC	03/13/12
AMB10-014	PIER7-DOC	DOC	PIER7	3106-836	WATER	Deep Freezer	DOC	03/13/12
AMB10-015	PS16-DOC	DOC	PS16	3106-838	WATER	Deep Freezer	DOC	03/13/12
AMB10-016	PS01-DOC	DOC	PS01	3106-840	WATER	Deep Freezer	DOC	03/13/12
AMB10-018	PS02-DOC	DOC	PS02	3106-844	WATER	Deep Freezer	DOC	03/13/12
AMB10-019	PS13-DOC	DOC	PS13	3106-846	WATER	Deep Freezer	DOC	03/13/12
AMB10-020	M4-DOC	DOC	M4	3106-848	WATER	Deep Freezer	DOC	03/13/12
AMB10-021	BJEST-DOC	DOC	BJEST	3106-850	WATER	Deep Freezer	DOC	03/13/12
AMB10-022	M3.1-DOC	DOC	M3.1	3106-852	WATER	Deep Freezer	DOC	03/13/12
AMB10-023	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-854	WATER	Deep Freezer	DOC	03/13/12
AMB10DD-002	OF019-DOC	DOC	OF019	3106-858	WATER	Deep Freezer	DOC	03/13/12
AMB10DD-003	OF021-DOC	DOC	OF021	3106-860	WATER	Deep Freezer	DOC	03/13/12

SOP#: MSL-A-001

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/14/12
Page: 1 of 1
COC Number:

AMBIENT MON ID - DAY2

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106- TOT / DISS Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease 10A J 3/15/12	TOC	No. of containers	StationID	Comments
862 863	AMB10-100	WP	3/14/12 0924		X		X	X	X	X	X	X	6		
864 865	AMB10-101	M2	0955		X		Y	X	Y	1	X	1	6		NO M2 DEEP S3
866 867	AMB10-102	CLMBAY	1030		Y		X	X	Y	Y	X	X	6		
868 869	AMB10-103	IC2P	1109		Y		X	X	Y	Y	X		6		
870 871	AMB10-104	M1	1124		X		X								
872 873	AMB10-105	M1 DEEP	1195		X		X								
874 875	AMB10-106	PANEL	1224		X		X								
876 877	AMB10-107	M3	1253		X		X								
878 879	AMB10-108	M6	1307		X		X								
880 881	AMB10-109	DROP S	1325		X		X								
882 883	AMB10-110	M7	1340		X		X	X	X						
884 885	AMB10-111	PS12	1416		Y		Y	Y	Y	Y	X		6		
886 887	AMB10-112	SHELL	1430		Y		Y	Y	Y	X	X	X	6		Sorry just docked
888 889	AMB10-113	MS 3	1437		Y		Y	Y	Y	X	X	X	6		
890 891	AMB10-114	PSC 3 B	1434		Y		Y	Y	Y	Y	Y	X	6		

Relinquished by:
Signature
3/15/12 Date
1630 Time
Jim Brandenberger
Printed Name
PNNL Company

Received by:
Signature
3/15/12
C. Sasser MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery to MSL

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Mollerstuen, Gebhardt, Brandenberger Beyerly			PSNS Project ENVVEST		Page__1_ of _1___
Sampling Team				Ambient Monitoring	AMB10	
Organization						Bremerton Tides
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm				
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
WP	0924	0936	M	47.58397	122.57154	
M7	0955	1026	M	47.58134	122.59664	1002 out 1012 in DUP 1023 out
CUMBAY	1027	1036	NC	47.57128	122.59382	1027 in 1035 out
ILSP	1103	1111	NS	47.60643	122.59410	1103 in / 1111 out
M1	1122	1146	M	47.63647	122.58820	1122 in / 1145
PUNN CP	1223	1231	NS	47.58[illegible]	122.64689	1223 in / 1231
M8	1250	1255	M	47.57392	122.67627	1250 IN / 1255
M6	1307	1313	M	47.59699	122.69459	1307 IN / 1313
DYCTS	1325	1340	NS	47.64196	122.69396	1325 IN 1340
M7	1347	1354	M	47.62552	122.68885	1347 IN / 1354
PSIY	1416	1422	NS	47.60649	122.62831	1416 IN / 1422
SNII	1424	1432	NS	47.58134	122.63487	1424 / 1432
M3.3	1437	1446	M	47.54560	122.64429	1437 / 1446
PSC3B	1442	1449	NS	47.55569	122.65510	1442 / 1449
				Sediments	Waters	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Eric Mollerstuen; Christine Gebhart, Jill Brandenberger	PSNS Project ENVVEST	
Sampling Team	Tom Beyerly	Ambient Monitoring:	10
Organization	PSNS&IMF c/106.32	Instrument:	

Use pre-assigned id	Use allowable code only	3/19/12 mm/dd/yy hh:mm		S/m2	ntu	mg/L	C	m	%	ft	ft	ft	
SampleID	StationID	Date/Time	pH	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi disk	Bottom Depth	Remarks/ Comments
~~WP~~ AMB10-001	WP	933									22		
-002	M2	0455									18		Oil sheen
-002 Dup -003	M2	1010									17		
-003	CLMBAY	1027									12	12	Algae
-004	ILSP	1105									19		
-005	M1	1123									16		
-006 Dup	M1	1135									11		
-007	PWNEP	1225									12		
-008	M8	~~1312~~									12		
-009	MC	1309									15		
-010	DYDTS	1325									8		
-011	M7	1341									16		
-012	PS12	1417									10		Sheen / bird
-013	SNII	1430									20	20	Survey vessel
-014	M3-3	1437									~~Al~~	—	
-015	PS03B	1441									20		Sheen

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3104 Sample No(s): 862-891 Batch: 25

Project Name: ENVVEST AMB10 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

hand delivered from field

Yes	No	N/A	Indicate in Appropriate Box
☐	☑	☐	Custody seal present Seal intact? YES NO
☐	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) >4°C °C / °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL? as noted on COC

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: _____

Completed By: _____ Date/Time: 3/14/12 1630

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☒		Sample(s) were preserved at MSL	
Type:	☒	0.2% HNO3	Notes: Metals Lot# 121020
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☐	Refrigerate/Freeze	Notes: TSS TOC/DOC
	☐	Other	Notes:

Completed By: _____ Date/Time: 3/15/12 17:00

Storage Shelf: L-6-C, L-6-D

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/15/2012
Batch: 25
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-100	WP-TME	TME	WP	3106-862	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-100	WP-DME	DME	WP	3106-863	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-101	M2-TME	TME	M2	3106-864	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-101	M2-DME	DME	M2	3106-865	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-102	CLMBAY-TME	TME	CLMBAY	3106-866	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-102	CLMBAY-DME	DME	CLMBAY	3106-867	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-103	ILSP-TME	TME	ILSP	3106-868	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-103	ILSP-DME	DME	ILSP	3106-869	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-104	M1-TME	TME	M1	3106-870	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-104	M1-DME	DME	M1	3106-871	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-105	M1DEEP-TME	TME	M1DEEP	3106-872	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-105	M1DEEP-DME	DME	M1DEEP	3106-873	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-106	PWNLP-TME	TME	PWNLP	3106-874	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-106	PWNLP-DME	DME	PWNLP	3106-875	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-107	M8-TME	TME	M8	3106-876	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-107	M8-DME	DME	M8	3106-877	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-108	M6-TME	TME	M6	3106-878	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-108	M6-DME	DME	M6	3106-879	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-109	DYOTS-TME	TME	DYOTS	3106-880	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-109	DYOTS-DME	DME	DYOTS	3106-881	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-110	M7-TME	TME	M7	3106-882	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-110	M7-DME	DME	M7	3106-883	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-111	PS12-TME	TME	PS12	3106-884	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-111	PS12-DME	DME	PS12	3106-885	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-112	SN11-TME	TME	SN11	3106-886	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-112	SN11-DME	DME	SN11	3106-887	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-113	M3.3-TME	TME	M3.3	3106-888	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-113	M3.3-DME	DME	M3.3	3106-889	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12
AMB10-114	PS03B-TME	TME	PS03B	3106-890	WATER	PREP LAB	Total Metals, Hg	03/14/12
AMB10-114	PS03B-DME	DME	PS03B	3106-891	WATER	PREP LAB	Dissolved Metals, Hg	03/14/12

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/15/2012
Batch: 25
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-100	WP-TSS/OSAL	TSS/OSAL	WP	3106-862	WATER	MSL	TSS/OSAL	03/14/12
AMB10-101	M2-TSS/OSAL	TSS/OSAL	M2	3106-864	WATER	MSL	TSS/OSAL	03/14/12
AMB10-102	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-866	WATER	MSL	TSS/OSAL	03/14/12
AMB10-103	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-868	WATER	MSL	TSS/OSAL	03/14/12
AMB10-104	M1-TSS/OSAL	TSS/OSAL	M1	3106-870	WATER	MSL	TSS/OSAL	03/14/12
AMB10-105	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-872	WATER	MSL	TSS/OSAL	03/14/12
AMB10-106	PWNLP-TSS/OSAL	TSS/OSAL	PWNLP	3106-874	WATER	MSL	TSS/OSAL	03/14/12
AMB10-107	M8-TSS/OSAL	TSS/OSAL	M8	3106-876	WATER	MSL	TSS/OSAL	03/14/12
AMB10-108	M6-TSS/OSAL	TSS/OSAL	M6	3106-878	WATER	MSL	TSS/OSAL	03/14/12
AMB10-109	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-880	WATER	MSL	TSS/OSAL	03/14/12
AMB10-110	M7-TSS/OSAL	TSS/OSAL	M7	3106-882	WATER	MSL	TSS/OSAL	03/14/12
AMB10-111	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-884	WATER	MSL	TSS/OSAL	03/14/12
AMB10-112	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-886	WATER	MSL	TSS/OSAL	03/14/12
AMB10-113	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-888	WATER	MSL	TSS/OSAL	03/14/12
AMB10-114	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-890	WATER	MSL	TSS/OSAL	03/14/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/15/2012
Batch: 25
Login Designee: Suslick

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Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-100	WP-TOC	TOC	WP	3106-862	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-101	M2-TOC	TOC	M2	3106-864	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-102	CLMBAY-TOC	TOC	CLMBAY	3106-866	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-103	ILSP-TOC	TOC	ILSP	3106-868	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-104	M1-TOC	TOC	M1	3106-870	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-105	M1DEEP-TOC	TOC	M1DEEP	3106-872	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-106	PWNLP-TOC	TOC	PWNLP	3106-874	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-107	M8-TOC	TOC	M8	3106-876	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-108	M6-TOC	TOC	M6	3106-878	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-109	DYOTS-TOC	TOC	DYOTS	3106-880	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-110	M7-TOC	TOC	M7	3106-882	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-111	PS12-TOC	TOC	PS12	3106-884	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-112	SN11-TOC	TOC	SN11	3106-886	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-113	M3.3-TOC	TOC	M3.3	3106-888	WATER	DEEP FREEZER	TOC	03/14/12
AMB10-114	PS03B-TOC	TOC	PS03B	3106-890	WATER	DEEP FREEZER	TOC	03/14/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/15/2012
Batch: 25
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-100	WP-DOC	DOC	WP	3106-862	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-101	M2-DOC	DOC	M2	3106-864	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-102	CLMBAY-DOC	DOC	CLMBAY	3106-866	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-103	ILSP-DOC	DOC	ILSP	3106-868	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-104	M1-DOC	DOC	M1	3106-870	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-105	M1DEEP-DOC	DOC	M1DEEP	3106-872	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-106	PWNLP-DOC	DOC	PWNLP	3106-874	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-107	M8-DOC	DOC	M8	3106-876	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-108	M6-DOC	DOC	M6	3106-878	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-109	DYOTS-DOC	DOC	DYOTS	3106-880	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-110	M7-DOC	DOC	M7	3106-882	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-111	PS12-DOC	DOC	PS12	3106-884	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-112	SN11-DOC	DOC	SN11	3106-886	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-113	M3.3-DOC	DOC	M3.3	3106-888	WATER	DEEP FREEZER	DOC	03/14/12
AMB10-114	PS03B-DOC	DOC	PS03B	3106-890	WATER	DEEP FREEZER	DOC	03/14/12

Note: Page 5 is a blank
Removed from data pkg

SOP#: MSL-A-001

SAMPLE CHAIN OF CUSTODY FORM

Date: 3/16/12

Page: 1 of 1

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 2012 03-16

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB10 Day 3

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106* TOT / DISS Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	TIME/DMS	T33(21)	NUTS	TOC	DOC	DSAL	No. of containers	StationID	Comments
892	893	AMB10-200	SNO5	3/16/2012 1325	NS	X	X	X	X	X	X	6	SNO5	Rush
894	895	201	SNO3	1340	NS	X	X	X	X	X	X	6	SNO3	
896	897	202	SNO8	1355	NS	X	X	X	X	X	X	6	SNO8	
898	899	203	SNO8-DUP	1400	NS	X						1	SNO8	
900	901	204	SNIO	1410	NS	X	X	X	X	X	X	6	SNIO	Send Receipt for Manifest
902	903	205	BMO1	1425	NS	X	X	X	X	X	X	6	BMO1	
904	905	206	PSO5C	1450	NS	X	X	X	X	X	X	6	PSO5	resample cancelled

Relinquished by: _____ 3/16/12
Signature Date Time
Jm Brandenberger PNNL
Printed Name Company

Received by: _____ 3/16/12
Signature
C. Sustin 1747
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
_____
Printed Name Company

Received by: _____
Signature
_____
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Johnston Bradley	PSNS Project ENVVEST		Page___ of ___
Sampling Team	Beyrete	Ambient Monitoring	AMB10 Day 3	2012-03-16
Organization				

Use pre-assigned id m/dd/yy hh:mm/dd/yy hh:mm

StationID	Time Arrive Date/Time (3/16/12)	Time Leave Date/Time	Station Type	LAT	LONG	Remarks/ Comments
SN05	1320		NS	47.52486	-122.691616	Bradley
SN03	1340		NS	47.54773	-122.66928	WWTP
SN08	1355		NS	47.54070	-122.65931	outfall off Ross Point
SN10	1410		NS	47.54073	-122.64167	PO Boat Launch Dock
BM01	1435		NS	47.56459	-122.62034	Turning Buoy
PS02	1456		NS	47.55572	-122.65187	PSNS01 off Loop

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector										PSNS Project ENVVEST				
Sampling Team										Ambient Monitoring:				
Organization										Instrument:				
Use pre-assigned id	Use allowable code only	3/6/2012 mm/dd/yy hh:mm		mS S/m2	ntu	mg/L	C	m	%	g/ml	ft	ft		
SampleID	StationID	Date/Time	ph	Cond	Turb	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments	
	SN05	1527		28.			8.0				Bottom	6		
	SN03	1340		29.8			7.7				15			
	SN08	1355		29.58			7.4				Bottom	8		
	SN10	1410		29.04			7.4				Bottom	15	clear	
	BM01	1435		30.01			7.7				21		strong current from Narrows	
	PS03C	1450		28.27			7.7				25		Shavers	

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 892 - 905 Batch: 24

Project Name: AMB10 ENVVEST Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No		
☐	☐	Navy-type Project (requires high-level sample tracking procedures)	
☐	☐	USDA Samples (see Compliance Agreement Checklist)	PM Verification:
☐	☐	Filter Samples: *Amount:* Entire sample Half of sample	
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☐	☐	Special instructions:	

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Hand delivered

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☑	Custody seal present	Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	>4 degrees C °C _____ °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☑	☐	☐	Were all chain of custody forms signed and dated?	
☑	☐	☐	Were samples filtered at MSL? as noted	

Sample condition(s): ~~Acceptable~~ ~~Other (explain):~~

Container type: ~~Teflon~~ Poly ~~Glass~~ ~~Cap. Vial~~ Other: _____

Notes: _____

Completed By: _____ Date/Time: 3/16/12 1730

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☐ Sample(s) were preserved at MSL

Type: ☐	0.2% HNO3	Notes:	Lot# 1211020
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☑	Refrigerate/Freeze	Notes: TSS TOC/DOC	
☐	Other	Notes:	

Completed By: _____ Date/Time: _____

Storage Shelf: _____

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/16/2012
Batch: 26
Login Designee: Brandenberger/Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-200	SN05-TME	TME	SN05	3106-892	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-200	SN05-DME	DME	SN05	3106-893	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12
AMB10-201	SN03-TME	TME	SN03	3106-894	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-201	SN03-DME	DME	SN03	3106-895	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12
AMB10-202	SN08-TME	TME	SN08	3106-896	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-202	SN08-DME	DME	SN08	3106-897	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12
AMB10-203	SN08DUP-TME	TME	SN08DUP	3106-898	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-203	SN08DUP-DME	DME	SN08DUP	3106-899	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12
AMB10-204	SN10-TME	TME	SN10	3106-900	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-204	SN10-DME	DME	SN10	3106-901	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12
AMB10-205	BM01-TME	TME	BM01	3106-902	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-205	BM01-DME	DME	BM01	3106-903	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12
AMB10-206	PS03C-TME	TME	PS03C	3106-904	WATER	PREP LAB	Total Metals, Hg	03/16/12
AMB10-206	PS03C-DME	DME	PS03C	3106-905	WATER	PREP LAB	Dissolved Metals, Hg	03/16/12

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/16/2012
Batch: 26
Login Designee: Brandenberger/Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-200	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-892	WATER	MSL	TSS/OSAL	03/16/12
AMB10-201	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-894	WATER	MSL	TSS/OSAL	03/16/12
AMB10-202	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-896	WATER	MSL	TSS/OSAL	03/16/12
AMB10-204	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-900	WATER	MSL	TSS/OSAL	03/16/12
AMB10-205	BM01-TSS/OSAL	TSS/OSAL	BM01	3106-902	WATER	MSL	TSS/OSAL	03/16/12
AMB10-206	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-904	WATER	MSL	TSS/OSAL	03/16/12

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/16/2012
Batch: 26
Login Designee: Brandenberger/Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-200	SN05-TOC	TOC	SN05	3106-892	WATER	MSL	TOC	03/16/12
AMB10-201	SN03-TOC	TOC	SN03	3106-894	WATER	MSL	TOC	03/16/12
AMB10-202	SN08-TOC	TOC	SN08	3106-896	WATER	MSL	TOC	03/16/12
AMB10-204	SN10-TOC	TOC	SN10	3106-900	WATER	MSL	TOC	03/16/12
AMB10-205	BM01-TOC	TOC	BM01	3106-902	WATER	MSL	TOC	03/16/12
AMB10-206	PS03C-TOC	TOC	PS03C	3106-904	WATER	MSL	TOC	03/16/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 3/16/2012
Batch: 26
Login Designee: Brandenberger/Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2012 (AMB10)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB10-200	SN05-DOC	DOC	SN05	3106-892	WATER	MSL	DOC	03/16/12
AMB10-201	SN03-DOC	DOC	SN03	3106-894	WATER	MSL	DOC	03/16/12
AMB10-202	SN08-DOC	DOC	SN08	3106-896	WATER	MSL	DOC	03/16/12
AMB10-204	SN10-DOC	DOC	SN10	3106-900	WATER	MSL	DOC	03/16/12
AMB10-205	BM01-DOC	DOC	BM01	3106-902	WATER	MSL	DOC	03/16/12
AMB10-206	PS03C-DOC	DOC	PS03C	3106-904	WATER	MSL	DOC	03/16/12

SOP#: MSL-A-001

K1202450

PROJECT ENVVEST				CHAIN OF CUSTODY FORM											
Project Name: MARCH 2012 Ambient Monitoring (AMB10)															
SAMPLE TEAM:	Navy, Battelle														
DATE:	3/15/2012														
Laboratory:	Columbia Analytical			Testing Parameters per QAPP											
Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS		
AMB10-001	PS03	3/13/12 0:00	Seawater				X					1			
AMB10-002	PS04	3/13/12 0:00	Seawater				X					1			
AMB10-003	PS05	3/13/12 0:00	Seawater				X					1			
AMB10-004	PS14	3/13/12 0:00	Seawater				X					1			
AMB10-005	PS06	3/13/12 0:00	Seawater				X					1			
AMB10-006	PS07	3/13/12 0:00	Seawater				X					1			
AMB10-007	PS08	3/13/12 0:00	Seawater				X					1			
AMB10-008	PS15	3/13/12 0:00	Seawater				X					1			
AMB10-009	PS09	3/13/12 0:00	Seawater				X					1			
AMB10-011	PS10	3/13/12 0:00	Seawater				X					1			
AMB10-012	PS10.1	3/13/12 0:00	Seawater				X					1			
AMB10-013	PS11	3/13/12 0:00	Seawater				X					1			
AMB10-015	PS16	3/13/12 0:00	Seawater				X					1			
AMB10-016	PS01	3/13/12 0:00	Seawater				X					1			
AMB10-018	PS02	3/13/12 0:00	Seawater				X					1			
AMB10-019	PS13	3/13/12 0:00	Seawater				X					1			
AMB10-020	M4	3/13/12 0:00	Seawater				X					1			
AMB10-021	BJEST	3/13/12 0:00	Seawater				X					1			
AMB10-022	M3.1	3/13/12 0:00	Seawater				X					1			
AMB10-023	M3.1DEEP	3/13/12 0:00	Seawater				X					1			
AMB10DD-002	OF019	3/13/12 0:00	Seawater				X	X				2			
AMB10DD-003	OF021	3/13/12 0:00	Seawater				X	X				2			
AMB10-100	WP	3/14/12 0:00	Seawater				X					1			
AMB10-101	M2	3/14/12 0:00	Seawater				X					1			
AMB10-102	CLMBAY	3/14/12 0:00	Seawater				X					1			
AMB10-103	ILSP	3/14/12 0:00	Seawater				X					1			

SOP#: MSL-A-001

K1202450

| PROJECT ENVVEST | | |

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Battelle Service Request K12 02450

Received: 3.16.12 Opened: 3.16.12 By: BT Unloaded: 3.16.12 By: BT

1. Samples were received via? *Mail* *(Fed Ex)* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
1.8	n/a	308				X
0.8	n/a	276				X
2.8	n/a	274				X

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* paper
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* ~~NA~~ BT 3/16/12 (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* ~~NA~~ Y N
15. Was C12/Res negative? ~~NA~~ Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: For samples AMB10DS-002, 003 DOC marked on COC but rec'd Btls for O&G

Page ____ *of* ____

K1202512

PROJECT ENVVEST
Project Name: MARCH 2012 Ambient Monitoring (AMB10)
SAMPLE TEAM: Navy, Battelle
DATE: 3/19/2012
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB10-200	SN05	3/16/12 0:00	Seawater				X					1	
AMB10-201	SN03	3/16/12 0:00	Seawater				X					1	
AMB10-202	SN08	3/16/12 0:00	Seawater				X					1	
AMB10-204	SN10	3/16/12 0:00	Seawater				X					1	
AMB10-205	BM01	3/16/12 0:00	Seawater				X					1	
AMB10-206	PS03C	3/16/12 0:00	Seawater				X					1	
--end--													
											Total:	6	

Relinquished By: Brandenberger, Jill M — Company: Battelle MSL /PNWL — 3/19/2012 — Signature/Printed Name — Date/Time

shipped via Fedex 3/19/12, CS

Received By: — Company: KLS — 3/20/12 0920 — Signature/Printed Name — Date/Time

8

SOP#: MSL-A-001

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 412

Client / Project: Battelle Service Request K12 07512

Received: 3/20/12 Opened: 3/20/12 By: SRW Unloaded: 3/20/12 By: SRW

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
-0.2	1.4	313		7933 5476 3432		
1.5		310		" " 3400		

7. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

Page ____ *of* ____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring August 2012 (AMB11)

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring
Seawater, Freshwater Chemistry

Chemistry Analysis of Metals in Site Water

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Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	TOC/ DOC	TOC/ DOC	Hg	As	Ag	Al	Cd
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.49**	**0.030**	**2.5**	**0.0001**	**0.0451**	**0.0042**	**2.14**	**0.00110**
Seawater Reporting Limit (MDL* 3.18)								**0.095**	**8.0**	**0.00032**	**0.143**	**0.013**	**6.8**	**0.0035**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	0.0001	0.0267	0.0032	0.2	0.0033
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	0.00032	0.085	0.010	0.6	0.011
AMB11-001	PS03	TME	Seawater	**3106-908**	08/28/12	30.2	5.14	1.24	103	0.0200	1.43	0.0187 b	158 b	0.0851 b
AMB11-001	PS03	DME	Seawater	**3106-909**	08/28/12	--	--	1.08	90.1	0.000603	--	0.0042 Ub	2.14 Ub	0.0481 b
AMB11-002	PS04	TME	Seawater	**3106-910**	08/28/12	29.5	1.70	1.46	122	0.00113	1.18	0.0042 Ub	10.4 b	0.0584 b
AMB11-002	PS04	DME	Seawater	**3106-911**	08/28/12	--	--	1.10	91.6	0.000382	--	0.0042 Ub	2.14 Ub	0.0514 b
AMB11-003	PS05	TME	Seawater	**3106-912**	08/28/12	29.6	1.41	1.24	103	0.00120	1.19	0.0042 Ub	20.4 b	0.0581 b
AMB11-003	PS05	DME	Seawater	**3106-913**	08/28/12	--	--	1.08	89.9	0.000278 J	--	0.0042 Ub	2.14 Ub	0.0553 b
AMB11-004	PS14	TME	Seawater	**3106-914**	08/28/12	29.5	0.983	1.16	96.5	0.000666	1.14	0.0042 Ub	10.5 b	0.0470 b
AMB11-004	PS14	DME	Seawater	**3106-915**	08/28/12	--	--	1.09	90.5	0.000273 J	--	0.0042 Ub	2.14 Ub	0.0441 b
AMB11-005	PS06	TME	Seawater	**3106-916**	08/28/12	27.1	1.03	1.09	90.5	0.00155	1.21	0.00449 Jb	13.6 b	0.0554 b
AMB11-005	PS06	DME	Seawater	**3106-917**	08/28/12	--	--	0.919	76.6	0.000620	--	0.0042 Ub	2.14 Ub	0.0513 b
AMB11-006	PS06DUP	TME	Seawater	**3106-918**	08/28/12	--	--	--	--	0.00222	1.21	0.00524 Jb	13.4 b	0.0601 b
AMB11-006	PS06DUP	DME	Seawater	**3106-919**	08/28/12	--	--	--	--	0.000760	--	0.0042 Ub	2.14 Ub	0.0546 b
AMB11-007	PS07	TME	Seawater	**3106-920**	08/28/12	29.3	0.927	1.27	106	0.00108	1.23	0.0042 Ub	9.86 b	0.0644 b
AMB11-007	PS07	DME	Seawater	**3106-921**	08/28/12	--	--	1.23	103	0.000388	--	0.0042 Ub	2.14 Ub	0.0602 b
AMB11-008	PS08	TME	Seawater	**3106-922**	08/28/12	29.5	2.27	1.46	122	0.000976	1.23	0.0042 Ub	15.2 b	0.0650 b
AMB11-008	PS08	DME	Seawater	**3106-923**	08/28/12	--	--	1.10	91.8	0.000263 J	--	0.0042 Ub	2.14 Ub	0.0571 b
AMB11-009	PS15	TME	Seawater	**3106-924**	08/28/12	29.3	0.802	1.13	94.2	0.000714	1.16	0.0042 Ub	12.0 b	0.0439 b
AMB11-009	PS15	DME	Seawater	**3106-925**	08/28/12	--	--	1.02	84.6	0.000319 J	--	0.0042 Ub	2.14 Ub	0.0387 b
AMB11-010	PS09	TME	Seawater	**3106-926**	08/28/12	29.1	0.899	1.17	97.3	0.000937	1.17	0.0042 Ub	10.1 b	0.0609 b
AMB11-010	PS09	DME	Seawater	**3106-927**	08/28/12	--	--	0.996	83.0	0.000252 J	--	0.0042 Ub	2.14 Ub	0.0514 b
AMB11-011	PS10	TME	Seawater	**3106-928**	08/28/12	29.4	1.72	1.27	106	0.000654	1.11	0.0042 Ub	9.66 b	0.0530 b
AMB11-011	PS10	DME	Seawater	**3106-929**	08/28/12	--	--	1.12	93.3	0.000309 J	--	0.0042 Ub	2.14 Ub	0.0477 b
AMB11-012	PS10.1	TME	Seawater	**3106-930**	08/28/12	29.8	0.778	1.19	99.0	0.000504	1.11	0.0042 Ub	9.07 b	0.0487 b
AMB11-012	PS10.1	DME	Seawater	**3106-931**	08/28/12	--	--	1.10	91.4	0.000280 J	--	0.0042 Ub	2.14 Ub	0.0434 b
AMB11-013	PS11	TME	Seawater	**3106-932**	08/28/12	29.3	2.18	1.28	107	0.000568	1.14	0.0042 Ub	10.5 b	0.0516 b
AMB11-013	PS11	DME	Seawater	**3106-933**	08/28/12	--	--	1.08	89.8	0.000238 J	--	0.0042 Ub	2.14 Ub	0.0450 b
AMB11-014	P7	TME	Seawater	**3106-934**	08/28/12	29.4	1.54	--	--	0.000501	1.14	0.0042 Ub	8.41 b	0.0532 b
AMB11-014	P7	DME	Seawater	**3106-935**	08/28/12	--	--	1.23	102	0.000257 J	--	0.0042 Ub	2.14 Ub	0.0462 b
AMB11-015	PS16	TME	Seawater	**3106-936**	08/28/12	29.2	1.54	1.28	107	0.000573	1.14	0.0042 Ub	9.44 b	0.0579 b
AMB11-015	PS16	DME	Seawater	**3106-937**	08/28/12	--	--	1.17	97.1	0.000260 J	--	0.0042 Ub	2.14 Ub	0.0481 b
AMB11-016	PS01	TME	Seawater	**3106-938**	08/28/12	28.6	2.45	1.37	114	0.00133	1.35	0.0042 Ub	13.3 b	0.0586 b
AMB11-016	PS01	DME	Seawater	**3106-939**	08/28/12	--	--	1.18	98.4	0.000527	--	0.0042 Ub	2.14 Ub	0.0514 b
AMB11-017	PS02	TME	Seawater	**3106-940**	08/28/12	28.7	1.54	1.20	100	0.00142	1.39	0.0042 Ub	12.7 b	0.0536 b
AMB11-017	PS02	DME	Seawater	**3106-941**	08/28/12	--	--	1.16	97.0	0.000527	--	0.0042 Ub	2.14 Ub	0.0510 b
AMB11-018	PS13	TME	Seawater	**3106-942**	08/28/12	29.3	1.75	1.62	135	0.000774	1.22	0.0042 Ub	8.75 b	0.0501 b

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UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	TOC/ DOC	TOC/ DOC	Hg	As	Ag	Al	Cd
						Units		HTCO	HTCO					
				Instrument:		(PSU)	mg/L	(mg/L)	(µM)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB11-018	PS13	DME	Seawater	**3106-943**	08/28/12	--	--	1.53	127	0.000265 J	--	0.0042 Ub	2.14 Ub	0.0475 b
AMB11-019	M4	TME	Seawater	**3106-944**	08/28/12	29.4	4.26	2.76	230	0.00102	1.12	0.0042 Ub	15.0 b	0.0625 b
AMB11-019	M4	DME	Seawater	**3106-945**	08/28/12	--	--	1.40	117	0.000385	--	0.0042 Ub	2.14 Ub	0.0448 b
AMB11-020	BJEST	TME	Seawater	**3106-946**	08/28/12	27.7	4.17	2.82	235	0.00184	1.14	0.0042 Ub	47.4 b	0.0590 b
AMB11-020	BJEST	DME	Seawater	**3106-947**	08/28/12	--	--	1.70	142	0.000439	--	0.0042 Ub	2.14 Ub	0.0373 b
AMB11-021	BJESTDUP	TME	Seawater	**3106-948**	08/28/12	--	--	--	--	0.00104	0.985	0.0042 Ub	28.7 b	0.0588 b
AMB11-021	BJESTDUP	DME	Seawater	**3106-949**	08/28/12	--	--	--	--	0.000253 J	--	0.0042 Ub	2.14 Ub	0.0413 b
AMB11-022	M3.1	TME	Seawater	**3106-950**	08/28/12	29.2	1.72	1.44	120	0.000686	1.15	0.0042 Ub	12.0 b	0.0633 b
AMB11-022	M3.1	DME	Seawater	**3106-951**	08/28/12	--	--	1.52	126	0.000230 J	--	0.0042 Ub	2.14 Ub	0.0503 b
AMB11-023	M3.1 DEEP	TME	Seawater	**3106-952**	08/28/12	29.7	2.33	1.31	109	0.000624	1.16	0.0042 Ub	12.8 b	0.0619 b
AMB11-023	M3.1 DEEP	DME	Seawater	**3106-953**	08/28/12	--	--	1.63	135	0.000211 J	--	0.0042 Ub	2.14 Ub	0.0532 b
AMB11-024	PS12	TME	Seawater	**3106-954**	08/28/12	29.2	2.48	1.60	133	0.000942	1.15	0.0042 Ub	11.5 b	0.0645 b
AMB11-024	PS12	DME	Seawater	**3106-955**	08/28/12	--	--	1.14	94.7	0.000214 J	--	0.0042 Ub	2.14 Ub	0.0444 b
AMB11-025	PS03B	TME	Seawater	**3106-956**	08/28/12	29.2	1.89	1.31	109	0.00144	1.26	0.0042 Ub	15.9 b	0.0536 b
AMB11-025	PS03B	DME	Seawater	**3106-957**	08/28/12	--	--	1.28	107	0.000465	--	0.0042 Ub	2.14 Ub	0.0549 b
AMB11DD-001	OF021	TME	Freshwater	**3106-958**	08/28/12	0.2	0.49 U	4.55	379	0.00241	0.338	0.0032 U	6.90	0.0033 U
AMB11DD-001	OF021	DME	Freshwater	**3106-959**	08/28/12	--	--	4.28	356	0.00229	--	0.0032 U	5.11	0.0033 U
AMB11DD-002	OF019	TME	Seawater	**3106-960**	08/28/12	24.5	108	1.91	159	0.0850	6.78	0.0651 b	844 b	0.273 b
AMB11DD-002	OF019	DME	Seawater	**3106-961**	08/28/12	--	--	1.15	95.5	0.00159	--	0.00719 Jb	2.14 Ub	0.0816 b
AMB11DD-003	OF018	TME	Seawater	**3106-962**	08/28/12	23.4	1.73	1.07	89.3	0.00707	1.65	0.0135 b	10.1 b	0.0762 b
AMB11DD-003	OF018	DME	Seawater	**3106-963**	08/28/12	--	--	1.09	90.7	0.00217	--	0.00712 Jb	2.14 Ub	0.0754 b
AMB11-100	PS03	TME	Seawater	**3106-964**	08/29/12	29.5	1.27	1.58	132	0.00129	1.18	0.00470 Jb	6.97 b	0.0566 b
AMB11-100	PS03	DME	Seawater	**3106-965**	08/29/12	--	--	1.13	94.3	0.000669	--	0.0042 Ub	2.14 Ub	0.0472 b
AMB11-101	M3.3	TME	Seawater	**3106-966**	08/29/12	29.8	0.850	1.15	96.2	0.000650	1.10	0.0042 Ub	10.7 b	0.0414 b
AMB11-101	M3.3	DME	Seawater	**3106-967**	08/29/12	--	--	1.04	86.6	0.000243 J	--	0.0042 Ub	2.14 Ub	0.0382 b
AMB11-102	SN03	TME	Seawater	**3106-968**	08/29/12	29.5	2.00	1.62	135	0.00199	1.24	0.0042 Ub	41.4 b	0.0582 b
AMB11-102	SN03	DME	Seawater	**3106-969**	08/29/12	--	--	1.16	97.0	0.000389	--	0.0042 Ub	2.14 Ub	0.0485 b
AMB11-103	SN05	TME	Seawater	**3106-970**	08/29/12	28.6	2.73	1.25	104	0.00198	0.993	0.0042 Ub	51.8 b	0.0479 b
AMB11-103	SN05	DME	Seawater	**3106-971**	08/29/12	--	--	1.15	95.6	0.000667	--	0.0042 Ub	2.14 Ub	0.0441 b
AMB11-104	SN08	TME	Seawater	**3106-972**	08/29/12	29.5	4.34	2.88	240	0.00151	1.17	0.0042 Ub	41.8 b	0.0542 b
AMB11-104	SN08	DME	Seawater	**3106-973**	08/29/12	--	--	1.37	114	0.000477	--	0.0042 Ub	2.14 Ub	0.0384 b
AMB11-105	SN10	TME	Seawater	**3106-974**	08/29/12	29.9	5.52	4.98	415	0.00134	1.06	0.0042 Ub	23.2 b	0.0822 b
AMB11-105	SN10	DME	Seawater	**3106-975**	08/29/12	--	--	2.14	178	0.000673	--	0.0042 Ub	2.14 Ub	0.0505 b
AMB11-106	SN10DUP	TME	Seawater	**3106-976**	08/29/12	--	--	--	--	0.00130	1.10	0.0042 Ub	19.0 b	0.0824 b
AMB11-106	SN10DUP	DME	Seawater	**3106-977**	08/29/12	--	--	--	--	0.000707	--	0.0042 Ub	2.14 Ub	0.0647 b
AMB11-107	SN11	TME	Seawater	**3106-978**	08/29/12	29.7	5.12	4.00	333	0.00168	1.11	0.0042 Ub	21.4 b	0.0946 b
AMB11-107	SN11	DME	Seawater	**3106-979**	08/29/12	--	--	2.02	168	0.000336	--	0.0042 Ub	2.14 Ub	0.0418 b
AMB11-108	M2 SURF	TME	Seawater	**3106-980**	08/29/12	29.8	1.13	1.21	101	0.000862	1.21	0.0042 Ub	8.22 b	0.0698 b
AMB11-108	M2 SURF	DME	Seawater	**3106-981**	08/29/12	--	--	0.977	81.4	0.000382	--	0.0042 Ub	2.14 Ub	0.0585 b
AMB11-109	M2 DEEP	TME	Seawater	**3106-982**	08/29/12	29.8	0.491	1.12	93.3	0.000613	1.21	0.0042 Ub	8.99 b	0.0676 b

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	TOC/ DOC	TOC/ DOC	Hg	As	Ag	Al	Cd
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*FIAS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB11-109	M2 DEEP	DME	Seawater	**3106-983**	08/29/12	--	--	0.972	81.0	0.000503	--	0.0042 Ub	2.14 Ub	0.0614 b
AMB11-110	CLMBAY	TME	Seawater	**3106-984**	08/29/12	30.2	2.96	1.25	104	0.000794	1.25	0.0042 Ub	25.6 b	0.0704 b
AMB11-110	CLMBAY	DME	Seawater	**3106-985**	08/29/12	--	--	0.997	83.1	0.000329	--	0.0042 Ub	2.14 Ub	0.0602 b
AMB11-111	WP	TME	Seawater	**3106-986**	08/29/12	30.0	2.30	1.25	104	0.000825	1.18	0.0042 Ub	18.9 b	0.0574 b
AMB11-111	WP	DME	Seawater	**3106-987**	08/29/12	--	--	1.05	87.8	0.000411	--	0.0042 Ub	2.14 Ub	0.0458 b
AMB11-112	ILSP	TME	Seawater	**3106-988**	08/29/12	29.7	0.838	1.19	99.2	0.000362	1.12	0.0042 Ub	6.78 Jb	0.0497 b
AMB11-112	ILSP	DME	Seawater	**3106-989**	08/29/12	--	--	1.03	85.8	0.000263 J	--	0.0042 Ub	2.14 Ub	0.0456 b
AMB11-113	M1 SURF	TME	Seawater	**3106-990**	08/29/12	29.6	1.07	1.35	112	0.000354	1.17	0.0042 Ub	3.45 Jb	0.0516 b
AMB11-113	M1 SURF	DME	Seawater	**3106-991**	08/29/12	--	--	1.04	87.0	0.000215 J	--	0.0042 Ub	2.14 Ub	0.0454 b
AMB11-114	M1 DEEP	TME	Seawater	**3106-992**	08/29/12	29.5	1.04	1.07	89.3	0.000659	1.20	0.0042 Ub	16.2 b	0.0630 b
AMB11-114	M1 DEEP	DME	Seawater	**3106-993**	08/29/12	--	--	0.983	81.9	0.000271 J	--	0.0042 Ub	2.14 Ub	0.0567 b
AMB11-115	BM01	TME	Seawater	**3106-994**	08/29/12	29.8	2.26	1.42	118	0.000845	1.10	0.0042 Ub	16.2 b	0.0659 b
AMB11-115	BM01	DME	Seawater	**3106-995**	08/29/12	--	--	1.11	92.1	0.000233 J	--	0.0042 Ub	2.14 Ub	0.0527 b
AMB11-116	M7	TME	Seawater	**3106-996**	08/29/12	29.0	3.61	3.86	322	0.000855	1.01	0.0042 Ub	8.47 b	0.0967 b
AMB11-116	M7	DME	Seawater	**3106-997**	08/29/12	--	--	1.28	107	0.000469	--	0.0042 Ub	2.14 Ub	0.0603 b
AMB11-117	DYOTS	TME	Seawater	**3106-998**	08/29/12	29.4	19.2	12.1	1011	0.00158	0.963	0.0042 Ub	12.6 b	0.138 b
AMB11-117	DYOTS	DME	Seawater	**3106-999**	08/29/12	--	--	4.18	349	0.000739	--	0.0042 Ub	2.14 Ub	0.0814 b
AMB11-118	M6	TME	Seawater	**3106-1000**	08/29/12	29.6	3.11	1.59	133	0.00132	1.14	0.0042 Ub	40.1 b	0.0420 b
AMB11-118	M6	DME	Seawater	**3106-1001**	08/29/12	--	--	1.24	104	0.000348	--	0.0042 Ub	2.14 Ub	0.0301 b
AMB11-119	M6 DUP	TME	Seawater	**3106-1002**	08/29/12	--	--	--	--	0.00172	1.07	0.00931 Jb	44.9 b	0.0456 b
AMB11-119	M6 DUP	DME	Seawater	**3106-1003**	08/29/12	--	--	--	--	0.000387	--	0.0042 Ub	2.14 Ub	0.0344 b
AMB11-120	PS03B	TME	Seawater	**3106-1004**	08/29/12	29.2	1.42	1.39	116	0.00619	1.24	0.0042 Ub	8.09 b	0.0573 b
AMB11-120	PS03B	DME	Seawater	**3106-1005**	08/29/12	--	--	1.14	95.1	0.00306	--	0.0042 Ub	2.14 Ub	0.0549 b

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)					**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)					0.051	0.0053	0.0042	0.0022	0.02
Freshwater Reporting Limit (MDL* 3.18)					0.16	0.017	0.013	0.0070	0.06
AMB11-001	PS03	TME	Seawater	**3106-908**	0.696 b	4.48 b	0.865 b	1.88 b	6.19 b
AMB11-001	PS03	DME	Seawater	**3106-909**	0.147 b	0.792 b	0.481 b	0.0725 b	2.10 b
AMB11-002	PS04	TME	Seawater	**3106-910**	0.145 b	2.09 b	0.527 b	0.118 b	4.40 b
AMB11-002	PS04	DME	Seawater	**3106-911**	0.115 b	1.57 b	0.431 b	0.0228 b	4.02 b
AMB11-003	PS05	TME	Seawater	**3106-912**	0.172 b	3.43 b	0.545 b	0.243 b	7.57 b
AMB11-003	PS05	DME	Seawater	**3106-913**	0.109 b	2.11 b	0.428 b	0.0255 b	5.84 b
AMB11-004	PS14	TME	Seawater	**3106-914**	0.112 b	0.576 b	0.419 b	0.0903 b	0.890 b
AMB11-004	PS14	DME	Seawater	**3106-915**	0.0877 Jb	0.460 b	0.454 b	0.0132 b	0.849 b
AMB11-005	PS06	TME	Seawater	**3106-916**	0.145 b	2.44 b	0.875 b	0.115 b	7.32 b
AMB11-005	PS06	DME	Seawater	**3106-917**	0.140 b	1.70 b	0.824 b	0.0147 b	6.67 b
AMB11-006	PS06DUP	TME	Seawater	**3106-918**	0.166 b	3.21 b	1.14 b	0.112 b	9.79 b
AMB11-006	PS06DUP	DME	Seawater	**3106-919**	0.0997 b	2.07 b	0.957 b	0.0181 b	9.34 b
AMB11-007	PS07	TME	Seawater	**3106-920**	0.144 b	2.18 b	0.635 b	0.140 b	5.78 b
AMB11-007	PS07	DME	Seawater	**3106-921**	0.105 b	1.67 b	0.601 b	0.0350 b	5.06 b
AMB11-008	PS08	TME	Seawater	**3106-922**	0.156 b	2.82 b	0.726 b	0.129 b	6.09 b
AMB11-008	PS08	DME	Seawater	**3106-923**	0.0957 b	2.07 b	0.658 b	0.0216 b	5.34 b
AMB11-009	PS15	TME	Seawater	**3106-924**	0.141 b	0.724 b	0.428 b	0.101 b	1.35 b
AMB11-009	PS15	DME	Seawater	**3106-925**	0.0797 Jb	0.474 b	0.314 b	0.0102 b	1.11 b
AMB11-010	PS09	TME	Seawater	**3106-926**	0.129 b	1.76 b	0.458 b	0.121 b	6.43 b
AMB11-010	PS09	DME	Seawater	**3106-927**	0.0797 Jb	1.02 b	0.396 b	0.0193 b	5.75 b
AMB11-011	PS10	TME	Seawater	**3106-928**	0.107 b	1.88 b	0.399 b	0.0883 b	2.94 b
AMB11-011	PS10	DME	Seawater	**3106-929**	0.0847 Jb	1.40 b	0.379 b	0.0181 b	2.89 b
AMB11-012	PS10.1	TME	Seawater	**3106-930**	0.114 b	0.692 b	0.399 b	0.0822 b	1.27 b
AMB11-012	PS10.1	DME	Seawater	**3106-931**	0.0847 Jb	0.528 b	0.351 b	0.0127 b	1.06 b
AMB11-013	PS11	TME	Seawater	**3106-932**	0.121 b	0.591 b	0.403 b	0.0875 b	1.14 b
AMB11-013	PS11	DME	Seawater	**3106-933**	0.0807 Jb	0.454 b	0.347 b	0.0143 b	0.948 b
AMB11-014	P7	TME	Seawater	**3106-934**	0.116 b	0.869 b	0.389 b	0.0758 b	1.68 b
AMB11-014	P7	DME	Seawater	**3106-935**	0.0767 Jb	0.667 b	0.347 b	0.0120 b	1.50 b
AMB11-015	PS16	TME	Seawater	**3106-936**	0.113 b	0.932 b	0.420 b	0.0804 b	2.23 b
AMB11-015	PS16	DME	Seawater	**3106-937**	0.0787 Jb	0.661 b	0.378 b	0.0119 b	2.14 b
AMB11-016	PS01	TME	Seawater	**3106-938**	0.167 b	0.982 b	0.445 b	0.145 b	1.55 b
AMB11-016	PS01	DME	Seawater	**3106-939**	0.139 b	0.703 b	0.410 b	0.0248 b	1.33 b
AMB11-017	PS02	TME	Seawater	**3106-940**	0.173 b	1.24 b	0.490 b	0.121 b	1.98 b
AMB11-017	PS02	DME	Seawater	**3106-941**	0.134 b	0.922 b	0.430 b	0.0213 b	1.80 b
AMB11-018	PS13	TME	Seawater	**3106-942**	0.119 b	1.69 b	0.460 b	0.0918 b	2.98 b

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Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB11-018	PS13	DME	Seawater	**3106-943**	0.0897 Jb	1.22 b	0.393 b	0.0178 b	2.83 b
AMB11-019	M4	TME	Seawater	**3106-944**	0.138 b	0.745 b	0.417 b	0.116 b	1.60 b
AMB11-019	M4	DME	Seawater	**3106-945**	0.0977 b	0.560 b	0.361 b	0.0116 b	1.06 b
AMB11-020	BJEST	TME	Seawater	**3106-946**	0.307 b	0.955 b	0.541 b	0.200 b	1.71 b
AMB11-020	BJEST	DME	Seawater	**3106-947**	0.119 b	0.631 b	0.317 b	0.0123 b	0.726 bB
AMB11-021	BJESTDUP	TME	Seawater	**3106-948**	0.167 b	0.764 b	0.412 b	0.139 b	1.61 b
AMB11-021	BJESTDUP	DME	Seawater	**3106-949**	0.100 b	0.541 b	0.451 b	0.0148 b	0.953 b
AMB11-022	M3.1	TME	Seawater	**3106-950**	0.122 b	0.528 b	0.450 b	0.0830 b	0.750 b
AMB11-022	M3.1	DME	Seawater	**3106-951**	0.0867 Jb	0.383 b	0.365 b	0.0142 b	0.534 b
AMB11-023	M3.1 DEEP	TME	Seawater	**3106-952**	0.143 b	0.539 b	0.472 b	0.0775 b	0.811 bB
AMB11-023	M3.1 DEEP	DME	Seawater	**3106-953**	0.0852 Jb	0.365 b	0.395 b	0.0145 b	0.554 bB
AMB11-024	PS12	TME	Seawater	**3106-954**	0.141 b	1.09 b	0.549 b	0.156 b	3.09 b
AMB11-024	PS12	DME	Seawater	**3106-955**	0.0882 Jb	0.571 b	0.323 b	0.0253 b	2.65 b
AMB11-025	PS03B	TME	Seawater	**3106-956**	0.137 b	1.48 b	0.452 b	0.142 b	2.83 b
AMB11-025	PS03B	DME	Seawater	**3106-957**	0.117 b	1.24 b	0.414 b	0.0257 b	2.85 b
AMB11DD-001	OF021	TME	Freshwater	**3106-958**	1.31 B	1.74	1.54	0.0120	1.15
AMB11DD-001	OF021	DME	Freshwater	**3106-959**	2.06 B	1.59	1.33	0.00605 J	1.20
AMB11DD-002	OF019	TME	Seawater	**3106-960**	31.8 b	200 b	61.6 b	9.06 b	365 b
AMB11DD-002	OF019	DME	Seawater	**3106-961**	1.16 b	3.08 b	10.9 b	0.00354 Jb	14.0 b
AMB11DD-003	OF018	TME	Seawater	**3106-962**	0.323 b	3.16 b	1.38 b	0.255 b	19.3 b
AMB11DD-003	OF018	DME	Seawater	**3106-963**	0.230 b	2.36 b	1.16 b	0.0303 b	18.9 b
AMB11-100	PS03	TME	Seawater	**3106-964**	0.133 b	1.85 b	0.424 b	0.0822 b	3.61 b
AMB11-100	PS03	DME	Seawater	**3106-965**	0.149 b	1.49 b	0.492 b	0.0187 b	3.24 b
AMB11-101	M3.3	TME	Seawater	**3106-966**	0.0992 b	0.544 b	0.366 b	0.0917 b	0.786 bB
AMB11-101	M3.3	DME	Seawater	**3106-967**	0.0952 b	0.401 b	0.393 b	0.0130 b	0.741 bB
AMB11-102	SN03	TME	Seawater	**3106-968**	0.200 b	0.732 b	0.544 b	0.231 b	1.15 b
AMB11-102	SN03	DME	Seawater	**3106-969**	0.0962 b	0.399 b	0.435 b	0.0241 b	0.670 bB
AMB11-103	SN05	TME	Seawater	**3106-970**	0.280 b	0.697 b	0.610 b	0.239 b	1.41 b
AMB11-103	SN05	DME	Seawater	**3106-971**	0.128 b	0.350 b	0.406 b	0.0272 b	1.03 b
AMB11-104	SN08	TME	Seawater	**3106-972**	0.217 b	0.866 b	0.506 b	0.208 b	1.30 b
AMB11-104	SN08	DME	Seawater	**3106-973**	0.104 b	0.486 b	0.400 b	0.0178 b	0.833 bB
AMB11-105	SN10	TME	Seawater	**3106-974**	0.168 b	1.14 b	0.420 b	0.155 b	2.25 b
AMB11-105	SN10	DME	Seawater	**3106-975**	0.0932 b	0.739 b	0.362 b	0.0211 b	1.39 b
AMB11-106	SN10DUP	TME	Seawater	**3106-976**	0.175 b	1.17 b	0.409 b	0.129 b	2.18 b
AMB11-106	SN10DUP	DME	Seawater	**3106-977**	0.104 b	0.813 b	0.357 b	0.0219 b	1.56 b
AMB11-107	SN11	TME	Seawater	**3106-978**	0.178 b	0.995 b	0.484 b	0.248 b	2.92 b
AMB11-107	SN11	DME	Seawater	**3106-979**	0.0942 b	0.630 b	0.350 b	0.0169 b	1.65 b
AMB11-108	M2 SURF	TME	Seawater	**3106-980**	0.160 b	0.473 b	0.416 b	0.0457 b	0.530 bB
AMB11-108	M2 SURF	DME	Seawater	**3106-981**	0.105 b	0.362 b	0.350 b	0.00904 b	0.430 bB
AMB11-109	M2 DEEP	TME	Seawater	**3106-982**	0.202 b	0.541 b	0.903 b	0.0506 b	0.538 bB

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Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB11-109	M2 DEEP	DME	Seawater	**3106-983**	0.115 b	0.393 b	0.588 b	0.0105 b	0.389 bB
AMB11-110	CLMBAY	TME	Seawater	**3106-984**	0.189 b	0.539 b	0.472 b	0.0755 b	0.622 bB
AMB11-110	CLMBAY	DME	Seawater	**3106-985**	0.109 b	0.354 b	0.359 b	0.0103 b	0.385 bB
AMB11-111	WP	TME	Seawater	**3106-986**	0.154 b	0.576 b	0.443 b	0.0964 b	0.768 bB
AMB11-111	WP	DME	Seawater	**3106-987**	0.0922 Jb	0.395 b	0.333 b	0.0147 b	0.479 bB
AMB11-112	ILSP	TME	Seawater	**3106-988**	0.123 b	0.485 b	0.446 b	0.0470 b	1.43 b
AMB11-112	ILSP	DME	Seawater	**3106-989**	0.0972 b	0.376 b	0.336 b	0.0124 b	1.15 b
AMB11-113	M1 SURF	TME	Seawater	**3106-990**	0.115 b	0.497 b	0.546 b	0.0285 b	0.382 bB
AMB11-113	M1 SURF	DME	Seawater	**3106-991**	0.0960 b	0.386 b	0.374 b	0.00932 b	0.244 bB
AMB11-114	M1 DEEP	TME	Seawater	**3106-992**	0.183 b	0.536 b	0.732 b	0.0886 b	0.531 bB
AMB11-114	M1 DEEP	DME	Seawater	**3106-993**	0.0970 b	0.348 b	0.394 b	0.0118 b	0.374 bB
AMB11-115	BM01	TME	Seawater	**3106-994**	0.147 b	0.639 b	0.704 b	0.118 b	1.07 b
AMB11-115	BM01	DME	Seawater	**3106-995**	0.0770 Jb	0.440 b	0.386 b	0.0225 b	0.772 bB
AMB11-116	M7	TME	Seawater	**3106-996**	0.113 b	0.554 b	0.416 b	0.0643 b	1.13 b
AMB11-116	M7	DME	Seawater	**3106-997**	0.0950 b	0.503 b	0.504 b	0.0178 b	0.647 bB
AMB11-117	DYOTS	TME	Seawater	**3106-998**	0.146 b	0.615 b	0.431 b	0.0762 b	1.43 b
AMB11-117	DYOTS	DME	Seawater	**3106-999**	0.0910 Jb	0.500 b	0.388 b	0.0149 b	0.754 bB
AMB11-118	M6	TME	Seawater	**3106-1000**	0.183 b	0.584 b	0.476 b	0.219 b	0.634 bB
AMB11-118	M6	DME	Seawater	**3106-1001**	0.0720 Jb	0.411 b	0.396 b	0.0343 b	0.446 bB
AMB11-119	M6 DUP	TME	Seawater	**3106-1002**	0.186 b	0.632 b	0.605 b	0.228 b	0.716 bB
AMB11-119	M6 DUP	DME	Seawater	**3106-1003**	0.106 b	0.518 b	0.687 b	0.0273 b	0.319 bB
AMB11-120	PS03B	TME	Seawater	**3106-1004**	0.132 b	2.20 b	0.549 b	0.100 b	4.08 b
AMB11-120	PS03B	DME	Seawater	**3106-1005**	0.118 b	1.75 b	0.437 b	0.0227 b	3.94 b

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Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:						
Laboratory Achieved Detection Limits (Seawater)										
Seawater Reporting Limit (MDL* 3.18)										
Laboratory Achieved Detection Limits (Freshwater)										
Freshwater Reporting Limit (MDL* 3.18)										
AMB11-001	PS03	TME	Seawater	**3106-908**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-001	PS03	DME	Seawater	**3106-909**	091112HGA1	--	090512-6100		100512NPOC	
AMB11-002	PS04	TME	Seawater	**3106-910**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-002	PS04	DME	Seawater	**3106-911**	091112HGA1	--	090512-6100		100512NPOC	
AMB11-003	PS05	TME	Seawater	**3106-912**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-003	PS05	DME	Seawater	**3106-913**	091112HGA1	--	090512-6100		100512NPOC	
AMB11-004	PS14	TME	Seawater	**3106-914**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-004	PS14	DME	Seawater	**3106-915**	091112HGA1	--	090512-6100		100512NPOC	
AMB11-005	PS06	TME	Seawater	**3106-916**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-005	PS06	DME	Seawater	**3106-917**	091112HGA1	--	090512-6100		100412NPOC	
AMB11-006	PS06DUP	TME	Seawater	**3106-918**	091112HGA1	F092012A	090512-6100	083012osal		090412NP
AMB11-006	PS06DUP	DME	Seawater	**3106-919**	091112HGA1	--	090512-6100			
AMB11-007	PS07	TME	Seawater	**3106-920**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-007	PS07	DME	Seawater	**3106-921**	091112HGA1	--	090512-6100		100512NPOC	
AMB11-008	PS08	TME	Seawater	**3106-922**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-008	PS08	DME	Seawater	**3106-923**	091112HGA1	--	090512-6100		100412NPOC	
AMB11-009	PS15	TME	Seawater	**3106-924**	091112HGA1	F092012A	090512-6100	083012osal	100512NPOC	090412NP
AMB11-009	PS15	DME	Seawater	**3106-925**	091112HGA1	--	090512-6100		100412NPOC	
AMB11-010	PS09	TME	Seawater	**3106-926**	091112HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-010	PS09	DME	Seawater	**3106-927**	091112HGA1	--	090512-6100		100412NPOC	
AMB11-011	PS10	TME	Seawater	**3106-928**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-011	PS10	DME	Seawater	**3106-929**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-012	PS10.1	TME	Seawater	**3106-930**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-012	PS10.1	DME	Seawater	**3106-931**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-013	PS11	TME	Seawater	**3106-932**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-013	PS11	DME	Seawater	**3106-933**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-014	P7	TME	Seawater	**3106-934**	091312HGA1	F092012A	090512-6100	083012osal		090412NP
AMB11-014	P7	DME	Seawater	**3106-935**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-015	PS16	TME	Seawater	**3106-936**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-015	PS16	DME	Seawater	**3106-937**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-016	PS01	TME	Seawater	**3106-938**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-016	PS01	DME	Seawater	**3106-939**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-017	PS02	TME	Seawater	**3106-940**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-017	PS02	DME	Seawater	**3106-941**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-018	PS13	TME	Seawater	**3106-942**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP

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Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:						
AMB11-018	PS13	DME	Seawater	**3106-943**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-019	M4	TME	Seawater	**3106-944**	091312HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-019	M4	DME	Seawater	**3106-945**	091312HGA1	--	090512-6100		100412NPOC	
AMB11-020	BJEST	TME	Seawater	**3106-946**	091312HGA1	F092012A	090712-6100	083012osal	100812NPOC	090412NP
AMB11-020	BJEST	DME	Seawater	**3106-947**	091312HGA1	--	090712-6100		100412NPOC	
AMB11-021	BJESTDUP	TME	Seawater	**3106-948**	091412HGA1	F092012A	090712-6100	083012osal		090412NP
AMB11-021	BJESTDUP	DME	Seawater	**3106-949**	091412HGA1	--	090712-6100			
AMB11-022	M3.1	TME	Seawater	**3106-950**	091412HGA1	F092012A	090512-6100	083012osal	100812NPOC	090412NP
AMB11-022	M3.1	DME	Seawater	**3106-951**	091412HGA1	--	090512-6100		100412NPOC	
AMB11-023	M3.1 DEEP	TME	Seawater	**3106-952**	091412HGA1	F092012A	090712-6100	083012osal	100812NPOC	090412NP
AMB11-023	M3.1 DEEP	DME	Seawater	**3106-953**	091412HGA1	--	090712-6100		100412NPOC	
AMB11-024	PS12	TME	Seawater	**3106-954**	091412HGA1	F092012A	090712-6100	083012osal	100812NPOC	090412NP
AMB11-024	PS12	DME	Seawater	**3106-955**	091412HGA1	--	090712-6100		100412NPOC	
AMB11-025	PS03B	TME	Seawater	**3106-956**	091412HGA1	F092012A	090712-6100	083012osal	100812NPOC	090412NP
AMB11-025	PS03B	DME	Seawater	**3106-957**	091412HGA1	--	090712-6100		100412NPOC	
AMB11DD-001	OF021	TME	Freshwater	**3106-958**	091412HGA1	F092012A	091012-6100	083012osal	100512NPOC	090412NP
AMB11DD-001	OF021	DME	Freshwater	**3106-959**	091412HGA1	--	091012-6100		100512NPOC	
AMB11DD-002	OF019	TME	Seawater	**3106-960**	091412HGA1	F092012A	090712-6100	083012osal	100812NPOC	090412NP
AMB11DD-002	OF019	DME	Seawater	**3106-961**	091412HGA1	--	090712-6100		100512NPOC	
AMB11DD-003	OF018	TME	Seawater	**3106-962**	091412HGA1	F092012A	090712-6100	083012osal	100912NPOC	090412NP
AMB11DD-003	OF018	DME	Seawater	**3106-963**	091412HGA1	--	090712-6100		100412NPOC	
AMB11-100	PS03	TME	Seawater	**3106-964**	091412HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-100	PS03	DME	Seawater	**3106-965**	091412HGA1	--	090712-6100		100312NPOC	
AMB11-101	M3.3	TME	Seawater	**3106-966**	091412HGA1	F092012A	090712-6100	090412osal	100912NPOC	090712NP
AMB11-101	M3.3	DME	Seawater	**3106-967**	091412HGA1	--	090712-6100		100312NPOC	
AMB11-102	SN03	TME	Seawater	**3106-968**	092112HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-102	SN03	DME	Seawater	**3106-969**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-103	SN05	TME	Seawater	**3106-970**	092112HGA1	F092012A	090712-6100	090412osal	100912NPOC	090712NP
AMB11-103	SN05	DME	Seawater	**3106-971**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-104	SN08	TME	Seawater	**3106-972**	092112HGA1	F092012A	090712-6100	090412osal	100912NPOC	090712NP
AMB11-104	SN08	DME	Seawater	**3106-973**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-105	SN10	TME	Seawater	**3106-974**	092112HGA1	F092012A	090712-6100	090412osal	100912NPOC	090712NP
AMB11-105	SN10	DME	Seawater	**3106-975**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-106	SN10DUP	TME	Seawater	**3106-976**	092112HGA1	F092012A	090712-6100	090412osal		090712NP
AMB11-106	SN10DUP	DME	Seawater	**3106-977**	092112HGA1	--	090712-6100			
AMB11-107	SN11	TME	Seawater	**3106-978**	092112HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-107	SN11	DME	Seawater	**3106-979**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-108	M2 SURF	TME	Seawater	**3106-980**	092112HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-108	M2 SURF	DME	Seawater	**3106-981**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-109	M2 DEEP	TME	Seawater	**3106-982**	092112HGA1	F092012A	090712-6100	090412osal	100912NPOC	090712NP

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360/681-4564

Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	FIAS Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:						
AMB11-109	M2 DEEP	DME	Seawater	**3106-983**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-110	CLMBAY	TME	Seawater	**3106-984**	092112HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-110	CLMBAY	DME	Seawater	**3106-985**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-111	WP	TME	Seawater	**3106-986**	092112HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-111	WP	DME	Seawater	**3106-987**	092112HGA1	--	090712-6100		100312NPOC	
AMB11-112	ILSP	TME	Seawater	**3106-988**	092412HGA1	F092012A	090712-6100	090412osal	100412NPOC	090712NP
AMB11-112	ILSP	DME	Seawater	**3106-989**	092412HGA1	--	090712-6100		100312NPOC	
AMB11-113	M1 SURF	TME	Seawater	**3106-990**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-113	M1 SURF	DME	Seawater	**3106-991**	092412HGA1	--	092112-6100		100312NPOC	
AMB11-114	M1 DEEP	TME	Seawater	**3106-992**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-114	M1 DEEP	DME	Seawater	**3106-993**	092412HGA1	--	092112-6100		100312NPOC	
AMB11-115	BM01	TME	Seawater	**3106-994**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-115	BM01	DME	Seawater	**3106-995**	092412HGA1	--	092112-6100		100312NPOC	
AMB11-116	M7	TME	Seawater	**3106-996**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-116	M7	DME	Seawater	**3106-997**	092412HGA1	--	092112-6100		100312NPOC	
AMB11-117	DYOTS	TME	Seawater	**3106-998**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-117	DYOTS	DME	Seawater	**3106-999**	092412HGA1	--	092112-6100		100312NPOC	
AMB11-118	M6	TME	Seawater	**3106-1000**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-118	M6	DME	Seawater	**3106-1001**	092412HGA1	--	092112-6100		100312NPOC	
AMB11-119	M6 DUP	TME	Seawater	**3106-1002**	092412HGA1	F092012A	092112-6100			
AMB11-119	M6 DUP	DME	Seawater	**3106-1003**	092412HGA1	--	092112-6100			
AMB11-120	PS03B	TME	Seawater	**3106-1004**	092412HGA1	F092012A	092112-6100	090412osal	100912NPOC	090712NP
AMB11-120	PS03B	DME	Seawater	**3106-1005**	092412HGA1	--	092112-6100		100312NPOC	

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Ambient Monitoring - AMB11
QC Sample Results for ICP-MS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.0042**	**2.14**	**0.00110**	**0.0293**	**0.0351**	**0.0254**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**0.013**	**6.8**	**0.0035**	**0.093**	**0.11**	**0.081**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.0032	0.2	0.0033	0.051	0.0053	0.0042	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.010	0.6	0.0105	0.161	0.02	0.013	0.0070	0.06	
METHOD BLANKS													
TRM_BLK1		Total	Freshwater	TRM Blank	0.0032 U	0.2 U	0.0033 U	0.375	0.0053 U	0.0042 U	0.0022 U	0.02 U	091012-6100
MB		Total	Seawater	DIBlk1_090512 r1	0.000 U	0.491 U	0.000 U	0.0207 U	0.0749 J	0.0117 U	0.00244 J	0.0789 J	090512-6100
MB		Total	Seawater	DIBlk1_090512 r2	0.000 U	0.320 U	0.000 U	0.0235 U	0.0772 J	0.0101 U	0.00092 U	0.0717 J	090512-6100
MB		Total	Seawater	DIBlk1_090512 r3	0.000 U	0.400 U	0.000 U	0.0267 U	0.0767 J	0.0142 U	0.00178 U	0.0793 J	090512-6100
MB		Total	Seawater	DIBlk1_090512 r4	0.001 U	0.544 U	0.000 U	0.0269 U	0.0675 J	0.0138 U	0.00135 U	0.0741 J	090512-6100
MB		Total	Seawater	DIBlk1_090512 r5	0.000 U	0.523 U	0.000 U	0.0420 J	0.0801 J	0.0260 J	0.00126 U	0.117	090512-6100
MB		Total	Seawater	DIBlk1_090512 r6	0.000 U	0.389 U	0.000 U	0.0363 J	0.0942 J	0.0308 J	0.00181 U	0.0711 J	090512-6100
MEAN REAGENT BLANK			Seawater	***BMRB_090512***	**0.000** U	**0.445** U	**0.000** U	**0.0294** J	**0.0784** J	**0.0178** U	**0.00159** U	**0.0820** J	090512-6100
MB		Total	Seawater	DIBlk1_090712 r1	0.000 U	0.438 U	0.000 U	0.0195 U	0.0625 J	0.0170 U	0.00151 U	0.0773 J	090712-6100
MB		Total	Seawater	DIBlk1_090712 r2	0.000 U	0.444 U	0.000 U	0.0289 U	0.0615 J	0.0113 U	0.00161 U	0.0732 J	090712-6100
MB		Total	Seawater	DIBlk1_090712 r3	0.000 U	0.336 U	0.000 U	0.0240 U	0.0779 J	0.0103 U	0.00236 J	0.101	090712-6100
MB		Total	Seawater	DIBlk1_090712 r4	0.001 U	0.533 U	0.001 U	0.0413 J	0.0580 J	0.0148 U	0.00127 J	0.101	090712-6100
MB		Total	Seawater	DIBlk1_090712 r5	0.000 U	0.536 U	0.000 U	0.0592 J	0.0763 J	0.0278 J	0.00270 J	0.0911	090712-6100
MB		Total	Seawater	DIBlk1_090712 r6	0.000 U	0.399 U	0.000 U	0.0362 J	0.0567 J	0.0186 U	0.00173 U	0.0778 J	090712-6100
MEAN REAGENT BLANK			Seawater	***BMRB_090712***	**0.000** U	**0.448** U	**0.000** U	**0.0349** J	**0.0655** J	**0.0166** U	**0.00186** U	**0.0869**	090712-6100
MB		Total	Seawater	DIBlk_092112r1	0.000 U	0.494 U	0.0000 U	0.0490 J	0.0859 J	0.0159 U	0.000901 U	0.106	092112-6100
MB		Total	Seawater	DIBlk_092112r2	0.000 U	0.509 U	0.0000 U	0.0552 J	0.0874 J	0.0173 U	0.000968 U	0.107	092112-6100
MB		Total	Seawater	DIBlk_092112r3	0.000 U	0.753 U	0.0000 U	0.0609 J	0.0787 J	0.0188 U	0.00108 U	0.0961	092112-6100
MEAN REAGENT BLANK			Seawater	***BMRB_092112***	**0.000** U	**0.585** U	**0.000** U	**0.0550** J	**0.0840** J	**0.0173** U	**0.00098** U	**0.103**	092112-6100

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1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB11
QC Sample Results for ICP-MS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		Total	Freshwater	TRM Blank	0.0032 U	0.2 U	0.0033 U	0.375	0.0053 U	0.0042 U	0.0022 U	0.02 U	091012-6100
LCS		Total	Freshwater	TRM LCS	1.96	2.18	2.03	2.44	2.06	2.01	2.08	2.01	091012-6100
				Percent Recovery, LCS	**98%**	**109%**	**102%**	**103%**	**103%**	**101%**	**104%**	**101%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank 090512R1	0.0042 Ub	2.14 Ub	0.0802 b	0.141 b	0.234 b	0.354 b	0.0019 Ub	0.267 b	090512-6100
LCS		Total	Seawater	SB LCS 090512R1	1.79 b	1.93 b	1.88 b	1.97 b	2.13 b	2.17 b	1.93 b	1.93 b	090512-6100
				Percent Recovery, LCS	**89%**	**96%**	**90%**	**92%**	**95%**	**91%**	**96%**	**83%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank 090512R2	0.0042 Ub	2.14 Ub	0.0761 b	0.136 b	0.237 b	0.346 b	0.0019 Ub	0.273 b	090512-6100
LCS		Total	Seawater	SB LCS 080412R2	1.77 b	1.98 b	1.82 b	1.91 b	1.99 b	2.06 b	1.82 b	1.86 b	090512-6100
				Percent Recovery, LCS	**88%**	**99%**	**87%**	**89%**	**88%**	**86%**	**91%**	**79%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank 090712R1	0.0042 Ub	2.14 Ub	0.0730 b	0.124 b	0.219 b	0.313 b	0.0019 Ub	0.258 b	090712-6100
LCS		Total	Seawater	SB LCS 090712R1	1.77 b	2.05 b	1.86 b	1.94 b	1.97 b	2.03 b	1.91 b	1.93 b	090712-6100
				Percent Recovery, LCS	**88%**	**103%**	**89%**	**91%**	**88%**	**86%**	**95%**	**84%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank 090712R2	0.0042 Ub	2.14 Ub	0.0755 b	0.153 b	0.260 b	0.344 b	0.0019 Ub	0.292 b	090712-6100
LCS		Total	Seawater	SB LCS 090712R2	1.72 b	1.94 b	1.79 b	1.85 b	1.95 b	1.95 b	1.79 b	1.90 b	090712-6100
				Percent Recovery, LCS	**86%**	**97%**	**86%**	**85%**	**85%**	**80%**	**89%**	**81%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank 092112R1	0.0042 Ub	2.14 Ub	0.0593 b	0.138 b	0.256 b	0.337 b	0.00467 b	0.171 b	092112-6100
LCS		Total	Seawater	SB LCS 092112R1	1.78 b	2.08 b	1.91 b	1.97 b	2.09 b	2.12 b	1.99 b	1.85 b	092112-6100
				Percent Recovery, LCS	**89%**	**104%**	**93%**	**92%**	**92%**	**89%**	**99%**	**84%**	

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Ambient Monitoring - AMB11
QC Sample Results for ICP-MS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB11DD-001	OF021	DME	Freshwater	**3106-959**	0.0032 U	5.11	0.0033 U	2.06 B	1.59	1.33	0.00605 J	1.20	091012-6100
AMB11DD-001MS	OF021	DME	Freshwater	3106-959 MS	1.86	6.98	1.97	3.89	3.49	3.24	2.11	3.25	091012-6100
AMB11DD-001MSD	OF021	DME	Freshwater	3106-959 MSD	1.89	7.05	2.01	3.97	3.49	3.24	2.12	3.13	091012-6100
				Spiking Level	2	2	2	2	2	2	2	2	
				Percent Recovery, MS	**93%**	**94%**	**99%**	**92%**	**95%**	**96%**	**105%**	**103%**	
				Percent Recovery, MSD	**95%**	**97%**	**101%**	**96%**	**95%**	**96%**	**106%**	**97%**	
AMB11-019	M4	TME	Seawater	**3106-944**	0.0042 Ub	15.0 b	0.0625 b	0.138 b	0.745 b	0.417 b	0.116 b	1.60 b	090512-6100
AMB11-019MS	M4	TME	Seawater	3106-944 MS	0.933 b	18.8 b	0.991 b	1.08 b	1.79 b	1.36 b	1.10 b	6.33 b	090512-6100
AMB11-019MSD	M4	TME	Seawater	3106-944 MSD	0.885 b	19.8 b	1.01 b	1.07 b	1.71 b	1.33 b	1.11 b	6.29 b	090512-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**93%**	**76%**	**93%**	**94%**	**105%**	**95%**	**98%**	**95%**	
				Percent Recovery, MSD	**88%**	**96%**	**95%**	**93%**	**97%**	**92%**	**99%**	**94%**	
AMB11-022	M3.1	TME	Seawater	**3106-950**	0.0042 Ub	12.0 b	0.0633 b	0.122 b	0.528 b	0.450 b	0.0830 b	0.750 b	090512-6100
AMB11-022MS	M3.1	TME	Seawater	3106-950 MS	5.03 b	16.7 b	4.76 b	5.10 b	5.80 b	5.38 b	5.00 b	5.12 b	090512-6100
AMB11-022MSD	M3.1	TME	Seawater	3106-950 MSD	4.73 b	16.4 b	4.81 b	5.02 b	5.35 b	5.20 b	5.04 b	5.37 b	090512-6100
				Spiking Level	5	5	5	5	5	5	5	5	
				Percent Recovery, MS	**101%**	**94%**	**94%**	**100%**	**105%**	**99%**	**98%**	**87%**	
				Percent Recovery, MSD	**95%**	**88%**	**95%**	**98%**	**96%**	**95%**	**99%**	**92%**	
AMB11-022	M3.1	DME	Seawater	**3106-951**	0.0042 Ub	2.14 Ub	0.0503 b	0.0867 Jb	0.383 b	0.365 b	0.0142 b	0.534 b	090512-6100
AMB11-022MS	M3.1	DME	Seawater	3106-951 MS	0.882 b	2.14 Ub	0.921 b	0.964 b	1.23 b	1.19 b	0.927 b	1.29 b	090512-6100
AMB11-022MSD	M3.1	DME	Seawater	3106-951 MSD	0.972 b	2.14 Ub	0.989 b	1.04 b	1.35 b	1.30 b	0.972 b	1.35 b	090512-6100
				Spiking Level	1	SL	1	1	1	1	1	1	
				Percent Recovery, MS	**88%**	SL c	**87%**	**88%**	**85%**	**83%**	**91%**	**75%**	
				Percent Recovery, MSD	**97%**	SL c	**94%**	**95%**	**97%**	**94%**	**96%**	**81%**	
AMB11-101	M3.3	TME	Seawater	**3106-966**	0.0042 Ub	10.7 b	0.0414 b	0.0992 b	0.544 b	0.366 b	0.0917 b	0.786 b	090712-6100
AMB11-101MS	M3.3	TME	Seawater	3106-966 MS	4.77 b	15.5 b	4.91 b	4.97 b	5.18 b	4.95 b	5.06 b	5.43 b	090712-6100
AMB11-101MSD	M3.3	TME	Seawater	3106-966 MS	4.59 b	16.3 b	4.71 b	4.80 b	5.04 b	4.82 b	4.95 b	5.23 b	090712-6100
				Spiking Level	5	5	5	5	5	5	5	5	
				Percent Recovery, MS	**95%**	**96%**	**97%**	**97%**	**93%**	**92%**	**99%**	**93%**	
				Percent Recovery, MSD	**92%**	**112%**	**93%**	**94%**	**90%**	**89%**	**97%**	**89%**	
AMB11-101	M3.3	DME	Seawater	**3106-967**	0.0042 Ub	2.14 Ub	0.0382 b	0.0952 b	0.401 b	0.393 b	0.0130 b	0.741 b	090712-6100
AMB11-101MS	M3.3	DME	Seawater	3106-967 MS	0.934 b	2.14 Ub	1.01 b	1.07 b	1.37 b	1.32 b	1.04 b	1.70 b	090712-6100
AMB11-101MSD	M3.3	DME	Seawater	3106-967 MSD	0.914 b	2.14 Ub	0.975 b	1.04 b	1.35 b	1.28 b	1.02 b	1.70 b	090712-6100
				Spiking Level	1	SL	1	1	1	1	1	1	
				Percent Recovery, MS	**93%**	SL c	**97%**	**97%**	**97%**	**93%**	**103%**	**96%**	
				Percent Recovery, MSD	**91%**	SL c	**94%**	**94%**	**95%**	**89%**	**101%**	**96%**	
AMB11-108	M2 SURF	TME	Seawater	**3106-980**	0.0042 Ub	8.22 b	0.0698 b	0.160 b	0.473 b	0.416 b	0.0457 b	0.530 b	090712-6100
AMB11-108MS	M2 SURF	TME	Seawater	3106-980 MS	4.75 b	13.5 b	4.92 b	5.11 b	5.17 b	5.17 b	4.92 b	5.41 b	090712-6100
AMB11-108MSD	M2 SURF	TME	Seawater	3106-980 MSD	4.72 b	13.5 b	4.80 b	4.96 b	5.20 b	5.03 b	4.88 b	5.08 b	090712-6100
				Spiking Level	5	5	5	5	5	5	5	5	
				Percent Recovery, MS	**95%**	**105%**	**97%**	**99%**	**94%**	**95%**	**97%**	**98%**	
				Percent Recovery, MSD	**94%**	**105%**	**95%**	**96%**	**95%**	**92%**	**97%**	**91%**	

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Ambient Monitoring - AMB11
QC Sample Results for ICP-MS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB11-108	M2 SURF	DME	Seawater	**3106-981**	0.0042 Ub	2.14 Ub	0.0585 b	0.105 b	0.362 b	0.350 b	0.00904 b	0.430 b	090712-6100
AMB11-108MS	M2 SURF	DME	Seawater	3106-981 MS	0.878 b	2.14 Ub	0.939 b	0.985 b	1.24 b	1.16 b	0.925 b	1.26 b	090712-6100
AMB11-108MSD	M2 SURF	DME	Seawater	3106-981 MSD	0.865 b	2.14 Ub	0.916 b	0.965 b	1.17 b	1.15 b	0.898 b	1.17 b	090712-6100
				Spiking Level	1	SL	1	1	1	1	1	1	
				Percent Recovery, MS	**88%**	SL c	**88%**	**88%**	**88%**	**81%**	**92%**	**83%**	
				Percent Recovery, MSD	**86%**	SL c	**86%**	**86%**	**81%**	**80%**	**89%**	**74%**	
AMB11-113	M1 SURF	TME	Seawater	**3106-990**	0.0042 Ub	3.45 Jb	0.0516 b	0.115 b	0.497 b	0.546 b	0.0285 b	0.382 b	092112-6100
AMB11-113MS	M1 SURF	TME	Seawater	3106-990 MS	4.62 b	8.07 b	4.81 b	4.84 b	5.20 b	5.11 b	5.08 b	4.67 b	092112-6100
AMB11-113MSD	M1 SURF	TME	Seawater	3106-990 MSD	4.65 b	8.04 b	4.80 b	4.89 b	5.15 b	5.20 b	5.12 b	4.64 b	092112-6100
				Spiking Level	5	5	5	5	5	5	5	5	
				Percent Recovery, MS	**92%**	**92%**	**95%**	**95%**	**94%**	**91%**	**101%**	**86%**	
				Percent Recovery, MSD	**93%**	**92%**	**95%**	**96%**	**93%**	**93%**	**102%**	**85%**	
AMB11-113	M1 SURF	DME	Seawater	**3106-991**	0.0042 Ub	2.14 Ub	0.0454 b	0.0960 b	0.386 b	0.374 b	0.00932 b	0.244 b	092112-6100
AMB11-113MS	M1 SURF	DME	Seawater	3106-991 MS	0.870 b	2.14 Ub	0.949 b	0.995 b	1.28 b	1.24 b	0.979 b	1.10 b	092112-6100
AMB11-113MSD	M1 SURF	DME	Seawater	3106-991 MSD	0.914 b	2.14 Ub	0.978 b	1.02 b	1.25 b	1.27 b	0.999 b	1.08 b	092112-6100
				Spiking Level	1	SL	1	1	1	1	1	1	
				Percent Recovery, MS	**87%**	SL c	**90%**	**90%**	**89%**	**87%**	**97%**	**85%**	
				Percent Recovery, MSD	**91%**	SL c	**93%**	**93%**	**86%**	**90%**	**99%**	**83%**	

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Ambient Monitoring - AMB11
QC Sample Results for ICP-MS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB11DD-001	OF021	TME	Freshwater	**3106-958**	0.0032 U	6.90	0.0033 U	1.31	1.74	1.54	0.0120	1.15	091012-6100
AMB11DD-001DU	OF021	TME	Freshwater	**3106-958r2**	0.0032 U	6.74	0.0033 U	1.29	1.74	1.48	0.0121	1.27	091012-6100
				Mean	*NA*	*6.82*	*NA*	*1.30*	*1.74*	*1.51*	*0.0121*	*1.21*	091012-6100
				RPD	NA	**2%**	NA	**2%**	**0%**	**4%**	**1%**	**10%**	
AMB11-001	PS03	TME	Seawater	**3106-908**	0.0187 b	158 b	0.0851 b	0.696 b	4.48 b	0.865 b	1.88 b	6.19 b	090512-6100
AMB11-001DUP	PS03	TME	Seawater	**3106-908r2**	0.0160 b	164 b	0.0826 b	0.685 b	4.13 b	0.836 b	1.78 b	5.62 b	090512-6100
				Mean	*0.0173 b*	*161 b*	*0.0838 b*	*0.690 b*	*4.31 b*	*0.851 b*	*1.83 b*	*5.90 b*	
				RPD	**16%**	**4%**	**3%**	**2%**	**8%**	**3%**	**5%**	**10%**	
AMB11-010	PS09	DME	Seawater	**3106-927**	0.0042 Ub	2.14 Ub	0.0514 b	0.0797 Jb	1.02 b	0.396 b	0.0193 b	5.75 b	090512-6100
AMB11-010DUP	PS09	DME	Seawater	**3106-927r2**	0.0042 Ub	2.14 Ub	0.0547 b	0.0817 b	1.04 b	0.406 b	0.0196 b	5.97 b	090512-6100
				Mean	*NA*	*NA*	*0.0530 b*	*0.0807 b*	*1.03 b*	*0.401 b*	*0.0195 b*	*5.86 b*	
				RPD	NA	NA	**6%**	**2%**	**2%**	**2%**	**2%**	**4%**	
AMB11-024	PS12	TME	Seawater	**3106-954**	0.0042 Ub	11.5 b	0.0645 b	0.141 b	1.09 b	0.549 b	0.156 b	3.09 b	090712-6100
AMB11-024DUP	PS12	TME	Seawater	**3106-954r2**	0.0042 Ub	11.9 b	0.0627 b	0.143 b	1.09 b	0.543 b	0.153 b	3.01 b	090712-6100
				Mean	*NA*	*11.7 b*	*0.0636 b*	*0.142 b*	*1.09 b*	*0.546 b*	*0.155 b*	*3.05 b*	
				RPD	NA	**3%**	**3%**	**1%**	**0%**	**1%**	**2%**	**3%**	
AMB11-103	SN05	DME	Seawater	**3106-971**	0.0042 Ub	2.14 Ub	0.0441 b	0.128 b	0.350 b	0.406 b	0.0272 b	1.03 b	090712-6100
AMB11-103DUP	SN05	DME	Seawater	**3106-971r2**	0.0042 Ub	2.14 Ub	0.0416 *b*	0.106 *b*	0.340 b	0.376 b	0.0263 b	1.03 b	090712-6100
				Mean	*NA*	*NA*	*0.0429 b*	*0.117 b*	*0.345 b*	*0.391 b*	*0.0268 b*	*1.03 b*	
				RPD	NA	NA	**6%**	**19%**	**3%**	**8%**	**3%**	**0%**	
AMB11-115	BM01	TME	Seawater	**3106-994**	0.0042 Ub	16.2 b	0.0659 b	0.147 b	0.639 b	0.704 b	0.118 b	1.07 b	092112-6100
AMB11-115DUP	BM01	TME	Seawater	**3106-994r2**	0.0042 Ub	17.0 b	0.0694 b	0.159 b	0.678 b	0.727 b	0.121 b	1.11 b	092112-6100
				Mean	*NA*	*16.6 b*	*0.0677 b*	*0.153 b*	*0.659 b*	*0.715 b*	*0.120 b*	*1.09 b*	
				RPD	NA	**5%**	**5%**	**8%**	**6%**	**3%**	**3%**	**4%**	

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Ambient Monitoring - AMB11
QC Sample Results for ICP-MS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 090512R1	0.0042 Ub	2.14 Ub	0.0261 b	0.125 b	0.346 b	0.317 b	0.00961 b	0.574 b	090512-6100
SRM CASS-5		Total	Seawater	CASS-5 090512R2	0.0042 Ub	2.14 Ub	0.0262 b	0.122 b	0.341 b	0.315 b	0.00921 b	0.570 b	090512-6100
SRM CASS-5		Total	Seawater	CASS-5 090712R1	0.0042 Ub	2.14 Ub	0.0247 b	0.113 b	0.350 b	0.304 b	0.0101 b	0.576 b	090712-6100
SRM CASS-5		Total	Seawater	CASS-5 090712R2	0.0042 Ub	2.14 Ub	0.0246 b	0.128 b	0.394 b	0.316 b	0.0114 b	0.609 b	090712-6100
SRM CASS-5		Total	Seawater	CASS-5 092112R1	0.0042 Ub	2.14 Ub	0.0240 b	0.0950 b	0.350 b	0.308 b	0.0103 b	0.517 b	092112-6100
				Certified Value	NC	NC	**0.0215** c	**0.106**	**0.38**	**0.33**	**0.011**	**0.719**	
				PD	--	--	**21%** &	**18%**	**9%**	**4%**	**13%**	**20%**	
				PD	--	--	**22%** &	**15%**	**10%**	**4%**	**16%**	**21%** &	
				PD	--	--	**15%**	**7%**	**8%**	**8%**	**8%**	**20%**	
				PD	--	--	**14%**	**21%** c	**4%**	**4%**	**4%**	**15%**	
				PD	--	--	**12%**	**10%**	**8%**	**7%**	**6%**	**28%** &	
SRM SLEW-3		Total	Seawater	SLEW-3 090512R1	0.0042 Ub	2.14 Ub	0.0491 b	0.181 b	1.36 b	1.15 b	0.00673 b	0.116 b	090512-6100
SRM SLEW-3		Total	Seawater	SLEW-3 090512R2	0.0042 Ub	2.14 Ub	0.0492 b	0.171 b	1.46 b	1.19 b	0.00665 b	0.100 b	090512-6100
SRM SLEW-3		Total	Seawater	SLEW-3 090712R1	0.0042 Ub	2.14 Ub	0.0460 b	0.173 b	1.39 b	1.10 b	0.00634 b	0.108 b	090712-6100
SRM SLEW-3		Total	Seawater	SLEW-3 090712R2	0.0042 Ub	2.14 Ub	0.0440 b	0.179 b	1.45 b	1.14 b	0.00598 b	0.119 b	090712-6100
SRM SLEW-3		Total	Seawater	SLEW-3 092112R1	0.0042 Ub	2.14 Ub	0.0496 b	0.174 b	1.45 b	1.18 b	0.00676 b	0.111 b	092112-6100
				Certified Value	NC	NC	**0.0480**	**0.183**	**1.55**	**1.23**	**0.0090**	**0.20**	
				PD	--	--	**2%**	**1%**	**12%**	**6%**	**25%** c	**42%** c	
				PD	--	--	**2%**	**7%**	**6%**	**3%**	**26%** c	**50%** c	
				PD	--	--	**4%**	**5%**	**10%**	**10%**	**30%** c	**46%** c	
				PD	--	--	**8%**	**2%**	**6%**	**7%**	**34%** c	**41%** c	
				PD	--	--	**3%**	**5%**	**7%**	**4%**	**25%** c	**45%** c	
STANDARD REFERENCE MATERIAL INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640a		Total	Freshwater	TRM 1640a091012	7.89	54.5	3.92	46.1	85.9	24.8	12.3	56.0	091012-6100
SRM 1640a		Total	Freshwater	1640a090512	8.27	55.7	4.07	40.7	84.5	23.7	13.6	58.0	090512-6100
SRM 1640a		Total	Freshwater	1640a090712	7.85	57.5	4.04	40.4	85.7	24.5	12.3	56.1	090712-6100
SRM 1640a		Total	Freshwater	1640a092112	7.70	55.4	4.05	39.6	86.3	24.0	12.3	56.3	092112-6100
				Certified Value	**8.08**	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**2%**	**3%**	**2%**	**14%**	**0%**	**2%**	**2%**	**1%**	
				PD	**2%**	**5%**	**2%**	**0%**	**1%**	**6%**	**12%**	**4%**	
				PD	**3%**	**8%**	**1%**	**0%**	**0%**	**3%**	**2%**	**1%**	
				PD	**5%**	**5%**	**1%**	**2%**	**1%**	**5%**	**2%**	**1%**	

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Ambient Monitoring - AMB11
QC Sample Results for CVAF
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		Hg		CVAF Batch ID
				Instrument:		*CVAF*		
Laboratory Achieved Detection Limits						**0.0001**		
Reporting Limit (MDL* 3.18)						**0.00032**		
METHOD BLANKS								
MB-1		TME	Water	MB1 091112		0.0001	U	091112HGA1
MB-2		TME	Water	MB2 091112		0.0001	U	091112HGA1
MB-3		TME	Water	MB3 091112		0.0001	U	091112HGA1
MB-4		TME	Water	MB1 091312		0.0001	U	091312HGA1
MB-5		TME	Water	MB2 091312		0.0001	U	091312HGA1
MB-6		TME	Water	MB3 091312		0.0001	U	091312HGA1
MB-7		TME	Water	MB1 091412		0.0001	U	091412HGA1
MB-8		TME	Water	MB2 091412		0.0001	U	091412HGA1
MB-9		TME	Water	MB3 091412		0.0001	U	091412HGA1
MB-10		TME	Water	MB1 092112		0.0001	U	092112HGA1
MB-11		TME	Water	MB2 092112		0.0001	U	092112HGA1
MB-12		TME	Water	MB3 092112		0.0001	U	092112HGA1
MB-13		TME	Water	MB1 092412		0.0001	U	092412HGA1
MB-14		TME	Water	MB2 092412		0.0001	U	092412HGA1
MB-15		TME	Water	MB3 092412		0.0001	U	092412HGA1
LABORATORY CONTROL SAMPLES								
Spiking Level						0.00496		
LCS (1)		TME	Water	OPR 091012 run1		0.00525		091112HGA1
LCS (2)		TME	Water	OPR 091012 run2		0.00529		091112HGA1
LCS Blank (1)		TME	Water	BLANK 091012		0.0001	U	091112HGA1
				Percent Recovery, LCS 1		**106%**		
				Percent Recovery, LCS 2		**107%**		
Spiking Level						0.00496		
LCS (1)		TME	Water	OPR 091212 run1		0.00516		091312HGA1
LCS (2)		TME	Water	OPR 091212 run2		0.00523		091312HGA1
LCS Blank (1)		TME	Water	BLANK 091212		0.000136	J	091312HGA1
				Percent Recovery, LCS 1		**101%**		
				Percent Recovery, LCS 2		**103%**		
Spiking Level						0.00496		
LCS (1)		TME	Water	OPR 091312 run1		0.00520		091412HGA1
LCS (2)		TME	Water	OPR 091312 run2		0.00515		091412HGA1
LCS Blank (1)		TME	Water	BLANK 091312		0.0001	U	091412HGA1
				Percent Recovery, LCS 1		**105%**		
				Percent Recovery, LCS 2		**104%**		
Spiking Level						0.00496		
LCS (1)		TME	Water	OPR 092012 run1		0.00551		092112HGA1
LCS (2)		TME	Water	OPR 092012 run2		0.00568		092112HGA1
LCS Blank (1)		TME	Water	BLANK 092012		0.000384		092112HGA1
				Percent Recovery, LCS 1		**103%**		
				Percent Recovery, LCS 2		**107%**		
Spiking Level						0.00496		
LCS (1)		TME	Water	OPR 092112 run1		0.00562		092412HGA1
LCS (2)		TME	Water	OPR 092112 run2		0.00600		092412HGA1
LCS Blank (1)		TME	Water	BLANK 092112		0.000106	J	092412HGA1
				Percent Recovery, LCS 1		**111%**		
				Percent Recovery, LCS 2		**119%**		

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Ambient Monitoring - AMB11
QC Sample Results for CVAF
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB11-005	PS06	TME	Seawater	**3106-916**	0.00155	091112HGA1
AMB11-005MS	PS06	TME	Seawater	3106-916 MS	0.0123	091112HGA1
AMB11-005MSD	PS06	TME	Seawater	3106-916 MSD	0.0123	091112HGA1
				Spiking Level, MS	0.00976	
				Spiking Level, MSD	0.00973	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**110%**	
				RPD	**0.1%**	
AMB11-009	PS15	DME	Seawater	**3106-925**	0.000319	091112HGA1
AMB11-009MS	PS15	DME	Seawater	3106-925 MS	0.0103	091112HGA1
AMB11-009MSD	PS15	DME	Seawater	3106-925 MSD	0.0112	091112HGA1
				Spiking Level, MS	0.0100	
				Spiking Level, MSD	0.00992	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**110%**	
				RPD	**9.4%**	
AMB11-012	PS10.1	DME	Seawater	**3106-931**	0.000280 J	091312HGA1
AMB11-012MS	PS10.1	DME	Seawater	3106-931 MS	0.00661	091312HGA1
AMB11-012MSD	PS10.1	DME	Seawater	3106-931 MSD	0.00649	091312HGA1
				Spiking Level, MS	0.00588	
				Spiking Level, MSD	0.00590	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**105%**	
				RPD	**2.2%**	
AMB11-020	BJEST	TME	Seawater	**3106-946**	0.00184	091312HGA1
AMB11-020MS	BJEST	TME	Seawater	3106-946 MS	0.00787	091312HGA1
AMB11-020MSD	BJEST	TME	Seawater	3106-946 MSD	0.00829	091312HGA1
				Spiking Level, MS	0.00592	
				Spiking Level, MSD	0.00598	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**108%**	
				RPD	**5.5%**	
AMB11-022	M3.1	DME	Seawater	**3106-951**	0.000230 J	091412HGA1
AMB11-022MS	M3.1	DME	Seawater	3106-951 MS	0.00662	091412HGA1
AMB11-022MSD	M3.1	DME	Seawater	3106-951 MSD	0.00627	091412HGA1
				Spiking Level, MS	0.00593	
				Spiking Level, MSD	0.00588	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**103%**	
				RPD	**4.9%**	
AMB11-101	M3.3	TME	Seawater	**3106-966**	0.000650	091412HGA1
AMB11-101MS	M3.3	TME	Seawater	3106-966 MS	0.00660	091412HGA1
AMB11-101MSD	M3.3	TME	Seawater	3106-966 MSD	0.00674	091412HGA1
				Spiking Level, MS	0.00587	
				Spiking Level, MSD	0.00590	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**103%**	
				RPD	**1.9%**	

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Ambient Monitoring - AMB11
QC Sample Results for CVAF
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB11-103	SN05	TME	Seawater	**3106-970**	0.00198	092112HGA1
AMB11-103MS	SN05	TME	Seawater	3106-970 MS	0.00853	092112HGA1
AMB11-103MSD	SN05	TME	Seawater	3106-970 MSD	0.00876	092112HGA1
				Spiking Level, MS	0.00594	
				Spiking Level, MSD	0.00599	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**113%**	
				RPD	**2.7%**	
AMB11-110	CLMBAY	DME	Seawater	**3106-985**	0.000329	092112HGA1
AMB11-110MS	CLMBAY	DME	Seawater	3106-985 MS	0.00738	092112HGA1
AMB11-110MSD	CLMBAY	DME	Seawater	3106-985 MSD	0.00674	092112HGA1
				Spiking Level, MS	0.00586	
				Spiking Level, MSD	0.00566	
				Percent Recovery, MS	**120%**	
				Percent Recovery, MSD	**113%**	
				RPD	**6.3%**	
AMB11-113	M1 SURF	TME	Seawater	**3106-990**	0.000354	092412HGA1
AMB11-113MS	M1 SURF	TME	Seawater	3106-990 MS	0.00669	092412HGA1
AMB11-113MSD	M1 SURF	TME	Seawater	3106-990 MSD	0.00643	092412HGA1
				Spiking Level, MS	0.00612	
				Spiking Level, MSD	0.00591	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.6%**	
AMB11-118	M6	DME	Seawater	**3106-1001**	0.000348	092412HGA1
AMB11-118MS	M6	DME	Seawater	3106-1001 MS	0.00682	092412HGA1
AMB11-118MSD	M6	DME	Seawater	3106-1001 MSD	0.00718	092412HGA1
				Spiking Level, MS	0.00605	
				Spiking Level, MSD	0.00612	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**112%**	
				RPD	**4.2%**	

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Ambient Monitoring - AMB11
QC Sample Results for CVAF
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB11-001	PS03	TME	Seawater	**3106-908**	0.0200	091112HGA1
AMB11-001DUP	PS03	TME	Seawater	**3106-908 DUP**	0.0209	091112HGA1
				Mean	*0.0205*	
				RPD	**5%**	
AMB11-017	PS02	TME	Seawater	**3106-940**	0.00142	091312HGA1
AMB11-017DUP	PS02	TME	Seawater	**3106-940 DUP**	0.00144	091312HGA1
				Mean	*0.00143*	
				RPD	**1%**	
AMB11DD-002	OF019	TME	Seawater	**3106-960**	0.0850	091412HGA1
AMB11DD-002DUP	OF019	TME	Seawater	**3106-960 DUP**	0.0741	091412HGA1
				Mean	*0.0796*	
				RPD	**14%**	
AMB11-105	SN10	TME	Seawater	**3106-974**	0.00134	092112HGA1
AMB11-105DUP	SN10	TME	Seawater	**3106-974 DUP**	0.00127	092112HGA1
				Mean	*0.00130*	
				RPD	**6%**	
AMB11-116	M7	TME	Seawater	**3106-996**	0.000855	092412HGA1
AMB11-116DUP	M7	TME	Seawater	**3106-996 DUP**	0.000813	092412HGA1
				Mean	*0.000834*	
				RPD	**5%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 091012	1602	091112HGA1
SRM 1641 (2)		Total	Freshwater	1641d 091212	1505	091312HGA1
SRM 1641 (3)		Total	Freshwater	1641d 091312	1570	091412HGA1
SRM 1641 (4)		Total	Freshwater	1641d 092012	1620	092112HGA1
SRM 1641 (5)		Total	Freshwater	1641d 092112	1558	092412HGA1
				Certified Value	**1557**	
				range	**±20**	
	SRM 1641 (1)			**PD**	**3%**	
	SRM 1641 (2)			**PD**	**3%**	
	SRM 1641 (3)			**PD**	**1%**	
	SRM 1641 (4)			**PD**	**4%**	
	SRM 1641 (5)			**PD**	**0%**	

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Ambient Monitoring - AMB11
QC Sample Results for FIAS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0451**	
Reporting Limit (MDL* 3.18)					**0.143**	
Method Blanks						
MB1		Total	Water	BLK 092012R1	0.0451 U	F092012A
MB2		Total	Water	BLK 092012R2	0.0451 U	F092012A
MB3		Total	Water	BLK 092012R3	0.0451 U	F092012A
Laboratory Control Samples						
Spiking Level					5	
LCS1		Total	Water	LCS 092012r1	5.14	F092012A
LCS2		Total	Water	LCS 092012r2	5.15	F092012A
LCS3		Total	Water	LCS 092012r3	4.90	F092012A
				Percent Recovery, LCS	**103%**	
				Percent Recovery, LCS	**103%**	
				Percent Recovery, LCS	**98%**	
MATRIX SPIKE RESULTS						
AMB11-002	PS04	TME	Seawater	**3106-910**	1.18	F092012A
AMB11-002MS	PS04	TME	Seawater	3106-910 MS	6.35	F092012A
AMB11-002MSD	PS04	TME	Seawater	3106-910 MS	6.29	F092012A
				Spiking Level	5	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**102%**	
AMB11-021	BJESTDUP	TME	Seawater	**3106-948**	0.985	F092012A
AMB11-021MS	BJESTDUP	TME	Seawater	3106-948 MS	6.26	F092012A
AMB11-021MSD	BJESTDUP	TME	Seawater	3106-948 MSD	6.30	F092012A
				Spiking Level	5	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**106%**	
AMB11-111	WP	TME	Seawater	**3106-986**	1.18	F092012A
AMB11-111MS	WP	TME	Seawater	3106-986 MS	6.42	F092012A
AMB11-111MSD	WP	TME	Seawater	3106-986 MSD	6.11	F092012A
				Spiking Level	5	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**99%**	

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Ambient Monitoring - AMB11
QC Sample Results for FIAS
ENVVEST August 2012
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	As	FIAS Batch ID
				Instrument:	*FIAS*	
Laboratory Achieved Detection Limits					**0.0451**	
Reporting Limit (MDL* 3.18)					**0.143**	
REPLICATE PRECISION						
AMB11-007	PS07	TME	Seawater	**3106-920**	1.23	F092012A
AMB11-007DUP	PS07	TME	Seawater	**3106-920r2**	1.20	F092012A
				Mean	*1.22*	F092012A
				RPD	**3%**	F092012A
AMB11-101	M3.3	TME	Seawater	**3106-966**	1.10	F092012A
AMB11-101DUP	M3.3	TME	Seawater	**3106-966r2**	1.12	F092012A
				Mean	*1.11*	F092012A
				RPD	**2%**	
AMB11-116	M7	TME	Seawater	**3106-996**	1.01	F092012A
AMB11-116DUP	M7	TME	Seawater	**3106-996r2**	0.995	F092012A
				Mean	*1.00*	F092012A
				RPD	**2%**	
STANDARD REFERENCE MATERIAL						
SRM CASS-5 r1		TME	Seawater	CASS-5 092012R1	1.05	F092012A
SRM CASS-5 r2		TME	Seawater	CASS-5 092012R2	1.01	F092012A
SRM CASS-5 r3		TME	Seawater	CASS-5 092012R3	1.07	F092012A
				Certified Value	**1.24**	
	SRM r1			**PD**	**15%**	
	SRM r2			**PD**	**19%**	
	SRM r3			**PD**	**14%**	

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Ambient Monitoring - AMB11
QC Sample Results for Salinity
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	Blank R1	0.0 U	PSU	083012osal
MB		TME	Seawater	Blank R2	0.0 U	PSU	083012osal
MB		TME	Seawater	Blank R3	0.0 U	PSU	083012osal
MB		TME	Seawater	Blank R4	0.0 U	PSU	090412osal
MB		TME	Seawater	Blank R5	0.0 U	PSU	090412osal
MB		TME	Seawater	Blank R6	0.0 U	PSU	090412osal
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water R1	35.2	PSU	083012osal
SRM		TME	Seawater	Copenhagen Water R2	35.2	PSU	083012osal
SRM		TME	Seawater	Copenhagen Water R3	35.1	PSU	083012osal
SRM		TME	Seawater	Copenhagen Water R4	34.9	PSU	090412osal
SRM		TME	Seawater	Copenhagen Water R5	34.9	PSU	090412osal
SRM		TME	Seawater	Copenhagen Water R6	34.7	PSU	090412osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.6%**		
	SRM-2			**PD**	**0.6%**		
	SRM-3			**PD**	**0.3%**		
	SRM-4			**PD**	**0.3%**		
	SRM-5			**PD**	**0.3%**		
	SRM-6			**PD**	**0.8%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	21.2	PSU	083012osal
LCS-2				LCS r2	21.1	PSU	083012osal
LCS-3				LCS r3	21.0	PSU	083012osal
LCS-4				LCS r4	20.8	PSU	090412osal
LCS-5				LCS r5	20.8	PSU	090412osal
LCS-6				LCS r6	20.7	PSU	090412osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**106%**		
	LCS-2			**% RECOVERY**	**106%**		
	LCS-3			**% RECOVERY**	**105%**		
	LCS-4			**% RECOVERY**	**104%**		
	LCS-5			**% RECOVERY**	**104%**		
	LCS-6			**% RECOVERY**	**104%**		

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Ambient Monitoring - AMB11
QC Sample Results for Salinity
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				Calibration ICV	49.9	mS	083012osal
CCV-1				Calibration CCV1	49.6	mS	083012osal
CCV-2				Calibration CCV2	49.8	mS	083012osal
CCV-3				Calibration CCV3	49.9	mS	083012osal
CCV-4				Calibration CCV4	49.6	mS	083012osal
CCV-5				Calibration CCV5	49.8	mS	083012osal
CCV-6				Calibration CCV6	49.9	mS	090412osal
CCV-7				Calibration CCV7	49.7	mS	090412osal
CCV-8				Calibration CCV8	50.0	mS	090412osal
CCV-9				Calibration CCV9	49.8	mS	090412osal
CCV-10				Calibration CCV10	49.8	mS	090412osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**100%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**99%**		
	CCV-5			**% RECOVERY**	**100%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**99%**		
	CCV-8			**% RECOVERY**	**100%**		
	CCV-9			**% RECOVERY**	**100%**		
	CCV-10			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB11
QC Sample Results for TOC/DOC by HTCO
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.030**	**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**	**8.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB			DIWater	MB_DIW100312r1	0.030	2.5	U	100312NPOC
MB			DIWater	MB_DIW100312r2	0.030	2.5	U	100312NPOC
MB			DIWater	MB_DIW100312r3	0.030	2.5	U	100312NPOC
MB			DIWater	MB_DIW100412r1	0.030	2.5	U	100412NPOC
MB			DIWater	MB_DIW100412r2	0.030	2.5	U	100412NPOC
MB			DIWater	MB_DIW100412r3	0.030	2.5	U	100412NPOC
MB			DIWater	MB_DIW100412r4	0.030	2.5	U	100412NPOC
MB			DIWater	MB_DIW100512r1	0.030	2.5	U	100512NPOC
MB			DIWater	MB_DIW100512r2	0.030	2.5	U	100512NPOC
MB			DIWater	MB_DIW100512r3	0.030	2.5	U	100512NPOC
MB			DIWater	MB_DIW100812r1	0.030	2.5	U	100812NPOC
MB			DIWater	MB_DIW100812r2	0.030	2.5	U	100812NPOC
MB			DIWater	MB_DIW100812r3	0.030	2.5	U	100812NPOC
MB			DIWater	MB_DIW100812r4	0.030	2.5	U	100812NPOC
MB			DIWater	MB_DIW100912r1	0.030	2.5	U	100912NPOC
MB			DIWater	MB_DIW100912r2	0.030	2.5	U	100912NPOC
MB			DIWater	MB_DIW100912r3	0.030	2.5	U	100912NPOC
MB			DIWater	MB_DIW100912r4	0.030	2.5	U	100912NPOC

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Ambient Monitoring - AMB11
QC Sample Results for TOC/DOC by HTCO
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	UM CRM100312R1	0.501	41.7		100312NPOC
CRM-2		DOC	Seawater	UM CRM100312R2	0.469	39.1		100312NPOC
CRM-3		DOC	Seawater	UM CRM100312R3	0.464	38.6		100312NPOC
CRM-4		DOC	Seawater	UM CRM100412R1	0.525	43.7		100412NPOC
CRM-5		DOC	Seawater	UM CRM100412R2	0.502	41.9		100412NPOC
CRM-6		DOC	Seawater	UM CRM100412R3	0.495	41.2		100412NPOC
CRM-7		DOC	Seawater	UM CRM100412R4	0.486	40.5		100412NPOC
CRM-8		DOC	Seawater	UM CRM100512R1	0.498	41.5		100512NPOC
CRM-9		DOC	Seawater	UM CRM100512R2	0.477	39.8		100512NPOC
CRM-10		DOC	Seawater	UM CRM100512R3	0.442	36.8		100512NPOC
CRM-11		DOC	Seawater	UM CRM100812R1	0.485	40.4		100812NPOC
CRM-12		DOC	Seawater	UM CRM100812R2	0.496	41.3		100812NPOC
CRM-13		DOC	Seawater	UM CRM100812R3	0.485	40.4		100812NPOC
CRM-14		DOC	Seawater	UM CRM100912R1	0.492	41.0		100912NPOC
CRM-15		DOC	Seawater	UM CRM100912R2	0.490	40.8		100912NPOC
CRM-16		DOC	Seawater	UM CRM100912R3	0.474	39.5		100912NPOC
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**1.8%**	**1.8%**		
CRM-2				**PD**	**7.9%**	**7.9%**		
CRM-3				**PD**	**9.1%**	**9.1%**		
CRM-4				**PD**	**2.9%**	**2.9%**		
CRM-5				**PD**	**1.5%**	**1.5%**		
CRM-6				**PD**	**3.0%**	**3.0%**		
CRM-7				**PD**	**4.7%**	**4.7%**		
CRM-8				**PD**	**2.4%**	**2.4%**		
CRM-9				**PD**	**6.4%**	**6.4%**		
CRM-10				**PD**	**13%**	**13%**		
CRM-11				**PD**	**5.0%**	**5.0%**		
CRM-12				**PD**	**2.8%**	**2.8%**		
CRM-13				**PD**	**5.0%**	**5.0%**		
CRM-14				**PD**	**3.4%**	**3.4%**		
CRM-15				**PD**	**4.0%**	**4.0%**		
CRM-16				**PD**	**7.0%**	**7.0%**		

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Ambient Monitoring - AMB11
QC Sample Results for TOC/DOC by HTCO
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
REPLICATE PRECISION								
AMB11-023		TME	TOC	**3106-952**	1.31	109		100812NPOC
AMB11-023DUP		TME	TOC	**3106-952R2**	1.32	110		100812NPOC
				Mean	*1.32*	*110*		
				RPD	**1.0%**	**1.0%**		
AMB11-116		TME	TOC	**3106-996**	3.86	322		100912NPOC
AMB11-116DUP		TME	TOC	**3106-996R2**	3.61	301		100912NPOC
				Mean	*3.73*	*311*		
				RPD	**6.8%**	**6.8%**		
AMB11-003		DME	DOC	**3106-913**	1.08	89.9		100512NPOC
AMB11-003DUP		DME	DOC	**3106-913R2**	1.07	89.3		100512NPOC
				Mean	*1.08*	*89.6*		
				RPD	**0.7%**	**0.7%**		
AMB11-005		DME	DOC	**3106-917**	0.919	76.6		100412NPOC
AMB11-005DUP		DME	DOC	**3106-917R2**	0.966	80.5		100412NPOC
				Mean	*0.942*	*78.5*		
				RPD	**4.9%**	**4.9%**		
AMB11-022		DME	DOC	**3106-951**	1.52	126		100412NPOC
AMB11-022DUP		DME	DOC	**3106-951R2**	1.44	120		100812NPOC
				Mean	*1.48*	*123*		
				RPD	**5.1%**	**5.1%**		
AMB11-023		DME	DOC	**3106-953**	1.63	135		100412NPOC
AMB11-023DUP		DME	DOC	**3106-953R3**	1.59	132		100812NPOC
				Mean	*1.61*	*134*		
				RPD	**2.3%**	**2.3%**		
AMB11-025		DME	DOC	**3106-957**	1.28	107		100412NPOC
AMB11-025DUP		DME	DOC	**3106-957R2**	1.27	106		100412NPOC
				Mean	*1.27*	*106*		
				RPD	**1.1%**	**1.1%**		
AMB11-111		DME	DOC	**3106-987**	1.05	87.8		100312NPOC
AMB11-111DUP		DME	DOC	**3106-987R2**	1.03	85.8		100312NPOC
				Mean	*1.04*	*86.8*		
				RPD	**2.3%**	**2.3%**		

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QC Sample Results for TOC/DOC by HTCO
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				Calibration CCV1	0.976			100312NPOC
ICV/CCV-2				Calibration CCV2	0.953			100312NPOC
ICV/CCV-3				Calibration CCV3	0.953			100312NPOC
ICV/CCV-4				Calibration CCV4	0.946			100312NPOC
ICV/CCV-5				Calibration CCV5	0.932			100412NPOC
ICV/CCV-6				Calibration CCV6	0.966			100412NPOC
ICV/CCV-7				Calibration CCV7	0.957			100412NPOC
ICV/CCV-8				Calibration CCV8	0.923			100412NPOC
ICV/CCV-9				Calibration CCV9	0.956			100512NPOC
ICV/CCV-10				Calibration CCV10	0.954			100512NPOC
ICV/CCV-11				Calibration CCV11	0.939			100512NPOC
ICV/CCV-12				Calibration CCV12	0.979			100812NPOC
ICV/CCV-13				Calibration CCV13	0.957			100812NPOC
ICV/CCV-14				Calibration CCV14	0.936			100812NPOC
ICV/CCV-15				Calibration CCV15	0.953			100812NPOC
ICV/CCV-16				Calibration CCV16	0.926			100912NPOC
ICV/CCV-17				Calibration CCV17	0.983			100912NPOC
ICV/CCV-18				Calibration CCV18	0.939			100912NPOC
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**98%**			
ICV/CCV-2				**% RECOVERY**	**95%**			
ICV/CCV-3				**% RECOVERY**	**95%**			
ICV/CCV-4				**% RECOVERY**	**95%**			
ICV/CCV-5				**% RECOVERY**	**93%**			
ICV/CCV-6				**% RECOVERY**	**97%**			
ICV/CCV-7				**% RECOVERY**	**96%**			
ICV/CCV-8				**% RECOVERY**	**92%**			
ICV/CCV-9				**% RECOVERY**	**96%**			
ICV/CCV-10				**% RECOVERY**	**95%**			
ICV/CCV-11				**% RECOVERY**	**94%**			
ICV/CCV-12				**% RECOVERY**	**98%**			
ICV/CCV-13				**% RECOVERY**	**96%**			
ICV/CCV-14				**% RECOVERY**	**94%**			
ICV/CCV-15				**% RECOVERY**	**95%**			
ICV/CCV-16				**% RECOVERY**	**93%**			
ICV/CCV-17				**% RECOVERY**	**98%**			
ICV/CCV-18				**% RECOVERY**	**94%**			

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB11
QC Sample Results for TSS
ENVVEST August 2012

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.49*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank 090412r1	0.49 U	mg/L	090412NP
MB2		TME	Seawater	Blank 090412r2	0.49 U	mg/L	090412NP
MB3		TME	Seawater	Blank 090412r3	0.49 U	mg/L	090412NP
MB4		TME	Seawater	Blank 090712r1	0.49 U	mg/L	090712NP
MB5		TME	Seawater	Blank 090712r2	0.49 U	mg/L	090712NP
LABORATORY CONTROL SAMPLES							
LCS-1				LCS 090412r1	37.0	mg/L	090412NP
LCS-2				LCS 090412r2	41.9	mg/L	090412NP
LCS-3				LCS 090712r1	36.5	mg/L	090712NP
LCS-4				LCS 090712r2	36.7	mg/L	090712NP
				TRUE VALUE	**40**	mg/L	
LCS-1				**% RECOVERY**	**93%**		
LCS-2				**% RECOVERY**	**105%**		
LCS-3				**% RECOVERY**	**91%**		
LCS-4				**% RECOVERY**	**92%**		

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Ambient Monitoring - AMB11
ENVVEST August 2012
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
HTCO	High Temperature Catalytic Oxidation
E	Small crack in sample bottle; use with caution

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, August 2012 (AMB11)

PARAMETER: Total and Dissolved Metals – Al, Ag, As (Total only), Cd, Cr, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater, Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 08/28/12 and 08/29/12. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses. No TOC was collected for sample 3106*934.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	08/28/12 and 08/29/12
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	08/28/12 and 08/29/12
TSS analysis dates	08/30/12 through 09/07/12
OSAL analysis dates	08/30/12 and 09/04/12
CVAF analysis dates (Hg)	09/11/12, 09/13/12, 09/14/12, 09/21/12, and 09/24/12
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/10/12
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/05/12, 09/07/12, and 09/21/12
FIAS analysis date (As)	09/20/12
TOC/DOC Analysis Date	10/3-10/5/12; 10/8-9/12

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14	6.8
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0451	0.143
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.00110	0.0035
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0293	0.093
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351	0.11
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0254	0.081
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019	0.0060
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263	0.084
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits (µg/L)	Reporting Limits (µg/L)
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2	0.6
Arsenic	FIAS	70-130%	≤20%	≤30%	0.0451	0.143
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0033	0.011
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.051	0.16
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053	0.017
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0042	0.013
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022	0.0070
Silver	ICP-MS	70-130%	≤20%	≤30%	0.0032	0.010
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02	0.06
Mercury	CVAF	70-130%	≤20%	≤30%	0.0001	0.00032

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of As and Hg do not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The samples for total metals (TME) were analyzed for As by Flow-Injection Atomic Spectroscopy (FIAS) in accordance with Battelle SOP *MSL-I-030, Determination of Metals in Aqueous and Digestate Samples by Hydride Generation Atomic Absorption*

METHODS (cont): *(HGAA) with Flow Injection (FIAS).* The base method for this procedure is EPA Method 270.3.

Prior to analyses of all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride Reductive Precipitation for Trace Metals Analysis in Water*. Preconcentrated seawater samples were analyzed for Al (total only), Ag, Cd, Cr, Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

All metal results were reported in units of µg/L. Data are reported as blank corrected for the metals requiring Fe/Pd preconcentration (Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn) and denoted with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

Freshwater samples identified as < 5% seawater were analyzed as follows. Freshwater samples were analyzed for Hg and As as described above for the seawater. These methods are not selective to salt content and are the same for both the seawater and freshwater matrices. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the type of filter. This is the first batch of AMB samples where the 0.45 µm polycarbonate filters were used. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L. The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU).

The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 min to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank detected above the RL for the analytical batch. The reagent blank correction takes into consideration the detected blank for each batch and the data should be reported as corrected in order to more accurately represent the true sample concentrations. The data were not considered impacted by the detected Zn blanks, however, they were flagged in accordance with the procedure above.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL. The method blanks for TOC and DOC were low carbon water (LCW) purchased from University of Miami. This water was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. The Al MS/MSD samples spiked at 1 µg/L were not reported because the spiking level is below the RL. The MS/MSD samples spiked at 5 µg/L demonstrated acceptable recovery for Al.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL. The highest RPD was 19% and demonstrated good analytical precision for all the metals and TOC/DOC.

STANDARD REFERENCE MATERIAL ACCURACY:

Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The SRM for As was the coastal ocean SRM CASS-5. The percent recoveries were within the QC acceptance criterion.

Three different SRMs were analyzed with the analytical batches for Al, Ag, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion. There are no seawater SRMs certified for Ag or Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

Two seawater SRMs were analyzed with each batch. The primary SRM was the coastal SRM CASS-5 and the secondary was the estuarine SRM SLEW-3. Both were prepared with each batch of preconcentrated samples. The PDs were within the QC criterion for all metals certified greater than 10x the MDL except two replicates for Cd (21% and 22%) and two for Zn (21% and 28%). The certified value for Cd is less than the RL, therefore, SLEW-3 was used to demonstrate acceptable accuracy for Cd. All replicates of Pb and Zn for SLEW-3 were flagged as certified less than 10x the MDL and not appropriate for data quality evaluation. The SRMs CASS-5, seawater LCS, MS/MSD, and freshwater SRM 1640a demonstrated acceptable accuracy for Pb and Zn.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 0.3-0.8% PD for all salinity measurements. There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PD ranged from 1.5-13%.

ALS ENVIRONMENTAL

Client:	Battelle	**Service Request No.:**	K1208602
Project:	ENVVEST August 2012 (AMB11)	**Date Received:**	8/30/12
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three water samples were received for analysis at ALS Environmental on 8/30/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C/frozen at –20°C upon receipt at the laboratory.

Sample Note:
Sample AMB11DD-002/OF019 was accidently broken while being put away into cold storage.
Client was notified by email on 8/30/12. No back up sample was available.

General Chemistry Parameters

Total Oil and Grease by EPA Method 1664A:
The matrix spike recovery of Total Oil and Grease for sample Batch QC was outside control criteria because of suspected matrix interference. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. No further corrective action was taken.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208602
Project:	ENVVEST AUGUST 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Water	**Date Received:**	08/30/12
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11DD-001/OF021	K1208602-001	**1.1 J**	5.7	0.8	1	09/07/12	9/6/12	
Method Blank	K1208602-MB	ND U	5.0	0.8	1	09/07/12	9/6/12	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208602
Project:	ENVVEST AUGUST 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/30/12
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11DD-003/OF018	K1208602-003	ND U	5.0	0.8	1	09/07/12	9/6/12	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208602
Project:	ENVVEST AUGUST 2012 (AMB11)	**Date Collected:**	N/A
Sample Matrix:	Water	**Date Received:**	N/A
		Date Analyzed:	09/7/12
		Date Extracted:	09/6/12

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1208502-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1208502-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	6.8	46.8	60.0	67 *	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST AUGUST 2012 (AMB11)
Sample Matrix: Water

Service Request: K1208602
Date Analyzed: 09/07/12
Date Extracted: 09/06/12

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: 1664A
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 308343

	Lab Control Sample K1208602-LCS			Duplicate Lab Control Sample K1208602-DLCS					
Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	54.1	60.0	90	53.5	60.0	89	78-114	1	20

ALS ENVIRONMENTAL

Client:	Battelle	**Service Request No.:**	K1208667
Project:	ENVVEST/August 2012 (AMB 11)	**Date Received:**	8/31/12
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-four water samples were received for analysis at ALS Environmental on 8/31/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB11-001/PS03	K1208667-001	**0.034**	0.010	0.003	1	09/06/12 12:49	
AMB11-002/PS04	K1208667-002	**0.025**	0.010	0.003	1	09/06/12 12:49	
AMB11-003/PS05	K1208667-003	**0.039**	0.010	0.003	1	09/06/12 12:49	
AMB11-004/PS14	K1208667-004	**0.030**	0.010	0.003	1	09/06/12 12:49	
AMB11-005/PS06	K1208667-005	**0.128**	0.010	0.003	1	09/06/12 12:49	
AMB11-007/PS07	K1208667-006	**0.062**	0.010	0.003	1	09/06/12 12:49	
AMB11-008/PS08	K1208667-007	**0.032**	0.010	0.003	1	09/06/12 12:49	
AMB11-009/PS15	K1208667-008	**0.028**	0.010	0.003	1	09/06/12 12:49	
AMB11-010/PS09	K1208667-009	**0.027**	0.010	0.003	1	09/06/12 12:49	
AMB11-011/PS10	K1208667-010	**0.029**	0.010	0.003	1	09/06/12 12:49	
AMB11-012/PS10.1	K1208667-011	**0.016**	0.010	0.003	1	09/06/12 12:49	
AMB11-013/PS11	K1208667-012	**0.003 J**	0.010	0.003	1	09/06/12 12:49	
AMB11-015/PS16	K1208667-013	**0.022**	0.010	0.003	1	09/06/12 12:49	
AMB11-016/PS01	K1208667-014	**0.063**	0.010	0.003	1	09/06/12 12:49	
AMB11-017/PS02	K1208667-015	**0.059**	0.010	0.003	1	09/06/12 12:49	
AMB11-018/PS13	K1208667-016	**0.046**	0.010	0.003	1	09/06/12 12:49	
AMB11-019/M4	K1208667-017	**0.033**	0.010	0.003	1	09/06/12 12:49	
AMB11-020/BJEST	K1208667-018	**0.012**	0.010	0.003	1	09/06/12 12:49	
AMB11-022/M3.1	K1208667-019	**0.006 J**	0.010	0.003	1	09/06/12 12:49	
AMB11-023/M3.1 DEEP	K1208667-020	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-024/PS12	K1208667-021	**0.018**	0.010	0.003	1	09/06/12 12:49	
AMB11-025/PS03B	K1208667-022	**0.022**	0.010	0.003	1	09/06/12 12:49	
AMB11DD-002/OF019	K1208667-024	**0.047**	0.010	0.003	1	09/06/12 12:49	
AMB11DD-003/OF018	K1208667-025	**0.164**	0.010	0.003	1	09/06/12 12:49	
AMB11-100/PS03	K1208667-026	**0.017**	0.010	0.003	1	09/06/12 12:49	
AMB11-101/M3.3	K1208667-027	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-102/SN03	K1208667-028	**0.344**	0.010	0.003	1	09/06/12 12:49	
AMB11-103/SN05	K1208667-029	**0.117**	0.010	0.003	1	09/06/12 12:49	
AMB11-104/SN08	K1208667-030	**0.037**	0.010	0.003	1	09/06/12 12:49	
AMB11-105/SN10	K1208667-031	**0.010 J**	0.010	0.003	1	09/06/12 12:49	
AMB11-107/SN11	K1208667-032	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-108/M2 SURF	K1208667-033	**0.006 J**	0.010	0.003	1	09/06/12 12:49	
AMB11-109/M2 DEEP	K1208667-034	**0.006 J**	0.010	0.003	1	09/06/12 12:49	
AMB11-110/CLMBAY	K1208667-035	**0.010**	0.010	0.003	1	09/06/12 12:49	
AMB11-111/WP	K1208667-036	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-112/ILSP	K1208667-037	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-113/M1 SURF	K1208667-038	**0.006 J**	0.010	0.003	1	09/06/12 12:49	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB11-114/M1 DEEP	K1208667-039	**0.039**	0.010	0.003	1	09/06/12 12:49	
AMB11-115/BM01	K1208667-040	**0.003 J**	0.010	0.003	1	09/06/12 12:49	
AMB11-116/M7	K1208667-041	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-117/DYOTS	K1208667-042	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-118/M6	K1208667-043	ND U	0.010	0.003	1	09/06/12 12:49	
AMB11-120/PS03B	K1208667-044	**0.018**	0.010	0.003	1	09/06/12 12:49	
Method Blank	K1208667-MB1	ND U	0.010	0.003	1	09/06/12 12:49	
Method Blank	K1208667-MB2	ND U	0.010	0.003	1	09/06/12 12:49	
Method Blank	K1208667-MB3	ND U	0.010	0.003	1	09/06/12 12:49	
Method Blank	K1208667-MB4	ND U	0.010	0.003	1	09/06/12 12:49	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Water	**Date Received:**	08/31/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB11DD-001/OF021	K1208667-023	**0.015**	0.010	0.003	1	09/06/12 12:49	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1208376-001DUP1	5.0	1.5	172	172	172	<1	20	09/06/12
Batch QC	K1208381-001DUP2	0.010	0.003	0.026	0.027	0.0266	5	20	09/06/12
AMB11-001/PS03	K1208667-001DUP3	0.010	0.003	0.034	0.038	0.0359	10	20	09/06/12
AMB11-024/PS12	K1208667-021DUP4	0.010	0.003	0.018	0.017	0.0172	5	20	09/06/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000223271 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/6/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1208376-001	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1208376-001MS1			Duplicate Matrix Spike K1208376-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	172	355	200	91	358	200	93	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Collected: N/A
Date Received: N/A
Date Analyzed: 09/6/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name: Batch QC
Lab Code: K1208381-001
Analysis Method: 350.1

Units: mg/L
Basis: NA

		Matrix Spike K1208381-001MS2			Duplicate Matrix Spike K1208381-001DMS2					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ammonia as Nitrogen	0.026	0.226	0.200	100	0.223	0.200	99	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/6/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB11-001/PS03	**Units:**	mg/L
Lab Code:	K1208667-001	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1208667-001MS3			Duplicate Matrix Spike K1208667-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.034	0.245	0.200	106	0.245	0.200	105	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/6/12

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB11-024/PS12	**Units:**	mg/L
Lab Code:	K1208667-021	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1208667-021MS4			Duplicate Matrix Spike K1208667-021DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.018	0.228	0.200	105	0.232	0.200	107	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Analyzed: 09/06/12

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: 350.1

Units: mg/L
Basis: NA
Analysis Lot: 308229

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1208667-LCS1	13.3	13.9	95	90-110
Lab Control Sample	K1208667-LCS2	13.6	13.9	98	90-110
Lab Control Sample	K1208667-LCS3	13.3	13.9	96	90-110
Lab Control Sample	K1208667-LCS4	13.7	13.9	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	308229	KQ1210350-35	09/06/12 12:49	0.250	0.241	96	90-110
CCV2	308229	KQ1210350-36	09/06/12 12:49	0.250	0.251	100	90-110
CCV3	308229	KQ1210350-37	09/06/12 12:49	0.250	0.246	98	90-110
CCV4	308229	KQ1210350-38	09/06/12 12:49	0.250	0.249	100	90-110
CCV5	308229	KQ1210350-39	09/06/12 12:49	0.250	0.249	99	90-110
CCV6	308229	KQ1210350-40	09/06/12 12:49	0.250	0.249	100	90-110
CCV7	308229	KQ1210350-41	09/06/12 12:49	0.250	0.255	102	90-110
CCV8	308229	KQ1210350-42	09/06/12 12:49	0.250	0.253	101	90-110
CCV9	308229	KQ1210350-43	09/06/12 12:49	0.250	0.251	100	90-110
CCV10	308229	KQ1210350-44	09/06/12 12:49	0.250	0.249	100	90-110
CCV11	308229	KQ1210350-45	09/06/12 12:49	0.250	0.251	100	90-110
CCV12	308229	KQ1210350-46	09/06/12 12:49	0.250	0.251	100	90-110
CCV13	308229	KQ1210350-47	09/06/12 12:49	0.250	0.251	101	90-110

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)

Service Request: K1208667

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen

Analysis Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	308229	KQ1210350-21	09/06/12 12:49	0.010	0.003	ND	U
CCB2	308229	KQ1210350-22	09/06/12 12:49	0.010	0.003	0.005	J
CCB3	308229	KQ1210350-23	09/06/12 12:49	0.010	0.003	ND	U
CCB4	308229	KQ1210350-24	09/06/12 12:49	0.010	0.003	ND	U
CCB5	308229	KQ1210350-25	09/06/12 12:49	0.010	0.003	ND	U
CCB6	308229	KQ1210350-26	09/06/12 12:49	0.010	0.003	ND	U
CCB7	308229	KQ1210350-27	09/06/12 12:49	0.010	0.003	0.004	J
CCB8	308229	KQ1210350-28	09/06/12 12:49	0.010	0.003	0.007	J
CCB9	308229	KQ1210350-29	09/06/12 12:49	0.010	0.003	ND	U
CCB10	308229	KQ1210350-30	09/06/12 12:49	0.010	0.003	ND	U
CCB11	308229	KQ1210350-31	09/06/12 12:49	0.010	0.003	ND	U
CCB12	308229	KQ1210350-32	09/06/12 12:49	0.010	0.003	ND	U
CCB13	308229	KQ1210350-33	09/06/12 12:49	0.010	0.003	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11-001/PS03	K1208667-001	**0.81**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-002/PS04	K1208667-002	**0.78**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-003/PS05	K1208667-003	**0.70**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-004/PS14	K1208667-004	**0.69**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-005/PS06	K1208667-005	**0.69**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-007/PS07	K1208667-006	**0.82**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-008/PS08	K1208667-007	**0.91**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-009/PS15	K1208667-008	**0.64**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-010/PS09	K1208667-009	**0.60**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-011/PS10	K1208667-010	**0.59**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-012/PS10.1	K1208667-011	**0.57**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-013/PS11	K1208667-012	**0.57**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-015/PS16	K1208667-013	**0.75**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-016/PS01	K1208667-014	**0.67**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-017/PS02	K1208667-015	**0.64**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-018/PS13	K1208667-016	**1.03**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-019/M4	K1208667-017	**1.15**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-020/BJEST	K1208667-018	**1.18**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-022/M3.1	K1208667-019	**0.63**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-023/M3.1 DEEP	K1208667-020	**0.53**	0.50	0.18	2	09/13/12	9/11/12	
AMB11-024/PS12	K1208667-021	**1.02**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-025/PS03B	K1208667-022	**1.33**	0.50	0.18	2	09/17/12	9/14/12	
AMB11DD-002/OF019	K1208667-024	**1.66**	0.50	0.18	2	09/17/12	9/14/12	
AMB11DD-003/OF018	K1208667-025	**0.82**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-100/PS03	K1208667-026	**1.29**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-101/M3.3	K1208667-027	**0.70**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-102/SN03	K1208667-028	**1.22**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-103/SN05	K1208667-029	**1.00**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-104/SN08	K1208667-030	**1.57**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-105/SN10	K1208667-031	**1.72**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-107/SN11	K1208667-032	**1.71**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-108/M2 SURF	K1208667-033	**1.01**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-109/M2 DEEP	K1208667-034	**1.03**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-110/CLMBAY	K1208667-035	**1.03**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-111/WP	K1208667-036	**1.07**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-112/ILSP	K1208667-037	**1.06**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-113/M1 SURF	K1208667-038	**0.81**	0.50	0.18	2	09/17/12	9/14/12	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11-114/M1 DEEP	K1208667-039	**1.09**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-115/BM01	K1208667-040	**0.74**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-116/M7	K1208667-041	**1.42**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-117/DYOTS	K1208667-042	**2.40**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-118/M6	K1208667-043	**1.03**	0.50	0.18	2	09/17/12	9/14/12	
AMB11-120/PS03B	K1208667-044	**1.53**	0.50	0.18	2	09/17/12	9/14/12	
Method Blank	K1208667-MB1	**0.14 J**	0.20	0.14	2	09/13/12	9/11/12	
Method Blank	K1208667-MB2	ND U	0.20	0.14	2	09/17/12	9/14/12	
Method Blank	K1208667-MB3	ND U	0.20	0.14	2	09/17/12	9/14/12	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Water	**Date Received:**	08/31/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrogen, Total Kjeldahl (TKN)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11DD-001/OF021	K1208667-023	**0.71**	0.40	0.14	2	09/17/12	9/14/12	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Duplicate Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB11-001/PS03	K1208667-001DUP3	0.50	0.18	0.81	0.77	0.785	5	20	09/13/12
AMB11-024/PS12	K1208667-021DUP4	0.50	0.18	1.02	0.97	0.995	5	20	09/17/12
AMB11-116/M7	K1208667-041DUP5	0.50	0.18	1.42	1.39	1.40	2	20	09/17/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000223271 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/13/12
		Date Extracted:	09/11/12

Duplicate Matrix Spike Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name:	AMB11-001/PS03	**Units:**	mg/L
Lab Code:	K1208667-001	**Basis:**	NA
Analysis Method:	351.4		
Prep Method:	Method		

		Matrix Spike K1208667-001MS3			Duplicate Matrix Spike K1208667-001DMS3					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	0.81	24.2	25.0	94	48.9	50.0	96	40-160	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/17/12
		Date Extracted:	09/14/12

Duplicate Matrix Spike Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name:	AMB11-024/PS12	**Units:**	mg/L
Lab Code:	K1208667-021	**Basis:**	NA
Analysis Method:	351.4		
Prep Method:	Method		

		Matrix Spike K1208667-021MS4			Duplicate Matrix Spike K1208667-021DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.02	25.6	25.0	98	51.5	50.0	101	40-160	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/17/12
		Date Extracted:	09/14/12

Duplicate Matrix Spike Summary
Nitrogen, Total Kjeldahl (TKN)

Sample Name:	AMB11-116/M7	**Units:**	mg/L
Lab Code:	K1208667-041	**Basis:**	NA
Analysis Method:	351.4		
Prep Method:	Method		

		Matrix Spike K1208667-041MS5			Duplicate Matrix Spike K1208667-041DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrogen, Total Kjeldahl (TKN)	1.42	25.6	25.0	97	57.5	50.0	112	40-160	14	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Analyzed:**	09/13/12
Sample Matrix:	Ocean Water	**Date Extracted:**	09/11/12

Lab Control Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method:	351.4	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	309268

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1208667-LCS1	3.28	3.30	99	75-125

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Analyzed: 09/17/12
Date Extracted: 09/14/12

Lab Control Sample Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 309772

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1208667-LCS2	3.37	3.30	102	75-125
Lab Control Sample	K1208667-LCS3	3.32	3.30	100	75-125

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Verification (CCV) Summary

Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	309268	KQ1210635-05	09/13/12 10:20	10.0	10.1	101	90-110
CCV2	309268	KQ1210635-06	09/13/12 10:20	10.0	9.69	97	90-110
CCV3	309268	KQ1210635-07	09/13/12 10:20	10.0	9.63	96	90-110
CCV4	309268	KQ1210635-08	09/13/12 10:20	10.0	9.50	95	90-110
CCV5	309772	KQ1210801-07	09/17/12 03:30	10.0	10.2	102	90-110
CCV6	309772	KQ1210801-08	09/17/12 03:30	10.0	9.84	98	90-110
CCV7	309772	KQ1210801-09	09/17/12 03:30	10.0	9.46	95	90-110
CCV8	309772	KQ1210801-10	09/17/12 03:30	10.0	9.71	97	90-110
CCV9	309772	KQ1210801-11	09/17/12 03:30	10.0	9.58	96	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	309268	KQ1210635-01	09/13/12 10:20	0.20	0.07	ND	U
CCB2	309268	KQ1210635-02	09/13/12 10:20	0.20	0.07	0.08	J
CCB3	309268	KQ1210635-03	09/13/12 10:20	0.20	0.07	ND	U
CCB4	309268	KQ1210635-04	09/13/12 10:20	0.20	0.07	ND	U
CCB5	309772	KQ1210801-01	09/16/12 03:30	0.20	0.07	ND	U
CCB6	309772	KQ1210801-02	09/17/12 03:30	0.20	0.07	ND	U
CCB7	309772	KQ1210801-03	09/17/12 03:30	0.20	0.07	ND	U
CCB8	309772	KQ1210801-04	09/17/12 03:30	0.20	0.07	ND	U
CCB9	309772	KQ1210801-05	09/17/12 03:30	0.20	0.07	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB11-001/PS03	K1208667-001	**0.110**	0.050	0.009	1	09/11/12 12:29	
AMB11-002/PS04	K1208667-002	**0.097**	0.050	0.009	1	09/11/12 12:29	
AMB11-003/PS05	K1208667-003	**0.097**	0.050	0.009	1	09/11/12 12:29	
AMB11-004/PS14	K1208667-004	**0.062**	0.050	0.009	1	09/11/12 12:29	
AMB11-005/PS06	K1208667-005	**0.103**	0.050	0.009	1	09/11/12 12:29	
AMB11-007/PS07	K1208667-006	**0.110**	0.050	0.009	1	09/11/12 12:29	
AMB11-008/PS08	K1208667-007	**0.102**	0.050	0.009	1	09/11/12 12:29	
AMB11-009/PS15	K1208667-008	**0.057**	0.050	0.009	1	09/11/12 12:29	
AMB11-010/PS09	K1208667-009	**0.102**	0.050	0.009	1	09/11/12 12:29	
AMB11-011/PS10	K1208667-010	**0.075**	0.050	0.009	1	09/11/12 12:29	
AMB11-012/PS10.1	K1208667-011	**0.039 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-013/PS11	K1208667-012	**0.042 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-015/PS16	K1208667-013	**0.047 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-016/PS01	K1208667-014	**0.155**	0.050	0.009	1	09/11/12 12:29	
AMB11-017/PS02	K1208667-015	**0.122**	0.050	0.009	1	09/11/12 12:29	
AMB11-018/PS13	K1208667-016	**0.072**	0.050	0.009	1	09/11/12 12:29	
AMB11-019/M4	K1208667-017	**0.053**	0.050	0.009	1	09/11/12 12:29	
AMB11-020/BJEST	K1208667-018	**0.027 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-022/M3.1	K1208667-019	**0.107**	0.050	0.009	1	09/11/12 12:29	
AMB11-023/M3.1 DEEP	K1208667-020	**0.117**	0.050	0.009	1	09/11/12 12:29	
AMB11-024/PS12	K1208667-021	**0.059**	0.050	0.009	1	09/11/12 12:29	
AMB11-025/PS03B	K1208667-022	**0.098**	0.050	0.009	1	09/11/12 12:29	
AMB11DD-002/OF019	K1208667-024	**0.588**	0.050	0.009	1	09/11/12 12:29	
AMB11DD-003/OF018	K1208667-025	**0.460**	0.050	0.009	1	09/11/12 12:29	
AMB11-100/PS03	K1208667-026	**0.075**	0.050	0.009	1	09/11/12 12:29	
AMB11-101/M3.3	K1208667-027	**0.025 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-102/SN03	K1208667-028	**0.117**	0.050	0.009	1	09/11/12 12:29	
AMB11-103/SN05	K1208667-029	**0.100**	0.050	0.009	1	09/11/12 12:29	
AMB11-104/SN08	K1208667-030	**0.035 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-105/SN10	K1208667-031	ND U	0.050	0.009	1	09/11/12 12:29	
AMB11-107/SN11	K1208667-032	ND U	0.050	0.009	1	09/11/12 12:29	
AMB11-108/M2 SURF	K1208667-033	**0.168**	0.050	0.009	1	09/11/12 12:29	
AMB11-109/M2 DEEP	K1208667-034	**0.178**	0.050	0.009	1	09/11/12 12:29	
AMB11-110/CLMBAY	K1208667-035	**0.122**	0.050	0.009	1	09/11/12 12:29	
AMB11-111/WP	K1208667-036	**0.073**	0.050	0.009	1	09/11/12 12:29	
AMB11-112/ILSP	K1208667-037	**0.030 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-113/M1 SURF	K1208667-038	ND U	0.050	0.009	1	09/11/12 12:29	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB11-114/M1 DEEP	K1208667-039	**0.159**	0.050	0.009	1	09/11/12 12:29	
AMB11-115/BM01	K1208667-040	**0.102**	0.050	0.009	1	09/11/12 12:29	
AMB11-116/M7	K1208667-041	**0.011 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-117/DYOTS	K1208667-042	**0.011 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-118/M6	K1208667-043	**0.010 J**	0.050	0.009	1	09/11/12 12:29	
AMB11-120/PS03B	K1208667-044	**0.075**	0.050	0.009	1	09/11/12 12:29	
Method Blank	K1208667-MB1	ND U	0.050	0.009	1	09/11/12 12:29	
Method Blank	K1208667-MB2	**0.012 J**	0.050	0.009	1	09/11/12 12:29	
Method Blank	K1208667-MB3	**0.010 J**	0.050	0.009	1	09/11/12 12:29	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Water	**Date Received:**	08/31/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB11DD-001/OF021	K1208667-023	**0.612**	0.050	0.009	1	09/11/12 12:29	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB11-001/PS03	K1208667-001DUP3	0.050	0.009	0.110	0.108	0.109	2	20	09/11/12
AMB11-024/PS12	K1208667-021DUP4	0.050	0.009	0.059	0.059	0.0588	<1	20	09/11/12
AMB11-116/M7	K1208667-041DUP5	0.050	0.009	0.011	ND	NC	NC	20	09/11/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference: 12-0000223271 rev 00

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Collected: 08/28/12
Date Received: 08/31/12
Date Analyzed: 09/11/12

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: AMB11-001/PS03
Lab Code: K1208667-001
Analysis Method: 353.2

Units: mg/L
Basis: NA

		Matrix Spike K1208667-001MS3			Duplicate Matrix Spike K1208667-001DMS3					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.110	2.09	2.00	99	2.07	2.00	98	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Collected: 08/28/12
Date Received: 08/31/12
Date Analyzed: 09/11/12

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: AMB11-024/PS12
Lab Code: K1208667-021
Analysis Method: 353.2

Units: mg/L
Basis: NA

		Matrix Spike K1208667-021MS4			Duplicate Matrix Spike K1208667-021DMS4					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.059	2.06	2.00	100	2.08	2.00	101	89-114	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/11/12

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB11-116/M7	**Units:**	mg/L
Lab Code:	K1208667-041	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1208667-041MS5			Duplicate Matrix Spike K1208667-041DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.011	1.97	2.00	98	2.02	2.00	100	89-114	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Analyzed: 09/11/12

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L
Basis: NA
Analysis Lot: 308851

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1208667-LCS1	17.1	17.7	97	90-110
Lab Control Sample	K1208667-LCS2	17.2	17.7	97	90-110
Lab Control Sample	K1208667-LCS3	17.1	17.7	97	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	308851	KQ1210528-25	09/11/12 12:29	2.00	1.97	99	90-110
CCV2	308851	KQ1210528-26	09/11/12 12:29	2.00	1.98	99	90-110
CCV3	308851	KQ1210528-27	09/11/12 12:29	2.00	1.98	99	90-110
CCV4	308851	KQ1210528-28	09/11/12 12:29	2.00	1.97	99	90-110
CCV5	308851	KQ1210528-29	09/11/12 12:29	2.00	1.97	99	90-110
CCV6	308851	KQ1210528-30	09/11/12 12:29	2.00	1.96	98	90-110
CCV7	308851	KQ1210528-31	09/11/12 12:29	2.00	1.97	99	90-110
CCV8	308851	KQ1210528-32	09/11/12 12:29	2.00	1.97	98	90-110
CCV9	308851	KQ1210528-33	09/11/12 12:29	2.00	1.97	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	308851	KQ1210528-16	09/11/12 12:29	0.050	0.009	0.009	J
CCB2	308851	KQ1210528-17	09/11/12 12:29	0.050	0.009	ND	U
CCB3	308851	KQ1210528-18	09/11/12 12:29	0.050	0.009	ND	U
CCB4	308851	KQ1210528-19	09/11/12 12:29	0.050	0.009	ND	U
CCB5	308851	KQ1210528-20	09/11/12 12:29	0.050	0.009	ND	U
CCB6	308851	KQ1210528-21	09/11/12 12:29	0.050	0.009	ND	U
CCB7	308851	KQ1210528-22	09/11/12 12:29	0.050	0.009	ND	U
CCB8	308851	KQ1210528-23	09/11/12 12:29	0.050	0.009	ND	U
CCB9	308851	KQ1210528-24	09/11/12 12:29	0.050	0.009	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11-001/PS03	K1208667-001	**0.070**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-002/PS04	K1208667-002	**0.066**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-003/PS05	K1208667-003	**0.060**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-004/PS14	K1208667-004	**0.056**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-005/PS06	K1208667-005	**0.091**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-007/PS07	K1208667-006	**0.069**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-008/PS08	K1208667-007	**0.065**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-009/PS15	K1208667-008	**0.053**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-010/PS09	K1208667-009	**0.059**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-011/PS10	K1208667-010	**0.060**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-012/PS10.1	K1208667-011	**0.051**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-013/PS11	K1208667-012	**0.054**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-015/PS16	K1208667-013	**0.057**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-016/PS01	K1208667-014	**0.066**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-017/PS02	K1208667-015	**0.061**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-018/PS13	K1208667-016	**0.062**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-019/M4	K1208667-017	**0.083**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-020/BJEST	K1208667-018	**0.076**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-022/M3.1	K1208667-019	**0.060**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-023/M3.1 DEEP	K1208667-020	**0.056**	0.010	0.004	1	09/11/12	9/10/12	
AMB11-024/PS12	K1208667-021	**0.059**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-025/PS03B	K1208667-022	**0.059**	0.010	0.004	1	09/13/12	9/11/12	
AMB11DD-002/OF019	K1208667-024	**0.509**	0.010	0.004	1	09/13/12	9/11/12	
AMB11DD-003/OF018	K1208667-025	**0.137**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-100/PS03	K1208667-026	**0.071**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-101/M3.3	K1208667-027	**0.040**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-102/SN03	K1208667-028	**0.067**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-103/SN05	K1208667-029	**0.069**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-104/SN08	K1208667-030	**0.075**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-105/SN10	K1208667-031	**0.096**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-107/SN11	K1208667-032	**0.122**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-108/M2 SURF	K1208667-033	**0.063**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-109/M2 DEEP	K1208667-034	**0.058**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-110/CLMBAY	K1208667-035	**0.091**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-111/WP	K1208667-036	**0.056**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-112/ILSP	K1208667-037	**0.045**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-113/M1 SURF	K1208667-038	**0.043**	0.010	0.004	1	09/13/12	9/11/12	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11-114/M1 DEEP	K1208667-039	**0.058**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-115/BM01	K1208667-040	**0.064**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-116/M7	K1208667-041	**0.091**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-117/DYOTS	K1208667-042	**0.192**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-118/M6	K1208667-043	**0.046**	0.010	0.004	1	09/13/12	9/11/12	
AMB11-120/PS03B	K1208667-044	**0.056**	0.010	0.004	1	09/13/12	9/11/12	
Method Blank	K1208667-MB1	ND U	0.010	0.004	1	09/11/12	9/10/12	
Method Blank	K1208667-MB2	ND U	0.010	0.004	1	09/13/12	9/11/12	
Method Blank	K1208667-MB3	ND U	0.010	0.004	1	09/13/12	9/11/12	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Water	**Date Received:**	08/31/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB11DD-001/OF021	K1208667-023	**0.040**	0.010	0.004	1	09/13/12	9/11/12	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12 - 08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Duplicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB11-001/PS03	K1208667-001DUP3	0.010	0.004	0.070	0.070	0.0701	<1	20	09/11/12
AMB11-024/PS12	K1208667-021DUP4	0.010	0.004	0.059	0.061	0.0600	3	20	09/13/12
AMB11-116/M7	K1208667-041DUP5	0.010	0.004	0.091	0.090	0.0902	1	20	09/13/12

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 9/19/2012 10:06:35 AM

Superset Reference: 12-0000223271 rev 00

Client: Battelle Marine Sciences Lab
Project: ENVVEST/August 2012 (AMB11)
Sample Matrix: Ocean Water

Service Request: K1208667
Date Collected: 08/28/12
Date Received: 08/31/12
Date Analyzed: 09/11/12
Date Extracted: 09/10/12

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name: AMB11-001/PS03
Lab Code: K1208667-001
Analysis Method: 365.3
Prep Method: Method

Units: mg/L
Basis: NA

		Matrix Spike K1208667-001MS3			Duplicate Matrix Spike K1208667-001DMS3					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.070	0.441	0.500	74	0.833	1.00	76	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/28/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/13/12
		Date Extracted:	09/11/12

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB11-024/PS12	**Units:**	mg/L
Lab Code:	K1208667-021	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1208667-021MS4			Duplicate Matrix Spike K1208667-021DMS4					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.059	0.446	0.500	77	0.816	1.00	76	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Collected:**	08/29/12
Sample Matrix:	Ocean Water	**Date Received:**	08/31/12
		Date Analyzed:	09/13/12
		Date Extracted:	09/11/12

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB11-116/M7	**Units:**	mg/L
Lab Code:	K1208667-041	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1208667-041MS5			Duplicate Matrix Spike K1208667-041DMS5					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.091	0.471	0.500	76	0.846	1.00	76	60-135	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Analyzed:**	09/11/12
Sample Matrix:	Ocean Water	**Date Extracted:**	09/10/12

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	308771

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1208667-LCS1	3.26	3.41	95	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1208667
Project:	ENVVEST/August 2012 (AMB11)	**Date Analyzed:**	09/13/12
Sample Matrix:	Ocean Water	**Date Extracted:**	09/11/12

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	308879

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1208667-LCS2	3.25	3.41	95	85-115
Lab Control Sample	K1208667-LCS3	3.32	3.41	97	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	308771	KQ1210531-06	09/11/12 11:00	0.500	0.493	99	90-110
CCV2	308771	KQ1210531-07	09/11/12 11:00	0.500	0.494	99	90-110
CCV3	308771	KQ1210531-08	09/11/12 11:00	0.500	0.491	98	90-110
CCV4	308771	KQ1210531-09	09/11/12 11:00	0.500	0.496	99	90-110
CCV5	308771	KQ1210531-10	09/11/12 11:00	0.500	0.496	99	90-110
CCV6	308879	KQ1210630-06	09/13/12 11:15	0.500	0.492	98	90-110
CCV7	308879	KQ1210630-07	09/13/12 11:15	0.500	0.494	99	90-110
CCV8	308879	KQ1210630-08	09/13/12 11:15	0.500	0.492	98	90-110
CCV9	308879	KQ1210630-09	09/13/12 11:15	0.500	0.491	98	90-110
CCV10	308879	KQ1210630-10	09/13/12 11:15	0.500	0.499	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1208667
Project: ENVVEST/August 2012 (AMB11)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	308771	KQ1210531-01	09/11/12 11:00	0.010	0.004	ND	U
CCB2	308771	KQ1210531-02	09/11/12 11:00	0.010	0.004	ND	U
CCB3	308771	KQ1210531-03	09/11/12 11:00	0.010	0.004	ND	U
CCB4	308771	KQ1210531-04	09/11/12 11:00	0.010	0.004	ND	U
CCB5	308771	KQ1210531-05	09/11/12 11:00	0.010	0.004	ND	U
CCB6	308879	KQ1210630-01	09/13/12 11:15	0.010	0.004	ND	U
CCB7	308879	KQ1210630-02	09/13/12 11:15	0.010	0.004	ND	U
CCB8	308879	KQ1210630-03	09/13/12 11:15	0.010	0.004	ND	U
CCB9	308879	KQ1210630-04	09/13/12 11:15	0.010	0.004	ND	U
CCB10	308879	KQ1210630-05	09/13/12 11:15	0.010	0.004	ND	U

Water Quality Log

Sample Collector	B. Johnston; J Brandenberger; J Guerrero,	PSNS Project	ENVVEST
Sampling Team	C. Gebhart; I. Smith; T Beyerle	Ambient Monitoring:	
Organization		Instrument:	

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	ntu		S/m3	mg/L	C	m	%	g/ml	ft	ft	
SampleID	StationID	8/28/12 Date/Time	Turb	flashing steady pH ~~Cond~~		DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
PS03	PS03	09:15		46.76	37.16		14.4				5	35	troll in water 0853
PS04	PS04	09:35		46.93	37.69		14.7				13	36	
PS05	PS05	09:47		46.78	37.72		14.9				15	34	
PS14	PS14	10:02 @surface @10:10		46.74	37.60		14.8	@10:08	on Bottom		15	47	@10:03, starting profile
PS06	PS06	10:15		46.80	37.48		14.8				18	37	
PS07	PS07	10:27		46.94	37.29		14.2				15	32	
PS08	PS08	10:41		46.94	37.28		14.3				15	15	
PS15	PS15	10:51		46.60	37.59		14.9				16	45	
PS09	PS09	11:03 @surface @11:10		46.81	37.50		14.6	@Bottom	@11:07		20	21	@11:05, starting profile
PS10	PS10	11:22		46.83	37.78		14.9				17.5	27 ~~26~~	
PS10.1	PS10.1	11:34		46.75	38.02		15.2				Bottom	15	can see the bottom
PS11	PS11	11:45		46.93	38.03		15				15	25	
~~PS16~~ P7	~~PS16~~ P7	11:53		46.79	37.91		15.1				15	44	
PS16	PS16	11:59		46.88	37.84		14.9				16	41	
PS01	PS01	12:37		46.92	37.61		14.6				8	40	
PS02	PS02	12:50		46.88	37.84		14.9				12	25	great ↓ algae
PS13	PS13	13:02 @surface @13:09		46.83	37.78		14.8	@Bottom	@13:06		13	49	@13:03, start profile
M4	M4	13:14		46.53	37.95		15.3				7	32	
BJEST	BJEST	13:32		46.69	39.24		16.6				bottom	6	
BJESTDUP	BJESTDUP	13:32		46.	3		16.6				bottom	6	
M3.1	M3.1	13:50		46.93	37.42		14.4	@Bottom	@14:04		13	145	
M3.1Deep	M3.1DEEP	13:50		47.82	39.85		16.3						
PS12	PS12	14:12		47.00	37.20		14.1				11	18	
PS03B	PS03B	14:34		46.75	38.28		15.5				16	35	

Station Log

Sample Collector	B. Johnston, J. Brandenberger, J. Guerrero, C. Gebhart, I. Smith; T. Beyerle	Page 1 of 2
Sampling Team		
Organization		Bremerton Tides

Use pre-assigned id | m/dd/yy hh:mm/dd/yy hh:mm | Weather: Sunny, clear 74°F

StationID	8/28/12 Time Arrive Date/Time	8/28/12 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS03	08:57	09:27	NS	47.55603 °N	122.65162 °W	Troll in water 0853 Tug moving ship
PS04	09:35	09:44	NS	47.55449 °N	122.64764 °W	
PS05	09:47	09:56	NS	47.55596 °N	122.64510 °W	
PS14	10:02	10:13	NS	47.55247	122.64310	
PS06 DUP	10:15	10:24	NS	47.55314	122.64239	
PS07	10:27	10:34	NS	47.55586	122.64147	
PS08	10:41	10:48	NS	47.55783	122.63883	
PS15	10:51	10:58	NS	47.55584	122.63659	tug working on barrier
PS09	11:03	11:14	NS	47.56011	122.63646	
PS10	11:22	11:27	NS	47.56036	122.63281	
PS10.1	11:34	11:38	NS	47.56078	122.63076	
PS11	11:45	11:51	NS	47.56047	122.62898	
P7	11:53	11:57	NS	47.55549	122.62900	Pier 7 Stern of SAB WS side
PS16	11:59	12:07	NS	47.55883	122.62857	
PS01	12:37	12:44	NS	47.55877	122.65692	
PS02	12:50	12:57	NS	47.55402	122.65510	
PS13	13:02	13:09	NS	47.55196	122.65374	
M4	13:14	13:22	M	47.54141	122.66313	
BJEST	13:32	13:45	M	47.54165	122.62736	" " " " "
BJEST DUP	13:32	13:45	M	47.54473	122.62728	macro algae + red algae
M3.1	13:50	14:02	M	47.55808	122.61274	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Station Log

Sample Collector		Johnston		PSNS Project ENVVEST		Page 2 of 2
Sampling Team		Brandenberger		Ambient Monitoring		
Organization		Guerrero Gebhardt, Smith Beyerle				
Use pre-assigned id	8/28/12 mm/dd/yy hh:mm	mm/dd/yy hh:mm				
StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT N	LONG W	Remarks/ Comments
M3.1DEEP	13:49	14:02	M	47.55808	122.61274	7.5 meters depth
PS12	14:12	14:19	NS	47.56050	122.62830	
PS03B	14:34	14:40	NS	47.55582	122.65178	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

SAMPLE CHAIN OF CUSTODY FORM

Date: 28 Aug 12

Page: 1 of 2

COC Number: 2012-08-28AMB11

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB 11

Project Name: ENVVEST

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jill Brandenberger

Lab. Use only: Lab ID	Station ID / Sample ID	Sample Lable	Collection Date/Time	Matrix (sea water)	Testing Parameters: TME/DME	TSS/DSAL	TOC	DOC	No. of containers	StationID	Comments
	PS03	AMB11-001	09:15	NS	x	x	x	x	5		very turbid
	PS04	AMB11-002	09:35	NS	x	x	x	x	5		surface debris
	PS05	AMB11-003	09:47	NS	x	x	x	x	5		
	PS14	AMB11-004	10:02	NS	x	x	x	x	5		TOC test
	PS06	AMB11-005	10:15	NS	x	x	x	x	5		
PS0C	DUP	AMB11-006	10:15	NS	x				1		
	PS07	AMB11-007	10:27	NS	x	x	x	x	5		
	PS08	AMB11-008	10:41	NS	x	x	x	x	5		
	PS15	AMB11-009	10:51	NS	x	x	x	x	5		Boat exhaust
	PS09	AMB11-0010	11:03	NS	x	x	x	x	5		
	PS10	AMB11-0011	11:22	NS	x	x	x	x	5		
	PS10.1	AMB11-0012	11:34	NS	x	x	x	x	5		
	PS11	AMB11-0013	11:45	NS	x	x	x	x	5		
	~~PS07~~ PS7	AMB11-0014	11:53	NS	x	x		x	3		
	PS06	AMB11-0015	11:59	NS	x	x	x	x	5		

Relinquished by: _____ 8/28/12 1900
Signature Date Time

Printed Name Company

Relinquished by:
Signature Date Time

Printed Name Company

Received by:
Signature

Printed Name

Received by:
Signature

Printed Name

Total # of Containers

Shipment Method:

Shipment Method:

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/28/2012
Page: 2 of 2
COC Number: 2012-08-28 AMBII-2

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB11 pt. 2
Project Name: ENVEST
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Station ID / Sample ID	Sample Lable	Collection Date/Time	Matrix	TME / DME	TSS / OSAC	TOC	DOC	Oil & Grease					No. of containers	StationID	Comments
	PS01	AMB11-0016	12:37	NS	X	X	X	X						5		algae bloom
	PS02	AMB11-0017	12:50	NS	X	X	X	X						5		algae bloom
	PS13	AMB11-0018	13:02	NS	X	X	X	X						5		
	M4	AMB11-0019	13:14	M	X	X	X	X						5		ctenphores
	BJEST	AMB11-0020	13:32	M	X	X	X	X						5		
	BJESTDUP	AMB11-0021	13:32	M	X									1		
	M3.1	AMB11-0022	13:50	M	X	X	X	X						5		
	M3.1DEEP	AMB11-0023	13:50	M	X	X	X	X						5		
	PS12	AMB11-0024	14:12	NS	X	X	X	X						5		
	PS03B	AMB11-0025	14:34	NS	X	X	X	X						5		
	OF021	AMB11 DD-001	1100-1100 8/27/12 8/28/12	FW	X	X	X	X	X							- 24hr comp.
	OF019	" -002	1000-1000 "	NS	X	X	X	X	X							- 24hr comp
	OF018	" -003	0930-0930 "	NS	X	X	X	X	X							- 6 hr - pump rate faster than planned

Relinquished by: _____ 8/28/12 1900
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/28/2012 (logged in 8/29/12)
Batch: 27
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-001	PS03-TME	TME	PS03	3106-908	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-001	PS03-DME	DME	PS03	3106-909	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-002	PS04-TME	TME	PS04	3106-910	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-002	PS04-DME	DME	PS04	3106-911	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-003	PS05-TME	TME	PS05	3106-912	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-003	PS05-DME	DME	PS05	3106-913	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-004	PS14-TME	TME	PS14	3106-914	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-004	PS14-DME	DME	PS14	3106-915	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-005	PS06-TME	TME	PS06	3106-916	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-005	PS06-DME	DME	PS06	3106-917	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-006	PS06DUP-TME	TME	PS06DUP	3106-918	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-006	PS06DUP-DME	DME	PS06DUP	3106-919	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-007	PS07-TME	TME	PS07	3106-920	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-007	PS07-DME	DME	PS07	3106-921	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-008	PS08-TME	TME	PS08	3106-922	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-008	PS08-DME	DME	PS08	3106-923	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-009	PS15-TME	TME	PS15	3106-924	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-009	PS15-DME	DME	PS15	3106-925	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-010	PS09-TME	TME	PS09	3106-926	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-010	PS09-DME	DME	PS09	3106-927	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-011	PS10-TME	TME	PS10	3106-928	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-011	PS10-DME	DME	PS10	3106-929	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-012	PS10.1-TME	TME	PS10.1	3106-930	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-012	PS10.1-DME	DME	PS10.1	3106-931	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-013	PS11-TME	TME	PS11	3106-932	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-013	PS11-DME	DME	PS11	3106-933	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-014	P7-TME	TME	P7	3106-934	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-014	P7-DME	DME	P7	3106-935	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-015	PS16-TME	TME	PS16	3106-936	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-015	PS16-DME	DME	PS16	3106-937	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-016	PS01-TME	TME	PS01	3106-938	Seawater	PREP LAB	Total Metals, Hg	08/28/12

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/28/2012 (logged in 8/29/12)
Batch: 27
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-016	PS01-DME	DME	PS01	3106-939	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-017	PS02-TME	TME	PS02	3106-940	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-017	PS02-DME	DME	PS02	3106-941	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-018	PS13-TME	TME	PS13	3106-942	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-018	PS13-DME	DME	PS13	3106-943	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-019	M4-TME	TME	M4	3106-944	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-019	M4-DME	DME	M4	3106-945	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-020	BJEST-TME	TME	BJEST	3106-946	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-020	BJEST-DME	DME	BJEST	3106-947	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-021	BJESTDUP-TME	TME	BJESTDUP	3106-948	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-021	BJESTDUP-DME	DME	BJESTDUP	3106-949	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-022	M3.1-TME	TME	M3.1	3106-950	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-022	M3.1-DME	DME	M3.1	3106-951	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-023	M3.1 DEEP-TME	TME	M3.1 DEEP	3106-952	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-023	M3.1 DEEP-DME	DME	M3.1 DEEP	3106-953	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-024	PS12-TME	TME	PS12	3106-954	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-024	PS12-DME	DME	PS12	3106-955	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11-025	PS03B-TME	TME	PS03B	3106-956	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11-025	PS03B-DME	DME	PS03B	3106-957	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11DD-001	OF021-TME	TME	OF021	3106-958	Freshwater	PREP LAB	Total Metals, Hg	08/28/12
AMB11DD-001	OF021-DME	DME	OF021	3106-959	Freshwater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11DD-002	OF019-TME	TME	OF019	3106-960	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11DD-002	OF019-DME	DME	OF019	3106-961	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12
AMB11DD-003	OF018-TME	TME	OF018	3106-962	Seawater	PREP LAB	Total Metals, Hg	08/28/12
AMB11DD-003	OF018-DME	DME	OF018	3106-963	Seawater	PREP LAB	Dissolved Metals, Hg	08/28/12

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Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-001	PS03-TOC	TOC	PS03	3106-908	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-002	PS04-TOC	TOC	PS04	3106-910	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-003	PS05-TOC	TOC	PS05	3106-912	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-004	PS14-TOC	TOC	PS14	3106-914	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-005	PS06-TOC	TOC	PS06	3106-916	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-008	PS08-TOC	TOC	PS08	3106-922	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-009	PS15-TOC	TOC	PS15	3106-924	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-010	PS09-TOC	TOC	PS09	3106-926	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-011	PS10-TOC	TOC	PS10	3106-928	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-012	PS10.1-TOC	TOC	PS10.1	3106-930	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-013	PS11-TOC	TOC	PS11	3106-932	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-015	PS16-TOC	TOC	PS16	3106-936	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-016	PS01-TOC	TOC	PS01	3106-938	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-017	PS02-TOC	TOC	PS02	3106-940	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-018	PS13-TOC	TOC	PS13	3106-942	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-019	M4-TOC	TOC	M4	3106-944	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-020	BJEST-TOC	TOC	BJEST	3106-946	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-022	M3.1-TOC	TOC	M3.1	3106-950	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-023	M3.1 DEEP-TOC	TOC	M3.1 DEEP	3106-952	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-024	PS12-TOC	TOC	PS12	3106-954	Seawater	Walkin Freezer	TOC	08/28/12
AMB11-025	PS03B-TOC	TOC	PS03B	3106-956	Seawater	Walkin Freezer	TOC	08/28/12
AMB11DD-001	OF021-TOC	TOC	OF021	3106-958	Freshwater	Walkin Freezer	TOC	08/28/12
AMB11DD-002	OF019-TOC	TOC	OF019	3106-960	Seawater	Walkin Freezer	TOC	08/28/12
AMB11DD-003	OF018-TOC	TOC	OF018	3106-962	Seawater	Walkin Freezer	TOC	08/28/12

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-001	PS03-DOC	DOC	PS03	3106-909	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-002	PS04-DOC	DOC	PS04	3106-911	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-003	PS05-DOC	DOC	PS05	3106-913	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-004	PS14-DOC	DOC	PS14	3106-915	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-005	PS06-DOC	DOC	PS06	3106-917	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-007	PS07-DOC	DOC	PS07	3106-921	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-008	PS08-DOC	DOC	PS08	3106-923	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-009	PS15-DOC	DOC	PS15	3106-925	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-010	PS09-DOC	DOC	PS09	3106-927	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-011	PS10-DOC	DOC	PS10	3106-929	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-012	PS10.1-DOC	DOC	PS10.1	3106-931	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-013	PS11-DOC	DOC	PS11	3106-933	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-014	P7-DOC	DOC	P7	3106-935	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-015	PS16-DOC	DOC	PS16	3106-937	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-016	PS01-DOC	DOC	PS01	3106-939	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-017	PS02-DOC	DOC	PS02	3106-941	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-018	PS13-DOC	DOC	PS13	3106-943	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-019	M4-DOC	DOC	M4	3106-945	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-020	BJEST-DOC	DOC	BJEST	3106-947	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-022	M3.1-DOC	DOC	M3.1	3106-951	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-023	M3.1 DEEP-DOC	DOC	M3.1 DEEP	3106-953	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-024	PS12-DOC	DOC	PS12	3106-955	Seawater	Walkin Freezer	DOC	08/28/12
AMB11-025	PS03B-DOC	DOC	PS03B	3106-957	Seawater	Walkin Freezer	DOC	08/28/12
AMB11DD-001	OF021-DOC	DOC	OF021	3106-959	Freshwater	Walkin Freezer	DOC	08/28/12
AMB11DD-002	OF019-DOC	DOC	OF019	3106-961	Seawater	Walkin Freezer	DOC	08/28/12
AMB11DD-003	OF018-DOC	DOC	OF018	3106-963	Seawater	Walkin Freezer	DOC	08/28/12

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/28/2012 (logged in 8/29/12)
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Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-908	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-910	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-912	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-914	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-005	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-916	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-007	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-920	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-008	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-922	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-009	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-924	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-010	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-926	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-928	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-930	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-013	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-932	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-014	P7-TSS/OSAL	TSS/OSAL	P7	3106-934	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-015	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-936	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-016	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-938	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-017	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-940	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-018	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-942	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-019	M4-TSS/OSAL	TSS/OSAL	M4	3106-944	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-020	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-946	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-022	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-950	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-023	M3.1 DEEP-TSS/OSAL	TSS/OSAL	M3.1 DEEP	3106-952	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-024	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-954	Seawater	MSL	TSS/OSAL	08/28/12
AMB11-025	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-956	Seawater	MSL	TSS/OSAL	08/28/12
AMB11DD-001	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-958	Freshwater	MSL	TSS/OSAL	08/28/12
AMB11DD-002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-960	Seawater	MSL	TSS/OSAL	08/28/12
AMB11DD-003	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-962	Seawater	MSL	TSS/OSAL	08/28/12

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 908-963 Batch: AMB11-DAP1 (27)

Project Name: AmB11 Project Manager: JMG

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater / high water WP# _____

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples:	Amount: Entire sample Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☑	☐	Special instructions:	ship nutrients & oil and grease to CAS

Sample Preservation Instructions: see QAPP

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) coolers all 4±2 °C
			(if multiple coolers, note temp. of each) _____ °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
			Comment/Remedy: _____
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: Coolers stored in cold room until filtering 8/29/12 JG

Completed By: _____ Date/Time: 8/28/12 1700

D:6 to CAS 8/29/12 JG

Fax to 1-888-321-2850

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)			
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:		
☐	Complete pH check required for project (use pH meter and record on pH Record form)			
☐	Sample(s) were preserved at MSL			
Type: ☑	0.2% HNO3 Metals	Notes:		Lot#
☐	0.5% HCl (Hg samples)	Notes:		Lot#
☑	Refrigerate/Freeze TOC/DOC	Notes:		
☐	Other TSS/SPM	Notes:		

Completed By: C. Sullivan Date/Time: 8/30/12 by KPL (acid to meters)

Storage Shelf: UoD:C (mat) JG

PROJECT ENVVEST															
Project Name: AUGUST 2012 Ambient Monitoring (AMB11)															
SAMPLE TEAM:		Navy, Battelle													
DATE:	8/29/2012														
Laboratory:	Columbia Analytical														

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB11DD-001	OF021	8/28/12 11:00	Freshwater						X			1	
AMB11DD-002	OF019	8/28/12 10:00	Seawater						X			1	
AMB11DD-003	OF018	8/28/12 9:30	Seawater						X			1	
--end--													
											Total:	3	

Relinquished By:	Company:	Battelle MSL	
C. Suslick		8/29/2012	shipped via Fedex 8/29/12, CS
Signature/Printed Name		Date/Time	
Received By:	Company:		
Signature/Printed Name		Date/Time	

SOP#: MSL-A-001

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/29/2012
Page: 1 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB11
Project Name: ENVVEST
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Lab. Use only: Lab ID	Station ID ~~Sample ID~~	Sample Lable (AMB11-)	Collection Date/Time (8/29/12)	Matrix	Testing Parameters: TME/DME	TSS/OSAC	NUT	TOC	DOC	No. of containers	StationID	Comments
	PS03	AMB11-100	0835	SEA	✓	✓	✓	✓	✓	5	PS03	no fvg
	M3.3	AMB11-101	0904	SEA	✓	✓	✓	✓	✓	1	M3.3	
	SN03	AMB11-102	0916	SEA	✓	✓	✓	✓	✓		SN03	algae
	SN05	AMB11-103	0930	SEA	✓	✓	✓	✓	✓		SN05	
	SN08	104	0940	SEA	✓	✓	✓	✓	✓		SN08	
	SN10	105	0953	SEA	✓	✓	✓	✓	✓	2	SN10	only one TSS
	SN10 dup	106	0953	SEA	✓					1	SN10	
	SN11	107	1007	SEA	✓	✓	✓	✓	✓	6	SN11	
	~~CLMBAY~~	~~108~~									~~CLMBAY~~	
	M2 surface	108	1038	SEA	✓	✓	✓	✓	✓		M2surface	
	M2 deep	109	1050	SEA	✓	✓	✓	✓	✓		M2 deep	
	CLMBAY	110	1110	SEA	✓	✓	✓	✓	✓		CLMBAY	
	WP	111	1125	SEA	✓	✓	✓	✓	✓		WP	
	ILSP	112	1150	SEA	✓	✓	✓	✓	✓		ILSP	
	M1 surface	113	1205	SEA	✓	✓	✓	✓	✓		M1 surface	

Relinquished by: _____ 8/29/12 1730
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/29/2012
Page: 2 of 2
COC Number: 2012_08_29AMB11

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Station ID ~~Sample ID~~	AMB11a Sample Lable	8/29/12 Collection Date/Time	Matrix	TME/OME	TSS/OSAL	NUT	TOC	DOC				No. of containers	StationID	Comments
	M1 deep	114	1205	SEA	/	/	/	/	/				5	M1deep	
	BM 01	115	1323	SEA	/	/	/	/	/				1	BM01	
	M7	116	1345	SEA	/	/	/	/	/				1	M7	
	DYOTS	117	1358	SEA	/	/	/	/	/				1	DYOTS	
	M6	118	1417	SEA	/	/	/	/	/				1	M6	
	M6 dup	119	1417	SEA	/								1	M6 dup	
	PS03 B	120	1457	SEA	/	/	/	/	/				5	PS03 B	

Relinquished by: _____ 8/29/12 1730
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Water Quality Log

Sample Collector		B. Johnston, J Brandenberger, C Gebhart						PSNS Project ENVVEST	
Sampling Team		M. Imhoff, T Beyerle						Ambient Monitoring	
Organization				AMB11 Day 2				Instrument:	
Use pre-assigned id	Use allowable code only	08/29/12 mm/dd/yy hh:mm							
AMB1102- SampleID	Station Code	Date/Time	(°C) Temp	F Cond ~~pH~~	S. Cond	(NTU) Turbidity	Secchi ~~DO~~	Depth	Remarks/ Comments
PS03	PS03	0835	15.1	46.83	37.96	0.87	16	35.3	
	PS04B1	0848							troll in water
M3.3	M3.3	0904	14.6	47.02	37.64	0.69	12	39.0	troll in
SN03	SN03	0916	14.3	46.99	37.40	1.65	bottom	7.7	
SN05	SN05	0930	14.6	46.93	37.55	2.35	9	15.0	
SN08	SN08	0940	14.7	47.07	37.77	2.70	6	16.0	murky
SN 10	SN 10	0953	14.8	47.04	37.9	2.11	5	15.0	surface debris algae
SN 11	SN 4	1007	14.9	47.04	37.99	2.44	4.5	14.7	algae
M2 ~~CLMBAY~~	M2 ~~CLMBAY~~	1038	13.5	47.47	37.10	0.16	17	41.5	F.Cond 1050 - 123.2 S.Cond 1050 - 102.0
M2 deep	M2 deep	1050	14.1	47.73	37.77	0.71			
CLMBAY	CLMBAY	1110	13.5	47.39	36.97	0.71	bottom	3.0	
WP	WP	1125	14.7	47.15	37.88	1.30	11	25.0	ferry went by
ILSP	ILSP	1150	15.2	47.10	38.28	0.74	12	35.0	
M1	M1	1205	15.4	47.10	38.50	0.56	7	114	troll tower 1210
M1 deep	M1 deep	1205	15.1	46.95	37.91	0.73			
BM01	BM01	1323	14.4	47.20	37.59	0.79	12	26.4	
M7	M7	1345	16.6	46.80	39.29	1.24	5	79.5	
DYOTS	DYOTS	1358	17.2	46.62	39.67	2.63	3	15.8	
M6	M6	1417	16.6	46.75	39.25	1.43	7	31.4	
PS03B	PS03	1457	15.6	46.67	38.33	0.63	12	38.0	

Station Log

Sample Collector	B Johnston, J Brandenberger	PSNS Project ENVVEST		Page 1 of 1
Sampling Team	C. Gebhart, M. Imhoff, T Beyerle,	Ambient Monitoring	AMB11 Day 2	2012_08_29AMB11
Organization				Bremerton Tides
Use pre-assigned id	m/dd/yy hh:mm	m/dd/yy hh:mm	weather Overcast, warm ~ 68° F	

AMB11D2- StationID	08/29/12 Time Arrive Date/Time	08/29/12 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	troll in + out = arrive + leave Remarks/ Comments
PS03	0825	0838*	NS	47.55581	122.65177	no tug operations no visible sheen
PS04.1	0848	0858	NS	47.55295	122.64629	btm PC & barrier Trolling
M3.3	0904	0911	M	47.54929	122.64245	troll in/out = arrive/leave
SN03	0916	0924	NS	47.54689	122.67133	algal bloom
SN05	0930	0934	NS	47.53373	122.68152	fish jumping, jellyfish, net in water
SN08	0940	0944	NS	47.54084	122.66156	
SN 10	0953	0958*	NS	47.54092	122.64282	
SN 11	1007	1013	NS	47.54363	122.63525	
~~ELMBAY~~ M2	1038	1057*	M	47.58590	122.53919	Troll Dropped 1052 ferry went by
M2 deep	1050	1057*	M	47.59553	122.55003	49.9 m deep
CLMBAY	1110	1115	NS	47.57209	122.54719	eelgrass
WP	1125	1132	NS	47.58366	122.57152	
ILSP	1150	1155	NS	47.60038	122.59406	
M1 surface	1205	1220	M	47.63059	122.58442	
M1 deep	1205	1220	M			
BM 01	1323	1328	NS	47.56465	122.62053	exhaust from yacht
M7	1345	1351	M	47.62480	122.68738	algae
DYOTS	1358	1401	NS	47.64188	122.69392	algae
M6	1417	1425	M	47.60064	122.68077	sunny :)
PS03	1457	1504	NS	47.55574	122.65179	

* estimate

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

NBK Bremerton Marine Mammal Tally Sheet	
Date	08/29/2012
Observers	Johnston, Gebhart, Brandenberger, Imhoff
Weather	overcast, cool
Observations	Note number and species present

0934 station SW03 1 harbor seal swimming
0938 M4 2 harbor seals swimming
1442 sea lions on security barrier between pier 7 + 5
26, 29, 28, 30

Notes:
Salmon jumping at head of Inlet in Gorst
Fishermen & Gill nets present.

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/29/2012 (logged in 8/30/12)
Batch: 28
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-100	PS03-TME	TME	PS03	3106-964	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-100	PS03-DME	DME	PS03	3106-965	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-101	M3.3-TME	TME	M3.3	3106-966	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-101	M3.3-DME	DME	M3.3	3106-967	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-102	SN03-TME	TME	SN03	3106-968	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-102	SN03-DME	DME	SN03	3106-969	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-103	SN05-TME	TME	SN05	3106-970	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-103	SN05-DME	DME	SN05	3106-971	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-104	SN08-TME	TME	SN08	3106-972	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-104	SN08-DME	DME	SN08	3106-973	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-105	SN10-TME	TME	SN10	3106-974	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-105	SN10-DME	DME	SN10	3106-975	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-106	SN10DUP-TME	TME	SN10DUP	3106-976	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-106	SN10DUP-DME	DME	SN10DUP	3106-977	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-107	SN11-TME	TME	SN11	3106-978	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-107	SN11-DME	DME	SN11	3106-979	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-108	M2 SURF-TME	TME	M2 SURF	3106-980	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-108	M2 SURF-DME	DME	M2 SURF	3106-981	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-109	M2 DEEP-TME	TME	M2 DEEP	3106-982	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-109	M2 DEEP-DME	DME	M2 DEEP	3106-983	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-110	CLMBAY-TME	TME	CLMBAY	3106-984	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-110	CLMBAY-DME	DME	CLMBAY	3106-985	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-111	WP-TME	TME	WP	3106-986	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-111	WP-DME	DME	WP	3106-987	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-112	ILSP-TME	TME	ILSP	3106-988	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-112	ILSP-DME	DME	ILSP	3106-989	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-113	M1 SURF-TME	TME	M1 SURF	3106-990	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-113	M1 SURF-DME	DME	M1 SURF	3106-991	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-114	M1 DEEP-TME	TME	M1 DEEP	3106-992	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-114	M1 DEEP-DME	DME	M1 DEEP	3106-993	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-115	BM01-TME	TME	BM01	3106-994	Seawater	PREP LAB	Total Metals, Hg	08/29/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/29/2012 (logged in 8/30/12)
Batch: 28
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-115	BM01-DME	DME	BM01	3106-995	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-116	M7-TME	TME	M7	3106-996	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-116	M7-DME	DME	M7	3106-997	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-117	DYOTS-TME	TME	DYOTS	3106-998	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-117	DYOTS-DME	DME	DYOTS	3106-999	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-118	M6-TME	TME	M6	3106-1000	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-118	M6-DME	DME	M6	3106-1001	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-119	M6 DUP-TME	TME	M6 DUP	3106-1002	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-119	M6 DUP-DME	DME	M6 DUP	3106-1003	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12
AMB11-120	PS03B-TME	TME	PS03B	3106-1004	Seawater	PREP LAB	Total Metals, Hg	08/29/12
AMB11-120	PS03B-DME	DME	PS03B	3106-1005	Seawater	PREP LAB	Dissolved Metals, Hg	08/29/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/29/2012 (logged in 8/30/12)
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Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-100	PS03-TOC	TOC	PS03	3106-964	Seawater	MSL	TOC	08/29/12
AMB11-101	M3.3-TOC	TOC	M3.3	3106-966	Seawater	MSL	TOC	08/29/12
AMB11-102	SN03-TOC	TOC	SN03	3106-968	Seawater	MSL	TOC	08/29/12
AMB11-103	SN05-TOC	TOC	SN05	3106-970	Seawater	MSL	TOC	08/29/12
AMB11-104	SN08-TOC	TOC	SN08	3106-972	Seawater	MSL	TOC	08/29/12
AMB11-105	SN10-TOC	TOC	SN10	3106-974	Seawater	MSL	TOC	08/29/12
AMB11-107	SN11-TOC	TOC	SN11	3106-978	Seawater	MSL	TOC	08/29/12
AMB11-108	M2 SURF-TOC	TOC	M2 SURF	3106-980	Seawater	MSL	TOC	08/29/12
AMB11-109	M2 DEEP-TOC	TOC	M2 DEEP	3106-982	Seawater	MSL	TOC	08/29/12
AMB11-110	CLMBAY-TOC	TOC	CLMBAY	3106-984	Seawater	MSL	TOC	08/29/12
AMB11-111	WP-TOC	TOC	WP	3106-986	Seawater	MSL	TOC	08/29/12
AMB11-112	ILSP-TOC	TOC	ILSP	3106-988	Seawater	MSL	TOC	08/29/12
AMB11-113	M1 SURF-TOC	TOC	M1 SURF	3106-990	Seawater	MSL	TOC	08/29/12
AMB11-114	M1 DEEP-TOC	TOC	M1 DEEP	3106-992	Seawater	MSL	TOC	08/29/12
AMB11-115	BM01-TOC	TOC	BM01	3106-994	Seawater	MSL	TOC	08/29/12
AMB11-116	M7-TOC	TOC	M7	3106-996	Seawater	MSL	TOC	08/29/12
AMB11-117	DYOTS-TOC	TOC	DYOTS	3106-998	Seawater	MSL	TOC	08/29/12
AMB11-118	M6-TOC	TOC	M6	3106-1000	Seawater	MSL	TOC	08/29/12
AMB11-120	PS03B-TOC	TOC	PS03B	3106-1004	Seawater	MSL	TOC	08/29/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/29/2012 (logged in 8/30/12)
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Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-100	PS03-DOC	DOC	PS03	3106-965	Seawater	MSL	DOC	08/29/12
AMB11-101	M3.3-DOC	DOC	M3.3	3106-967	Seawater	MSL	DOC	08/29/12
AMB11-102	SN03-DOC	DOC	SN03	3106-969	Seawater	MSL	DOC	08/29/12
AMB11-103	SN05-DOC	DOC	SN05	3106-971	Seawater	MSL	DOC	08/29/12
AMB11-104	SN08-DOC	DOC	SN08	3106-973	Seawater	MSL	DOC	08/29/12
AMB11-105	SN10-DOC	DOC	SN10	3106-975	Seawater	MSL	DOC	08/29/12
AMB11-107	SN11-DOC	DOC	SN11	3106-979	Seawater	MSL	DOC	08/29/12
AMB11-108	M2 SURF-DOC	DOC	M2 SURF	3106-981	Seawater	MSL	DOC	08/29/12
AMB11-109	M2 DEEP-DOC	DOC	M2 DEEP	3106-983	Seawater	MSL	DOC	08/29/12
AMB11-110	CLMBAY-DOC	DOC	CLMBAY	3106-985	Seawater	MSL	DOC	08/29/12
AMB11-111	WP-DOC	DOC	WP	3106-987	Seawater	MSL	DOC	08/29/12
AMB11-112	ILSP-DOC	DOC	ILSP	3106-989	Seawater	MSL	DOC	08/29/12
AMB11-113	M1 SURF-DOC	DOC	M1 SURF	3106-991	Seawater	MSL	DOC	08/29/12
AMB11-114	M1 DEEP-DOC	DOC	M1 DEEP	3106-993	Seawater	MSL	DOC	08/29/12
AMB11-115	BM01-DOC	DOC	BM01	3106-995	Seawater	MSL	DOC	08/29/12
AMB11-116	M7-DOC	DOC	M7	3106-997	Seawater	MSL	DOC	08/29/12
AMB11-117	DYOTS-DOC	DOC	DYOTS	3106-999	Seawater	MSL	DOC	08/29/12
AMB11-118	M6-DOC	DOC	M6	3106-1001	Seawater	MSL	DOC	08/29/12
AMB11-120	PS03B-DOC	DOC	PS03B	3106-1005	Seawater	MSL	DOC	08/29/12

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/29/2012 (logged in 8/30/12)
Batch: 28
Login Designee: Suslick

Project: **ENVVEST Ambient Monitoring, AUGUST 2012 (AMB11)**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB11-100	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-964	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-101	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-966	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-102	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-968	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-103	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-970	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-104	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-972	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-105	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-974	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-107	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-978	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-108	M2 SURF-TSS/OSAL	TSS/OSAL	M2 SURF	3106-980	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-109	M2 DEEP-TSS/OSAL	TSS/OSAL	M2 DEEP	3106-982	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-110	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-984	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-111	WP-TSS/OSAL	TSS/OSAL	WP	3106-986	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-112	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-988	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-113	M1 SURF-TSS/OSAL	TSS/OSAL	M1 SURF	3106-990	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-114	M1 DEEP-TSS/OSAL	TSS/OSAL	M1 DEEP	3106-992	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-115	BM01-TSS/OSAL	TSS/OSAL	BM01	3106-994	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-116	M7-TSS/OSAL	TSS/OSAL	M7	3106-996	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-117	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-998	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-118	M6-TSS/OSAL	TSS/OSAL	M6	3106-1000	Seawater	MSL	TSS/OSAL	08/29/12
AMB11-120	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-1004	Seawater	MSL	TSS/OSAL	08/29/12

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 944-1005 Batch: 28

Project Name: AMB 11 Day 2 Project Manager: JMG

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
	✓	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

✓		Filter Samples: Amount: Entire sample (Half of sample)
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
✓		Special instructions: ship nutrients to CAS

Sample Preservation Instructions: freeze DOC/TDC & refrig metals/TSS

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
✓			Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) 5 cooler °C cell 4±2°C
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes:

Completed By: Date/Time: 8/29/12 1730

SAMPLE PRESERVATION

		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
		Complete pH check required for project (use pH meter and record on pH Record form)		
✓		Sample(s) were preserved at MSL		
Type:	✓	0.2% HNO3 Metals	Notes:	Lot#
		0.5% HCl (Hg samples)	Notes:	Lot#
	✓	Refrigerate/Freeze (TSS OSPW) (TOC DOC)	Notes:	
		Other	Notes:	

Completed By: Date/Time: 8/30/12 KJL to preserve Metals

Storage Shelf: Metals = Prep Lab

PROJECT ENVVEST																
Project Name: AUGUST 2012 Ambient Monitoring (AMB11)								**CHAIN OF CUSTODY FORM**								
SAMPLE TEAM:		Navy, Battelle														
DATE:	8/30/2012															
Laboratory:	Columbia Analytical							Testing Parameters per QAPP								
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	**COMMENTS**			
AMB11-001	PS03	8/28/12 0:00	Seawater				X					1				
AMB11-002	PS04	8/28/12 0:00	Seawater				X					1				
AMB11-003	PS05	8/28/12 0:00	Seawater				X					1				
AMB11-004	PS14	8/28/12 0:00	Seawater				X					1				
AMB11-005	PS06	8/28/12 0:00	Seawater				X					1				
AMB11-007	PS07	8/28/12 0:00	Seawater				X					1				
AMB11-008	PS08	8/28/12 0:00	Seawater				X					1				
AMB11-009	PS15	8/28/12 0:00	Seawater				X					1				
AMB11-010	PS09	8/28/12 0:00	Seawater				X					1				
AMB11-011	PS10	8/28/12 0:00	Seawater				X					1				
AMB11-012	PS10.1	8/28/12 0:00	Seawater				X					1				
AMB11-013	PS11	8/28/12 0:00	Seawater				X					1				
AMB11-015	PS16	8/28/12 0:00	Seawater				X					1				
AMB11-016	PS01	8/28/12 0:00	Seawater				X					1				
AMB11-017	PS02	8/28/12 0:00	Seawater				X					1				
AMB11-018	PS13	8/28/12 0:00	Seawater				X					1				
AMB11-019	M4	8/28/12 0:00	Seawater				X					1				
AMB11-020	BJEST	8/28/12 0:00	Seawater				X					1				
AMB11-022	M3.1	8/28/12 0:00	Seawater				X					1				
AMB11-023	M3.1 DEEP	8/28/12 0:00	Seawater				X					1				
AMB11-024	PS12	8/28/12 0:00	Seawater				X					1				
AMB11-025	PS03B	8/28/12 0:00	Seawater				X					1				
AMB11DD-001	OF021	8/28/12 0:00	Freshwater				X					1				
AMB11DD-002	OF019	8/28/12 0:00	Seawater				X					1				
AMB11DD-003	OF018	8/28/12 0:00	Seawater				X					1				
AMB11-100	PS03	8/29/12 0:00	Seawater				X					1				

SOP#: MSL-A-001

| PROJECT ENVVEST | | |

PROJECT ENVVEST

Project Name: AUGUST 2012 Ambient Monitoring (AMB11)

SAMPLE TEAM: Navy, Battelle

DATE: 8/29/2012

Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB11DD-001	OF021	8/28/12 11:00	Freshwater					X				1	
AMB11DD-002	OF019	8/28/12 10:00	Seawater					X				1	
AMB11DD-003	OF018	8/28/12 9:30	Seawater					X				1	
--end--													
											Total:	3	

Relinquished By: C. Suslick — Company: Battelle MSL — 8/29/2012 — Date/Time

Signature/Printed Name

shipped via Fedex 8/29/12, CS

Received By: Elluyne Wick / Elluyne Wick — Company: ALS — 8/30/12 9:20 — Date/Time

Signature/Printed Name

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SOP#: MSL-A-001

K1208102

PROJECT ENVVEST																	
Project Name: AUGUST 2012 Ambient Monitoring (AMB11)																	
SAMPLE TEAM:		Navy, Battelle															
DATE:	8/29/2012																
Laboratory:	Columbia Analytical																

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB11DD-001	OF021	8/28/12 11:00	Freshwater						X			1	
AMB11DD-002	OF019	8/28/12 10:00	Seawater						X			1	
AMB11DD-003	OF018	8/28/12 9:30	Seawater						X			1	
--end--											Total:	3	

Relinquished By:		Company:	Battelle MSL	
C. Suslick			8/29/2012	shipped via Fedex 8/29/12, CS
Signature/Printed Name			Date/Time	
Received By:	Sam	Company:	ALS	
Signature/Printed Name	Sam F	8/30/12	0920 Date/Time	

PC H7

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K12* 08002

Received: 8/30/12 Opened: 8/30/12 By: EW Unloaded: 8/30/12 By: EW

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number	NA	Filed
-0.8	←	317		798852112850		

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* packing paper EW
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y EW N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: Client did not mark appropriate analysis on COC. Rec'd oil and grease bottles, not DOC bottles.

PROJECT ENVVEST																	
Project Name: AUGUST 2012 Ambient Monitoring (AMB11)				**CHAIN OF CUSTODY FORM**													
SAMPLE TEAM:	Navy, Battelle																
DATE:	8/30/2012																
Laboratory:	Columbia Analytical			Testing Parameters per QAPP													
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	**COMMENTS**				
AMB11-001	PS03	8/28/12 0:00	Seawater				X					1					
AMB11-002	PS04	8/28/12 0:00	Seawater				X					1					
AMB11-003	PS05	8/28/12 0:00	Seawater				X					1					
AMB11-004	PS14	8/28/12 0:00	Seawater				X					1					
AMB11-005	PS06	8/28/12 0:00	Seawater				X					1					
AMB11-007	PS07	8/28/12 0:00	Seawater				X					1					
AMB11-008	PS08	8/28/12 0:00	Seawater				X					1					
AMB11-009	PS15	8/28/12 0:00	Seawater				X					1					
AMB11-010	PS09	8/28/12 0:00	Seawater				X					1					
AMB11-011	PS10	8/28/12 0:00	Seawater				X					1					
AMB11-012	PS10.1	8/28/12 0:00	Seawater				X					1					
AMB11-013	PS11	8/28/12 0:00	Seawater				X					1					
AMB11-015	PS16	8/28/12 0:00	Seawater				X					1					
AMB11-016	PS01	8/28/12 0:00	Seawater				X					1					
AMB11-017	PS02	8/28/12 0:00	Seawater				X					1					
AMB11-018	PS13	8/28/12 0:00	Seawater				X					1					
AMB11-019	M4	8/28/12 0:00	Seawater				X					1					
AMB11-020	BJEST	8/28/12 0:00	Seawater				X					1					
AMB11-022	M3.1	8/28/12 0:00	Seawater				X					1					
AMB11-023	M3.1 DEEP	8/28/12 0:00	Seawater				X					1					
AMB11-024	PS12	8/28/12 0:00	Seawater				X					1					
AMB11-025	PS03B	8/28/12 0:00	Seawater				X					1					
AMB11DD-001	OF021	8/28/12 0:00	Freshwater				X					1					
AMB11DD-002	OF019	8/28/12 0:00	Seawater				X					1					
AMB11DD-003	OF018	8/28/12 0:00	Seawater				X					1					
AMB11-100	PS03	8/29/12 0:00	Seawater				X					1					

h1208d07

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SOP#: MSL-A-001

K1208067

| PROJECT ENVVEST | | |

PC H2

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K12 8d67

Received: 8/31/12 Opened: 8/31/12 By: XO Unloaded: 8/31/12 By: XO

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.6		302		7988 6607 9383	
-.2		274		7988 6607 8994	
-.3		208		~~7988 6607 8~~ 7988 6607 8836	
.1		295		7988 6607 9203	

7. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* hard pack ice
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring February 2013 (AMB12), CuTox, and Mussel Watch

Seawater and Freshwater Chemistry

Battelle Project No. 54220
CF No. 3106, 3318, 3356

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 12,
CuTox Waters, Mussel Watch Waters
Seawater, Freshwater Chemistry

Chemistry Analysis of Metals in Site Water

Field Data Summary Report 3
QA/QC Summary Reports 9
QA/QC Narrative 29

Narrative, Batch K1301341 34
Summary Report, Batch K1301341 35

Narrative, Batch K1301389 38
Summary Report, Batch K1301389 39

Sample Custody Information

Sample Collection, 021213 66
Sample Collection, 021313 76
Equipment Blanks, 021913 86

Chain of Custody, Batch K1301341 87
Chain of Custody, Batch K1301389 90

Mussel Watch Waters Chain of Custody 93
CuTox Waters Chain of Custody 97

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB12, CuTox, and Mussel Watch
ENVVEST February 2013
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	TOC/DOC	TOC/DOC	Hg	Al	Cu	Pb	Zn
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.49**	**0.030**	**2.5**	**0.100**	**2.14**	**0.0351**	**0.0019**	**0.0263**
Seawater Reporting Limit (MDL* 3.18)								**0.095**	**8.0**	**0.320**	**6.8**	**0.11**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	0.100	0.2	0.0053	0.0022	0.02
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	0.320	0.6	0.017	0.0070	0.06
AMB12														
AMB12-001	PS03	TME	Seawater	**3106-1006**	02/12/13	28.4	0.60	0.987	82.3	3.79	6.37 bJ	2.70 b	0.0576 b	6.72 b
AMB12-001	PS03	DME	Seawater	**3106-1007**	02/12/13			0.923	76.9	1.77	2.14 bU	2.27 b	0.0145 b	6.47 b
AMB12-002	PS04	TME	Seawater	**3106-1008**	02/12/13	28.5	0.40 U	0.965	80.4	0.781	10.5 b	1.87 b	0.0555 b	7.29 b
AMB12-002	PS04	DME	Seawater	**3106-1009**	02/12/13			0.912	76.0	0.278 J	2.14 bU	1.49 b	0.0101 b	7.19 b
AMB12-003	PS05	TME	Seawater	**3106-1010**	02/12/13	28.7	0.80	1.03	86.2	0.781	14.5 b	2.78 b	0.0745 b	7.40 b
AMB12-003	PS05	DME	Seawater	**3106-1011**	02/12/13			0.930	77.5	0.240 J	2.14 bU	2.24 b	0.0117 b	7.44 b
AMB12-004	PS14	TME	Seawater	**3106-1012**	02/12/13	28.7	0.30 U	0.941	78.4	0.788	20.1 b	1.84 b	0.0797 b	4.66 b
AMB12-004	PS14	DME	Seawater	**3106-1013**	02/12/13			0.845	70.4	0.208 J	2.14 bU	1.46 b	0.00841 b	4.57 b
AMB12-005	PS06	TME	Seawater	**3106-1014**	02/12/13	27.1	1.48	0.912	76.0	2.54	42.2 b	3.49 b	0.181 b	11.5 b
AMB12-005	PS06	DME	Seawater	**3106-1015**	02/12/13			0.915	76.2	0.779	2.14 bU	1.58 b	0.0101 b	9.80 b
AMB12-006	PS07	TME	Seawater	**3106-1016**	02/12/13	28.2	0.64	0.967	80.6	0.800	16.0 b	1.24 b	0.0713 b	3.73 b
AMB12-006	PS07	DME	Seawater	**3106-1017**	02/12/13			0.984	82.0	0.299 J	2.14 bU	0.923 b	0.00922 b	3.62 b
AMB12-007	PS08	TME	Seawater	**3106-1018**	02/12/13	28.5	0.61	0.976	81.3	0.536	13.6 b	2.11 b	0.0508 b	4.78 b
AMB12-007	PS08	DME	Seawater	**3106-1019**	02/12/13			0.958	79.8	0.237 J	2.14 bU	1.92 b	0.00682 b	5.25 b
AMB12-008	PS08DUP	TME	Seawater	**3106-1020**	02/12/13	--	--	--	--	0.564	13.6 b	2.15 b	0.0531 b	4.50 b
AMB12-008	PS08DUP	DME	Seawater	**3106-1021**	02/12/13	--	--	--	--	0.227 J	2.14 bU	1.89 b	0.00803 b	4.88 b
AMB12-009	PS15	TME	Seawater	**3106-1022**	02/12/13	28.8	0.51	0.922	76.8	0.770	22.4 b	1.07 b	0.0785 b	3.10 b
AMB12-009	PS15	DME	Seawater	**3106-1023**	02/12/13			0.939	78.2	0.192 J	2.14 bU	0.781 b	0.00775 b	2.96 b
AMB12-010	PS09	TME	Seawater	**3106-1024**	02/12/13	28.7	0.41 U	0.928	77.4	0.536	8.28 b	3.86 b	0.0480 b	25.9 b
AMB12-010	PS09	DME	Seawater	**3106-1025**	02/12/13			0.958	79.8	0.243 J	2.14 bU	3.13 b	0.00786 b	24.7 b
AMB12-011	PS10	TME	Seawater	**3106-1026**	02/12/13	28.7	0.60	0.941	78.4	0.642	12.4 b	1.80 b	0.0547 b	5.21 b
AMB12-011	PS10	DME	Seawater	**3106-1027**	02/12/13			0.850	70.8	0.235 J	2.14 bU	1.45 b	0.00660 b	5.18 b
AMB12-012	PS10.1	TME	Seawater	**3106-1028**	02/12/13	28.5	0.49 U	0.976	81.3	0.574	11.7 b	2.20 b	0.0688 b	5.86 b
AMB12-012	PS10.1	DME	Seawater	**3106-1029**	02/12/13			0.937	78.1	0.213 J	2.14 bU	1.78 b	0.0101 b	5.86 b
AMB12-013	PS11	TME	Seawater	**3106-1030**	02/12/13	28.7	1.12	0.985	82.1	0.904	22.6 b	1.24 b	0.116 b	4.16 b
AMB12-013	PS11	DME	Seawater	**3106-1031**	02/12/13			0.848	70.7	0.173 J	2.14 bU	0.930 b	0.0120 b	4.03 b
AMB12-014	PS16	TME	Seawater	**3106-1032**	02/12/13	28.8	1.10	0.926	77.1	0.682	17.4 b	1.14 b	0.0606 b	3.04 b
AMB12-014	PS16	DME	Seawater	**3106-1033**	02/12/13			0.865	72.0	0.188 J	2.14 bU	0.902 b	0.00576 b	3.09 b
AMB12-015	PS01	TME	Seawater	**3106-1034**	02/12/13	28.2	0.73	0.977	81.4	0.376	14.6 b	1.52 b	0.0854 b	4.07 b
AMB12-015	PS01	DME	Seawater	**3106-1035**	02/12/13			0.901	75.1	0.134 J	2.14 bU	1.20 b	0.0155 b	4.14 b
AMB12-016	PS02	TME	Seawater	**3106-1036**	02/12/13	28.2	0.71	0.951	79.2	0.936	13.6 b	1.67 b	0.0794 b	4.62 b
AMB12-016	PS02	DME	Seawater	**3106-1037**	02/12/13			0.925	77.1	0.348	2.14 bU	1.30 b	0.0127 b	4.69 b
AMB12-017	PS13	TME	Seawater	**3106-1038**	02/12/13	28.3	0.52	0.959	79.9	0.713	12.2 b	2.31 b	0.0743 b	7.56 b
AMB12-017	PS13	DME	Seawater	**3106-1039**	02/12/13			0.936	78.0	0.235 J	2.14 bU	2.03 b	0.0124 b	7.58 b
AMB12-018	M4	TME	Seawater	**3106-1040**	02/12/13	27.7	1.33	0.939	78.2	0.795	21.8 b	1.03 b	0.0853 b	2.57 b
AMB12-018	M4	DME	Seawater	**3106-1041**	02/12/13			0.889	74.1	0.180 J	2.14 bU	0.833 b	0.00722 b	2.60 b
AMB12-019	BJEST	TME	Seawater	**3106-1042**	02/12/13	28.1	0.58	0.978	81.5	0.576	16.5 b	0.970 b	0.0668 b	2.55 b
AMB12-019	BJEST	DME	Seawater	**3106-1043**	02/12/13			0.934	77.8	0.192 J	2.14 bU	0.753 b	0.00592 b	2.46 b

BATTELLE MARINE SCIENCE LABORATORIES
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Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB12, CuTox, and Mussel Watch
ENVVEST February 2013
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	TOC/DOC	TOC/DOC	Hg	Al	Cu	Pb	Zn
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB12-020	M3.1	TME	Seawater	**3106-1044**	02/12/13	28.5	0.61	0.973	81.0	0.801	24.7 b	1.16 b	0.0791 b	3.18 b
AMB12-020	M3.1	DME	Seawater	**3106-1045**	02/12/13			0.850	70.8	0.277 J	2.14 bU	0.808 b	0.00582 b	2.81 b
AMB12-021	M3.1 DEEP	TME	Seawater	**3106-1046**	02/12/13	28.6	1.31	1.04	86.9	0.673	23.9 b	0.886 b	0.0873 b	1.81 b
AMB12-021	M3.1 DEEP	DME	Seawater	**3106-1047**	02/12/13			0.865	72.1	0.210 J	2.14 bU	0.661 b	0.00766 b	1.79 b
AMB12-022	PS12	TME	Seawater	**3106-1048**	02/12/13	28.6	0.91	0.972	81.0	0.985	17.9 b	1.57 b	0.0996 b	5.67 b
AMB12-022	PS12	DME	Seawater	**3106-1049**	02/12/13			0.921	76.7	0.343	2.14 bU	1.14 b	0.00983 b	5.18 b
AMB12DD-002	OF019	TME	Seawater	**3106-1052**	02/12/13	19.1	11.1	1.39	116	26.2	108 b	23.1 b	1.66 b	48.9 b
AMB12DD-002	OF019	DME	Seawater	**3106-1053**	02/12/13			1.07	89.3	5.11	2.14 bU	2.69 b	0.00543 b	20.2 b
AMB12-100	M8	TME	Seawater	**3106-1054**	02/13/13	28.4	1.30	0.979	81.6	0.872	32.4 b	0.684 b	0.113 b	1.56 b
AMB12-100	M8	DME	Seawater	**3106-1055**	02/13/13			0.951	79.3	0.187 J	2.14 bU	0.452 b	0.0107 b	1.20 b
AMB12-101	M6	TME	Seawater	**3106-1056**	02/13/13	28.7	1.63	1.01	83.9	0.767	33.4 b	0.648 b	0.0991 b	1.38 b
AMB12-101	M6	DME	Seawater	**3106-1057**	02/13/13			0.951	79.3	0.164 J	2.14 bU	0.426 b	0.0103 b	1.08 b
AMB12-102	M6DUP	TME	Seawater	**3106-1058**	02/13/13	--	--	--	--	0.776	36.4 b	0.670 b	0.123 b	1.44 b
AMB12-102	M6DUP	DME	Seawater	**3106-1059**	02/13/13			--	--	0.145 J	2.14 bU	0.401 b	0.00410 bJ	1.00 b
AMB12-103	M7	TME	Seawater	**3106-1060**	02/13/13	28.8	1.43	1.11	92.2	0.645	20.0 b	0.573 b	0.0642 b	1.28 b
AMB12-103	M7	DME	Seawater	**3106-1061**	02/13/13			0.919	76.6	0.172 J	2.14 bU	0.364 b	0.00422 bJ	0.956 b
AMB12-104	DYOTS	TME	Seawater	**3106-1062**	02/13/13	28.0	1.42	1.07	88.7	0.669	28.5 b	0.580 b	0.0782 b	1.48 b
AMB12-104	DYOTS	DME	Seawater	**3106-1063**	02/13/13			0.968	80.7	0.177 J	2.14 bU	0.420 b	0.0102 b	1.23 b
AMB12-105	M1	TME	Seawater	**3106-1064**	02/13/13	28.8	1.11	0.953	79.4	0.633	18.5 b	0.512 b	0.0443 b	0.891 b
AMB12-105	M1	DME	Seawater	**3106-1065**	02/13/13			0.890	74.2	0.179 J	2.14 bU	0.402 b	0.00213 bJ	0.795 b
AMB12-106	M1DEEP	TME	Seawater	**3106-1066**	02/13/13	28.9	0.54	0.923	76.9	0.442	15.7 b	0.490 b	0.0466 b	0.946 b
AMB12-106	M1DEEP	DME	Seawater	**3106-1067**	02/13/13			0.942	78.5	0.212 J	2.14 bU	0.393 b	0.00249 bJ	0.885 b
AMB12-107	ILSP	TME	Seawater	**3106-1068**	02/13/13	28.9	1.13	0.900	75.0	0.590	23.8 b	0.491 b	0.0512 b	0.862 b
AMB12-107	ILSP	DME	Seawater	**3106-1069**	02/13/13			0.909	75.7	0.217 J	2.14 bU	0.395 b	0.00281 bJ	0.800 b
AMB12-108	M2	TME	Seawater	**3106-1070**	02/13/13	29.2	1.75	0.899	74.9	0.699	35.6 b	0.530 b	0.0698 b	0.852 b
AMB12-108	M2	DME	Seawater	**3106-1071**	02/13/13			0.844	70.3	0.237 J	2.14 bU	0.371 b	0.00246 bJ	0.726 b
AMB12-109	M2DEEP	TME	Seawater	**3106-1072**	02/13/13	29.0	1.48	0.875	72.9	0.668	37.1 b	0.516 b	0.0700 b	0.807 b
AMB12-109	M2DEEP	DME	Seawater	**3106-1073**	02/13/13			0.859	71.6	0.223 J	2.14 bU	0.360 b	0.00219 bJ	0.664 b
AMB12-110	CLMBAY	TME	Seawater	**3106-1074**	02/13/13	29.0	1.34	0.862	71.9	0.479	22.1 b	0.433 b	0.0396 b	0.616 b
AMB12-110	CLMBAY	DME	Seawater	**3106-1075**	02/13/13			0.878	73.1	0.211 J	2.14 bU	0.380 b	0.00327 bJ	0.565 b
AMB12-111	WP	TME	Seawater	**3106-1076**	02/13/13	29.0	1.20	0.915	76.2	0.689	30.2 b	0.601 b	0.0718 b	1.16 b
AMB12-111	WP	DME	Seawater	**3106-1077**	02/13/13			0.876	73.0	0.246 J	2.14 bU	0.443 b	0.00414 bJ	1.02 b
AMB12-112	SN03	TME	Seawater	**3106-1078**	02/13/13	27.7	1.35	1.01	84.1	1.74	39.9 b	0.954 b	0.146 b	2.04 b
AMB12-112	SN03	DME	Seawater	**3106-1079**	02/13/13			0.977	81.4	0.231 J	2.14 bU	0.754 b	0.0117 b	1.68 b
AMB12-113	SN05	TME	Seawater	**3106-1080**	02/13/13	16.5	5.92	1.20	100	2.33	180 b	0.937 b	0.259 b	1.91 b
AMB12-113	SN05	DME	Seawater	**3106-1081**	02/13/13			0.973	81.0	0.345	3.30 bJ	0.383 b	0.00944 b	1.29 b
AMB12-114	SN08	TME	Seawater	**3106-1082**	02/13/13	26.1	1.21	1.00	83.4	0.880	22.6 b	0.719 b	0.0754 b	1.91 b
AMB12-114	SN08	DME	Seawater	**3106-1083**	02/13/13			0.873	72.8	0.300 J	2.14 bU	0.532 b	0.00971 b	1.79 b
AMB12-115	SN08DUP	TME	Seawater	**3106-1084**	02/13/13	--	--	--	--	0.797	27.8 b	0.761 b	0.0895 b	2.06 b
AMB12-115	SN08DUP	DME	Seawater	**3106-1085**	02/13/13			--	--	0.273 J	2.14 bU	0.551 b	0.00801 b	2.03 b
AMB12-116	SN10	TME	Seawater	**3106-1086**	02/13/13	27.3	1.03	0.967	80.6	0.701	20.6 b	1.17 b	0.0788 b	2.73 b
AMB12-116	SN10	DME	Seawater	**3106-1087**	02/13/13			1.07	89.0	0.206 J	2.14 bU	0.895 b	0.00899 b	2.67 b
AMB12-117	SN11	TME	Seawater	**3106-1088**	02/13/13	28.7	1.02	0.961	80.1	0.764	25.3 b	1.40 b	0.0898 b	2.86 b

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
ENVVEST February 2013
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS	TOC/DOC	TOC/DOC	Hg	Al	Cu	Pb	Zn
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB12-117	SN11	DME	Seawater	**3106-1089**	02/13/13			0.841	70.1	0.324	2.14 bU	0.726 b	0.00776 b	2.85 b
AMB12-118	M3.3	TME	Seawater	**3106-1090**	02/13/13	28.4	1.66	0.948	79.0	0.866	25.2 b	0.699 b	0.0846 b	1.72 b
AMB12-118	M3.3	DME	Seawater	**3106-1091**	02/13/13			0.816	68.0	0.245 J	2.14 bU	0.550 b	0.00937 b	1.64 b
AMB12-119	PS03C	TME	Seawater	**3106-1092**	02/13/13	28.2	0.97	0.990	82.5	8.67	14.9 b	2.19 b	0.116 b	5.45 b
AMB12-119	PS03C	DME	Seawater	**3106-1093**	02/13/13			0.865	72.1	3.68	2.14 bU	1.78 b	0.0247 b	5.34 b
AMB12DD-001	OF021	TME	Freshwater	**3106-1050**	02/12/13	0.2	0.68	4.26	355	3.01	8.03	1.62	0.0162	0.768
AMB12DD-001	OF021	DME	Freshwater	**3106-1051**	02/12/13			4.01	334	2.84	5.98	1.51	0.00796	0.812
AMB12-120	EQBLK021913	TME	Freshwater	**3106-1094**	02/19/13					0.100 U	0.2 U	0.0053 U	0.0022 U	0.02 U
AMB12-120	EQBLK021913	DME	Freshwater	**3106-1095**	02/19/13					0.100 U	0.2 U	0.0053 U	0.0022 U	0.0246 J
Mussel Watch														
MW2013_01-28-005	PIER 7 RB16	TME	Seawater	**3356-4**	01/28/13					1.72	16.9 b	1.21 b	0.0591 b	3.30 b
MW2013_01-28-005	PIER 7 RB16	DME	Seawater	**3356-5**	01/28/13					0.304 J	2.14 bU	1.07 b	0.00677 b	3.66 b
MW2013_01-28-010	PIER 7 CB01	TME	Seawater	**3356-11**	01/28/13					1.44	24.3 b	1.01 b	0.0805 b	2.90 b
MW2013_01-28-010	PIER 7 CB01	DME	Seawater	**3356-12**	01/28/13					0.489	2.14 bU	0.842 b	0.0126 b	3.00 b
Copper Tox Study														
Cu Tox 2012-200	NOAA	DME	Seawater	**3318-169,171**	02/12/13	--	--	0.899	74.9	--	--	0.410	--	--
Cu Tox 2012-200	NOAA	TME	Seawater	**3318-170,172,173**	02/12/13	28.8	0.37 U	0.832	69.3	--	--	0.371	--	--

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
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Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:					
Laboratory Achieved Detection Limits (Seawater)									
Seawater Reporting Limit (MDL* 3.18)									
Laboratory Achieved Detection Limits (Freshwater)									
Freshwater Reporting Limit (MDL* 3.18)									
AMB12									
AMB12-001	PS03	TME	Seawater	**3106-1006**	022113HGA	022113DRC	021513OSAL	022113HTCO	021513NP
AMB12-001	PS03	DME	Seawater	**3106-1007**	022113HGA	022113DRC		022213HTCO	
AMB12-002	PS04	TME	Seawater	**3106-1008**	022113HGA	022113DRC	021513OSAL	022113HTCO	021513NP
AMB12-002	PS04	DME	Seawater	**3106-1009**	022113HGA	022113DRC		022213HTCO	
AMB12-003	PS05	TME	Seawater	**3106-1010**	022113HGA	022113DRC	021513OSAL	022113HTCO	021513NP
AMB12-003	PS05	DME	Seawater	**3106-1011**	022113HGA	022113DRC		022213HTCO	
AMB12-004	PS14	TME	Seawater	**3106-1012**	022113HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-004	PS14	DME	Seawater	**3106-1013**	022113HGA	030513DRC		022213HTCO	
AMB12-005	PS06	TME	Seawater	**3106-1014**	022113HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-005	PS06	DME	Seawater	**3106-1015**	022113HGA	030513DRC		022213HTCO	
AMB12-006	PS07	TME	Seawater	**3106-1016**	022113HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-006	PS07	DME	Seawater	**3106-1017**	022113HGA	030513DRC		022213HTCO	
AMB12-007	PS08	TME	Seawater	**3106-1018**	022113HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-007	PS08	DME	Seawater	**3106-1019**	022113HGA	030513DRC		022213HTCO	
AMB12-008	PS08DUP	TME	Seawater	**3106-1020**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-008	PS08DUP	DME	Seawater	**3106-1021**	022513HGA	030513DRC		022213HTCO	
AMB12-009	PS15	TME	Seawater	**3106-1022**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-009	PS15	DME	Seawater	**3106-1023**	022513HGA	030513DRC		022213HTCO	
AMB12-010	PS09	TME	Seawater	**3106-1024**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-010	PS09	DME	Seawater	**3106-1025**	022513HGA	030513DRC		022213HTCO	
AMB12-011	PS10	TME	Seawater	**3106-1026**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-011	PS10	DME	Seawater	**3106-1027**	022513HGA	030513DRC		022213HTCO	
AMB12-012	PS10.1	TME	Seawater	**3106-1028**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-012	PS10.1	DME	Seawater	**3106-1029**	022513HGA	030513DRC		022213HTCO	
AMB12-013	PS11	TME	Seawater	**3106-1030**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-013	PS11	DME	Seawater	**3106-1031**	022513HGA	030513DRC		022213HTCO	
AMB12-014	PS16	TME	Seawater	**3106-1032**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-014	PS16	DME	Seawater	**3106-1033**	022513HGA	030513DRC		022213HTCO	
AMB12-015	PS01	TME	Seawater	**3106-1034**	022513HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-015	PS01	DME	Seawater	**3106-1035**	022513HGA	030513DRC		022213HTCO	
AMB12-016	PS02	TME	Seawater	**3106-1036**	022613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-016	PS02	DME	Seawater	**3106-1037**	022613HGA	030513DRC		022213HTCO	
AMB12-017	PS13	TME	Seawater	**3106-1038**	022613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-017	PS13	DME	Seawater	**3106-1039**	022613HGA	030513DRC		022213HTCO	
AMB12-018	M4	TME	Seawater	**3106-1040**	022613HGA	022113DRC	021513OSAL	022113HTCO	021513NP
AMB12-018	M4	DME	Seawater	**3106-1041**	022613HGA	022113DRC		022213HTCO	
AMB12-019	BJEST	TME	Seawater	**3106-1042**	022613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-019	BJEST	DME	Seawater	**3106-1043**	022613HGA	030513DRC		022213HTCO	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
ENVVEST February 2013
Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:					
AMB12-020	M3.1	TME	Seawater	**3106-1044**	022613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-020	M3.1	DME	Seawater	**3106-1045**	022613HGA	030513DRC		022213HTCO	
AMB12-021	M3.1 DEEP	TME	Seawater	**3106-1046**	022613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-021	M3.1 DEEP	DME	Seawater	**3106-1047**	022613HGA	030513DRC		022213HTCO	
AMB12-022	PS12	TME	Seawater	**3106-1048**	022613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12-022	PS12	DME	Seawater	**3106-1049**	022613HGA	030513DRC		022213HTCO	
AMB12DD-002	OF019	TME	Seawater	**3106-1052**	030613HGA	030513DRC	021513OSAL	022113HTCO	021513NP
AMB12DD-002	OF019	DME	Seawater	**3106-1053**	030613HGA	030513DRC		022213HTCO	
AMB12-100	M8	TME	Seawater	**3106-1054**	030613HGA	030513DRC	021813OSAL	022113HTCO	021813NP
AMB12-100	M8	DME	Seawater	**3106-1055**	030613HGA	030513DRC		022213HTCO	
AMB12-101	M6	TME	Seawater	**3106-1056**	030613HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-101	M6	DME	Seawater	**3106-1057**	030613HGA	030713DRC		022213HTCO	
AMB12-102	M6DUP	TME	Seawater	**3106-1058**	030613HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-102	M6DUP	DME	Seawater	**3106-1059**	030613HGA	030713DRC		022213HTCO	
AMB12-103	M7	TME	Seawater	**3106-1060**	030613HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-103	M7	DME	Seawater	**3106-1061**	030613HGA	030713DRC		022213HTCO	
AMB12-104	DYOTS	TME	Seawater	**3106-1062**	030613HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-104	DYOTS	DME	Seawater	**3106-1063**	030613HGA	030713DRC		022213HTCO	
AMB12-105	M1	TME	Seawater	**3106-1064**	030613HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-105	M1	DME	Seawater	**3106-1065**	030613HGA	030713DRC		022213HTCO	
AMB12-106	M1DEEP	TME	Seawater	**3106-1066**	030613HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-106	M1DEEP	DME	Seawater	**3106-1067**	030613HGA	030713DRC		022213HTCO	
AMB12-107	ILSP	TME	Seawater	**3106-1068**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-107	ILSP	DME	Seawater	**3106-1069**	030713HGA	030713DRC		022213HTCO	
AMB12-108	M2	TME	Seawater	**3106-1070**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-108	M2	DME	Seawater	**3106-1071**	030713HGA	030713DRC		022213HTCO	
AMB12-109	M2DEEP	TME	Seawater	**3106-1072**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-109	M2DEEP	DME	Seawater	**3106-1073**	030713HGA	030713DRC		022213HTCO	
AMB12-110	CLMBAY	TME	Seawater	**3106-1074**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-110	CLMBAY	DME	Seawater	**3106-1075**	030713HGA	030713DRC		022213HTCO	
AMB12-111	WP	TME	Seawater	**3106-1076**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-111	WP	DME	Seawater	**3106-1077**	030713HGA	030713DRC		022213HTCO	
AMB12-112	SN03	TME	Seawater	**3106-1078**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-112	SN03	DME	Seawater	**3106-1079**	030713HGA	030713DRC		022213HTCO	
AMB12-113	SN05	TME	Seawater	**3106-1080**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-113	SN05	DME	Seawater	**3106-1081**	030713HGA	032513DRC		022213HTCO	
AMB12-114	SN08	TME	Seawater	**3106-1082**	030713HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-114	SN08	DME	Seawater	**3106-1083**	030713HGA	030713DRC		022213HTCO	
AMB12-115	SN08DUP	TME	Seawater	**3106-1084**	032013HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-115	SN08DUP	DME	Seawater	**3106-1085**	032013HGA	032513DRC		022213HTCO	
AMB12-116	SN10	TME	Seawater	**3106-1086**	032013HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-116	SN10	DME	Seawater	**3106-1087**	032013HGA	032513DRC		022213HTCO	
AMB12-117	SN11	TME	Seawater	**3106-1088**	032013HGA	030713DRC	021813OSAL	022113HTCO	021813NP

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
ENVVEST February 2013
Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:					
AMB12-117	SN11	DME	Seawater	**3106-1089**	032013HGA	032513DRC		022213HTCO	
AMB12-118	M3.3	TME	Seawater	**3106-1090**	032013HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-118	M3.3	DME	Seawater	**3106-1091**	032013HGA	030713DRC		022213HTCO	
AMB12-119	PS03C	TME	Seawater	**3106-1092**	032013HGA	030713DRC	021813OSAL	022113HTCO	021813NP
AMB12-119	PS03C	DME	Seawater	**3106-1093**	032013HGA	032513DRC		022213HTCO	
AMB12DD-001	OF021	TME	Freshwater	**3106-1050**	022613HGA	022813DRC	021513OSAL	022113HTCO	021513NP
AMB12DD-001	OF021	DME	Freshwater	**3106-1051**	022613HGA	022813DRC		022213HTCO	
AMB12-120	EQBLK021913	TME	Freshwater	**3106-1094**	032013HGA	022813DRC			
AMB12-120	EQBLK021913	DME	Freshwater	**3106-1095**	032013HGA	022813DRC			
Mussel Watch									
MW2013_01-28-005	PIER 7 RB16	TME	Seawater	**3356-4**	032013HGA	030713DRC			
MW2013_01-28-005	PIER 7 RB16	DME	Seawater	**3356-5**	032013HGA	032513DRC			
MW2013_01-28-010	PIER 7 CB01	TME	Seawater	**3356-11**	032013HGA	030713DRC			
MW2013_01-28-010	PIER 7 CB01	DME	Seawater	**3356-12**	032013HGA	032513DRC			
Copper Tox Study									
Cu Tox 2012-200	NOAA	DME	Seawater	**3318-169,171**	--	41713FIDRC		022013HTCO	
Cu Tox 2012-200	NOAA	TME	Seawater	**3318-170,172,173**	--	41713FIDRC	021813OSAL	022113HTCO	021813NP

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ENVVEST CuTox 2013
QC Summary Results
Copper in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu (ug/L)	ICP-MS Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.005**	
Seawater Reporting Limit (MDL* 3.18)					**0.016**	
Method Blank Results						
MB		TME	Seawater	Method Blank	0.005 U	41713FIDRC
Standard Reference Material Results						
SRM		TME	sewater	CASS-5 UV	0.424	41713FIDRC
				certified value	0.380	
				Percent Difference	**12%**	
SRM		TME	sewater	SLEW-3 UV	1.59	41713FIDRC
				certified value	1.55	
				Percent Difference	**3%**	
Laboratory Control Results						
LCS Blank		TME	sewater	SB-040412	0.221	41713FIDRC
LCS		TME	sewater	SB-040412 MS	1.10	41713FIDRC
				spike amount	1.00	
				Percent Recovery	**88%**	
Matrix Spike/Matrix Spike Duplicate Results						
Cu Tox 2012-200	NOAA	DME	Seawater	**3318-169,171**	0.410	41713FIDRC
MS		DME	Seawater	**3318-169,171 MS**	2.36	41713FIDRC
MSD		DME	Seawater	**3318-169,171 MSD**	2.46	41713FIDRC
				spike amount	2.00	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**102%**	
				RPD	**5%**	
Laboratory Duplicate Results						
Cu Tox 2012-200	NOAA	DME	Seawater	**3318-169,171**	0.410	41713FIDRC
DUP	NOAA	DME	Seawater	**3318-169,171 r2**	0.474	41713FIDRC
				mean	***0.442***	
				RPD	**15%**	
Cu Tox 2012-200	NOAA	TME	Seawater	**3318-170,172,173**	0.371	41713FIDRC
DUP	NOAA	TME	Seawater	**3318-170,172,173 r2**	0.394	41713FIDRC
				mean	***0.382***	
				RPD	**6%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for CVAF
ENVVEST February 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME		Water	Method Blank1	0.100 U	022113HGA
MB-2	TME		Water	Method Blank2	0.100 U	022113HGA
MB-3	TME		Water	Method Blank3	0.100 U	022113HGA
MB-4	TME		Water	Method Blank1	0.100 U	022513HGA
MB-5	TME		Water	Method Blank2	0.100 U	022513HGA
MB-6	TME		Water	Method Blank3	0.100 U	022513HGA
MB-7	TME		Water	Method Blank1	0.100 U	022613HGA
MB-8	TME		Water	Method Blank2	0.100 U	022613HGA
MB-9	TME		Water	Method Blank3	0.100 U	022613HGA
MB-10	TME		Water	Method Blank1	0.100 U	030613HGA
MB-11	TME		Water	Method Blank2	0.100 U	030613HGA
MB-12	TME		Water	Method Blank3	0.100 U	030613HGA
MB-13	TME		Water	Method Blank1	0.100 U	030713HGA
MB-14	TME		Water	Method Blank2	0.100 U	030713HGA
MB-15	TME		Water	Method Blank3	0.100 U	030713HGA
MB-16	TME		Water	Method Blank1	0.100 U	032013HGA
MB-17	TME		Water	Method Blank2	0.100 U	032013HGA
MB-18	TME		Water	Method Blank3	0.100 U	032013HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 022013 run1	4.92	022113HGA
LCS (2)	TME		Water	OPR 022013 run2	5.16	022113HGA
LCS Blank (1)	TME		Water	BLANK 022013	0.100 U	022113HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**104%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 022213 run1	4.87	022513HGA
LCS (2)	TME		Water	OPR 022213 run2	4.92	022513HGA
LCS Blank (1)	TME		Water	BLANK 022213	0.100 U	022513HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**99%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 022513 run1	4.86	022613HGA
LCS (2)	TME		Water	OPR 022513 run2	5.06	022613HGA
LCS Blank (1)	TME		Water	BLANK 022513	0.100 U	022613HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**102%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 030513 run1	5.04	030613HGA
LCS (2)	TME		Water	OPR 030513 run2	5.08	030613HGA
LCS Blank (1)	TME		Water	BLANK 030513	0.100 U	030613HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**102%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for CVAF
ENVVEST February 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont)						
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 030613 run1	5.22	030713HGA
LCS (2)		TME	Water	OPR 030613 run2	5.34	030713HGA
LCS Blank (1)		TME	Water	BLANK 030613	0.100 U	030713HGA
				Percent Recovery, LCS 1	**105%**	
				Percent Recovery, LCS 2	**108%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 031913 run1	4.91	032013HGA
LCS (2)		TME	Water	OPR 031913 run2	5.07	032013HGA
LCS Blank (1)		TME	Water	BLANK 031913	0.100 U	032013HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**102%**	
MATRIX SPIKE RESULTS						
AMB12-004	PS14	DME	Seawater	**3106-1013**	0.208	022113HGA
MS				**3106-1013 MS**	6.23	022113HGA
MSD				**3106-1013 MSD**	6.24	022113HGA
				Spiking Level, MS	5.92	
				Spiking Level, MSD	5.77	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**105%**	
				RPD	**2.8%**	
AMB12-007	PS08	TME	Seawater	**3106-1018**	0.536	022113HGA
MS				**3106-1018 MS**	6.53	022113HGA
MSD				**3106-1018 MSD**	6.50	022113HGA
				Spiking Level, MS	5.74	
				Spiking Level, MSD	5.72	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**104%**	
				RPD	**0.2%**	
AMB12-010	PS09	TME	Seawater	**3106-1024**	0.536	022513HGA
MS				**3106-1024 MS**	6.34	022513HGA
MSD				**3106-1024 MSD**	6.59	022513HGA
				Spiking Level, MS	5.75	
				Spiking Level, MSD	5.88	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.1%**	
AMB12-014	PS16	DME	Seawater	**3106-1033**	0.188	022513HGA
MS				**3106-1033 MS**	6.24	022513HGA
MSD				**3106-1033 MSD**	5.91	022513HGA
				Spiking Level, MS	5.90	
				Spiking Level, MSD	5.79	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**99%**	
				RPD	**3.9%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for CVAF
ENVVEST February 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB12-019	BJEST	DME	Seawater	**3106-1043**	0.192	022613HGA
MS				**3106-1043 MS**	6.29	022613HGA
MSD				**3106-1043 MSD**	6.02	022613HGA
				Spiking Level, MS	5.78	
				Spiking Level, MSD	5.75	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**101%**	
				RPD	**4.0%**	
AMB12DD-001	OF021	TME	Freshwater	**3106-1050**	3.01	022613HGA
MS				**3106-1050 MS**	8.73	022613HGA
MSD				**3106-1050 MSD**	8.87	022613HGA
				Spiking Level, MS	5.58	
				Spiking Level, MSD	5.68	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.7%**	
AMB12-101	M6	TME	Seawater	**3106-1056**	0.767	030613HGA
MS				**3106-1056 MS**	6.71	030613HGA
MSD				**3106-1056 MSD**	6.88	030613HGA
				Spiking Level, MS	5.85	
				Spiking Level, MSD	5.98	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.5%**	
AMB12-105	M1	DME	Seawater	**3106-1065**	0.179	030613HGA
MS				**3106-1065 MS**	6.36	030613HGA
MSD				**3106-1065 MSD**	6.11	030613HGA
				Spiking Level, MS	5.87	
				Spiking Level, MSD	5.76	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.2%**	
AMB12-110	CLMBAY	DME	Seawater	**3106-1075**	0.211	030713HGA
MS				**3106-1075 MS**	6.49	030713HGA
MSD				**3106-1075 MSD**	6.59	030713HGA
				Spiking Level, MS	5.83	
				Spiking Level, MSD	5.88	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**108%**	
				RPD	**0.8%**	
AMB12-113	SN05	TME	Seawater	**3106-1080**	2.33	030713HGA
MS				**3106-1080 MS**	8.20	030713HGA
MSD				**3106-1080 MSD**	8.30	030713HGA
				Spiking Level, MS	5.80	
				Spiking Level, MSD	5.86	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.7%**	

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB12-117	SN11	DME	Seawater	**3106-1089**	0.324	032013HGA
MS				**3106-1089 MS**	6.39	032013HGA
MSD				**3106-1089 MSD**	6.32	032013HGA
				Spiking Level, MS	5.89	
				Spiking Level, MSD	5.91	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.2%**	
MW2013_01-28-005	PIER 7 RB16	TME	Seawater	**3356-4**	1.72	032013HGA
MS				**3356-4 MS**	7.77	032013HGA
MSD				**3356-4 MSD**	7.59	032013HGA
				Spiking Level, MS	5.67	
				Spiking Level, MSD	5.60	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**105%**	
				RPD	**1.8%**	
REPLICATE PRECISION						
AMB12-002	PS04	TME	Seawater	**3106-1008**	0.781	022113HGA
DUP				**3106-1008 r2**	0.774	022113HGA
				Mean	*0.777*	
				RPD	**1%**	
AMB12-013	PS11	TME	Seawater	**3106-1030**	0.904	022513HGA
DUP				**3106-1030r2**	0.933	022513HGA
				Mean	*0.919*	
				RPD	**3%**	
AMB12-019	BJEST	TME	Seawater	**3106-1042**	0.576	022613HGA
DUP				**3106-1042r2**	0.598	022613HGA
				Mean	*0.587*	
				RPD	**4%**	
AMB12DD-002	OF019	TME	Seawater	**3106-1052**	26.2	030613HGA
DUP				**3106-1052r2**	26.6	030613HGA
				Mean	*26.4*	
				RPD	**2%**	
AMB12-109	M2DEEP	TME	Seawater	**3106-1072**	0.668	030713HGA
DUP				**3106-1072r2**	0.672	030713HGA
				Mean	*0.670*	
				RPD	**1%**	
AMB12-116	SN10	TME	Seawater	**3106-1086**	0.701	032013HGA
DUP				**3106-1086r2**	0.727	032013HGA
				Mean	*0.714*	
				RPD	**4%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for CVAF
ENVVEST February 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 022013	1582280	022113HGA
SRM 1641 (2)		Total	Freshwater	1641d 022213	1572670	022513HGA
SRM 1641 (3)		Total	Freshwater	1641d 022513	1595035	022613HGA
SRM 1641 (4)		Total	Freshwater	1641d 030513	1573779	030613HGA
SRM 1641 (5)		Total	Freshwater	1641d 030613	1626802	030713HGA
SRM 1641 (6)		Total	Freshwater	1641d 031913	1583145	032013HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**2%**	
	SRM 1641 (2)			**PD**	**1%**	
	SRM 1641 (3)			**PD**	**2%**	
	SRM 1641 (4)			**PD**	**1%**	
	SRM 1641 (5)			**PD**	**4%**	
	SRM 1641 (6)			**PD**	**2%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for ICP-MS
ENVVEST February 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**2.14**	**0.0351**	**0.0019**	**0.0263**	
Seawater Reporting Limit (MDL* 3.18)					**6.8**	**0.11**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					0.2	0.0053	0.0022	0.02	
Freshwater Reporting Limit (MDL* 3.18)					0.6	0.02	0.0070	0.06	
METHOD BLANKS									
TRM_BLK1		Total	Freshwater	TRM Blank	0.2 U	0.0053 U	0.0022 U	0.02 U	022813DRC
MB		Total	Seawater	DI Blank R1	0.192 U	0.0117 U	0.00020 U	0.0000 U	022113DRC
MB		Total	Seawater	DI Blank R2	0.195 U	0.0120 U	0.00029 U	0.0000 U	022113DRC
MB		Total	Seawater	DI Blank R3	0.251 U	0.0105 U	0.00033 U	0.0115 U	022113DRC
MEAN REAGENT BLANK			Seawater	***BMRB_022113***	**0.213** U	**0.0114** U	**0.00028** U	**0.0038** U	022113DRC
MB		Total	Seawater	DI Blank R1	0.319 U	0.0179 U	0.00023 U	0.0697 J	030513DRC
MB		Total	Seawater	DI Blank R2	0.287 U	0.0146 U	0.00033 U	0.110	030513DRC
MB		Total	Seawater	DI Blank R3	0.373 U	0.0073 U	0.00027 U	0.0753 J	030513DRC
MB		Total	Seawater	DI Blank R4	0.387 U	0.0163 U	0.00063 U	0.0693 J	030513DRC
MB		Total	Seawater	DI Blank R5	0.375 U	0.0152 U	0.00044 U	0.0673 J	030513DRC
MB		Total	Seawater	DI Blank R6	0.370 U	0.0153 U	0.00034 U	0.0778 J	030513DRC
MEAN REAGENT BLANK			Seawater	***BMRB_030513***	**0.352** U	**0.0144** U	**0.00037** U	**0.0782** J	030513DRC
MB		Total	Seawater	DI Blank R1	0.392 U	0.0155 U	0.00119 U	0.0854	030713DRC
MB		Total	Seawater	DI Blank R2	0.328 U	0.0136 U	0.000717 U	0.0804 J	030713DRC
MB		Total	Seawater	DI Blank R3	0.370 U	0.0125 U	0.000325 U	0.0964	030713DRC
MB		Total	Seawater	DI Blank R4	0.323 U	0.0127 U	0.000418 U	0.0744 J	030713DRC
MB		Total	Seawater	DI Blank R5	0.311 U	0.0171 U	0.000542 U	0.0781 J	030713DRC
MB		Total	Seawater	DI Blank R6	0.365 U	0.0108 U	0.000328 U	0.0872	030713DRC
MEAN REAGENT BLANK			Seawater	***BMRB_030713***	**0.348** U	**0.0137** U	**0.000587** U	**0.0837** J	030713DRC
MB		Total	Seawater	DI Blank R2	0.372 U	0.00639 U	0.000562 U	0.0830 J	032513DRC
MB		Total	Seawater	DI Blank R3	0.333 U	0.00642 U	0.000358 U	0.0855	032513DRC
MB		Total	Seawater	DI Blank R4	0.341 U	0.0139 U	0.000548 U	0.102	032513DRC
MEAN REAGENT BLANK			Seawater	***BMRB_032513***	**0.349** U	**0.00890** U	**0.000489** U	**0.0902**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for ICP-MS
ENVVEST February 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES									
Spiking Level					**2**	**2**	**2**	**2**	
TRM_BLK1		Total	Freshwater	TRM Blank	0.2 U	0.0053 U	0.0022 U	0.02 U	022813DRC
LCS		Total	Seawater	TRM LCS	2.05	2.04	1.99	2.00	022813DRC
				Percent Recovery, LCS	**103%**	**102%**	**100%**	**100%**	
Spiking Level					**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank	0.1 Ub	0.267 b	0.00251 bJ	0.275 b	022113DRC
LCS		Total	Seawater	SB LCS	2.06 Ub	2.17 b	1.95 bJ	2.04 b	022113DRC
				Percent Recovery, LCS	**103%**	**95%**	**97%**	**88%**	
Spiking Level					**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.1 Ub	0.250 b	0.00326 bJ	0.283 b	030513DRC
LCS		Total	Seawater	SB LCS R1	2.15 b	2.18 b	1.99 b	2.13 b	030513DRC
				Percent Recovery, LCS	**107%**	**96%**	**99%**	**92%**	
Spiking Level					**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	0.1 Ub	0.255 b	0.00374 bJ	0.260 b	030513DRC
LCS		Total	Seawater	SB LCS R2	1.89 Ub	2.06 b	1.86 b	1.99 b	030513DRC
				Percent Recovery, LCS	**94%**	**90%**	**93%**	**87%**	
Spiking Level					**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.1 Ub	0.239 b	0.00212 bJ	0.250 b	030713DRC
LCS		Total	Seawater	SB LCS R1	1.88 Ub	1.99 b	1.78 b	1.92 b	030713DRC
				Percent Recovery, LCS	**94%**	**87%**	**89%**	**83%**	
Spiking Level					**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	0.1 Ub	0.259 b	0.00249 bJ	0.268 b	030713DRC
LCS		Total	Seawater	SB LCS R2	1.95 Ub	2.07 b	1.81 b	1.93 b	030713DRC
				Percent Recovery, LCS	**98%**	**90%**	**90%**	**83%**	
Spiking Level					**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.1 Ub	0.267 b	0.00323 b	0.324 b	032513DRC
LCS		Total	Seawater	SB LCS R1	1.88 Ub	2.15 b	2.02 b	2.14 b	032513DRC
				Percent Recovery, LCS	**94%**	**94%**	**101%**	**91%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for ICP-MS
ENVVEST February 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS									
AMB12-018	M4	TME	Seawater	**3106-1040**	21.8 b	1.03 b	0.0853 b	2.57 b	022113DRC
MS				3106-1040 MS	26.0 b	5.99 b	5.07 b	7.42 b	022113DRC
MSD				3106-1040 MSD	26.6 b	5.73 b	4.83 b	7.06 b	022113DRC
				Spiking Level	5	5	5	5	
				Percent Recovery, MS	**84%**	**99%**	**100%**	**97%**	
				Percent Recovery, MSD	**96%**	**94%**	**95%**	**90%**	
AMB12-018	M4	DME	Seawater	**3106-1041**	2.14 U	0.833 b	0.00722 b	2.60 b	022113DRC
MS				3106-1041 MS	NA	1.79 b	1.10 b	NA	022113DRC
MSD				3106-1041 MSD	NA	1.71 b	1.11 b	NA	022113DRC
				Spiking Level	NA	1	1	NA	
				Percent Recovery, MS	NA	**96%**	**109%**	NA	
				Percent Recovery, MSD	NA	**88%**	**110%**	NA	
AMB12-020	M3.1	DME	Seawater	**3106-1045**	2.14 U	0.808 b	0.00582 bJ	2.81 b	030513DRC
MS				3106-1045 MS	NA	1.81 b	0.977 b	NA	030513DRC
MSD				3106-1045 MSD	NA	1.79 b	0.967 b	NA	030513DRC
				Spiking Level	NA	1	1	NA	
				Percent Recovery, MS	NA	**100%**	**97%**	NA	
				Percent Recovery, MSD	NA	**98%**	**96%**	NA	
AMB12-020	M3.1	TME	Seawater	**3106-1044**	24.7 b	1.16 b	0.0791 b	3.18 b	030513DRC
MS				3106-1044 MS	NA	5.72 b	4.86 b	7.77 b	030513DRC
MSD				3106-1044 MSD	NA	5.85 b	4.86 b	7.68 b	030513DRC
				Spiking Level	NA	5	5	5	
				Percent Recovery, MS	NA	**91%**	**96%**	**92%**	
				Percent Recovery, MSD	NA	**94%**	**96%**	**90%**	
AMB12-021	M3.1 DEEP	DME	Seawater	**3106-1047**	2.14 U	0.661 b	0.00766 b	1.79 b	030513DRC
MS				3106-1047 MS	NA	1.61 b	0.987 b	2.75 b	030513DRC
MSD				3106-1047 MSD	NA	1.58 b	0.966 b	2.62 b	030513DRC
				Spiking Level	NA	1	1	1	
				Percent Recovery, MS	NA	**95%**	**98%**	**96%**	
				Percent Recovery, MSD	NA	**92%**	**96%**	**83%**	
AMB12-101	M6	DME	Seawater	**3106-1057**	2.14 U	0.426 b	0.0103 b	1.08 b	030713DRC
MS				3106-1057 MS	NA	1.33 b	0.932 b	1.97 b	030713DRC
MSD				3106-1057 MSD	NA	1.30 b	0.906 b	1.90 b	030713DRC
				Spiking Level	NA	1	1	1	
				Percent Recovery, MS	NA	**90%**	**92%**	**89%**	
				Percent Recovery, MSD	NA	**87%**	**90%**	**82%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for ICP-MS
ENVVEST February 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB12-118	M3.3	DME	Seawater	**3106-1091**	2.14 U	0.550 b	0.00937 b	1.64 b	030713DRC
MS				3106-1091 MS	NA	1.46 b	0.916 b	2.54 b	030713DRC
MSD				3106-1091 MSD	NA	1.39 b	0.893 b	2.38 b	030713DRC
				Spiking Level	NA	1	1	1	
				Percent Recovery, MS	NA	**91%**	**91%**	**90%**	
				Percent Recovery, MSD	NA	**84%**	**88%**	**74%**	
AMB12-118	M3.3	TME	Seawater	**3106-1090**	25.2 b	0.699 b	0.0846 b	1.72 b	030713DRC
MS				3106-1090 MS2	NA	5.23 b	4.60 b	6.12 b	030713DRC
MSD				3106-1090 MS2D	NA	5.30 b	4.65 b	6.25 b	030713DRC
				Spiking Level	NA	5	5	5	
				Percent Recovery, MS	NA	**91%**	**90%**	**88%**	
				Percent Recovery, MSD	NA	**92%**	**91%**	**91%**	
AMB12-113	SN05	DME	Seawater	**3106-1081**	3.30 b	0.383 b	0.00944 b	1.29 b	032513DRC
MS				3106-1081 MS	4.32 b	1.43 b	1.06 b	2.33 b	032513DRC
MSD				3106-1081 MSD	4.33 b	1.35 b	1.01 b	2.25 b	032513DRC
				Spiking Level	1	1	1	1	
				Percent Recovery, MS	**102%**	**105%**	**105%**	**104%**	
				Percent Recovery, MSD	**103%**	**97%**	**100%**	**96%**	
AMB12DD-001	OF021	DME	Freshwater	**3106-1051**	5.98	1.51	0.00796	0.812	022813DRC
MS				3106-1051 MS	7.97	3.48	1.99	2.72	022813DRC
MSD				3106-1051 MSD	8.04	3.49	2.01	2.82	022813DRC
				Spiking Level	2	2	2	2	
				Percent Recovery, MS	**100%**	**99%**	**99%**	**95%**	
				Percent Recovery, MSD	**103%**	**99%**	**100%**	**100%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for ICP-MS
ENVVEST February 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION									
AMB12-001	PS03	TME	Seawater	**3106-1006**	6.37 b	2.70 b	0.0576 b	6.72 b	022113DRC
DUP				**3106-1006r2**	6.38 b	2.65 b	0.0557 b	6.60 b	022113DRC
				Mean	*6.37 b*	*2.67 b*	*0.0567 b*	*6.66 b*	
				RPD	**0%**	**2%**	**3%**	**2%**	
AMB12-004	PS14	DME	Seawater	**3106-1013**	2.14 U	1.46 b	0.00841 b	4.57 b	030513DRC
DUP				**3106-1013 R2**	2.14 U	1.50 b	0.00940 b	4.75 b	030513DRC
				Mean	*2.14* U	*1.48 b*	*0.00890 b*	*4.66 b*	
				RPD	**0%**	**3%**	**11%**	**4%**	
AMB12-013	PS11	TME	Seawater	**3106-1030**	22.6 b	1.24 b	0.116 b	4.16 b	030513DRC
DUP				**3106-1030 R2**	23.8 b	1.31 b	0.123 b	4.34 b	030513DRC
				Mean	*23.2 b*	*1.27 b*	*0.119 b*	*4.25 b*	
				RPD	**5%**	**6%**	**6%**	**4%**	
AMB12-104	DYOTS	TME	Seawater	**3106-1062**	28.5 b	0.580 b	0.0782 b	1.48 b	030713DRC
DUP				**3106-1062 R2**	28.6 b	0.587 b	0.0753 b	1.48 b	030713DRC
				Mean	*28.5 b*	*0.584 b*	*0.0768 b*	*1.48 b*	
				RPD	**0%**	**1%**	**4%**	**0%**	
AMB12-111	WP	DME	Seawater	**3106-1077**	2.14 U	0.443 b	0.00414 b	1.02 b	030713DRC
DUP				**3106-1077 R2**	2.14 U	0.415 b	0.00346 b	0.956 b	030713DRC
				Mean	*2.14* U	*0.429 b*	*0.00380 b*	*0.986 b*	
				RPD	NA	**7%**	**18%**	**6%**	
AMB12-116	SN10	DME	Seawater	**3106-1087**	2.14 U	0.895 b	0.00899 b	2.67 b	032513DRC
DUP				**3106-1087 R2**	2.14 U	0.924 b	0.00981 b	2.78 b	032513DRC
				Mean	*2.14* U	*0.910 b*	*0.00940 b*	*2.72 b*	
				RPD	NA	**3%**	**9%**	**4%**	
AMB12DD-001	OF021	TME	Freshwater	**3106-1050 R1**	8.03	1.62	0.0162	0.768	022813DRC
DUP				**3106-1050 R2**	8.76	1.77	0.0172	0.810	022813DRC
				Mean	*8.40*	*1.70*	*0.0167*	*0.789*	
				RPD	**9%**	**9%**	**6%**	**5%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for ICP-MS
ENVVEST February 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cu	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater									
SRM CASS-5		Total	Seawater	CASS-5	2.14 Ub	0.395 b	0.0100 b	0.604 b	022113DRC
SRM CASS-5		Total	Seawater	CASS-5 R1	2.14 Ub	0.403 b	0.00983 b	0.658 b	030513DRC
SRM CASS-5		Total	Seawater	CASS-5 R2	2.14 Ub	0.378 b	0.00959 b	0.651 b	030513DRC
SRM CASS-5		Total	Seawater	CASS-5 R1	2.14 Ub	0.382 b	0.00886 b	0.601 b	030713DRC
SRM CASS-5		Total	Seawater	CASS-5 R2	2.14 Ub	0.391 b	0.00923 b	0.595 b	030713DRC
SRM CASS-5		Total	Seawater	CASS-5 R1	2.14 Ub	0.383 b	0.0106 b	0.619 b	032513DRC
				Certified Value	NC	**0.38**	**0.011**	**0.719**	
				PD	--	**4%**	**9%**	**16%**	
				PD	--	**6%**	**11%**	**9%**	
				PD	--	**1%**	**13%**	**9%**	
				PD	--	**1%**	**19%**	**16%**	
				PD	--	**3%**	**16%**	**17%**	
				PD	--	**1%**	**4%**	**14%**	
SRM SLEW-3		Total	Seawater	SLEW-3	2.14 Ub	1.50 b	0.00590 bJ	0.159 b	022113DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R1	2.14 Ub	1.47 b	0.00655 b	0.147 b	030513DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R2	2.14 Ub	1.51 b	0.00648 b	0.133 b	030513DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R1	2.14 Ub	1.47 b	0.00522 b	0.126 b	030713DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R2	2.14 Ub	1.44 b	0.00601 b	0.134 b	030713DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R1	2.14 Ub	1.63 b	0.00654 b	0.191 b	032513DRC
				Certified Value	NC	**1.55**	**0.0090**	**0.20**	
				PD	--	**3%**	**34%** c	**21%** c	
				PD	--	**5%**	**27%** c	**27%** c	
				PD	--	**3%**	**28%** c	**34%** c	
				PD	--	**5%**	**42%** c	**37%** c	
				PD	--	**7%**	**33%** c	**33%** c	
				PD	--	**5%**	**27%** c	**5%**	
STANDARD REFERENCE MATERIAL INSTRUMENT CHECK SAMPLE/Freshwater SRM									
SRM 1640a		Total	Freshwater	1640a 10x	55.7	84.8	11.8	55.3	022113DRC
SRM 1640a		Total	Freshwater	1640a 10x	59.2	86.1	12.6	55.9	030513DRC
SRM 1640a		Total	Freshwater	1640a 10x	56.7	85.1	11.8	55.0	030713DRC
SRM 1640a		Total	Freshwater	1640a 10x	61.1	90.6	12.7	59.7	032513DRC
SRM 1640a		Total	Freshwater	TRM 1640a 5x	56.0	86.7	12.0	55.8	022813DRC
				Certified Value	**53.0**	**85.8**	**12.1**	**55.6**	
				PD	**5%**	**1%**	**2%**	**1%**	
				PD	**12%**	**0%**	**4%**	**0%**	
				PD	**7%**	**1%**	**2%**	**1%**	
				PD	**15%**	**6%**	**5%**	**7%**	
				PD	**6%**	**1%**	**1%**	**0%**	

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for TSS
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.49*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank r1	0.49 U	mg/L	021513NP
MB2		TME	Seawater	Blank r2	0.49 U	mg/L	021513NP
MB3		TME	Seawater	Blank r3	0.49 U	mg/L	021513NP
MB4		TME	Seawater	Blank r1	0.49 U	mg/L	021813NP
MB5		TME	Seawater	Blank r2	0.49 U	mg/L	021813NP
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1 rep 1	36.6	mg/L	021513NP
LCS-2				LCS r1 rep 2	41.0	mg/L	021513NP
LCS-3				LCS r1 rep 3	43.6	mg/L	021513NP
LCS-4				LCS r1 rep 1	38.2	mg/L	021813NP
LCS-5				LCS r1 rep 2	38.3	mg/L	021813NP
				TRUE VALUE	**40**	mg/L	
LCS-1				**% RECOVERY**	**92%**		
LCS-2				**% RECOVERY**	**103%**		
LCS-3				**% RECOVERY**	**109%**		
LCS-4				**% RECOVERY**	**95%**		
LCS-5				**% RECOVERY**	**96%**		

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for Salinity
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	Blank R1	0.0 U	PSU	021513OSAL
MB		TME	Seawater	Blank R2	0.0 U	PSU	021513OSAL
MB		TME	Seawater	Blank R3	0.0 U	PSU	021513OSAL
MB		TME	Seawater	Blank R4	0.0 U	PSU	021513OSAL
MB		TME	Seawater	Blank R1	0.0 U	PSU	021813OSAL
MB		TME	Seawater	Blank R2	0.0 U	PSU	021813OSAL
MB		TME	Seawater	Blank R3	0.0 U	PSU	021813OSAL
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water R1	35.0	PSU	021513OSAL
SRM		TME	Seawater	Copenhagen Water R2	35.0	PSU	021513OSAL
SRM		TME	Seawater	Copenhagen Water R3	34.9	PSU	021513OSAL
SRM		TME	Seawater	Copenhagen Water R4	34.9	PSU	021513OSAL
SRM		TME	Seawater	Copenhagen Water R1	33.9	PSU	021813OSAL
SRM		TME	Seawater	Copenhagen Water R2	34.0	PSU	021813OSAL
SRM		TME	Seawater	Copenhagen Water R3	33.8	PSU	021813OSAL
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.0%**		
	SRM-2			**PD**	**0.0%**		
	SRM-3			**PD**	**0.3%**		
	SRM-4			**PD**	**0.3%**		
	SRM-5			**PD**	**3.1%**		
	SRM-6			**PD**	**2.8%**		
	SRM-7			**PD**	**3.4%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	20.4	PSU	021513OSAL
LCS-2				LCS r2	20.2	PSU	021513OSAL
LCS-3				LCS r3	20.6	PSU	021513OSAL
LCS-4				LCS r4	20.6	PSU	021513OSAL
LCS-1				LCS r1	20.1	PSU	021813OSAL
LCS-2				LCS r2	20.2	PSU	021813OSAL
LCS-3				LCS r3	20.1	PSU	021813OSAL
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**102%**		
	LCS-2			**% RECOVERY**	**101%**		
	LCS-3			**% RECOVERY**	**103%**		
	LCS-4			**% RECOVERY**	**103%**		
	LCS-1			**% RECOVERY**	**101%**		
	LCS-2			**% RECOVERY**	**101%**		
	LCS-3			**% RECOVERY**	**101%**		

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for Salinity
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				Calibration ICV	49.9	mS	021513OSAL
CCV-1				Calibration CCV1	49.7	mS	021513OSAL
CCV-2				Calibration CCV2	49.3	mS	021513OSAL
CCV-3				Calibration CCV3	50.3	mS	021513OSAL
CCV-4				Calibration CCV4	49.4	mS	021513OSAL
CCV-5				Calibration CCV5	49.8	mS	021513OSAL
ICV-1				Calibration ICV	49.8	mS	021813OSAL
CCV-1				Calibration CCV1	49.6	mS	021813OSAL
CCV-2				Calibration CCV2	49.6	mS	021813OSAL
CCV-3				Calibration CCV3	50.0	mS	021813OSAL
CCV-4				Calibration CCV4	50.0	mS	021813OSAL
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**99%**		
	CCV-3			**% RECOVERY**	**101%**		
	CCV-4			**% RECOVERY**	**99%**		
	CCV-5			**% RECOVERY**	**100%**		
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**99%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.030**	**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**	**8.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB			DIWater	DIW	0.030	2.5	U	022113NPOC
MB			DIWater	DIW	0.030	2.5	U	022313NPOC
MB			DIWater	DIW	0.030	2.5	U	022613NPOC
MB			DIWater	DIW	0.030	2.5	U	022713NPOC
MB			DIWater	DIW	0.030	2.5	U	022713NPOC
REPLICATE PRECISION								
AMB12-002	PS04	DME	Seawater	**3106-1009**	0.912	76.0		022213NPOC
DUP	PS04	DME	Seawater	**3106-1009r2**	0.925	77.1		022213NPOC
				Mean	*0.919*	*76.5*		
				RPD	**1.4%**	**1.4%**		
AMB12-011	PS10	DME	Seawater	**3106-1027**	0.850	70.8		022613NPOC
DUP	PS10	DME	Seawater	**3106-1027r2**	0.872	72.7		022613NPOC
				Mean	*0.861*	*71.7*		
				RPD	**2.6%**	**2.6%**		
AMB12-013	PS11	DME	Seawater	**3106-1031**	0.848	70.7		022613NPOC
DUP	PS11	DME	Seawater	**3106-1031r2**	0.853	71.1		022613NPOC
TRIP	PS11	DME	Seawater	**3106-1031r3**	0.853	71.0		
				Mean	*0.851*	*70.9*		
				RSD	**0.3%**	**0.3%**		
AMB12-014	PS16	TME	Seawater	**3106-1032**	0.926	77.1		022013NPOC
DUP	PS16	TME	Seawater	**3106-1032r2**	0.912	76.0		022013NPOC
				Mean	*0.919*	*76.6*		
				RPD	**1.5%**	**1.5%**		
AMB12-016	PS02	DME	Seawater	**3106-1037**	0.925	77.1		022013NPOC
DUP	PS02	DME	Seawater	**3106-1037r2**	0.860	71.7		022013NPOC
				Mean	*0.893*	*74.4*		
				RPD	**7.3%**	**7.3%**		
AMB12-022	PS12	DME	Seawater	**3106-1049**	0.921	76.7		022113NPOC
DUP	PS12	DME	Seawater	**3106-1049r2**	0.835	69.6		022113NPOC
				Mean	*0.878*	*73.2*		
				RPD	**9.8%**	**9.8%**		
AMB12-101	M6	DME	Seawater	**3106-1057**	0.951	79.3		022513NPOC
DUP	M6	DME	Seawater	**3106-1057r2**	0.955	79.6		022513NPOC
				Mean	*0.953*	*79.4*		
				RPD	**0.4%**	**0.4%**		

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QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
REPLICATE PRECISION (cont)								
AMB12-110	CLMBAY	DME	Seawater	**3106-1075**	0.878	73.1		022613NPOC
DUP	CLMBAY	DME	Seawater	**3106-1075r2**	0.865	72.0		022613NPOC
				Mean	*0.871*	*72.6*		
				RPD	**1.5%**	**1.5%**		
AMB12-116	SN10	TME	Seawater	**3106-1086**	0.967	80.6		022713NPOC
DUP	SN10	TME	Seawater	**3106-1086r2**	0.950	79.1		022713NPOC
				Mean	*0.958*	*79.9*		
				RPD	**1.8%**	**1.8%**		
AMB12-116	SN10	DME	Seawater	**3106-1087**	1.07	89.0		022613NPOC
DUP	SN10	DME	Seawater	**3106-1087r2**	1.07	89.2		022613NPOC
				Mean	*1.07*	*89.1*		
				RPD	**0.2%**	**0.2%**		
AMB12-117	SN11	DME	Seawater	**3106-1089**	0.841	70.1		022613NPOC
DUP	SN11	DME	Seawater	**3106-1089r2**	0.868	72.3		022613NPOC
				Mean	*0.855*	*71.2*		
				RPD	**3.2%**	**3.2%**		
Cu Tox 2012-200	NOAA	TME	Seawater	**3318-170,172,173**	0.832	69.3		022113HTCO
DUP	NOAA	TME	Seawater	**3318-170,172,173r2**	0.912	76.0		022113HTCO
				Mean	*0.872*	*72.6*		
				RPD	**9.2%**	**9.2%**		

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	UM CRM	0.552	46.0		022013NPOC
CRM-2		DOC	Seawater	UM CRM	0.510	42.5		022013NPOC
CRM-3		DOC	Seawater	UM CRM	0.576	48.0		022013NPOC
CRM-4		DOC	Seawater	UM CRM	0.514	42.8		022113NPOC
CRM-5		DOC	Seawater	UM CRM	0.508	42.3		022113NPOC
CRM-6		DOC	Seawater	UM CRM	0.528	44.0		022113NPOC
CRM-7		DOC	Seawater	UM CRM	0.496	41.4		022213NPOC
CRM-8		DOC	Seawater	UM CRM	0.470	39.2		022213NPOC
CRM-9		DOC	Seawater	UM CRM	0.532	44.3		022213NPOC
CRM-10		DOC	Seawater	UM CRM	0.548	45.6		022213NPOC
CRM-11		DOC	Seawater	UM CRM	0.493	41.1		022313NPOC
CRM-12		DOC	Seawater	UM CRM	0.480	40.0		022513NPOC
CRM-13		DOC	Seawater	UM CRM	0.490	40.8		022513NPOC
CRM-14		DOC	Seawater	UM CRM	0.497	41.4		022513NPOC
CRM-15		DOC	Seawater	UM CRM	0.467	38.9		022613NPOC
CRM-16		DOC	Seawater	UM CRM	0.484	40.3		022613NPOC
CRM-17		DOC	Seawater	UM CRM	0.472	39.3		022613NPOC
CRM-18		DOC	Seawater	UM CRM	0.475	39.6		022713NPOC
CRM-19		DOC	Seawater	UM CRM	0.471	39.3		022713NPOC
CRM-20		DOC	Seawater	UM CRM	0.487	40.6		022713NPOC
CRM-21		DOC	Seawater	UM CRM	0.479	39.9		022713NPOC
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**8.2%**	**8.2%**		
CRM-2				**PD**	**0.0%**	**0.0%**		
CRM-3				**PD**	**12.9%**	**12.9%**		
CRM-4				**PD**	**0.7%**	**0.7%**		
CRM-5				**PD**	**0.4%**	**0.4%**		
CRM-6				**PD**	**3.6%**	**3.6%**		
CRM-7				**PD**	**2.7%**	**2.7%**		
CRM-8				**PD**	**7.9%**	**7.9%**		
CRM-9				**PD**	**4.3%**	**4.3%**		
CRM-10				**PD**	**7.4%**	**7.4%**		
CRM-11				**PD**	**3.3%**	**3.3%**		
CRM-12				**PD**	**5.8%**	**5.8%**		
CRM-13				**PD**	**4.0%**	**4.0%**		
CRM-14				**PD**	**2.5%**	**2.5%**		
CRM-15				**PD**	**8.4%**	**8.4%**		
CRM-16				**PD**	**5.1%**	**5.1%**		
CRM-17				**PD**	**7.5%**	**7.5%**		
CRM-18				**PD**	**6.9%**	**6.9%**		
CRM-19				**PD**	**7.6%**	**7.6%**		
CRM-20				**PD**	**4.6%**	**4.6%**		
CRM-21				**PD**	**6.1%**	**6.1%**		

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1 ppm	1.00	83.3		022013NPOC
ICV/CCV-2				ICV_1 ppm	0.914	76.2		022113NPOC
ICV/CCV-3				ICV_1 ppm	1.03	86.0		022113NPOC
ICV/CCV-4				ICV_1 ppm	0.995	82.9		022213NPOC
ICV/CCV-5				ICV_1 ppm	0.935	77.9		022513NPOC
ICV/CCV-6				ICV_1 ppm	0.903	75.3		022613NPOC
ICV/CCV-7				ICV_1 ppm	0.963	80.2		022713NPOC
ICV/CCV-8				CCV_1 ppm	0.956	79.7		022013NPOC
ICV/CCV-9				CCV_1 ppm	1.03	85.4		022013NPOC
ICV/CCV-10				CCV_1 ppm	0.971	80.9		022113NPOC
ICV/CCV-11				CCV_1 ppm	1.00	83.5		022113NPOC
ICV/CCV-12				CCV_1 ppm	1.04	86.2		022213NPOC
ICV/CCV-13				CCV_1 ppm	1.08	89.6		022213NPOC
ICV/CCV-14				CCV_1 ppm	0.992	82.7		022313NPOC
ICV/CCV-15				CCV_1 ppm	1.03	85.7		022513NPOC
ICV/CCV-16				CCV_1 ppm	1.07	88.8		022513NPOC
ICV/CCV-17				CCV_1 ppm	0.984	82.0		022613NPOC
ICV/CCV-18				CCV_1 ppm	1.02	84.7		022613NPOC
ICV/CCV-19				CCV_1 ppm	0.949	79.0		022613NPOC
ICV/CCV-20				CCV_1 ppm	0.961	80.1		022713NPOC
ICV/CCV-21				CCV_1 ppm	0.970	80.8		022713NPOC
ICV/CCV-22				CCV_1 ppm	0.943	78.6		022713NPOC
				TRUE VALUE	**1.0**			
	ICV/CCV-1			**% RECOVERY**	**100%**			
	ICV/CCV-2			**% RECOVERY**	**91%**			
	ICV/CCV-3			**% RECOVERY**	**103%**			
	ICV/CCV-4			**% RECOVERY**	**100%**			
	ICV/CCV-5			**% RECOVERY**	**93%**			
	ICV/CCV-6			**% RECOVERY**	**90%**			
	ICV/CCV-7			**% RECOVERY**	**96%**			
	ICV/CCV-8			**% RECOVERY**	**96%**			
	ICV/CCV-9			**% RECOVERY**	**103%**			
	ICV/CCV-10			**% RECOVERY**	**97%**			
	ICV/CCV-11			**% RECOVERY**	**100%**			
	ICV/CCV-12			**% RECOVERY**	**104%**			
	ICV/CCV-13			**% RECOVERY**	**108%**			
	ICV/CCV-14			**% RECOVERY**	**99%**			
	ICV/CCV-15			**% RECOVERY**	**103%**			
	ICV/CCV-16			**% RECOVERY**	**107%**			
	ICV/CCV-17			**% RECOVERY**	**98%**			
	ICV/CCV-18			**% RECOVERY**	**102%**			
	ICV/CCV-19			**% RECOVERY**	**95%**			
	ICV/CCV-20			**% RECOVERY**	**96%**			
	ICV/CCV-21			**% RECOVERY**	**97%**			
	ICV/CCV-22			**% RECOVERY**	**94%**			

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Ambient Monitoring - AMB12, CuTox, and Mussel Watch
ENVVEST February 2013
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
HTCO	High Temperature Catalytic Oxidation
E	Small crack in sample bottle; use with caution

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, February 2013 (AMB12)

PARAMETER: Total and Dissolved Metals – Al, Cu, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater, Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 02/12/2013 and 02/13/2013. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	02/12/13 and 02/13/13 EQP BLKS 02/19/13
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	02/12/13 and 02/13/13 EQP BLKS 02/19/13
TSS analysis dates	02/15/13 and 02/18/13
OSAL analysis dates	02/15/13 and 02/18/13
CVAF analysis dates (Hg)	02/21/13, 02/25/13, 02/26/13, 03/06/13, 03/07/13, and 03/20/13
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cu, Pb, Zn)	02/28/13
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Al, Cu, Pb, Zn)	02/21/13, 03/05/13, 03/07/13, and 03/25/13
Cu-FIDRC Seawater Analysis by ICP-MS (Cu)	04/17/13
TOC/DOC Analysis Date	02/20/13 through 02/27/13

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	2.14 µg/L	6.8 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351µg/L	0.11 µg/L
Copper	FIDRC	70-130%	≤20%	≤30%	0.005 µg/L	0.016 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.0060 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0263 µg/L	0.084 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for five metals: aluminum (Al), copper (Cu), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following three methods. The analyses of Hg does not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected (identified as a "b" qualifier) for these elements. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L

For the ambient monitoring samples for all other metals, seawater samples were preconcentrated via a precipitation step followed by reconstituted in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed for Al (total only), Cu, Pb and Zn by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. Freshwater samples were digested using the total metal recoverable (TRM) method established in EPA Method 1640 prior to analysis by ICP-MS following SOP MSL-I-022.

METHODS (cont): The Fe/Pd preconcentrated results were reported in units of µg/L. Data were reagent blank corrected for the metals requiring Fe/Pd preconcentration (Al, Cu, Pb, and Zn) and denoted with a b-flag. The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

The samples for the copper toxicity study were were analyzed for total and dissolved Cu following MSL SOP MSL-I-039, *Determination Of Copper In Seawater By On-Line Preconcentration And Flow Injection Inductively Coupled Plasma Mass Spectrometry*. Determination of Cu is performed by on-line preconcentration on a chelating resin, followed by injection into a flow system and detection by dynamic reaction chamber - inductively coupled plasma mass spectrometry (FI-ICP-MS). Instrumental calibration was conducted by an isotope dilution method (EPA Method 6800). The procedure is applicable to samples with a wide range in organic matter content since samples are pre-treated with an ultraviolet (UV) oxidation procedure prior to analyses. Reagent blank correction is not required for this method.

Freshwater samples identified as < 5% seawater were analyzed as follows. Freshwater samples were analyzed for Hg as described above for the seawater. This method is not selective to salt content and is the same for both the seawater and freshwater matrices. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the type of filter. This is the first batch of AMB samples where the 0.45 µm polycarbonate filters were used. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L. The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU).

The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined

using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals except the Cu toxicity samples. The average method blank for each batch was less than the RL for all metals except several replicates for Zn. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions, as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank detected above the RL for the analytical batch. The reagent blank correction takes into consideration the detected blank for each batch and the data should be reported as corrected in order to more accurately represent the true sample concentrations. The data were not considered impacted by the detected Zn blanks..

The method blank for the Cu toxicity study was less than the MDL and data are not reported as reagent blank corrected.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL. The method blanks for TOC and DOC were low carbon water (LCW) purchased from University of Miami. This water was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. The Al MS/MSD samples spiked at 1 µg/L were not reported because the spiking level is below the RL. The MS/MSD samples spiked at 5 µg/L demonstrated acceptable recovery for Al.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL and for the TOC/DOC analyses.

STANDARD Standard reference materials (SRM) were prepared and analyzed with each analytical

REFERENCE MATERIAL ACCURACY:

batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%. The percent recoveries were within the QC acceptance criterion.

Three different SRMs were analyzed with the analytical batches for Al, Cu, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion. There are no seawater SRMs certified for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

Two seawater SRMs were analyzed with each ICP-MS batch. The primary SRM was the coastal SRM CASS-5 and the secondary was the estuarine SRM SLEW-3. Both were prepared with each batch of preconcentrated samples and the Cu toxicity batch analyzed by FI-ICP-MS. The PDs were within the QC criterion for all metals certified greater than 10x the MDL.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 0.3-0.8% PD for all salinity measurements. There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PD ranged from 0 to 13%.

ANALYTICAL NOTE

The two TOC samples for the mussel watch project were collected and preserved with sulfuric acid, which was consistent with the colormetric method previously used for TOC/DOC analyses. However, the new and more sensitive combustion method is not compatible with the sulfuric acid preservation. Therefore, no data are reported for these two samples.

ALS ENVIRONMENTAL

Client:	Battelle	**Service Request No.:**	K1301341
Project:	Feb 2013 AMB12	**Date Received:**	2/14/13
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at ALS Environmental on 2/14/13. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301341
Project:	Feb 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/14/13
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB12DD-024OF019	K1301341-001	ND U	5.2	0.8	1	02/22/13 11:11	2/27/13	
Method Blank	K1301341-MB	ND U	5.0	0.8	1	02/22/13 11:11	2/27/13	

Should be AMB12-DD-002

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Superset Reference:13-0000239921 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301341
Project:	Feb 2013 Ambient Monitoring (AMB12)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	02/22/13
		Date Extracted:	02/27/13

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1301481-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1301481-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND	52.6	57.1	92	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000239921 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301341
Project:	Feb 2013 Ambient Monitoring (AMB12)	**Date Analyzed:**	02/22/13
Sample Matrix:	Ocean Water	**Date Extracted:**	02/27/13

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	330664

	Lab Control Sample K1301341-LCS			Duplicate Lab Control Sample K1301341-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	55.1	60.0	92	58.1	60.0	97	78-114	5	20

ALS ENVIRONMENTAL

Client:	Battelle	**Service Request No.:**	K1301389
Project:	Feb 2013 AMB12	**Date Received:**	2/15/13
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty water samples were received for analysis at ALS Environmental on 2/15/13. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB12-001 PS03	K1301389-001	**0.062**	0.010	0.003	1	02/18/13 11:24	
AMB12-002 PS04	K1301389-002	**0.055**	0.010	0.003	1	02/18/13 11:24	
AMB12-003 PS05	K1301389-003	**0.046**	0.010	0.003	1	02/18/13 11:24	
AMB12-004 PS14	K1301389-004	**0.044**	0.010	0.003	1	02/18/13 11:24	
AMB12-005 PS06	K1301389-005	**0.099**	0.010	0.003	1	02/18/13 11:24	
AMB12-006 PS07	K1301389-006	**0.044**	0.010	0.003	1	02/18/13 11:24	
AMB12-007 PS08	K1301389-007	**0.038**	0.010	0.003	1	02/18/13 11:24	
AMB12-009 PS15	K1301389-008	**0.031**	0.010	0.003	1	02/18/13 11:24	
AMB12-010 PS09	K1301389-009	**0.050**	0.010	0.003	1	02/18/13 11:24	
AMB12-011 PS10	K1301389-010	**0.050**	0.010	0.003	1	02/18/13 11:24	
AMB12-012 PS10.1	K1301389-011	**0.044**	0.010	0.003	1	02/18/13 11:24	
AMB12-013 PS11	K1301389-012	**0.028**	0.010	0.003	1	02/18/13 11:24	
AMB12-014 PS16	K1301389-013	**0.026**	0.010	0.003	1	02/18/13 11:24	
AMB12-015 PS01	K1301389-014	**0.071**	0.010	0.003	1	02/18/13 11:24	
AMB12-016 PS02	K1301389-015	**0.064**	0.010	0.003	1	02/18/13 11:24	
AMB12-017 PS13	K1301389-016	**0.052**	0.010	0.003	1	02/18/13 11:24	
AMB12-018 M4	K1301389-017	**0.063**	0.010	0.003	1	02/18/13 11:24	
AMB12-019 BJEST	K1301389-018	**0.058**	0.010	0.003	1	02/18/13 11:24	
AMB12-020 M3.1	K1301389-019	**0.030**	0.010	0.003	1	02/18/13 11:24	
AMB12-021 M3.1 DEEP	K1301389-020	**0.031**	0.010	0.003	1	02/18/13 11:24	
AMB12-022 PS12	K1301389-021	**0.033**	0.010	0.003	1	02/18/13 11:24	
AMB12-024 OF019	K1301389-022	**0.118**	0.010	0.003	1	02/18/13 11:24	
AMB12-100 M8	K1301389-023	**0.027**	0.010	0.003	1	02/18/13 11:24	
AMB12-101 M6	K1301389-024	**0.022**	0.010	0.003	1	02/18/13 11:24	
AMB12-103 M7	K1301389-025	**0.111**	0.010	0.003	1	02/18/13 11:24	
AMB12-104 DYOTS	K1301389-026	**0.033**	0.010	0.003	1	02/18/13 11:24	
AMB12-105 M1	K1301389-027	**0.013**	0.010	0.003	1	02/18/13 11:24	
AMB12-106 M1DEEP	K1301389-028	**0.012**	0.010	0.003	1	02/18/13 11:24	
AMB12-107 ILSP	K1301389-029	**0.014**	0.010	0.003	1	02/18/13 11:24	
AMB12-108 M2	K1301389-030	**0.009 J**	0.010	0.003	1	02/18/13 11:24	
AMB12-109 M2DEEP	K1301389-031	**0.009 J**	0.010	0.003	1	02/18/13 11:24	
AMB12-110 CLMBAY	K1301389-032	**0.007 J**	0.010	0.003	1	02/18/13 11:24	
AMB12-111 WP	K1301389-033	**0.018**	0.010	0.003	1	02/18/13 11:24	
AMB12-112 SN03	K1301389-034	**0.220**	0.010	0.003	1	02/18/13 11:24	
AMB12-113 SN05	K1301389-035	**0.038**	0.010	0.003	1	02/18/13 11:24	
AMB12-114 SN08	K1301389-036	**0.044**	0.010	0.003	1	02/18/13 11:24	
AMB12-116 SN10	K1301389-037	**0.043**	0.010	0.003	1	02/18/13 11:24	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB12-117 SN11	K1301389-038	**0.030**	0.010	0.003	1	02/18/13 11:24	
AMB12-118 M3.3	K1301389-039	**0.036**	0.010	0.003	1	02/18/13 11:24	
AMB12-119 PS03C	K1301389-040	**0.057**	0.010	0.003	1	02/18/13 11:24	
Method Blank	K1301389-MB1	ND U	0.010	0.003	1	02/18/13 11:24	
Method Blank	K1301389-MB2	ND U	0.010	0.003	1	02/18/13 11:24	
Method Blank	K1301389-MB3	ND U	0.010	0.003	1	02/18/13 11:24	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB12-001 PS03	K1301389-001DUP	0.010	0.003	0.062	0.060	0.0608	2	20	02/18/13
AMB12-014 PS16	K1301389-013DUP	0.010	0.003	0.026	0.026	0.0255	<1	20	02/18/13
AMB12-021 M3.1 DEEP	K1301389-020DUP	0.010	0.003	0.031	0.032	0.0316	1	20	02/18/13

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/18/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB12-001 PS03	**Units:**	mg/L
Lab Code:	K1301389-001	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1301389-001MS			Duplicate Matrix Spike K1301389-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.062	0.265	0.200	102	0.264	0.200	101	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/18/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB12-014 PS16	**Units:**	mg/L
Lab Code:	K1301389-013	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1301389-013MS			Duplicate Matrix Spike K1301389-013DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.026	0.225	0.200	100	0.225	0.200	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/18/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB12-021 M3.1 DEEP	**Units:**	mg/L
Lab Code:	K1301389-020	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1301389-020MS			Duplicate Matrix Spike K1301389-020DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.031	0.231	0.200	100	0.231	0.200	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

Client: Battelle Marine Sciences Lab
Project: FEB 2013 Ambient Monitoring (AMB12)
Sample Matrix: Ocean Water

Service Request: K1301389
Date Analyzed: 02/18/13

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method: 350.1

Units: mg/L
Basis: NA
Analysis Lot: 329531

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1301389-LCS1	10.7	10.9	99	90-110
Lab Control Sample	K1301389-LCS2	10.6	10.9	97	90-110
Lab Control Sample	K1301389-LCS3	10.5	10.9	96	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1301389
Project: FEB 2013 Ambient Monitoring (AMB12)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	329531	KQ1301535-16	02/18/13 11:24	0.250	0.257	103	90-110
CCV2	329531	KQ1301535-17	02/18/13 11:24	0.250	0.259	104	90-110
CCV3	329531	KQ1301535-18	02/18/13 11:24	0.250	0.256	102	90-110
CCV4	329531	KQ1301535-19	02/18/13 11:24	0.250	0.252	101	90-110
CCV5	329531	KQ1301535-20	02/18/13 11:24	0.250	0.255	102	90-110
CCV6	329531	KQ1301535-21	02/18/13 11:24	0.250	0.254	102	90-110
CCV7	329531	KQ1301535-22	02/18/13 11:24	0.250	0.253	101	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1301389
Project: FEB 2013 Ambient Monitoring (AMB12)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	329531	KQ1301535-23	02/18/13 11:24	0.010	0.003	ND	U
CCB2	329531	KQ1301535-24	02/18/13 11:24	0.010	0.003	0.006	J
CCB3	329531	KQ1301535-25	02/18/13 11:24	0.010	0.003	ND	U
CCB4	329531	KQ1301535-26	02/18/13 11:24	0.010	0.003	ND	U
CCB5	329531	KQ1301535-27	02/18/13 11:24	0.010	0.003	0.004	J
CCB6	329531	KQ1301535-28	02/18/13 11:24	0.010	0.003	0.004	J
CCB7	329531	KQ1301535-29	02/18/13 11:24	0.010	0.003	0.004	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB12-001 PS03	K1301389-001	**0.395**	0.050	0.009	1	02/22/13 07:54	
AMB12-002 PS04	K1301389-002	**0.385**	0.050	0.009	1	02/22/13 07:54	
AMB12-003 PS05	K1301389-003	**0.388**	0.050	0.009	1	02/22/13 07:54	
AMB12-004 PS14	K1301389-004	**0.356**	0.050	0.009	1	02/22/13 07:54	
AMB12-005 PS06	K1301389-005	**0.403**	0.050	0.009	1	02/22/13 07:54	
AMB12-006 PS07	K1301389-006	**0.380**	0.050	0.009	1	02/22/13 07:54	
AMB12-007 PS08	K1301389-007	**0.382**	0.050	0.009	1	02/22/13 07:54	
AMB12-009 PS15	K1301389-008	**0.376**	0.050	0.009	1	02/22/13 07:54	
AMB12-010 PS09	K1301389-009	**0.389**	0.050	0.009	1	02/22/13 07:54	
AMB12-011 PS10	K1301389-010	**0.384**	0.050	0.009	1	02/22/13 07:54	
AMB12-012 PS10.1	K1301389-011	**0.374**	0.050	0.009	1	02/22/13 07:54	
AMB12-013 PS11	K1301389-012	**0.373**	0.050	0.009	1	02/22/13 07:54	
AMB12-014 PS16	K1301389-013	**0.372**	0.050	0.009	1	02/22/13 07:54	
AMB12-015 PS01	K1301389-014	**0.396**	0.050	0.009	1	02/22/13 07:54	
AMB12-016 PS02	K1301389-015	**0.389**	0.050	0.009	1	02/22/13 07:54	
AMB12-017 PS13	K1301389-016	**0.386**	0.050	0.009	1	02/22/13 07:54	
AMB12-018 M4	K1301389-017	**0.378**	0.050	0.009	1	02/22/13 07:54	
AMB12-019 BJEST	K1301389-018	**0.372**	0.050	0.009	1	02/22/13 07:54	
AMB12-020 M3.1	K1301389-019	**0.375**	0.050	0.009	1	02/22/13 07:54	
AMB12-021 M3.1 DEEP	K1301389-020	**0.377**	0.050	0.009	1	02/22/13 07:54	
AMB12-022 PS12	K1301389-021	**0.380**	0.050	0.009	1	02/22/13 07:54	
AMB12-024 OF019	K1301389-022	**0.691**	0.050	0.009	1	02/22/13 07:54	
AMB12-100 M8	K1301389-023	**0.367**	0.050	0.009	1	02/22/13 07:54	
AMB12-101 M6	K1301389-024	**0.364**	0.050	0.009	1	02/22/13 07:54	
AMB12-103 M7	K1301389-025	**0.365**	0.050	0.009	1	02/22/13 07:54	
AMB12-104 DYOTS	K1301389-026	**0.340**	0.050	0.009	1	02/22/13 07:54	
AMB12-105 M1	K1301389-027	**0.374**	0.050	0.009	1	02/22/13 07:54	
AMB12-106 M1DEEP	K1301389-028	**0.377**	0.050	0.009	1	02/22/13 07:54	
AMB12-107 ILSP	K1301389-029	**0.374**	0.050	0.009	1	02/22/13 07:54	
AMB12-108 M2	K1301389-030	**0.377**	0.050	0.009	1	02/22/13 07:54	
AMB12-109 M2DEEP	K1301389-031	**0.377**	0.050	0.009	1	02/22/13 07:54	
AMB12-110 CLMBAY	K1301389-032	**0.353**	0.050	0.009	1	02/22/13 07:54	
AMB12-111 WP	K1301389-033	**0.371**	0.050	0.009	1	02/22/13 07:54	
AMB12-112 SN03	K1301389-034	**0.421**	0.050	0.009	1	02/22/13 07:54	
AMB12-113 SN05	K1301389-035	**0.441**	0.050	0.009	1	02/22/13 07:54	
AMB12-114 SN08	K1301389-036	**0.392**	0.050	0.009	1	02/22/13 07:54	
AMB12-116 SN10	K1301389-037	**0.376**	0.050	0.009	1	02/22/13 07:54	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB12-117 SN11	K1301389-038	**0.362**	0.050	0.009	1	02/22/13 07:54	
AMB12-118 M3.3	K1301389-039	**0.359**	0.050	0.009	1	02/22/13 07:54	
AMB12-119 PS03C	K1301389-040	**0.385**	0.050	0.009	1	02/22/13 07:54	
Method Blank	K1301389-MB1	ND U	0.050	0.009	1	02/22/13 07:54	
Method Blank	K1301389-MB2	**0.010 J**	0.050	0.009	1	02/22/13 07:54	
Method Blank	K1301389-MB3	ND U	0.050	0.009	1	02/22/13 07:54	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB12-001 PS03	K1301389-001DUP	0.050	0.009	0.395	0.395	0.395	<1	20	02/22/13
AMB12-021 M3.1 DEEP	K1301389-020DUP	0.050	0.009	0.377	0.377	0.377	<1	20	02/22/13
AMB12-107 ILSP	K1301389-029DUP	0.050	0.009	0.374	0.371	0.373	<1	20	02/22/13

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/22/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB12-001 PS03	**Units:**	mg/L
Lab Code:	K1301389-001	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1301389-001MS			Duplicate Matrix Spike K1301389-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.395	2.41	2.00	101	2.47	2.00	104	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/22/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB12-021 M3.1 DEEP	**Units:**	mg/L
Lab Code:	K1301389-020	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1301389-020MS			Duplicate Matrix Spike K1301389-020DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.377	2.40	2.00	101	2.37	2.00	100	89-114	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/22/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB12-107 ILSP	**Units:**	mg/L
Lab Code:	K1301389-029	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1301389-029MS			Duplicate Matrix Spike K1301389-029DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.374	2.36	2.00	99	2.36	2.00	99	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

Client: Battelle Marine Sciences Lab
Project: FEB 2013 Ambient Monitoring (AMB12)
Sample Matrix: Ocean Water

Service Request: K1301389
Date Analyzed: 02/22/13

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L
Basis: NA
Analysis Lot: 330178

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1301389-LCS1	4.21	4.35	97	90-110
Lab Control Sample	K1301389-LCS2	4.14	4.35	95	90-110
Lab Control Sample	K1301389-LCS3	4.16	4.35	96	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1301389
Project: FEB 2013 Ambient Monitoring (AMB12)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	330178	KQ1301722-20	02/22/13 07:54	2.00	2.00	100	90-110
CCV2	330178	KQ1301722-21	02/22/13 07:54	2.00	1.99	100	90-110
CCV3	330178	KQ1301722-22	02/22/13 07:54	2.00	1.97	99	90-110
CCV4	330178	KQ1301722-23	02/22/13 07:54	2.00	1.96	98	90-110
CCV5	330178	KQ1301722-24	02/22/13 07:54	2.00	1.97	98	90-110
CCV6	330178	KQ1301722-25	02/22/13 07:54	2.00	1.95	97	90-110
CCV7	330178	KQ1301722-26	02/22/13 07:54	2.00	1.92	96	90-110

Client: Battelle Marine Sciences Lab
Project: FEB 2013 Ambient Monitoring (AMB12)

Service Request: K1301389

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	330178	KQ1301722-27	02/22/13 07:54	0.050	0.009	ND	U
CCB2	330178	KQ1301722-28	02/22/13 07:54	0.050	0.009	ND	U
CCB3	330178	KQ1301722-29	02/22/13 07:54	0.050	0.009	ND	U
CCB4	330178	KQ1301722-30	02/22/13 07:54	0.050	0.009	ND	U
CCB5	330178	KQ1301722-31	02/22/13 07:54	0.050	0.009	ND	U
CCB6	330178	KQ1301722-32	02/22/13 07:54	0.050	0.009	ND	U
CCB7	330178	KQ1301722-33	02/22/13 07:54	0.050	0.009	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB12-001 PS03	K1301389-001	**0.087**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-002 PS04	K1301389-002	**0.083**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-003 PS05	K1301389-003	**0.083**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-004 PS14	K1301389-004	**0.083**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-005 PS06	K1301389-005	**0.098**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-006 PS07	K1301389-006	**0.086**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-007 PS08	K1301389-007	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-009 PS15	K1301389-008	**0.082**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-010 PS09	K1301389-009	**0.082**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-011 PS10	K1301389-010	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-012 PS10.1	K1301389-011	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-013 PS11	K1301389-012	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-014 PS16	K1301389-013	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-015 PS01	K1301389-014	**0.085**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-016 PS02	K1301389-015	**0.083**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-017 PS13	K1301389-016	**0.085**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-018 M4	K1301389-017	**0.083**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-019 BJEST	K1301389-018	**0.080**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-020 M3.1	K1301389-019	**0.083**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-021 M3.1 DEEP	K1301389-020	**0.082**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-022 PS12	K1301389-021	**0.086**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-024 OF019	K1301389-022	**0.270**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-100 M8	K1301389-023	**0.078**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-101 M6	K1301389-024	**0.085**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-103 M7	K1301389-025	**0.082**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-104 DYOTS	K1301389-026	**0.077**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-105 M1	K1301389-027	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-106 M1DEEP	K1301389-028	**0.088**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-107 ILSP	K1301389-029	**0.082**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-108 M2	K1301389-030	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-109 M2DEEP	K1301389-031	**0.079**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-110 CLMBAY	K1301389-032	**0.079**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-111 WP	K1301389-033	**0.081**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-112 SN03	K1301389-034	**0.096**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-113 SN05	K1301389-035	**0.071**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-114 SN08	K1301389-036	**0.073**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-116 SN10	K1301389-037	**0.080**	0.010	0.004	1	02/26/13 13:40	2/25/13	

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Superset Reference:13-0000238950 rev 00

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB12-117 SN11	K1301389-038	**0.080**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-118 M3.3	K1301389-039	**0.082**	0.010	0.004	1	02/26/13 13:40	2/25/13	
AMB12-119 PS03C	K1301389-040	**0.087**	0.010	0.004	1	02/26/13 13:40	2/25/13	
Method Blank	K1301389-MB1	ND U	0.010	0.004	1	02/26/13 13:40	2/25/13	
Method Blank	K1301389-MB2	ND U	0.010	0.004	1	02/26/13 13:40	2/25/13	
Method Blank	K1301389-MB3	ND U	0.010	0.004	1	02/26/13 13:40	2/25/13	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13 - 02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Duplicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB12-001 PS03	K1301389-001DUP	0.010	0.004	0.087	0.084	0.0852	4	20	02/26/13
AMB12-022 PS12	K1301389-021DUP	0.010	0.004	0.086	0.086	0.0862	<1	20	02/26/13
AMB12-119 PS03C	K1301389-040DUP	0.010	0.004	0.087	0.094	0.0904	8	20	02/26/13

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/26/13
		Date Extracted:	02/25/13

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB12-001 PS03	**Units:**	mg/L
Lab Code:	K1301389-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1301389-001MS			Duplicate Matrix Spike K1301389-001DMS					
Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phosphorus, Total	0.087	0.447	0.500	72	0.862	1.00	77	60-135	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/12/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/26/13
		Date Extracted:	02/25/13

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB12-022 PS12	**Units:**	mg/L
Lab Code:	K1301389-021	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1301389-021MS			Duplicate Matrix Spike K1301389-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.086	0.451	0.500	73	0.858	1.00	77	60-135	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000238950 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Collected:**	02/13/13
Sample Matrix:	Ocean Water	**Date Received:**	02/15/13
		Date Analyzed:	02/26/13
		Date Extracted:	02/25/13

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB12-119 PS03C	**Units:**	mg/L
Lab Code:	K1301389-040	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1301389-040MS			Duplicate Matrix Spike K1301389-040DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.087	0.442	0.500	71	0.780	1.00	69	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1301389
Project:	FEB 2013 Ambient Monitoring (AMB12)	**Date Analyzed:**	02/26/13
Sample Matrix:	Ocean Water	**Date Extracted:**	02/25/13

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	330561

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1301389-LCS1	3.43	3.41	101	85-115
Lab Control Sample	K1301389-LCS2	3.44	3.41	101	85-115
Lab Control Sample	K1301389-LCS3	3.44	3.41	101	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1301389
Project: FEB 2013 Ambient Monitoring (AMB12)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	330561	KQ1301843-02	02/26/13 13:40	0.500	0.483	97	90-110
CCV2	330561	KQ1301843-04	02/26/13 13:40	0.500	0.483	97	90-110
CCV3	330561	KQ1301843-06	02/26/13 13:40	0.500	0.477	95	90-110
CCV4	330561	KQ1301843-08	02/26/13 13:40	0.500	0.490	98	90-110
CCV5	330561	KQ1301843-10	02/26/13 13:40	0.500	0.483	97	90-110
CCV6	330561	KQ1301843-12	02/26/13 13:40	0.500	0.489	98	90-110
CCV7	330561	KQ1301843-14	02/26/13 13:40	0.500	0.498	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1301389
Project: FEB 2013 Ambient Monitoring (AMB12)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	330561	KQ1301843-01	02/26/13 13:40	0.010	0.004	ND	U
CCB2	330561	KQ1301843-03	02/26/13 13:40	0.010	0.004	ND	U
CCB3	330561	KQ1301843-05	02/26/13 13:40	0.010	0.004	ND	U
CCB4	330561	KQ1301843-07	02/26/13 13:40	0.010	0.004	ND	U
CCB5	330561	KQ1301843-09	02/26/13 13:40	0.010	0.004	ND	U
CCB6	330561	KQ1301843-11	02/26/13 13:40	0.010	0.004	ND	U
CCB7	330561	KQ1301843-13	02/26/13 13:40	0.010	0.004	ND	U

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/12/13
Page: 1 of 2
COC Number:

Did not receive Lat/Long & WQ logs

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

CR23106

Lab. Use only: TOT ID	Lab DISS ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (DNE/DNR)	TSS/PSA	Nutrients	DOC	TOC					No. of containers	StationID	Comments
1006	1007	PS03	AMB12 -001	2/12/13 0900	NS	X	X	X	X	X					5		
1008	1009	PS04	-002	0912	NS	X	X	X	X	X					5		visable Sheen
1010	1011	PS05	-003	0920	NS	X	X	X	X	X					5		
1012	1013	PS14	-004	0935	NS	X	X	X	X	X					5		
1014	1015	PS06	-005	0941	NS	X	X	X	X	X					5		
1016	1017	PS07	-006	0959	NS	X	X	X	X	X					5		
1018	1019	PS08	-007	1012	NS	X	X	X	X	X					5		
1020	1021	PS08 Dup	-008	1014	NS	X									1		
1022	1023	PS15	-009	1022	NS	X	X	X	X	X					5		
1024	1025	PS09	-010	1035	NS	X	X	X	X	X					5		Smelly Exhaust/DO discharge
1026	1027	PS10	-011	1045	NS	X	X	X	X	X					5		
1028	1029	PS10.1	-012	1058	NS	X	X	X	X	X					5		
1030	1031	PS11	-013	1109	NS	X	X	X	X	X					5		alt ups burning
1032	1033	PS16	-014	1122	NS	X	X	X	X	X					5		
1034	1035	PS01	-015	1143	NS	X	X	X	X	X					5		

Relinquished by: 2/12/13 1948
Signature Date Time
JM Brandenberger PNNL
Printed Name Company

Received by: 2/13/13 MSL 0945
Signature
C. Sullivan
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery from field
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/12/13
Page: 2 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

CPB 3106
TPT | Diss

Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (TME/bME)	TSS / OSAL	Nutrients	DOC	TOC	Q30				No. of containers	StationID	Comments
1036	1037	PS02	AMB12 -016	2/12/13 1154	NS	X	X	X	X	X					5		
1038	1039	PS13	-017	1218	NS	X	X	X	X	X					5		
1040	1041	M4	-018	1228	M	X	X	X	X	X					5		
1042	1043	BJEST	-019	1244	NS	X	X	X	X	X					5		
1044	1045	M3.1	-020	1259	M	X	X	X	X	X					5		Scum on surface.
1046	1047	M3.1 Deep	-021	1324	M	X	X	X	X	X					5		~~20ft~~ 20m
1048	1049	PS12	-022	1337	NS	X	X	X	X	X					5		~~collected 56 samples GF~~
1050	1051	OF021	-023 *	1428	OF	X	X		X	X					4		collected 56 samples.
1052	1053	OF19	-024 *	1452	OF	X	X	X	X	X	X				6		Last sample 0638 HR
															—		OF18 - no sample / electrical outage
																	* OF 021, 019 should be labeled AMB12DD - 001
																	— 002

Relinquished by: JM Brandenberger — 2/12/13 — 1948
Signature — Date — Time
Printed Name — Company

Received by: C Sosham — 2/13/13 MSL 0745
Signature
Printed Name

Total # of Containers
Shipment Method: Will Correct when reporting
Shipment Method: Hand delivered 2/13/13
Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Gebhart, Mallerstuen, Brandenberger, Rosen, Beyerle	Page 1 of 1
Sampling Team		AMB13 2002-12-2013
Organization		Bremerton Tides

Use pre-assigned id: m/dd/yy hh:mm/dd/yy hh:mm

Weather: overcast/misty

12 Feb 2013

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PSO3	0857	0905	NS	47.56065	122.65128	
PSO4	0910	0916	NS	47.55455	122.64760	
PSO5	0918	0926	NS	47.55580	122.64587	
PS14	0931	0939	NS	47.55247	122.64339	
PSO6	0940	~~0942~~ 0952	NS	47.55310	122.64237	
~~PSO6~~ PSO7	0956	1004	NS	47.55593	122.64156	
PSO8	1010	1017	NS	47.55782	122.63857	
PS15	1020	1027	NS	47.55571	122.63631	
PSO9	1033	1038	NS	47.56013	122.63595	
PS10	1044	1048	NS	47.56023	122.63260	
PS10.1	1056	1101	NS	47.56129	122.63130	
PS11	1109	1117	NS	47.56042	122.62898	
PS16	1120	1126	NS	47.55879	122.62841	
PS01	1141	1147	NS	47.55374	122.65754	
PS02	1152	1156	NS	47.55423	122.65468	
PS13	1217	1221	NS	47.55171	122.65380	
M4	1226	1232	M	47.54208	122.66248	
BJEST	1242	1250	NS	47.54702	122.62879	
M3.1	1258	1324	M	47.55836	122.61437	
~~M3.1~~ PS12	1330	1340	NS	45.56045	122.62843	A
PSO3B	1353		NS	47.55580	122.65191	

~~M3.1 DUP~~

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Gebhart, Mollerstrum, Brandenberger, Rosen, Beyerle									PSNS Project ENVVEST				
Sampling Team										Ambient Monitoring:			AMB 12 CTO 02 12 2013	
Organization										Instrument:				
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	ntu	mS	mS S/m3	mg/L	C	m	ppt %	g/ml	ft	ft		
SampleID	StationID	12 Feb 2013 Date/Time	Turb	Steady pH	Cond	DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments	
001	PS03	0900	.10	31.41	46.37		8.1		29.9		23	32.5		
002	PS04	0910	.68	31.98	46.89		8.3		30.2		17	39.4	Visable Sheen	
003	PS05	0920	1.60	32.16	47.06		8.4		30.3		21	56.1		
004	PS14	0931	1.19	32.25	47.15		8.5		30.4		15	49.1		
005	PS06	0941	1.04	31.43	46.37		8.8		29.2		15	41.2		
006	PS07	0956	.53	32.10	47.00		8.4		30.3		20	35.9		
007	PS08	1010	.44	32.15	47.25		8.3		30.5		20	38.6		
~~008~~	Dup													
009	PS15	1020	.55	32.32	47.38		8.4		30.6		20	51.8	discharge from dock	
010	PS09	1034	.38	32.19	47.16		8.3		30.4		19	41.1	Exhaust Smelling	
011	PS10	1046	.44	32.24	47.29		8.3		30.5		21	29.3	Visable Sheen	
012	PS10.1	1056	.46	32.07	47.19		8.3		30.4		20	~~30.4~~ 27.4	outlups burning	
	PS11	1109	.38	32.37	47.50		8.3		30.6		15	34.4		
	PS16	1121	.43	32.39	47.54		8.3		30.7		19	43.7		
	PS01	1144	.73	31.8	46.63		8.3		30.0		20	42.3		
	PS02	1153	.33	31.91	46.91		8.3		30.1		16	26.1		
	PS13	1218	.30	31.79	46.80		8.2		30.2		21	46.1		
	M4	1227	.70	31.93	46.64		8.5		29.9		16	29.3		
	BJEST	1242	.27	31.81	46.65		8.3		30		bottom	2.9		
	M3.1	1259	.82	32.14	47.19		8.3		30		19	115	Scum on Surface	
	M3.1 Dup	~~1255~~ 1305	—	32.41	47.56		8.3		30.7		—	—	All Cable out	
	PS12	1332	.80	32.38	47.49		8.3		30.6		17	21		
	PS03B	1354	.70	32.03	47.07		8.4		30.3		21	—		
	M3.1 Deep	20fm		32.02	46.81		8.4		30.2				GOFLOW	

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-001	PS03-TME	TME	PS03	3106-1006	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-001	PS03-DME	DME	PS03	3106-1007	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-002	PS04-TME	TME	PS04	3106-1008	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-002	PS04-DME	DME	PS04	3106-1009	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-003	PS05-TME	TME	PS05	3106-1010	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-003	PS05-DME	DME	PS05	3106-1011	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-004	PS14-TME	TME	PS14	3106-1012	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-004	PS14-DME	DME	PS14	3106-1013	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-005	PS06-TME	TME	PS06	3106-1014	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-005	PS06-DME	DME	PS06	3106-1015	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-006	PS07-TME	TME	PS07	3106-1016	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-006	PS07-DME	DME	PS07	3106-1017	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-007	PS08-TME	TME	PS08	3106-1018	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-007	PS08-DME	DME	PS08	3106-1019	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-008	PS08DUP-TME	TME	PS08DUP	3106-1020	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-008	PS08DUP-DME	DME	PS08DUP	3106-1021	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-009	PS15-TME	TME	PS15	3106-1022	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-009	PS15-DME	DME	PS15	3106-1023	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-010	PS09-TME	TME	PS09	3106-1024	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-010	PS09-DME	DME	PS09	3106-1025	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-011	PS10-TME	TME	PS10	3106-1026	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-011	PS10-DME	DME	PS10	3106-1027	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-012	PS10.1-TME	TME	PS10.1	3106-1028	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-012	PS10.1-DME	DME	PS10.1	3106-1029	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-013	PS11-TME	TME	PS11	3106-1030	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-013	PS11-DME	DME	PS11	3106-1031	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-014	PS16-TME	TME	PS16	3106-1032	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-014	PS16-DME	DME	PS16	3106-1033	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-015	PS01-TME	TME	PS01	3106-1034	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-015	PS01-DME	DME	PS01	3106-1035	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-016	PS02-TME	TME	PS02	3106-1036	Seawater	PREP LAB	Total Metals, Hg	02/12/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-016	PS02-DME	DME	PS02	3106-1037	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-017	PS13-TME	TME	PS13	3106-1038	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-017	PS13-DME	DME	PS13	3106-1039	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-018	M4-TME	TME	M4	3106-1040	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-018	M4-DME	DME	M4	3106-1041	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-019	BJEST-TME	TME	BJEST	3106-1042	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-019	BJEST-DME	DME	BJEST	3106-1043	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-020	M3.1-TME	TME	M3.1	3106-1044	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-020	M3.1-DME	DME	M3.1	3106-1045	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-021	M3.1 DEEP-TME	TME	M3.1 DEEP	3106-1046	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-021	M3.1 DEEP-DME	DME	M3.1 DEEP	3106-1047	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12-022	PS12-TME	TME	PS12	3106-1048	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12-022	PS12-DME	DME	PS12	3106-1049	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12DD-001	OF021-TME	TME	OF021	3106-1050	Freshwater	PREP LAB	Total Metals, Hg	02/12/13
AMB12DD-001	OF021-DME	DME	OF021	3106-1051	Freshwater	PREP LAB	Dissolved Metals, Hg	02/12/13
AMB12DD-002	OF019-TME	TME	OF019	3106-1052	Seawater	PREP LAB	Total Metals, Hg	02/12/13
AMB12DD-002	OF019-DME	DME	OF019	3106-1053	Seawater	PREP LAB	Dissolved Metals, Hg	02/12/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-001	PS03-TOC	TOC	PS03	3106-1006	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-002	PS04-TOC	TOC	PS04	3106-1008	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-003	PS05-TOC	TOC	PS05	3106-1010	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-004	PS14-TOC	TOC	PS14	3106-1012	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-005	PS06-TOC	TOC	PS06	3106-1014	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-006	PS07-TOC	TOC	PS07	3106-1016	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-007	PS08-TOC	TOC	PS08	3106-1018	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-009	PS15-TOC	TOC	PS15	3106-1022	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-010	PS09-TOC	TOC	PS09	3106-1024	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-011	PS10-TOC	TOC	PS10	3106-1026	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-012	PS10.1-TOC	TOC	PS10.1	3106-1028	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-013	PS11-TOC	TOC	PS11	3106-1030	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-014	PS16-TOC	TOC	PS16	3106-1032	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-015	PS01-TOC	TOC	PS01	3106-1034	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-016	PS02-TOC	TOC	PS02	3106-1036	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-017	PS13-TOC	TOC	PS13	3106-1038	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-018	M4-TOC	TOC	M4	3106-1040	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-019	BJEST-TOC	TOC	BJEST	3106-1042	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-020	M3.1-TOC	TOC	M3.1	3106-1044	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-021	M3.1 DEEP-TOC	TOC	M3.1 DEEP	3106-1046	Seawater	Walkin Freezer	TOC	02/12/13
AMB12-022	PS12-TOC	TOC	PS12	3106-1048	Seawater	Walkin Freezer	TOC	02/12/13
AMB12DD-001	OF021-TOC	TOC	OF021	3106-1050	Seawater	Walkin Freezer	TOC	02/12/13
AMB12DD-002	OF019-TOC	TOC	OF019	3106-1052	Freshwater	Walkin Freezer	TOC	02/12/13

SAMPLE LOGIN

Project Manager: Brandenberger
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Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
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Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-001	PS03-DOC	DOC	PS03	3106-1007	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-002	PS04-DOC	DOC	PS04	3106-1009	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-003	PS05-DOC	DOC	PS05	3106-1011	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-004	PS14-DOC	DOC	PS14	3106-1013	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-005	PS06-DOC	DOC	PS06	3106-1015	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-006	PS07-DOC	DOC	PS07	3106-1017	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-007	PS08-DOC	DOC	PS08	3106-1019	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-009	PS15-DOC	DOC	PS15	3106-1023	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-010	PS09-DOC	DOC	PS09	3106-1025	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-011	PS10-DOC	DOC	PS10	3106-1027	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-012	PS10.1-DOC	DOC	PS10.1	3106-1029	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-013	PS11-DOC	DOC	PS11	3106-1031	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-014	PS16-DOC	DOC	PS16	3106-1033	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-015	PS01-DOC	DOC	PS01	3106-1035	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-016	PS02-DOC	DOC	PS02	3106-1037	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-017	PS13-DOC	DOC	PS13	3106-1039	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-018	M4-DOC	DOC	M4	3106-1041	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-019	BJEST-DOC	DOC	BJEST	3106-1043	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-020	M3.1-DOC	DOC	M3.1	3106-1045	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-021	M3.1 DEEP-DOC	DOC	M3.1 DEEP	3106-1047	Seawater	Walkin Freezer	DOC	02/12/13
AMB12-022	PS12-DOC	DOC	PS12	3106-1049	Seawater	Walkin Freezer	DOC	02/12/13
AMB12DD-001	OF021-DOC	DOC	OF021	3106-1051	Seawater	Walkin Freezer	DOC	02/12/13
AMB12DD-002	OF019-DOC	DOC	OF019	3106-1053	Seawater	Walkin Freezer	DOC	02/12/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1006	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1008	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1010	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1012	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-005	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1014	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-006	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1016	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-007	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1018	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-009	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1022	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-010	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1024	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1026	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1028	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-013	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1030	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-014	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1032	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-015	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1034	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-016	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1036	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-017	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1038	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-018	M4-TSS/OSAL	TSS/OSAL	M4	3106-1040	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-019	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1042	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-020	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1044	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-021	M3.1 DEEP-TSS/OSAL	TSS/OSAL	M3.1 DEEP	3106-1046	Seawater	MSL	TSS/OSAL	02/12/13
AMB12-022	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1048	Seawater	MSL	TSS/OSAL	02/12/13
AMB12DD-001	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1050	Seawater	MSL	TSS/OSAL	02/12/13
AMB12DD-002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1052	Seawater	MSL	TSS/OSAL	02/12/13

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1006 - 1053 Batch: 29

Project Name: AMB12 ENVVEST Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater/freshwater WP#

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
	✓	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

✓		Filter Samples:	Amount: Entire sample (Half of sample)
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
✓		Special instructions:	oil & grease + nutrients to ALS

Sample Preservation Instructions: TOC/DOC freezer

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
✓			Cooler temperature (acceptable range: 4±2°C or solids:frozen) 7 cooler 4 ± 2 °C
			(if multiple coolers, note temp. of each) °C
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
			Comment/Remedy:
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes:

Completed By: JMB Date/Time: 2/12/13 1951

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [KC] Sample(s) were preserved at MSL

Type: [KC]	0.2% HNO3 - Metals	Notes: opt.	Lot# 121100
[ ]	0.5% HCl (Hg samples)	Notes:	Lot#
[ ]	(Refrigerate/Freeze) TSS/TOC/TOC	Notes: NA	
[ ]	Other 0.6 to CAS	Notes:	

Completed By: Date/Time: 2/13/13 18:00

Storage Shelf: 3106 1006 - 1025 - K3B ; 3106 1026 - 1045 - K6B remainder - KLC

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/13/2013
Page: 1 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: Johnston, Brandenberger, Street
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB12

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters: DME | TSS-OSAL | Nut | TDC | DOC | No. of containers

Observations, Instructions

3106 TOT | DISS

Lab. Use only: Lab ID	1055	Sample ID	Sample Lable	Collection Date/Time	Matrix	DME	TSS-OSAL	Nut	TDC	DOC	No. of containers	StationID	Comments
1054	AMB12-100		AMB12-100 MB	0915	M	1	1	1	1	1	5	MB	very clam smooth
1056	1057	101	MB	0934	M						5	MB	
1058	1059	102	MB Dup	0963	M						1	MB	Metals Dup only
1060	1061	103	M7	0945	M	1	1	1	1	1	5	M7	
1062	1063	104	DYOTS	1002	NS	1	1	1	1	1	5	DYOTS	off Port Dock
1064	1065	105	M1	1102	M	1	1	1	1	1	5	M1	POP University Point
1066	1067	106	M1Deep	1117	M	1	1	1	1	1	5	M1	POP University Point
1068	1069	107	ILSP	1131	NS	1	1	1	1	0		ILSP	Illahee State Park
1070	1071	108	M2	1155	M	1	1	1	1	1		M2	Rilli Passage
1072	1073	109	M2DEEP	1150	M	1	1	1	1	1		M2Deep	
1074	1075	110	~~Lost~~ CLIMBY		NS	1	1	1	1	1		CLIMBY	Clam Bay
1076	1077	111	WP	1238	NS	1	1	1	1	1		WP	
1078	1079	112	~~SNO~~ SNO3	1305	NS	1	1	1	1	1		SNO3	Brem LWVTP
1080	1081	113	SNO5	1345	NS	1	1	1	1	1		SNO5	Corst
1082	1083	114	SNO8	1330	NS	1	1	1	1	1		SNO8	Rose Point

Relinquished by:
Signature: Jill Brandenberger
Printed Name: Jill Brandenberger
Date: 2/14/13
Time: 0710
Company: BI PANEL

Received by:
Signature: C. Sosiak
Printed Name: C. Sosiak
Time: 0710 2/14/13
Company: MSL

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery from field

Relinquished by:
Signature
Printed Name
Date
Time
Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/13/13
Page: 2 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: Johnston Brandenberger, street
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB12

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TNS	TSS TOSAL	NUT	DOC	TOC	No. of containers	StationID	Comments
1084 / 1085	AMB12-115	SNC8DUP	1330	NS	1					1	SNC8	metals Dup
1086 / 1087	-116	SN10	1340	NS	1	1	1	1	1	5	SN10	
1088 / 1089	-117	~~MA3~~ SN11	1355	NS	1	1	1	1	1	5	SN11	
1090 / 1091	-118	M3.3	1410	M	1	1	1	1	1	5	M3.3	
1092 / 1093	-119	PS03C	1425	NS	1	1	1	1	1	5	PS03	
end												

Relinquished by: JMB 2/14/13 0710
Signature Date Time
Jm Brandenberger PNNL
Printed Name Company

Received by: C. Susuca 0710 2/14/13
Signature
C. Susuca MSL
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

AMBI2

Sample Collector	Bob Johnston, Jill Brandenberger, Sara Street	Page 1 of 1
Sampling Team		2/13/2012
Organization		Bremerton Tides

Use pre-assigned id: 2/13/2012 m/dd/yy hh:mm/dd/yy hh:mm

Weather: Overcast ~~Overcast~~

StationID (AMBI2)	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
AMBI2-M8	0908		M	47.57442	122.67815	Oyster Bay
M6	0934		M	47.59583	122.68517	Ostrich Bay
M7	0945		M	47.62347	122.68761	Wiley Point
DOCKS	0958		NS	47.6410	122 69390	old town Silverdale
M11	1100		M	47.62735	122.58255	Port Orchard Pass Channel Point
M11deep	1127		M	47.62782	122.58266	Deep 3.5m deep
FLSP	1131		M	47.60042	122.59411	Illahee State park
M2	1155		M	~~122.53730~~ Same as below		Surface Rich Passage
M2DEEP	1156		M	47.57336	122.53728	Deep 3.5 m Ferry wake
CLIMBY	1215		NS	47.57104	122.54661	6ft deep
WF	1238		NS	47.58418	122.57146	Ferry wake!
SN03	1305		NS	47.54677	122.67164	Bmn WWTP
SN05	1315		NS	47.53136	122.68583	Gorst
SN06	1330		NS	47.54055	122.54055	Ross Point
SN10	1340		NS	47.54090	122.64246	PO Dock
SN11	1355		NS	47.54337	122.63528	Ferry Dock SN11
M3.3	1410		NS	47.54679	122.64302	M3.3
PSOBC	1425		NS	47.55572	122.65191	Back at Dock

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Johnston, Brandenberger, Street								PSNS Project ENVVEST 2/13/2012				
Sampling Team									Ambient Monitoring: AMB12				
Organization				Flash Steady					Instrument:				
Use pre-assigned id	Use allowable code only	2/13/2012 mm/dd/yy hh:mm	ntu		ms S/m3	ms mg/L	C	m	ppt	g/ml	ft	ft	
SampleID	StationID	Date/Time	Turb	pH	Cond	Cond DO	Temp	Probe Depth	Sal	density	secchi dish	bot tom	Remarks/ Comments
AMB12-000	M8	0910	.61		46.97	31.9	8.2	1	30.3		15	16	clam spawn
-101	M6	0934	.72		47.23	32.03	8.2	1	30.4		13	15	
-103	M7	0945	.42		47.31	32.22	8.2	1	30.5		17	99	
-104	DYOI>	1002	.34		46.87	31.93	8.4	1	30.1		16	21	
-105	M1	1102	.39		47.69	32.46	8.3	1	30.8		20	116	Port Orchard Passage
-106	M1Deep	1118	.62		47.42	32.26	8.3	3.5	30.6				deep sample 3.1 m
-107	ILSP	1131	.61		47.78	32.57	8.3	1	30.8		20	34	off dock
-108	M2	1155	.27		47.87	32.68	8.4	1	30.9		16	113	Rich Passage
-109	M2Deep	1150	1.29		47.57	32.33	8.4	3.5	30.7				
-110	CLMBY	1214	.28		47.93	32.8	8.5	1	31.0		Bottom	3.4	Clam Bay Mouth of Beaver Cr
-111	WP	1238	.45		47.59	32.45	8.3	1	30.7		19	42	Waterman Point
-112	SN03	1305	.66		46.38	31.8	8.5	1	30		Bottom	6.4	
-113	SN05	1315	2.44		45.56	31.52	8.7	.5	30		Bottom	2.1	2ft deep
-114	SN04	1330	.66		44.83	30.62	8.4	1	28.7		Bottom	7	see bottom
-116	SN10	1345	.24		45.6	31.41	8.6	1	29.4		Bottom	8.5	
-117	SN11	1355	.31		47.16	32.47	8.5		30.4		Bottom	17	
-118	M3.3	1410	.32		47.02	32.25	8.5		30.3		15	40	middle of channel
-119	PSOSC	1425	.13		47.06	32.23	8.5		30.3		18	31	back at dock

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-100	M8-TME	TME	M8	3106-1054	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-100	M8-DME	DME	M8	3106-1055	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-101	M6-TME	TME	M6	3106-1056	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-101	M6-DME	DME	M6	3106-1057	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-102	M6DUP-TME	TME	M6DUP	3106-1058	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-102	M6DUP-DME	DME	M6DUP	3106-1059	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-103	M7-TME	TME	M7	3106-1060	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-103	M7-DME	DME	M7	3106-1061	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-104	DYOTS-TME	TME	DYOTS	3106-1062	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-104	DYOTS-DME	DME	DYOTS	3106-1063	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-105	M1-TME	TME	M1	3106-1064	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-105	M1-DME	DME	M1	3106-1065	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-106	M1DEEP-TME	TME	M1DEEP	3106-1066	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-106	M1DEEP-DME	DME	M1DEEP	3106-1067	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-107	ILSP-TME	TME	ILSP	3106-1068	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-107	ILSP-DME	DME	ILSP	3106-1069	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-108	M2-TME	TME	M2	3106-1070	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-108	M2-DME	DME	M2	3106-1071	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-109	M2DEEP-TME	TME	M2DEEP	3106-1072	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-109	M2DEEP-DME	DME	M2DEEP	3106-1073	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-110	CLMBAY-TME	TME	CLMBAY	3106-1074	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-110	CLMBAY-DME	DME	CLMBAY	3106-1075	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-111	WP-TME	TME	WP	3106-1076	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-111	WP-DME	DME	WP	3106-1077	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-112	SN03-TME	TME	SN03	3106-1078	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-112	SN03-DME	DME	SN03	3106-1079	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-113	SN05-TME	TME	SN05	3106-1080	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-113	SN05-DME	DME	SN05	3106-1081	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-114	SN08-TME	TME	SN08	3106-1082	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-114	SN08-DME	DME	SN08	3106-1083	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-115	SN08DUP-TME	TME	SN08DUP	3106-1084	Seawater	PREP LAB	Total Metals, Hg	02/13/13

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-115	SN08DUP-DME	DME	SN08DUP	3106-1085	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-116	SN10-TME	TME	SN10	3106-1086	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-116	SN10-DME	DME	SN10	3106-1087	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-117	SN11-TME	TME	SN11	3106-1088	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-117	SN11-DME	DME	SN11	3106-1089	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-118	M3.3-TME	TME	M3.3	3106-1090	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-118	M3.3-DME	DME	M3.3	3106-1091	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13
AMB12-119	PS03C-TME	TME	PS03C	3106-1092	Seawater	PREP LAB	Total Metals, Hg	02/13/13
AMB12-119	PS03C-DME	DME	PS03C	3106-1093	Seawater	PREP LAB	Dissolved Metals, Hg	02/13/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
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Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-100	M8-TOC	TOC	M8	3106-1054	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-101	M6-TOC	TOC	M6	3106-1056	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-103	M7-TOC	TOC	M7	3106-1060	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-104	DYOTS-TOC	TOC	DYOTS	3106-1062	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-105	M1-TOC	TOC	M1	3106-1064	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-106	M1DEEP-TOC	TOC	M1DEEP	3106-1066	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-107	ILSP-TOC	TOC	ILSP	3106-1068	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-108	M2-TOC	TOC	M2	3106-1070	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-109	M2DEEP-TOC	TOC	M2DEEP	3106-1072	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-110	CLMBAY-TOC	TOC	CLMBAY	3106-1074	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-111	WP-TOC	TOC	WP	3106-1076	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-112	SN03-TOC	TOC	SN03	3106-1078	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-113	SN05-TOC	TOC	SN05	3106-1080	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-114	SN08-TOC	TOC	SN08	3106-1082	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-116	SN10-TOC	TOC	SN10	3106-1086	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-117	SN11-TOC	TOC	SN11	3106-1088	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-118	M3.3-TOC	TOC	M3.3	3106-1090	Seawater	Walkin Freezer	TOC	02/13/13
AMB12-119	PS03C-TOC	TOC	PS03C	3106-1092	Seawater	Walkin Freezer	TOC	02/13/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-100	M8-DOC	DOC	M8	3106-1055	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-101	M6-DOC	DOC	M6	3106-1057	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-103	M7-DOC	DOC	M7	3106-1061	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-104	DYOTS-DOC	DOC	DYOTS	3106-1063	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-105	M1-DOC	DOC	M1	3106-1065	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-106	M1DEEP-DOC	DOC	M1DEEP	3106-1067	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-107	ILSP-DOC	DOC	ILSP	3106-1069	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-108	M2-DOC	DOC	M2	3106-1071	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-109	M2DEEP-DOC	DOC	M2DEEP	3106-1073	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-110	CLMBAY-DOC	DOC	CLMBAY	3106-1075	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-111	WP-DOC	DOC	WP	3106-1077	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-112	SN03-DOC	DOC	SN03	3106-1079	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-113	SN05-DOC	DOC	SN05	3106-1081	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-114	SN08-DOC	DOC	SN08	3106-1083	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-116	SN10-DOC	DOC	SN10	3106-1087	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-117	SN11-DOC	DOC	SN11	3106-1089	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-118	M3.3-DOC	DOC	M3.3	3106-1091	Seawater	Walkin Freezer	DOC	02/13/13
AMB12-119	PS03C-DOC	DOC	PS03C	3106-1093	Seawater	Walkin Freezer	DOC	02/13/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/12/13 (logged in 2/13/13)
Batch: 29
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-100	M8-TSS/OSAL	TSS/OSAL	M8	3106-1054	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-101	M6-TSS/OSAL	TSS/OSAL	M6	3106-1056	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-103	M7-TSS/OSAL	TSS/OSAL	M7	3106-1060	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-104	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1062	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-105	M1-TSS/OSAL	TSS/OSAL	M1	3106-1064	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-106	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1066	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-107	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1068	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-108	M2-TSS/OSAL	TSS/OSAL	M2	3106-1070	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-109	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1072	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-110	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1074	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-111	WP-TSS/OSAL	TSS/OSAL	WP	3106-1076	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-112	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1078	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-113	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1080	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-114	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1082	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-116	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1086	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-117	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1088	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-118	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1090	Seawater	MSL	TSS/OSAL	02/13/13
AMB12-119	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-1092	Seawater	MSL	TSS/OSAL	02/13/13

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1054 - 1093 Batch: 30

Project Name: AMB12 FNUUEST Day 2 Project Manager: JMM

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP# _____

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples:	Amount: Entire sample / Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☑	☐	Special instructions:	send nutrients to ALS; freeze DOC/TOC

Sample Preservation Instructions: metals 0.2% HNO_3 after filtration

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present — Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) 5 coolers 4 ± 2 °C
			(if multiple coolers, note temp. of each) _____ °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
			Comment/Remedy: _____
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable / Other (explain):

Container type: Teflon / Poly / Glass Cap. Vial Other: _____

Notes: _____

Completed By: _____ Date/Time: 2/13/13 1700

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs: _____
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☑		Sample(s) were preserved at MSL	
Type:	☑	0.2% HNO_3	Notes: opt. Lot# 121100
	☐	0.5% HCl (Hg samples)	Notes: _____ Lot# _____
	☐	Refrigerate/Freeze TOC/DOC NUT/TSS	Notes: _____
	☐	Other	Notes: _____

Completed By: _____ Date/Time: 2/14/13 16:00

Storage Shelf: 1054 - 1065 - K6C 1066 - 1083 - K6D Others K5D

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/19/2013
Batch: 31
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEBRUARY 2013 (AMB12)**

Sponsor ID	Sample Lable	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB12-120	EQBLK021913-TME	TME	EQBLK021913	3106-1094	DI Water	PREP LAB	Total Metals, Hg	02/19/13
AMB12-120	EQBLK021913-DME	DME	EQBLK021913	3106-1095	DI Water	PREP LAB	Dissolved Metals, Hg	02/19/13

K1301341

PROJECT ENVVEST	
Project Name: FEB 2013 Ambient Monitoring (AMB12)	
SAMPLE TEAM:	Navy, Battelle
DATE:	2/13/2013
Laboratory:	Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB12DD-024	OF019	2/13/13 14:52	Seawater						X			1	
--end--													

Total: 1

Relinquished By: C. Suslick	Company: Battelle MSL	shipped via Fedex 2/13/13, CS
Signature/Printed Name	2/13/2013 Date/Time	
Received By: K Smith	Company: ALS	
Signature/Printed Name K Smith	2/14/13 0900 Date/Time	

SOP#: MSL-A-001

PROJECT ENVVEST															
Project Name: FEB 2013 Ambient Monitoring (AMB12)															
SAMPLE TEAM:		Navy, Battelle													
DATE:	2/13/2013														
Laboratory:	Columbia Analytical														

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Should be AMB12DD-002 2/13/13 Will Correct in reporting

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
~~AMB12DD-024~~	OF019	2/13/13 14:52	Seawater						X			1	
--end--													
											Total:	1	

Relinquished By:	Company:	Battelle MSL	
C. Suslick		2/13/2013	shipped via Fedex 2/13/13, CS
Signature/Printed Name		Date/Time	
Received By:	Company:		
Signature/Printed Name		Date/Time	

PC 42

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K13* 0134

Received: 2/14/13 Opened: 2/14/13 By: [illegible] Unloaded: 2/14/13 By: [illegible]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
.7	.8	—	—	+.1	299		7947 4528 5080	

7. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

K1301389

PROJECT ENVVEST		
Project Name: FEB 2013 Ambient Monitoring (AMB12)		
SAMPLE TEAM:	Navy, Battelle	
DATE:	2/14/2013	
Laboratory:	Columbia Analytical	

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB12-001	PS03	2/12/13 0:00	Seawater				X					1	NO TKN analysis for AMB12!
AMB12-002	PS04	2/12/13 0:00	Seawater				X					1	
AMB12-003	PS05	2/12/13 0:00	Seawater				X					1	
AMB12-004	PS14	2/12/13 0:00	Seawater				X					1	
AMB12-005	PS06	2/12/13 0:00	Seawater				X					1	
AMB12-006	PS07	2/12/13 0:00	Seawater				X					1	
AMB12-007	PS08	2/12/13 0:00	Seawater				X					1	
AMB12-009	PS15	2/12/13 0:00	Seawater				X					1	
AMB12-010	PS09	2/12/13 0:00	Seawater				X					1	
AMB12-011	PS10	2/12/13 0:00	Seawater				X					1	
AMB12-012	PS10.1	2/12/13 0:00	Seawater				X					1	
AMB12-013	PS11	2/12/13 0:00	Seawater				X					1	
AMB12-014	PS16	2/12/13 0:00	Seawater				X					1	
AMB12-015	PS01	2/12/13 0:00	Seawater				X					1	
AMB12-016	PS02	2/12/13 0:00	Seawater				X					1	
AMB12-017	PS13	2/12/13 0:00	Seawater				X					1	
AMB12-018	M4	2/12/13 0:00	Seawater				X					1	
AMB12-019	BJEST	2/12/13 0:00	Seawater				X					1	
AMB12-020	M3.1	2/12/13 0:00	Seawater				X					1	
AMB12-021	M3.1 DEEP	2/12/13 0:00	Seawater				X					1	
AMB12-022	PS12	2/12/13 0:00	Seawater				X					1	
AMB12-024	OF019	2/12/13 0:00	OUTFALL				X					1	
AMB12-100	M8	2/13/13 0:00	Seawater				X					1	
AMB12-101	M6	2/13/13 0:00	Seawater				X					1	
AMB12-103	M7	2/13/13 0:00	Seawater				X					1	
AMB12-104	DYOTS	2/13/13 0:00	Seawater				X					1	

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SOP#: MSL-A-001

Page 1 of 2

K1301389

PROJECT ENVVEST		
Project Name: FEB 2013 Ambient Monitoring (AMB12)		
SAMPLE TEAM:	Navy, Battelle	
DATE:	2/14/2013	
Laboratory:	Columbia Analytical	

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB12-105	M1	2/13/13 0:00	Seawater				X					1	
AMB12-106	M1DEEP	2/13/13 0:00	Seawater				X					1	
AMB12-107	ILSP	2/13/13 0:00	Seawater				X					1	
AMB12-108	M2	2/13/13 0:00	Seawater				X					1	
AMB12-109	M2DEEP	2/13/13 0:00	Seawater				X					1	
AMB12-110	CLMBAY	2/13/13 0:00	Seawater				X					1	
AMB12-111	WP	2/13/13 0:00	Seawater				X					1	
AMB12-112	SN03	2/13/13 0:00	Seawater				X					1	
AMB12-113	SN05	2/13/13 0:00	Seawater				X					1	
AMB12-114	SN08	2/13/13 0:00	Seawater				X					1	
AMB12-116	SN10	2/13/13 0:00	Seawater				X					1	
AMB12-117	SN11	2/13/13 0:00	Seawater				X					1	
AMB12-118	M3.3	2/13/13 0:00	Seawater				X					1	
AMB12-119	PS03C	2/13/13 0:00	Seawater				X					1	
--end--													
											Total:	40	

Relinquished By:		Company:	Battelle MSL
C. Suslick			2/14/2013
Signature/Printed Name			Date/Time
Received By:		Company:	
S Davis	S Davis	ALS KEISO	2/15/13 0900
Signature/Printed Name			Date/Time

shipped via Fedex 2/14/13, CS

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SOP#: MSL-A-001

PC 47

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K13* 01389

Received: 2/15/13 Opened: 2/15/13 By: SD Unloaded: 2/15/13 By: SD

1. Samples were received via? *Mail* *(Fed Ex)* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
1.2	1.0	-	-	-0.2	309			X
1.4	1.3	-	-	-0.1	282			X
1.4	1.4	-	-	0	254			X

7. Packing material: *Inserts* *Baggies* *(Bubble Wrap)* *(Gel Packs)* *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Votes, Discrepancies, & Resolutions:*_____

SAMPLE CHAIN OF CUSTODY FORM

Date: 01/28/2013
Page: 2 of 2
COC Number: MW2013-01-28

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVVEST
Project Name: Mussel Watch 2013
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: Mussel Watch 2013 (Native Stations)

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters (Dissolved / Total)

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Water metals (Dissolved / Total)	TOC / TSS								No. of containers	StationID	Comments
	MW2013-		01/28/2013													
3356	01-28-001	PS11-1	1049	Mussel										1	PS11	Base on Piling NW end of Pier 7
3356	01-28-002	PS11-2	1050	Mussel										1	PS11	Base of Quay wall Pier 7
	01-28-003	PS11-3	1052	Mussel										1	PS11	NE end of Pier 6 on Piling
3356-8	01-28-004	Pier 7 RB16	1056	Mussel										1	Pier 7	Piling RB16 West Side of Pier
3356-4/5	01-28-005	Pier 7 RB16	1104	NS	1	1								2	Pier 7	water sample same location
	01-28-006	PS01-1	1143	Mussel										1	PS01	On piling and Mooring G N end
3356	01-28-007	PS01-2	1147	Mussel										1	PS01	piling on Mooring G North
	01-28-008	PS01-3	1152	Mussel										1	PS01	piling on Mooring G further S
3356-9	01-28-009	Pier 7 FC32	1241	Mussel										1	Pier 7	E side of Pier, Piling FC32
3356-8	01-28-010	PS01	1255	NS	1	1								2	PS01	Water Sample from near Mussel
3356-10	01-28-011	Pier 7 CB01	1312	Mussel										1	Pier 7	from SE end of Pier 7
3356-11/12																

Relinquished by: [signature] 1/28/2013 1936
Signature Date Time
Printed Name Company

Received by: [signature]
Signature
JM Brandenberger
Printed Name

Total # of Containers
Shipment Method: Hand delivered

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Johnston Gebhart street Beyerle	PSNS Project ENVVEST		Page 1 of 2
Sampling Team		~~Ambient Monitoring~~		MW2013_01-28
Organization		Mussel Watch 2013		Bremerton Tides
Use pre-assigned id	01/28/2013 m/dd/yy hh:mm/dd/yy hh:mm			

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS11-1	1048		Mussel	47.560612	-122.628890	Mussels
PS11-2	1050		mussel	47.56048	-122.628914	Mussels
PS11-3	1052		mussel	47.560448	-122.62897	Mussels
Pier7 RB16	1056		Mussel	47.55950	-122.62897	mussels taken from RB16 & RB17
Pier7 RB16	1104		NS	47.55950	-122.628891	water sample TOC & metals
PS01-1	1143		Mussel	47.55412	-122.65677	mussels-1
PS01-2	1147		Mussel	47.55403	-122.65664	mussel-2
PS01-3	1152		Mussel	47.55362	-122.656636	mussel-3
Pier7 RB FE32	1241		Mussel	47.55920	-122.628413	~~water sample TOC~~
PS01	1255		NS	47.55401	-122.65680	water sample TOC
Pier7 CB01	1312		Mussel	47.55860	-122.62906	mussels

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 1/28/13 (logged in 1/29/13)
Batch: 2
Login Designee: Suslick
Project: **ENVVEST Mussel Watch 2013**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date	Time
MW2013_01-28-005	PIER 7 RB16	3356-4	NS Wat	Lab 114 TOC K-3-A Metals	Total Metals, TOC	01/28/13	1104
MW2013_01-28-005	PIER 7 RB16	3356-5	NS Wat	Lab 114 TOC K-3-A Metals	Dissolved Metals	01/28/13	1104
MW2013_01-28-010	PIER 7 CB01	3356-11	NS Wat	Lab 114 TOC K-3-A Metals	Total Metals, TOC	01/28/13	1255
MW2013_01-28-010	PIER 7 CB01	3356-12	NS Wat	Lab 114 TOC K-3-A Metals	Dissolved Metals	01/28/13	1255

NOTE: COC indicates TSS analyses however sample was not collected in an appropriate bottle. Not enough material in the metals (unpreserved) sample and TOC bottle included preservative.
NS = near shore water

SOP#: MSL-A-001

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3356 Sample No(s): 4-10 Batch: 2

Project Name: MW203 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Water (SW) WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☑	☐	Custody seal present Seal intact? YES NO
☐	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL? (Water) Total/Diss not

hand delivered on ice °C °C

Comment/Remedy:

Sample condition(s): Acceptable Other (explain):

Container type: Water Teflon Poly Glass Cap. Vial Other: Baggies - mussels TOC

Notes:

NO TSS - TOC bottle contains preservative & not enough sample in matrix to

Completed By: 4/29/13 Date/Time: 1/29/13 0900

SAMPLE PRESERVATION

Samples put in 4°C until filtering

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☑		Sample(s) were preserved at MSL	
Type:	☑	0.2% HNO3	Notes: TOTAL/Diss Waters Lot# 1211100
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☑	~~Refrigerate/Freeze~~ Not MWS.	Notes: TOC / MWSS
	☐	Other	Notes:

Completed By: K3A Mat / Lab 114 frig TOC Date/Time: 1/29/13 1700 (preserved)

Storage Shelf: 1/29/13

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/12/13
Page: 1 of 1
Project No.: 54220 / 62375
Project: Copper Tox 2012

M= marine water

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Laboratory: Battelle MSL
Attention: Jill Brandenberger
Phone: (360) 681-4564

Analyze parameters per QAP/FSP

Sample ID (prefix is CuTOX2012-	Sample Lable/Station	Collection Date/Time	Matrix	Dissolved Cu	Total Cu	DOC	TSS/pH/salinity	Toc	Extra						No. containers	Comments
~~CuTOX2012-006~~			M													
CuTox 2012-200	CuTox 2012-200	2/12/13 1:30p	M	✓	✓	✓	✓	✓	✓						6	Filtered SW tap
			3318	169	170	171	172	173								
							6 sep									

Relinquished by: _____ 2/12/13 2:00
Signature Date Time
Julann A. Spromberg NWFSC
Printed Name Company

Received by: _____
Signature
MLF McGehee
Printed Name

Total # of Containers 1
Shipment Method: Fed Ex
Sample Disposition:

Relinquished by: _____
Signature Date Time
Printed Name Company

Received by: _____
Signature
Printed Name

Distribution:
1) PNNL
2) Navy

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 02/12/13
Batch: 7
Login Designee: McGahan
Project: **Copper Tox 2012**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
Cu Tox 2012-200	Cu Tox 2012-200	3318-169	water	Prep lab I-3-B	Dissolved Cu	02/12/13
Cu Tox 2012-200	Cu Tox 2012-200	3318-170	water	Prep lab I-3-B	Total Cu	02/12/13
Cu Tox 2012-200	Cu Tox 2012-200	3318-171	water	Freezer	DOC	02/12/13
Cu Tox 2012-200	Cu Tox 2012-200	3318-172a & b	water	Walkin Cold Room	TSS/pH/salinity	02/12/13
Cu Tox 2012-200	Cu Tox 2012-200	3318-173	water	Freezer	TOC	02/12/13

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3318 Sample No(s): 169-173 Batch: 7

Project Name: Copper Tox 2012 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# H68248

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☒	☐	Custody seal present Seal intact? YES NO
☐	☒	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) 6.9 °C ____ °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: _____

Completed By: [signature] Date/Time: 02/13/13 1215

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☒		Sample(s) were preserved at MSL	
Type:	☒	0.2% HNO3	Notes: opt HNO3 Lot# 121100
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☐	Refrigerate/Freeze	Notes:
	☐	Other	Notes:

Completed By: [signature] Date/Time: 2/13/13 18:00

Storage Shelf: I-3-B

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring June 2013 (AMB13)

Seawater and Freshwater Chemistry

Battelle Project No. 54220
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 13,
Seawater, Freshwater Chemistry

Chemistry Analysis of Metals in Site Water

Field Data Summary Report 3
QA/QC Summary Reports 12
QA/QC Narrative 27

Narrative, Batch K1305955 32
Summary Report, Batch K1305955 33

Narrative, Batch K1306033 37
Summary Report, Batch K1306033 38

Sample Custody Information

Sample Collection, 061813 70
Sample Collection and Equipment Blank, 061913 83

Chain of Custody, Batch K1305955 95
Chain of Custody, Batch K1306033 97

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB13
ENVVEST June 2013
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.49**	**0.030**	**2.5**	**0.100**	**0.002**	**0.2**	**0.002**	**0.06**
Seawater Reporting Limit (MDL* 3.18)								**0.095**	**8.0**	**0.320**	**0.006**	**0.6**	**0.01**	**0.2**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.100**	**0.002**	**0.2**	**0.004**	**0.1**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.320**	**0.006**	**0.6**	**0.01**	**0.3**
AMB13														
AMB13-001	PS03	TME	Seawater	**3106-1096**	06/18/13	26.5	1.18	2.31	192	24.2	0.00291 bJ	12.4 b	0.0726 b	0.199 bJ
AMB13-001	PS03	DME	Seawater	**3106-1097**	06/18/13	--	--	2.17	181	12.9	0.002 bU	1.12 b	0.0690 b	0.163 bJ
AMB13-002	PS04	TME	Seawater	**3106-1098**	06/18/13	28.1	0.59	1.32	110	1.14	0.002 bU	5.50 b	0.0686 b	0.211 b
AMB13-002	PS04	DME	Seawater	**3106-1099**	06/18/13	--	--	1.31	109	0.666	0.002 bU	0.646 b	0.0668 b	0.159 bJ
AMB13-003	PS05	TME	Seawater	**3106-1100**	06/18/13	28.2	0.70	1.36	113	0.907	0.002 bU	5.60 b	0.0674 b	0.157 bJ
AMB13-003	PS05	DME	Seawater	**3106-1101**	06/18/13	--	--	1.31	109	0.496	0.002 bU	0.504 bJ	0.0655 b	0.133 bJ
AMB13-004	PS14	TME	Seawater	**3106-1102**	06/18/13	28.0	1.05	1.33	111	0.864	0.00207 bJ	11.1 b	0.0574 b	0.166 bJ
AMB13-004	PS14	DME	Seawater	**3106-1103**	06/18/13	--	--	1.27	106	0.372	0.002 bU	0.509 bJ	0.0566 b	0.134 bJ
AMB13-005	PS14DUP	TME	Seawater	**3106-1104**	06/18/13	--	--	--	--	0.829	0.002 bU	12.0 b	0.0579 b	0.209 b
AMB13-005	PS14DUP	DME	Seawater	**3106-1105**	06/18/13	--	--	--	--	0.427	0.002 bU	0.483 bJ	0.0561 b	0.127 bJ
AMB13-006	PS06	TME	Seawater	**3106-1106**	06/18/13	27.2	0.80	1.27	106	1.08	0.002 bU	8.62 b	0.0645 b	0.144 bJ
AMB13-006	PS06	DME	Seawater	**3106-1107**	06/18/13	--	--	1.25	104	0.552	0.002 bU	0.503 bJ	0.0633 b	0.112 bJ
AMB13-007	PS07	TME	Seawater	**3106-1108**	06/18/13	27.7	0.57	1.28	107	1.09	0.002 bU	8.08 b	0.0669 b	0.132 bJ
AMB13-007	PS07	DME	Seawater	**3106-1109**	06/18/13	--	--	1.26	105	0.516	0.002 bU	0.661 b	0.0623 b	0.106 bJ
AMB13-008	PS08	TME	Seawater	**3106-1110**	06/18/13	27.8	0.90	1.93	161	0.759	0.002 bU	7.65 b	0.0700 b	0.166 bJ
AMB13-008	PS08	DME	Seawater	**3106-1111**	06/18/13	--	--	1.34	112	0.387	0.002 bU	0.451 bJ	0.0698 b	0.156 bJ
AMB13-009	PS15	TME	Seawater	**3106-1112**	06/18/13	28.3	1.19	1.37	114	0.718	0.002 bU	10.0 b	0.0588 b	0.136 bJ
AMB13-009	PS15	DME	Seawater	**3106-1113**	06/18/13	--	--	1.24	103	0.393	0.002 bU	0.414 bJ	0.0565 b	0.107 bJ
AMB13-010	PS09	TME	Seawater	**3106-1114**	06/18/13	27.6	0.90	1.29	108	1.05	0.002 bU	6.51 b	0.0691 b	0.132 bJ
AMB13-010	PS09	DME	Seawater	**3106-1115**	06/18/13	--	--	1.25	104	0.407	0.002 bU	0.245 bJ	0.0653 b	0.144 bJ
AMB13-011	PS10	TME	Seawater	**3106-1116**	06/18/13	28.2	1.01	1.35	113	0.771	0.002 bU	7.19 b	0.0602 b	0.128 bJ
AMB13-011	PS10	DME	Seawater	**3106-1117**	06/18/13	--	--	1.27	106	0.376	0.002 bU	0.731 b	0.0606 b	0.173 bJ
AMB13-012	PS10.1	TME	Seawater	**3106-1118**	06/18/13	28.3	1.08	1.40	117	0.882	0.002 bU	7.81 b	0.0653 b	0.270 b
AMB13-012	PS10.1	DME	Seawater	**3106-1119**	06/18/13	--	--	1.31	109	0.424	0.00449 bJ	0.544 bJ	0.0613 b	0.139 bJ
AMB13-013	PS10.1DUP	TME	Seawater	**3106-1120**	06/18/13	--	--			0.702	0.002 bU	6.53 b	0.0632 b	0.161 bJ
AMB13-013	PS10.1DUP	DME	Seawater	**3106-1121**	06/18/13	--	--	--	--	0.381	0.002 bU	0.210 bJ	0.0591 b	0.117 bJ
AMB13-014	PS11	TME	Seawater	**3106-1122**	06/18/13	28.4	1.07	1.36	113	1.21	0.002 bU	12.5 b	0.0672 b	0.154 bJ
AMB13-014	PS11	DME	Seawater	**3106-1123**	06/18/13	--	--	1.28	106	0.383	0.002 bU	0.400 bJ	0.0604 b	0.130 bJ
AMB13-015	PS16	TME	Seawater	**3106-1124**	06/18/13	28.4	1.40	1.33	111	0.820	0.002 bU	9.55 b	0.0616 b	0.171 bJ
AMB13-015	PS16	DME	Seawater	**3106-1125**	06/18/13	--	--	1.26	105	0.292	0.002 bU	0.482 bJ	0.0579 b	0.168 bJ
AMB13-016	PS01	TME	Seawater	**3106-1126**	06/18/13	27.1	1.17	2.06	171	2.01	0.00223 bJ	19.7 b	0.0683 b	0.260 b
AMB13-016	PS01	DME	Seawater	**3106-1127**	06/18/13	--	--	1.86	155	1.13	0.002 bU	3.32 b	0.0641 b	0.205 b
AMB13-017	PS02	TME	Seawater	**3106-1128**	06/18/13	27.5	1.11	1.74	145	1.61	0.002 bU	10.5 b	0.0645 b	0.188 bJ
AMB13-017	PS02	DME	Seawater	**3106-1129**	06/18/13	--	--	1.66	138	0.696	0.002 bU	1.15 b	0.0608 b	0.145 bJ
AMB13-018	PS13	TME	Seawater	**3106-1130**	06/18/13	28.1	1.09	1.43	119	0.885	0.002 bU	11.1 b	0.0588 b	0.185 bJ
AMB13-018	PS13	DME	Seawater	**3106-1131**	06/18/13	--	--	1.24	103	0.418	0.002 bU	0.521 bJ	0.0567 b	0.126 bJ
AMB13-019	M4	TME	Seawater	**3106-1132**	06/18/13	28.3	1.20	1.49	124	0.870	0.002 bU	7.38 b	0.0545 b	0.147 bJ
AMB13-019	M4	DME	Seawater	**3106-1133**	06/18/13	--	--	1.29	107	0.430	0.002 bU	0.284 bJ	0.0513 b	0.132 bJ

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB13
ENVVEST June 2013
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB13-020	BJEST	TME	Seawater	**3106-1134**	06/18/13	27.5	3.11	1.58	132	0.966	0.002 bU	22.2 b	0.0619 b	0.208 b
AMB13-020	BJEST	DME	Seawater	**3106-1135**	06/18/13	--	--	1.44	120	0.420	0.002 bU	0.352 bJ	0.0525 b	0.139 bJ
AMB13-021	M3.1	TME	Seawater	**3106-1136**	06/18/13	28.2	1.20	1.32	110	0.790	0.002 bU	18.4 b	0.0630 b	0.169 bJ
AMB13-021	M3.1	DME	Seawater	**3106-1137**	06/18/13	--	--	1.29	107	0.379	0.002 bU	0.575 bJ	0.0598 b	0.132 bJ
AMB13-022	M3.1 DEEP	TME	Seawater	**3106-1138**	06/18/13	28.6	1.24	1.31	109	0.678	0.002 bU	8.63 b	0.0751 b	0.192 bJ
AMB13-022	M3.1 DEEP	DME	Seawater	**3106-1139**	06/18/13	--	--	1.23	103	0.367	0.002 bU	0.2 bU	0.0635 b	0.132 bJ
AMB13-023	PS12	TME	Seawater	**3106-1140**	06/18/13	28.4	0.99	1.30	108	1.37	0.002 bU	13.2 b	0.0673 b	0.231 b
AMB13-023	PS12	DME	Seawater	**3106-1141**	06/18/13	--	--	1.24	103	0.363	0.002 bU	0.2 bU	0.0614 b	0.119 bJ
AMB13-024	PS03B	TME	Seawater	**3106-1142**	06/18/13	27.3	1.00	1.89	158	3.62	0.00418 bJ	9.42 b	0.0699 b	0.254 b
AMB13-024	PS03B	DME	Seawater	**3106-1143**	06/18/13	--	--	1.82	152	1.68	0.00364 bJ	1.56 b	0.0690 b	0.264 b
AMB13DD-001	OF021	TME	Freshwater	**3106-1144**	06/18/13	0.2	0.49 U	--	-- [3]	3.19	0.002 U	5.92	0.004 U	1.24 B
AMB13DD-001	OF021	DME	Freshwater	**3106-1145**	06/18/13	--	--	5.37	447	2.52	0.002 U	4.92	0.004 U	1.39 B
AMB13DD-002	OF019	TME	Seawater	**3106-1146**	06/18/13	16.7	0.79	0.932	77.7	9.71	0.0295 b	10.1 b	0.101 b	3.31 b
AMB13DD-002	OF019	DME	Seawater	**3106-1147**	06/18/13	--	--	0.931	77.5	1.64	0.00218 bJ	0.424 bJ	0.0859 b	0.228 b
AMB13DD-003	OF018	TME	Seawater	**3106-1148**	06/18/13	24.7	14.2	2.62	218	45.5	0.0618 b	--	0.130 b	1.75 b
AMB13DD-003	OF018	TME	Seawater	**3106-1148**	--	--	--	--	--	--	--	204	--	--
AMB13DD-003	OF018	DME	Seawater	**3106-1149**	06/18/13	--	--	2.19	183	3.48	0.0339 b	1.01 b	0.113 b	0.258 b
AMB13-100	SN03	TME	Seawater	**3106-1150**	06/19/13	28.4	2.27	1.59	133	1.42	0.00209 bJ	25.4 b	0.0654 b	0.217 b
AMB13-100	SN03	DME	Seawater	**3106-1151**	06/19/13	--	--	1.25	104	0.428	0.002 bU	0.2 bU	0.0610 b	0.135 bJ
AMB13-101	SN05	TME	Seawater	**3106-1152**	06/19/13	28.1	7.56	1.55	129	3.63	0.00550 bJ	178 b	0.0605 b	0.674 b
AMB13-101	SN05	DME	Seawater	**3106-1153**	06/19/13	--	--	1.28	107	0.447	0.002 bU	0.545 bJ	0.0511 b	0.102 bJ
AMB13-102	SN08	TME	Seawater	**3106-1154**	06/19/13	27.7	2.16	1.55	130	1.30	0.002 bU	27.6 b	0.0494 b	0.252 b
AMB13-102	SN08	DME	Seawater	**3106-1155**	06/19/13	--	--	1.35	112	0.478	0.002 bU	0.309 bJ	0.0440 b	0.132 bJ
AMB13-103	SN10	TME	Seawater	**3106-1156**	06/19/13	28.0	1.57	1.46	122	0.791	0.002 bU	13.1 b	0.0563 b	0.150 bJ
AMB13-103	SN10	DME	Seawater	**3106-1157**	06/19/13	--	--	1.32	110	0.325	0.002 bU	0.2 bU	0.0533 b	0.088 bJ
AMB13-104	SN10DUP	TME	Seawater	**3106-1158**	06/19/13	28.0	1.48	1.56	130	0.943	0.002 bU	13.9 b	0.0550 b	0.153 bJ
AMB13-104	SN10DUP	DME	Seawater	**3106-1159**	06/19/13	--	--	1.30	109	0.410	0.002 bU	0.2 bU	0.0534 b	0.097 bJ
AMB13-105	SN11	TME	Seawater	**3106-1160**	06/19/13	28.4	1.40	1.51	126	0.679	0.002 bU	7.99 b	0.0554 b	0.135 bJ
AMB13-105	SN11	DME	Seawater	**3106-1161**	06/19/13	--	--	1.26	105	0.363	0.002 bU	0.2 bU	0.0505 b	0.099 bJ
AMB13-106	M3.3	TME	Seawater	**3106-1162**	06/19/13	28.2	1.38	1.42	118	0.871	0.002 bU	9.38 b	0.0554 b	0.191 bJ
AMB13-106	M3.3	DME	Seawater	**3106-1163**	06/19/13	--	--	1.25	104	0.548	0.002 bU	0.2 bU	0.0509 b	0.117 bJ
AMB13-107	M2	TME	Seawater	**3106-1164**	06/19/13	28.8	1.43	1.22	102	0.577	0.002 bU	9.83 b	0.0714 b	0.155 bJ
AMB13-107	M2	DME	Seawater	**3106-1165**	06/19/13	--	--	1.09	91.2	0.262	0.002 bU	0.2 bU	0.0668 b	0.112 bJ
AMB13-108	M2 DEEP	TME	Seawater	**3106-1166**	06/19/13	28.7	1.11	1.14	95.3	0.504	0.002 bU	10.9 b	0.0717 b	0.131 bJ
AMB13-108	M2 DEEP	DME	Seawater	**3106-1167**	06/19/13	--	--	1.04	87.1	0.329	0.002 bU	0.2 bU	0.0682 b	0.100 bJ
AMB13-109	CLMBAY	TME	Seawater	**3106-1168**	06/19/13	28.8	1.50	1.25	104	0.480	0.002 bU	11.8 b	0.0744 b	0.127 bJ
AMB13-109	CLMBAY	DME	Seawater	**3106-1169**	06/19/13	--	--	1.13	93.8	0.253	0.002 bU	0.2 bU	0.0699 b	0.082 bJ
AMB13-110	WP	TME	Seawater	**3106-1170**	06/19/13	28.5	1.31	1.32	110	0.804	0.002 bU	15.0 b	0.0642 b	0.146 bJ
AMB13-110	WP	DME	Seawater	**3106-1171**	06/19/13	--	--	1.16	96.6	0.269	0.002 bU	0.2 bU	0.0614 b	0.694 b
AMB13-111	ILSP	TME	Seawater	**3106-1172**	06/19/13	28.5	1.20	1.44	120	0.435	0.002 bU	5.60 b	0.0672 b	0.139 bJ
AMB13-111	ILSP	DME	Seawater	**3106-1173**	06/19/13	--	--	1.22	102	0.224	0.002 bU	0.2 bU	0.0560 b	0.085 bJ
AMB13-112	M1	TME	Seawater	**3106-1174**	06/19/13	28.4	7.78	2.40	200	0.444	0.002 bU	6.91 b	0.0595 b	0.105 bJ
AMB13-112	M1	DME	Seawater	**3106-1175**	06/19/13	--	--	1.46	121	0.249	0.002 bU	0.2 bU	0.0525 b	0.099 bJ

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Ambient Monitoring - AMB13
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Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Ag	Al	Cd	Cr
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB13-113	M1 DEEP	TME	Seawater	**3106-1176**	06/19/13	28.6	2.17	1.73	144	0.652	0.002 bU	5.05 b	0.0722 b	0.207 b
AMB13-113	M1 DEEP	DME	Seawater	**3106-1177**	06/19/13	--	--	1.32	110	0.313	0.002 bU	0.2 bU	0.0605 b	0.133 bJ
AMB13-114	M6	TME	Seawater	**3106-1178**	06/19/13	28.3	1.11	1.47	122	0.545	0.002 bU	4.59 b	0.0546 b	0.140 bJ
AMB13-114	M6	DME	Seawater	**3106-1179**	06/19/13	--	--	1.36	113	0.344	0.002 bU	0.2 bU	0.0529 b	0.133 bJ
AMB13-115	M8	TME	Seawater	**3106-1180**	06/19/13	28.2	2.76	1.80	150	1.02	0.002 bU	22.8 b	0.0517 b	0.193 bJ
AMB13-115	M8	DME	Seawater	**3106-1181**	06/19/13	--	--	1.42	118	0.392	0.002 bU	0.2 bU	0.0445 b	0.118 bJ
AMB13-116	DYOTS	TME	Seawater	**3106-1182**	06/19/13	27.9	1.37	1.64	136	0.660	0.002 bU	8.22 b	0.0511 b	0.157 bJ
AMB13-116	DYOTS	DME	Seawater	**3106-1183**	06/19/13	--	--	1.43	119	0.376	0.002 bU	0.639 b	0.0528 b	0.144 bJ
AMB13-117	DYOTS DUP	TME	Seawater	**3106-1184**	06/19/13	27.9	0.92	1.57	131	0.651	0.002 bU	8.77 b	0.0522 b	0.158 bJ
AMB13-117	DYOTS DUP	DME	Seawater	**3106-1185**	06/19/13	--	--	1.44	120	0.417	0.002 bU	0.516 bJ	0.0515 b	0.129 bJ
AMB13-118	PS03C	TME	Seawater	**3106-1186**	06/19/13	28.1	0.51	1.54	129	9.43	0.00238 bJ	7.88 b	0.0666 b	0.165 bJ
AMB13-118	PS03C	DME	Seawater	**3106-1187**	06/19/13	--	--	1.36	114	4.96	0.00215 bJ	0.510 bJ	0.0647 b	0.167 bJ
AMB13-119	EB061913	TME	DI Water	**3106-1188**	06/19/13	--	--	--	--	0.131 J	0.002 U	0.437 J	0.004 U	0.321 JB
AMB13-119	EB061913	DME	DI Water	**3106-1189**	06/19/13	--	--	--	--	0.1 U	0.002 U	0.2 U	0.004 U	0.294 JB

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.035**	**0.025**	**0.0019**	**0.026**
Seawater Reporting Limit (MDL* 3.18)					**0.11**	**0.080**	**0.0060**	**0.084**
Laboratory Achieved Detection Limits (Freshwater)					**0.0053**	**0.004**	**0.0022**	**0.02**
Freshwater Reporting Limit (MDL* 3.18)					**0.017**	**0.01**	**0.0070**	**0.06**
AMB13								
AMB13-001	PS03	TME	Seawater	**3106-1096**	3.00 b	0.550 b	0.182 b	6.16 b
AMB13-001	PS03	DME	Seawater	**3106-1097**	2.43 b	0.509 b	0.0687 b	5.59 b
AMB13-002	PS04	TME	Seawater	**3106-1098**	2.42 b	0.560 b	0.111 b	5.02 b
AMB13-002	PS04	DME	Seawater	**3106-1099**	2.01 b	0.486 b	0.0504 b	4.79 b
AMB13-003	PS05	TME	Seawater	**3106-1100**	2.30 b	0.484 b	0.0928 b	4.52 b
AMB13-003	PS05	DME	Seawater	**3106-1101**	2.03 b	0.486 b	0.0454 b	4.61 b
AMB13-004	PS14	TME	Seawater	**3106-1102**	1.03 b	0.430 b	0.0971 b	1.84 b
AMB13-004	PS14	DME	Seawater	**3106-1103**	0.867 b	0.415 b	0.0404 b	1.66 b
AMB13-005	PS14DUP	TME	Seawater	**3106-1104**	1.10 b	0.514 b	0.102 b	2.00 b
AMB13-005	PS14DUP	DME	Seawater	**3106-1105**	0.856 b	0.442 b	0.0390 b	1.73 b
AMB13-006	PS06	TME	Seawater	**3106-1106**	1.72 b	0.485 b	0.0982 b	4.29 b
AMB13-006	PS06	DME	Seawater	**3106-1107**	1.35 b	0.473 b	0.0432 b	3.93 b
AMB13-007	PS07	TME	Seawater	**3106-1108**	5.47 b	0.533 b	0.114 b	8.28 b
AMB13-007	PS07	DME	Seawater	**3106-1109**	4.64 b	0.501 b	0.0525 b	7.05 b
AMB13-008	PS08	TME	Seawater	**3106-1110**	4.12 b	0.669 b	0.118 b	8.75 b
AMB13-008	PS08	DME	Seawater	**3106-1111**	3.51 b	0.716 b	0.0500 b	8.69 b
AMB13-009	PS15	TME	Seawater	**3106-1112**	0.845 b	0.430 b	0.0812 b	1.34 b
AMB13-009	PS15	DME	Seawater	**3106-1113**	0.701 b	0.399 b	0.0366 b	1.19 b
AMB13-010	PS09	TME	Seawater	**3106-1114**	2.89 b	0.491 b	0.108 b	9.49 b
AMB13-010	PS09	DME	Seawater	**3106-1115**	2.41 b	0.501 b	0.0449 b	9.17 b
AMB13-011	PS10	TME	Seawater	**3106-1116**	1.65 b	0.422 b	0.0829 b	3.37 b
AMB13-011	PS10	DME	Seawater	**3106-1117**	1.40 b	0.423 b	0.0454 b	3.41 b
AMB13-012	PS10.1	TME	Seawater	**3106-1118**	2.13 b	0.706 b	0.0996 b	4.42 b
AMB13-012	PS10.1	DME	Seawater	**3106-1119**	1.61 b	0.475 b	0.0463 b	4.06 b
AMB13-013	PS10.1DUP	TME	Seawater	**3106-1120**	1.72 b	0.454 b	0.0921 b	4.23 b
AMB13-013	PS10.1DUP	DME	Seawater	**3106-1121**	1.38 b	0.404 b	0.0436 b	3.86 b
AMB13-014	PS11	TME	Seawater	**3106-1122**	1.04 b	0.426 b	0.127 b	2.03 b
AMB13-014	PS11	DME	Seawater	**3106-1123**	0.769 b	0.379 b	0.0407 b	1.69 b
AMB13-015	PS16	TME	Seawater	**3106-1124**	1.25 b	0.541 b	0.0875 b	2.09 b
AMB13-015	PS16	DME	Seawater	**3106-1125**	0.979 b	0.434 b	0.0351 b	1.87 b
AMB13-016	PS01	TME	Seawater	**3106-1126**	2.04 b	0.562 b	0.237 b	5.23 b
AMB13-016	PS01	DME	Seawater	**3106-1127**	1.66 b	0.507 b	0.0860 b	4.31 b
AMB13-017	PS02	TME	Seawater	**3106-1128**	2.69 b	0.742 b	0.128 b	5.12 b
AMB13-017	PS02	DME	Seawater	**3106-1129**	2.15 b	0.442 b	0.0540 b	4.62 b
AMB13-018	PS13	TME	Seawater	**3106-1130**	1.26 b	0.616 b	0.0985 b	2.01 b
AMB13-018	PS13	DME	Seawater	**3106-1131**	1.04 b	0.423 b	0.0407 b	1.98 b
AMB13-019	M4	TME	Seawater	**3106-1132**	0.671 b	0.461 b	0.0863 b	1.05 b
AMB13-019	M4	DME	Seawater	**3106-1133**	0.550 b	0.411 b	0.0421 b	0.792 b

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB13-020	BJEST	TME	Seawater	**3106-1134**	0.889 b	0.617 b	0.118 b	1.53 b
AMB13-020	BJEST	DME	Seawater	**3106-1135**	0.718 b	0.417 b	0.0330 b	0.948 b
AMB13-021	M3.1	TME	Seawater	**3106-1136**	0.678 b	0.431 b	0.0932 b	1.36 b
AMB13-021	M3.1	DME	Seawater	**3106-1137**	0.547 b	0.390 b	0.0316 b	1.19 b
AMB13-022	M3.1 DEEP	TME	Seawater	**3106-1138**	0.766 b	0.770 b	0.0719 b	0.983 b
AMB13-022	M3.1 DEEP	DME	Seawater	**3106-1139**	0.555 b	0.421 b	0.0251 b	0.859 b
AMB13-023	PS12	TME	Seawater	**3106-1140**	1.52 b	0.547 b	0.145 b	4.51 b
AMB13-023	PS12	DME	Seawater	**3106-1141**	1.08 b	0.491 b	0.0453 b	4.20 b
AMB13-024	PS03B	TME	Seawater	**3106-1142**	2.66 b	0.760 b	0.154 b	5.56 b
AMB13-024	PS03B	DME	Seawater	**3106-1143**	2.53 b	0.596 b	0.0690 b	5.36 b
AMB13DD-001	OF021	TME	Freshwater	**3106-1144**	2.06	1.29	0.00551 J	0.680
AMB13DD-001	OF021	DME	Freshwater	**3106-1145**	1.96	1.12	0.00395 J	0.579
AMB13DD-002	OF019	TME	Seawater	**3106-1146**	6.18 b	10.2 b	0.199 b	25.5 b
AMB13DD-002	OF019	DME	Seawater	**3106-1147**	1.61 b	8.36 b	0.00304 bJ	19.2 b
AMB13DD-003	OF018	TME	Seawater	**3106-1148**	29.6 b	4.19 b	2.89 b	--
AMB13DD-003	OF018	TME	Seawater	**3106-1148**	--	--	--	58.8
AMB13DD-003	OF018	DME	Seawater	**3106-1149**	6.82 b	1.63 b	0.0503 b	28.9 b
AMB13-100	SN03	TME	Seawater	**3106-1150**	0.818 b	0.561 b	0.158 b	1.23 b
AMB13-100	SN03	DME	Seawater	**3106-1151**	0.558 b	0.483 b	0.0449 b	0.865 b
AMB13-101	SN05	TME	Seawater	**3106-1152**	1.25 b	0.902 b	0.5063 b	1.93 b
AMB13-101	SN05	DME	Seawater	**3106-1153**	0.505 b	0.451 b	0.0509 b	0.903 b
AMB13-102	SN08	TME	Seawater	**3106-1154**	0.806 b	0.640 b	0.146 b	1.40 b
AMB13-102	SN08	DME	Seawater	**3106-1155**	0.589 b	0.450 b	0.0421 b	1.07 b
AMB13-103	SN10	TME	Seawater	**3106-1156**	1.06 b	0.658 b	0.104 b	2.79 b
AMB13-103	SN10	DME	Seawater	**3106-1157**	0.761 b	0.397 b	0.0400 b	1.41 b
AMB13-104	SN10DUP	TME	Seawater	**3106-1158**	1.18 b	0.476 b	0.113 b	2.77 b
AMB13-104	SN10DUP	DME	Seawater	**3106-1159**	0.897 b	0.412 b	0.0398 b	2.34 b
AMB13-105	SN11	TME	Seawater	**3106-1160**	1.02 b	0.556 b	0.0788 b	1.66 b
AMB13-105	SN11	DME	Seawater	**3106-1161**	0.777 b	0.422 b	0.0426 b	1.62 b
AMB13-106	M3.3	TME	Seawater	**3106-1162**	0.754 b	0.601 b	0.0866 b	0.91 b
AMB13-106	M3.3	DME	Seawater	**3106-1163**	0.623 b	0.415 b	0.0353 b	1.97 b
AMB13-107	M2	TME	Seawater	**3106-1164**	0.590 b	0.423 b	0.0442 b	0.641 b
AMB13-107	M2	DME	Seawater	**3106-1165**	0.468 b	0.366 b	0.0121 b	0.475 b
AMB13-108	M2 DEEP	TME	Seawater	**3106-1166**	0.783 b	0.446 b	0.0502 b	0.700 b
AMB13-108	M2 DEEP	DME	Seawater	**3106-1167**	0.638 b	0.378 b	0.0122 b	0.519 b
AMB13-109	CLMBAY	TME	Seawater	**3106-1168**	0.595 b	0.480 b	0.0469 b	0.529 b
AMB13-109	CLMBAY	DME	Seawater	**3106-1169**	0.459 b	0.358 b	0.0123 b	0.419 b
AMB13-110	WP	TME	Seawater	**3106-1170**	0.654 b	0.554 b	0.0832 b	0.765 b
AMB13-110	WP	DME	Seawater	**3106-1171**	0.535 b	2.59 b	0.0279 b	0.569 b
AMB13-111	ILSP	TME	Seawater	**3106-1172**	0.555 b	0.558 b	0.0414 b	0.465 b
AMB13-111	ILSP	DME	Seawater	**3106-1173**	0.373 b	0.399 b	0.0118 b	0.380 b
AMB13-112	M1	TME	Seawater	**3106-1174**	0.537 b	0.400 b	0.0476 b	0.601 b
AMB13-112	M1	DME	Seawater	**3106-1175**	0.469 b	0.388 b	0.0140 b	0.202 b

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Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB13-113	M1 DEEP	TME	Seawater	**3106-1176**	0.733 b	1.15 b	0.0663 b	0.760 b
AMB13-113	M1 DEEP	DME	Seawater	**3106-1177**	0.479 b	0.506 b	0.0174 b	0.537 b
AMB13-114	M6	TME	Seawater	**3106-1178**	0.547 b	0.524 b	0.0520 b	0.510 b
AMB13-114	M6	DME	Seawater	**3106-1179**	0.470 b	0.419 b	0.0303 b	0.397 b
AMB13-115	M8	TME	Seawater	**3106-1180**	0.590 b	0.490 b	0.155 b	1.09 b
AMB13-115	M8	DME	Seawater	**3106-1181**	0.454 b	0.399 b	0.0610 b	0.637 b
AMB13-116	DYOTS	TME	Seawater	**3106-1182**	0.568 b	0.440 b	0.0642 b	0.531 b
AMB13-116	DYOTS	DME	Seawater	**3106-1183**	0.534 b	0.448 b	0.0387 b	0.840 b
AMB13-117	DYOTS DUP	TME	Seawater	**3106-1184**	0.763 b	0.435 b	0.0635 b	1.12 b
AMB13-117	DYOTS DUP	DME	Seawater	**3106-1185**	0.518 b	0.396 b	0.0364 b	0.997 b
AMB13-118	PS03C	TME	Seawater	**3106-1186**	2.95 b	0.521 b	0.183 b	5.95 b
AMB13-118	PS03C	DME	Seawater	**3106-1187**	2.49 b	0.703 b	0.0688 b	5.45 b
AMB13-119	EB061913	TME	DI Water	**3106-1188**	0.00695 J	0.0203	0.0022 U	0.0927
AMB13-119	EB061913	DME	DI Water	**3106-1189**	0.0343	0.0292	0.00312 J	0.118

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:					
Laboratory Achieved Detection Limits (Seawater)									
Seawater Reporting Limit (MDL* 3.18)									
Laboratory Achieved Detection Limits (Freshwater)									
Freshwater Reporting Limit (MDL* 3.18)									
AMB13									
AMB13-001	PS03	TME	Seawater	**3106-1096**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-001	PS03	DME	Seawater	**3106-1097**	072413HGA1	071813-6100	--	062713OC	--
AMB13-002	PS04	TME	Seawater	**3106-1098**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-002	PS04	DME	Seawater	**3106-1099**	072413HGA1	071813-6100	--	062713OC	--
AMB13-003	PS05	TME	Seawater	**3106-1100**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-003	PS05	DME	Seawater	**3106-1101**	072413HGA1	071813-6100	--	062713OC	--
AMB13-004	PS14	TME	Seawater	**3106-1102**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-004	PS14	DME	Seawater	**3106-1103**	072413HGA1	071813-6100	--	062713OC	--
AMB13-005	PS14DUP	TME	Seawater	**3106-1104**	072413HGA1	071813-6100	--	--	--
AMB13-005	PS14DUP	DME	Seawater	**3106-1105**	072413HGA1	071813-6100	--	--	--
AMB13-006	PS06	TME	Seawater	**3106-1106**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-006	PS06	DME	Seawater	**3106-1107**	072413HGA1	071813-6100	--	062713OC	--
AMB13-007	PS07	TME	Seawater	**3106-1108**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-007	PS07	DME	Seawater	**3106-1109**	072413HGA1	071813-6100	--	062713OC	--
AMB13-008	PS08	TME	Seawater	**3106-1110**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-008	PS08	DME	Seawater	**3106-1111**	072413HGA1	071813-6100	--	062713OC	--
AMB13-009	PS15	TME	Seawater	**3106-1112**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-009	PS15	DME	Seawater	**3106-1113**	072413HGA1	071813-6100	--	062713OC	--
AMB13-010	PS09	TME	Seawater	**3106-1114**	072413HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-010	PS09	DME	Seawater	**3106-1115**	072413HGA1	071813-6100	--	062713OC	--
AMB13-011	PS10	TME	Seawater	**3106-1116**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-011	PS10	DME	Seawater	**3106-1117**	072513HGA1	071813-6100	--	062713OC	--
AMB13-012	PS10.1	TME	Seawater	**3106-1118**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-012	PS10.1	DME	Seawater	**3106-1119**	072513HGA1	071813-6100	--	062713OC	--
AMB13-013	PS10.1DUP	TME	Seawater	**3106-1120**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-013	PS10.1DUP	DME	Seawater	**3106-1121**	072513HGA1	071813-6100	--	--	--
AMB13-014	PS11	TME	Seawater	**3106-1122**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-014	PS11	DME	Seawater	**3106-1123**	072513HGA1	071813-6100	--	062713OC	--
AMB13-015	PS16	TME	Seawater	**3106-1124**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-015	PS16	DME	Seawater	**3106-1125**	072513HGA1	071813-6100	--	062713OC	--
AMB13-016	PS01	TME	Seawater	**3106-1126**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-016	PS01	DME	Seawater	**3106-1127**	072513HGA1	071813-6100	--	062713OC	--
AMB13-017	PS02	TME	Seawater	**3106-1128**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-017	PS02	DME	Seawater	**3106-1129**	072513HGA1	071813-6100	--	062713OC	--
AMB13-018	PS13	TME	Seawater	**3106-1130**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-018	PS13	DME	Seawater	**3106-1131**	072513HGA1	071813-6100	--	062713OC	--
AMB13-019	M4	TME	Seawater	**3106-1132**	072513HGA1	071813-6100	062113Osal	062713OC	062113Nu
AMB13-019	M4	DME	Seawater	**3106-1133**	072513HGA1	071813-6100	--	062713OC	--

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Ambient Monitoring - AMB13
ENVVEST June 2013
Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:					
AMB13-020	BJEST	TME	Seawater	**3106-1134**	072513HGA1	071913-6100	062113Osal	062713OC	062413Nu
AMB13-020	BJEST	DME	Seawater	**3106-1135**	072513HGA1	071913-6100	--	062713OC	--
AMB13-021	M3.1	TME	Seawater	**3106-1136**	072613HGA1	071813-6100	062113Osal	062713OC	062413Nu
AMB13-021	M3.1	DME	Seawater	**3106-1137**	072613HGA1	071813-6100	--	062713OC	--
AMB13-022	M3.1 DEEP	TME	Seawater	**3106-1138**	072613HGA1	071913-6100	062113Osal	062713OC	062413Nu
AMB13-022	M3.1 DEEP	DME	Seawater	**3106-1139**	072613HGA1	071913-6100	--	062713OC	--
AMB13-023	PS12	TME	Seawater	**3106-1140**	072613HGA1	071913-6100	062113Osal	062713OC	062413Nu
AMB13-023	PS12	DME	Seawater	**3106-1141**	072613HGA1	071913-6100	--	062713OC	--
AMB13-024	PS03B	TME	Seawater	**3106-1142**	072613HGA1	071913-6100	062113Osal	062713OC	062413Nu
AMB13-024	PS03B	DME	Seawater	**3106-1143**	072613HGA1	071913-6100	--	062713OC	--
AMB13DD-001	OF021	TME	Freshwater	**3106-1144**	072613HGA1	072213-6100	062113Osal	--	062413Nu
AMB13DD-001	OF021	DME	Freshwater	**3106-1145**	072613HGA1	072213-6100	--	062713OC	--
AMB13DD-002	OF019	TME	Seawater	**3106-1146**	072613HGA1	071913-6100	062113Osal	062713OC	062413Nu
AMB13DD-002	OF019	DME	Seawater	**3106-1147**	072613HGA1	071913-6100	--	062713OC	--
AMB13DD-003	OF018	TME	Seawater	**3106-1148**	072613HGA1	071913-6100	062113Osal	062713OC	062413Nu
AMB13DD-003	OF018	TME	Seawater	**3106-1148**	--	072513-6100	--	--	--
AMB13DD-003	OF018	DME	Seawater	**3106-1149**	072613HGA1	071913-6100	--	062713OC	--
AMB13-100	SN03	TME	Seawater	**3106-1150**	072613HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-100	SN03	DME	Seawater	**3106-1151**	072613HGA1	071913-6100	--	062713OC	--
AMB13-101	SN05	TME	Seawater	**3106-1152**	072813HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-101	SN05	DME	Seawater	**3106-1153**	072813HGA1	071913-6100	--	062713OC	--
AMB13-102	SN08	TME	Seawater	**3106-1154**	072813HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-102	SN08	DME	Seawater	**3106-1155**	072813HGA1	071913-6100	--	062713OC	--
AMB13-103	SN10	TME	Seawater	**3106-1156**	072813HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-103	SN10	DME	Seawater	**3106-1157**	072813HGA1	071913-6100	--	062713OC	--
AMB13-104	SN10DUP	TME	Seawater	**3106-1158**	072813HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-104	SN10DUP	DME	Seawater	**3106-1159**	072813HGA1	071913-6100	--	062713OC	--
AMB13-105	SN11	TME	Seawater	**3106-1160**	072813HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-105	SN11	DME	Seawater	**3106-1161**	072813HGA1	071913-6100	--	062713OC	--
AMB13-106	M3.3	TME	Seawater	**3106-1162**	072813HGA1	071913-6100	062413osal	062713OC	062413Nu
AMB13-106	M3.3	DME	Seawater	**3106-1163**	072813HGA1	071913-6100	--	062713OC	--
AMB13-107	M2	TME	Seawater	**3106-1164**	072813HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-107	M2	DME	Seawater	**3106-1165**	072813HGA1	071913-6100	--	062713OC	--
AMB13-108	M2 DEEP	TME	Seawater	**3106-1166**	072813HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-108	M2 DEEP	DME	Seawater	**3106-1167**	072813HGA1	071913-6100	--	062713OC	--
AMB13-109	CLMBAY	TME	Seawater	**3106-1168**	072813HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-109	CLMBAY	DME	Seawater	**3106-1169**	072813HGA1	071913-6100	--	062713OC	--
AMB13-110	WP	TME	Seawater	**3106-1170**	072813HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-110	WP	DME	Seawater	**3106-1171**	072813HGA1	071913-6100	--	062713OC	--
AMB13-111	ILSP	TME	Seawater	**3106-1172**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-111	ILSP	DME	Seawater	**3106-1173**	072913HGA1	071913-6100	--	062713OC	--
AMB13-112	M1	TME	Seawater	**3106-1174**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-112	M1	DME	Seawater	**3106-1175**	072913HGA1	071913-6100	--	062713OC	--

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Ambient Monitoring - AMB13
ENVVEST June 2013
Metals in Water

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:					
AMB13-113	M1 DEEP	TME	Seawater	**3106-1176**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-113	M1 DEEP	DME	Seawater	**3106-1177**	072913HGA1	071913-6100	--	062713OC	--
AMB13-114	M6	TME	Seawater	**3106-1178**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-114	M6	DME	Seawater	**3106-1179**	072913HGA1	071913-6100	--	062713OC	--
AMB13-115	M8	TME	Seawater	**3106-1180**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-115	M8	DME	Seawater	**3106-1181**	072913HGA1	071913-6100	--	062713OC	--
AMB13-116	DYOTS	TME	Seawater	**3106-1182**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-116	DYOTS	DME	Seawater	**3106-1183**	072913HGA1	071913-6100	--	062713OC	--
AMB13-117	DYOTS DUP	TME	Seawater	**3106-1184**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-117	DYOTS DUP	DME	Seawater	**3106-1185**	072913HGA1	071913-6100	--	062713OC	--
AMB13-118	PS03C	TME	Seawater	**3106-1186**	072913HGA1	071913-6100	062413osal	062713OC	062613Nu
AMB13-118	PS03C	DME	Seawater	**3106-1187**	072913HGA1	071913-6100	--	062713OC	--
AMB13-119	EB061913	TME	DI Water	**3106-1188**	072913HGA1	072213-6100	--	--	--
AMB13-119	EB061913	DME	DI Water	**3106-1189**	072913HGA1	072213-6100	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB13
QC Sample Results for ICP-MS
ENVVEST June 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.002**	**0.2**	**0.002**	**0.06**	**0.035**	**0.025**	**0.0019**	**0.026**	
Seawater Reporting Limit (MDL* 3.18)					**0.006**	**0.6**	**0.01**	**0.2**	**0.11**	**0.080**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					**0.002**	**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**	**0.0022**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.006**	**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**	
METHOD BLANKS													
TRM_BLK1		Total	Freshwater	TRM Blank	--	0.2 U	--	--	--	--	--	0.02 U	072513-6100
TRM_BLK2		Total	Freshwater	TRM Blank	0.002 U	0.2 U	0.004 U	0.258	0.0053 U	0.004 U	0.0022 U	0.02 U	072213-6100
MB		Total	Seawater	DI Blank R1	0.0009 U	0.454 J	0.0000 U	0.0703 J	0.0598 J	0.0311 J	0.00033 U	0.0966	071813-6100
MB		Total	Seawater	DI Blank R2	0.0005 U	0.325 J	0.0000 U	0.0959 J	0.0531 J	0.0460 J	0.00035 U	0.0925	071813-6100
MB		Total	Seawater	DI Blank R3	0.0003 U	0.418 J	0.0000 U	0.0706 J	0.0540 J	0.0295 J	0.00052 U	0.0899	071813-6100
MB		Total	Seawater	DI Blank R4	0.0005 U	0.441 J	0.0000 U	0.0812 J	0.0626 J	0.0356 J	0.00014 U	0.100	071813-6100
MB		Total	Seawater	DI Blank R5	0.0000 U	0.450 J	0.0000 U	0.0785 J	0.0561 J	0.0217 U	0.00017 U	0.116	071813-6100
MB		Total	Seawater	DI Blank R6	0.0002 U	0.308 J	0.0000 U	0.0863 J	0.0485 J	0.0280 J	0.00027 U	0.0877	071813-6100
MEAN REAGENT BLANK			Seawater	***BMRB_071813***	**0.0004** U	**0.399** J	**0.0000** U	**0.0805** J	**0.0557** J	**0.0320** J	**0.00030** U	**0.0972**	071813-6100
MB		Total	Seawater	DI Blank R1 0716	0.0000 U	0.786	0.0001 U	0.0358 U	0.0520 J	0.0221 U	0.00046 U	0.0859	071913-6100
MB		Total	Seawater	DI Blank R4 0716	0.0000 U	0.555 J	0.0001 U	0.0600 U	0.0606 J	0.0288 J	0.00049 U	0.103	071913-6100
MB		Total	Seawater	DI Blank R8 0716	0.0000 U	0.397 J	0.0000 U	0.0689 J	0.0623 J	0.0222 U	0.00064 U	0.159	071913-6100
MB		Total	Seawater	DI Blank R9 0716	0.0002 U	0.690	0.0000 U	0.0811 J	0.0722 J	0.0517 J	0.00071 U	0.0979	071913-6100
MEAN REAGENT BLANK			Seawater	***BMRB_071913***	**0.0001** U	**0.607** J	**0.0000** U	**0.0614** U	**0.0618** J	**0.0312** J	**0.00058** U	**0.111**	071913-6100
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK2		Total	Freshwater	TRM Blank	0.002 U	0.2 U	0.004 U	0.258	0.0053 U	0.004 U	0.0022 U	0.02 U	072213-6100
LCS		Total	Seawater	TRM LCS	1.98	2.09	1.95	2.21	1.98	1.97	2.00	1.96	072213-6100
				Percent Recovery, LCS	**99%**	**104%**	**98%**	**98%**	**99%**	**98%**	**100%**	**98%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.002 bU	0.240 bJ	0.0718 b	0.124 bJ	0.201 b	0.331 b	0.00270 bJ	0.223 b	071813-6100
LCS		Total	Seawater	SB LCS R1	1.89 b	2.21 b	2.05 b	2.06 b	2.02 b	2.24 b	2.02 b	2.11 b	071813-6100
				Percent Recovery, LCS	**94%**	**98%**	**99%**	**97%**	**91%**	**95%**	**101%**	**94%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	0.002 bU	0.367 bJ	0.0757 b	0.121 bJ	0.205 b	0.339 b	0.00296 bJ	0.263 b	071813-6100
LCS		Total	Seawater	SB LCS R2	1.60 b	2.18 b	1.81 b	1.95 b	1.82 b	2.04 b	1.94 b	1.78 b	071813-6100
				Percent Recovery, LCS	**80%**	**90%**	**87%**	**92%**	**81%**	**85%**	**97%**	**76%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1 0716	0.002 bU	0.2 bU	0.0754 b	0.127 bJ	0.224 b	0.344 b	0.00267 bJ	0.241 b	071913-6100
LCS		Total	Seawater	SB LCS R1 0716	1.99 b	1.81 b	2.04 b	2.17 b	2.21 b	2.35 b	2.04 b	2.10 b	071913-6100
				Percent Recovery, LCS	**99%**	**90%**	**98%**	**102%**	**100%**	**100%**	**102%**	**93%**	

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Ambient Monitoring - AMB13
QC Sample Results for ICP-MS
ENVVEST June 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES (cont)													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2 0716	0.002 bU	0.2 bU	0.0729 b	0.119 bJ	0.222 b	0.358 b	0.00277 bJ	0.231 b	071913-6100
LCS		Total	Seawater	SB LCS R2 0716	1.82 b	2.30 b	1.94 b	1.98 b	2.03 b	2.16 b	1.91 b	2.13 b	071913-6100
				Percent Recovery, LCS	**91%**	**115%**	**94%**	**93%**	**90%**	**90%**	**95%**	**95%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R3	0.002 bU	0.2 bU	0.0678 b	0.139 bJ	0.196 b	0.340 b	0.00258 bJ	0.220 b	071913-6100
LCS		Total	Seawater	SB LCS R3	1.73 b	1.90 b	1.81 b	2.12 b	1.98 b	2.23 b	2.01 b	1.80 b	071913-6100
				Percent Recovery, LCS	**86%**	**95%**	**87%**	**99%**	**89%**	**95%**	**101%**	**79%**	
MATRIX SPIKE RESULTS													
AMB13DD-001	OF021	DME	Freshwater	**3106-1145**	0.002 U	4.92	0.004 U	1.39	1.96	1.12	0.00395 J	0.579	072213-6100
MS				**3106-1145MS**	0.896	13.0	0.950	2.37	2.87	2.09	1.04	1.55	072213-6100
MSD				**3106-1145MSD**	0.887	12.9	0.933	2.34	2.80	2.00	1.02	1.65	072213-6100
				Spiking Level	1	10	1	1	1	1	1	1	
				Percent Recovery, MS	**90%**	**81%**	**95%**	**98%**	**92%**	**98%**	**103%**	**98%**	
				Percent Recovery, MSD	**89%**	**80%**	**93%**	**95%**	**85%**	**89%**	**102%**	**107%**	
AMB13-019	M4	TME	Seawater	**3106-1132**	0.002 bU	7.38 b	0.0545 b	0.147 bJ	0.671 b	0.461 b	0.0863 b	1.05 b	071813-6100
MS				**3106-1132MS**	0.897 b	12.8 b	1.02 b	1.07 b	1.53 b	1.34 b	1.08 b	5.53	071813-6100
MSD				**3106-1132MSD**	0.905 b	12.8 b	1.05 b	1.11 b	1.57 b	1.38 b	1.11 b	5.26	071813-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**90%**	**109%**	**97%**	**92%**	**86%**	**87%**	**100%**	**90%**	
				Percent Recovery, MSD	**90%**	**109%**	**99%**	**96%**	**90%**	**92%**	**103%**	**84%**	
AMB13-021	M3.1	DME	Seawater	**3106-1137**	0.002 bU	0.575 bJ	0.0598 b	0.132 bJ	0.547 b	0.390 b	0.0316 b	1.19 b	071813-6100
MS				**3106-1137MS**	0.882 b	6.01 b	1.05 b	1.10 b	1.46 b	1.33 b	1.07 b	6.04 b	071813-6100
MSD				**3106-1137MSD**	0.838 b	5.56 b	0.988 b	1.02 b	1.36 b	1.23 b	1.00 b	5.78 b	071813-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**88%**	**109%**	**99%**	**97%**	**91%**	**94%**	**104%**	**97%**	
				Percent Recovery, MSD	**84%**	**100%**	**93%**	**88%**	**81%**	**84%**	**97%**	**92%**	
AMB13-106	M3.3	TME	Seawater	**3106-1162**	0.002 bU	9.38 b	0.0554 b	0.191 bJ	0.754 b	0.601 b	0.0866 b	0.914 b	071913-6100
MS				**3106-1162MS**	1.00 b	15.9 b	1.03 b	1.25 b	1.75 b	1.58 b	1.08 b	5.94 b	071913-6100
MSD				**3106-1162MSD**	1.00 b	15.6 b	1.02 b	1.23 b	1.75 b	1.58 b	1.08 b	5.84 b	071913-6100
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**100%**	**131%** N	**97%**	**106%**	**99%**	**98%**	**99%**	**100%**	
				Percent Recovery, MSD	**100%**	**124%**	**97%**	**104%**	**99%**	**98%**	**99%**	**99%**	
AMB13-107	M2	DME	Seawater	**3106-1165**	0.002 bU	0.2 bU	0.0668 b	0.112 bJ	0.468 b	0.366 b	0.0121 b	0.475 b	071913-6100
MS				**3106-1165MS**	0.963 b	5.01 b	1.06 b	1.12 b	1.46 b	1.36 b	1.03 b	1.44 b	071913-6100
MSD				**3106-1165MSD**	0.936 b	4.51 b	1.03 b	1.08 b	1.40 b	1.32 b	1.01 b	1.34 b	071913-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**96%**	**100%**	**99%**	**101%**	**99%**	**99%**	**102%**	**97%**	
				Percent Recovery, MSD	**94%**	**90%**	**96%**	**97%**	**93%**	**95%**	**100%**	**86%**	

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Ambient Monitoring - AMB13
QC Sample Results for ICP-MS
ENVVEST June 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS (cont)													
AMB13-114	M6	TME	Seawater	**3106-1178**	0.002 bU	4.59 b	0.0546 b	0.140 bJ	0.547 b	0.524 b	0.0520 b	0.510 b	071913-6100
MS				**3106-1178MS**	0.867 b	10.0 b	1.00 b	1.12 b	1.47 b	1.47 b	1.04 b	1.47 b	071913-6100
MSD				**3106-1178MSD**	0.911 b	9.61 b	1.03 b	1.14 b	1.51 b	1.51 b	1.07 b	1.46 b	071913-6100
				Spiking Level	1	5	1	1	1	1	1	1	
				Percent Recovery, MS	**87%**	**109%**	**94%**	**98%**	**92%**	**94%**	**99%**	**96%**	
				Percent Recovery, MSD	**91%**	**100%**	**97%**	**100%**	**96%**	**98%**	**101%**	**96%**	
REPLICATE PRECISION													
AMB13DD-001	OF021	TME	Freshwater	**3106-1144**	0.002 U	5.92	0.004 U	1.24	2.06	1.29	0.00551 J	0.680	072213-6100
DUP				**3106-1144r2**	0.002 U	6.02	0.004 U	1.38	2.09	1.30	0.00580 J	0.605	072213-6100
				Mean	*0.002 U*	*5.97*	0.004 U	*1.31*	*2.07*	*1.29*	*0.00565* J	*0.643*	072213-6100
				RPD	**NA**	**2%**	**NA**	**11%**	**1%**	**1%**	**5%**	**12%**	
AMB13-001	PS03	TME	Seawater	**3106-1096**	0.00291 bJ	12.4 b	0.0726 b	0.199 bJ	3.00 b	0.550 b	0.182 b	6.16 b	071813-6100
DUP				**3106-1096r2**	0.00336 bJ	12.5 b	0.0721 b	0.251 b	2.99 b	0.568 b	0.175 b	6.74 b	071813-6100
				Mean	*0.00314 bJ*	*12.5 b*	*0.0724 b*	*0.225 b*	*2.99 b*	*0.559 b*	*0.178 b*	*6.45 b*	071813-6100
				RPD	**14%**	**1%**	**1%**	**23%**	**1%**	**3%**	**4%**	**9%**	
AMB13-010	PS09	TME	Seawater	**3106-1114**	0.002 bU	6.51 b	0.0691 b	0.132 bJ	2.89 b	0.491 b	0.108 b	9.49 b	071813-6100
DUP				**3106-1114r2**	0.002 bU	6.36 b	0.0671 b	0.133 bJ	2.71 b	0.495 b	0.108 b	8.92 b	071813-6100
				Mean	0.002 bU	*6.43 b*	*0.0681 b*	*0.132* bJ	*2.80 b*	*0.493 b*	*0.108 b*	*9.20 b*	071813-6100
				RPD	**NA**	**2%**	**3%**	**1%**	**7%**	**1%**	**0%**	**6%**	
AMB13-020	BJEST	TME	Seawater	**3106-1134**	0.002 bU	22.2 b	0.0619 b	0.208 b	0.889 b	0.617 b	0.118 b	1.53 b	071913-6100
DUP				**3106-1134r2**	0.002 bU	22.4 b	0.0577 b	0.214 b	0.907 b	0.592 b	0.117 b	1.25 b	071913-6100
				Mean	0.002 bU	*22.3 b*	*0.0598 b*	*0.211 b*	*0.898 b*	*0.605 b*	*0.117 b*	*1.39 b*	071913-6100
				RPD	**NA**	**1%**	**7%**	**3%**	**2%**	**4%**	**0%**	**20%**	
AMB13DD-002	OF019	TME	Seawater	**3106-1146**	0.0295 b	10.1 b	0.101 b	3.31 b	6.18 b	10.2 b	0.199 b	25.5 b	071913-6100
DUP				**3106-1146r2**	0.0218 b	9.90 b	0.0835 b	3.42 b	5.53 b	9.05 b	0.192 b	21.2 b	071913-6100
				Mean	*0.0257 b*	*10.0* b	*0.0920 b*	*3.37 b*	*5.85 b*	*9.64 b*	*0.195 b*	*23.3 b*	071913-6100
				RPD	**30%**	**2%**	**19%**	**3%**	**11%**	**12%**	**4%**	**18%**	
AMB13-102	SN08	TME	Seawater	**3106-1154**	0.002 bU	27.6 b	0.0494 b	0.252 b	0.806 b	0.640 b	0.146 b	1.40 b	071913-6100
DUP				**3106-1154r2**	0.002 bU	28.2 b	0.0502 b	0.257 b	0.812 b	0.660 b	0.143 b	1.83 b	071913-6100
				Mean	0.002 bU	*27.9* b	*0.0498 b*	*0.255 b*	*0.809 b*	*0.650 b*	*0.145 b*	*1.61 b*	071913-6100
				RPD	**NA**	**2%**	**2%**	**2%**	**1%**	**3%**	**2%**	**27%**	
AMB13-115	M8	TME	Seawater	**3106-1180**	0.002 bU	22.8 b	0.0517 b	0.193 bJ	0.590 b	0.490 b	0.155 b	1.09 b	071913-6100
DUP				**3106-1180r2**	0.002 bU	22.9 b	0.0502 b	0.192 bJ	0.569 b	0.482 b	0.154 b	1.04 b	071913-6100
				Mean	0.002 bU	*22.8* b	*0.0509 b*	*0.193* bJ	*0.579 b*	*0.486 b*	*0.154 b*	*1.07 b*	071913-6100
				RPD	**NA**	**0%**	**3%**	**1%**	**4%**	**2%**	**0%**	**5%**	

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Ambient Monitoring - AMB13
QC Sample Results for ICP-MS
ENVVEST June 2013
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 R1	0.002 bU	0.614 b	0.0255 b	0.0972 bJ	0.317 b	0.295 b	0.0111 b	0.629 b	071813-6100
SRM CASS-5		Total	Seawater	CASS-5 R2	0.002 bU	0.806 b	0.0274 b	0.0968 bJ	0.299 b	0.277 b	0.00944 b	0.748 b	071813-6100
SRM CASS-5		Total	Seawater	CASS-5 R1 0716	0.002 bU	0.354 bJ	0.0243 b	0.122 bJ	0.367 b	0.305 b	0.00939 b	0.639 b	071913-6100
SRM CASS-5		Total	Seawater	CASS-5 R2 0716	0.002 bU	0.270 bJ	0.0240 b	0.0876 bJ	0.307 b	0.276 b	0.00874 b	0.610 b	071913-6100
SRM CASS-5		Total	Seawater	CASS-5 R3	0.002 bU	0.446 bJ	0.0224 b	0.0974 bJ	0.308 b	0.284 b	0.00874 b	0.526 b	071913-6100
				Certified Value	NC	NC	**0.0215**	**0.106**	**0.38**	**0.33**	**0.011**	**0.719**	
				PD	--	--	**19%**	**8%**	**17%**	**11%**	**1%**	**13%**	
				PD	--	--	**28%** c	**9%**	**21%** c	**16%**	**14%**	**4%**	
				PD	--	--	**13%**	**15%**	**4%**	**8%**	**15%**	**11%**	
				PD	--	--	**12%**	**17%**	**19%**	**16%**	**21%** c	**15%**	
				PD	--	--	**4%**	**8%**	**19%**	**14%**	**21%** c	**27%** &	
SRM SLEW-3		Total	Seawater	SLEW-3 R1	0.002 bU	0.316 bJ	0.0410 b	0.156 b	--	--	--	--	071813-6100
SRM SLEW-3		Total	Seawater	SLEW-3 R2	0.002 bU	0.544 bJ	0.0492 b	0.179 b	--	--	--	--	071813-6100
SRM SLEW-3		Total	Seawater	SLEW-3 R1 0716	0.002 bU	0.2 bU	0.0416 b	0.170 b	1.30 b	--	--	--	071913-6100
SRM SLEW-3		Total	Seawater	SLEW-3 R2 0716	0.002 bU	0.2 bU	0.0434 b	0.152 b	1.29 b	--	--	--	071913-6100
SRM SLEW-3		Total	Seawater	SLEW-3 R3	0.002 bU	0.210 bJ	0.0394 b	0.176 b	1.20 b	--	--	--	071913-6100
				Certified Value	NC	NC	**0.0480**	**0.183**	--	--	--	--	
				PD	--	--	**15%**	**15%**	--	--	--	--	
				PD	--	--	**2%**	**2%**	--	--	--	--	
				PD	--	--	**13%**	**7%**	--	--	--	--	
				PD	--	--	**10%**	**17%**	--	--	--	--	
				PD	--	--	**18%**	**4%**	--	--	--	--	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640a		Total	Freshwater	TRM 1640a 10x	--	55.3	--	--	--	--	--	54.7	072513-6100
SRM 1640a		Total	Freshwater	TRM 1640a 10x	7.62	53.8	3.83	41.3	82.8	24.5	11.8	53.7	072213-6100
SRM 1640a		Total	Freshwater	1640a 10x	7.96	55.0	3.98	40.3	85.0	24.6	12.4	56.3	071813-6100
SRM 1640a		Total	Freshwater	1640a 10x	8.67	51.5	4.13	41.2	92.2	25.8	12.5	58.9	071913-6100
				Certified Value	**8.08**	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**NA**	**4%**	**NA**	**NA**	**NA**	**NA**	**NA**	**2%**	
				PD	**6%**	**2%**	**4%**	**2%**	**3%**	**3%**	**3%**	**4%**	
				PD	**2%**	**4%**	**0%**	**1%**	**1%**	**3%**	**2%**	**1%**	
				PD	**7%**	**3%**	**3%**	**2%**	**8%**	**2%**	**3%**	**6%**	

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Ambient Monitoring - AMB13
QC Sample Results for CVAF
ENVVEST June 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME		Water	Method Blank1	0.100 U	072413HGA1
MB-2	TME		Water	Method Blank2	0.100 U	072413HGA1
MB-3	TME		Water	Method Blank3	0.100 U	072413HGA1
MB-4	TME		Water	Method Blank1	0.100 U	072513HGA1
MB-5	TME		Water	Method Blank2	0.100 U	072513HGA1
MB-6	TME		Water	Method Blank3	0.100 U	072513HGA1
MB-7	TME		Water	Method Blank1	0.100 U	072613HGA1
MB-8	TME		Water	Method Blank2	0.100 U	072613HGA1
MB-9	TME		Water	Method Blank3	0.100 U	072613HGA1
MB-10	TME		Water	Method Blank1	0.100 U	072813HGA1
MB-11	TME		Water	Method Blank2	0.100 U	072813HGA1
MB-12	TME		Water	Method Blank3	0.100 U	072813HGA1
MB-13	TME		Water	Method Blank1	0.100 U	072913HGA1
MB-14	TME		Water	Method Blank2	0.100 U	072913HGA1
MB-15	TME		Water	Method Blank3	0.100 U	072913HGA1
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072313 run1	4.62	072413HGA1
LCS (2)	TME		Water	OPR 072313 run2	5.61	072413HGA1
LCS Blank (1)	TME		Water	BLANK 072313	0.100 U	072413HGA1
				Percent Recovery, LCS 1	**93%**	
				Percent Recovery, LCS 2	**113%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072413 run1	4.62	072513HGA1
LCS (2)	TME		Water	OPR 072413 run2	5.51	072513HGA1
LCS Blank (1)	TME		Water	BLANK 072413	0.100 U	072513HGA1
				Percent Recovery, LCS 1	**93%**	
				Percent Recovery, LCS 2	**111%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072513 run1	4.86	072613HGA1
LCS (2)	TME		Water	OPR 072513 run2	5.58	072613HGA1
LCS Blank (1)	TME		Water	BLANK 072513	0.100 U	072613HGA1
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**112%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072613 run1	4.40	072813HGA1
LCS (2)	TME		Water	OPR 072613 run2	5.16	072813HGA1
LCS Blank (1)	TME		Water	BLANK 072613	0.100 U	072813HGA1
				Percent Recovery, LCS 1	**89%**	
				Percent Recovery, LCS 2	**104%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072813 run1	5.20	072913HGA1
LCS (2)	TME		Water	OPR 072813 run2	5.31	072913HGA1
LCS Blank (1)	TME		Water	BLANK 072813	0.100 U	072913HGA1
				Percent Recovery, LCS 1	**105%**	
				Percent Recovery, LCS 2	**107%**	

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Ambient Monitoring - AMB13
QC Sample Results for CVAF
ENVVEST June 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB13-002	PS04	TME	Seawater	**3106-1098**	1.14	072413HGA1
MS				**3106-1098MS**	8.19	072413HGA1
MSD				**3106-1098MSD**	8.19	072413HGA1
				Spiking Level, MS	6.52	
				Spiking Level, MSD	6.54	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**108%**	
				RPD	**0.2%**	
AMB13-009	PS15	DME	Seawater	**3106-1113**	0.393	072413HGA1
MS				**3106-1113MS**	7.56	072413HGA1
MSD				**3106-1113MSD**	7.20	072413HGA1
				Spiking Level, MS	6.75	
				Spiking Level, MSD	6.46	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**105%**	
				RPD	**0.8%**	
AMB13-011	PS10	DME	Seawater	**3106-1117**	0.376	072513HGA1
MS				**3106-1117MS**	8.07	072513HGA1
MSD				**3106-1117MSD**	7.96	072513HGA1
				Spiking Level, MS	6.88	
				Spiking Level, MSD	6.83	
				Percent Recovery, MS	**112%**	
				Percent Recovery, MSD	**111%**	
				RPD	**0.7%**	
AMB13-017	PS02	TME	Seawater	**3106-1128**	1.61	072513HGA1
MS				**3106-1128MS**	9.18	072513HGA1
MSD				**3106-1128MSD**	9.15	072513HGA1
				Spiking Level, MS	6.84	
				Spiking Level, MSD	6.86	
				Percent Recovery, MS	**111%**	
				Percent Recovery, MSD	**110%**	
				RPD	**0.7%**	
AMB13-021	M3.1	DME	Seawater	**3106-1137**	0.379	072613HGA1
MS				**3106-1137MS**	7.36	072613HGA1
MSD				**3106-1137MSD**	7.66	072613HGA1
				Spiking Level, MS	6.68	
				Spiking Level, MSD	6.72	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**108%**	
				RPD	**3.4%**	
AMB13-100	SN03	TME	Seawater	**3106-1150**	1.42	072613HGA1
MS				**3106-1150MS**	9.33	072613HGA1
MSD				**3106-1150MSD**	8.24	072613HGA1
				Spiking Level, MS	6.86	
				Spiking Level, MSD	6.84	
				Percent Recovery, MS	**115%**	
				Percent Recovery, MSD	**100%**	
				RPD	**15.8%**	

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Ambient Monitoring - AMB13
QC Sample Results for CVAF
ENVVEST June 2013
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB13-106	M3.3	TME	Seawater	**3106-1162**	0.871	072813HGA1
MS				**3106-1162MS**	7.99	072813HGA1
MSD				**3106-1162MSD**	7.97	072813HGA1
				Spiking Level, MS	7.09	
				Spiking Level, MSD	7.16	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**99%**	
				RPD	**1.3%**	
AMB13-107	M2	DME	Seawater	**3106-1165**	0.262	072813HGA1
MS				**3106-1165MS**	7.45	072813HGA1
MSD				**3106-1165MSD**	7.37	072813HGA1
				Spiking Level, MS	7.00	
				Spiking Level, MSD	6.94	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.4%**	
AMB13-114	M6	TME	Seawater	**3106-1178**	0.545	072913HGA1
MS				**3106-1178MS**	7.39	072913HGA1
MSD				**3106-1178MSD**	7.68	072913HGA1
				Spiking Level, MS	6.74	
				Spiking Level, MSD	6.84	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**104%**	
				RPD	**2.6%**	
AMB13-117	DYOTS DUP	DME	Seawater	**3106-1185**	0.417	072913HGA1
MS				**3106-1185MS**	7.64	072913HGA1
MSD				**3106-1185MSD**	7.56	072913HGA1
				Spiking Level, MS	6.82	
				Spiking Level, MSD	6.90	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.3%**	

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Ambient Monitoring - AMB13
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Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB13-010	PS09	TME	Seawater	**3106-1114**	1.05	072413HGA1
DUP				**3106-1114R2**	1.02	072413HGA1
				Mean	*1.03*	
				RPD	**3%**	
AMB13-020	BJEST	TME	Seawater	**3106-1134**	0.966	072513HGA1
DUP				**3106-1134r2**	1.09	072513HGA1
				Mean	*1.03*	
				RPD	**12%**	
AMB13DD-001	OF021	TME	Freshwater	**3106-1144**	3.19	072613HGA1
DUP				**3106-1144r2**	3.09	072613HGA1
				Mean	*3.14*	
				RPD	**3%**	
AMB13-102	SN08	TME	Seawater	**3106-1154**	1.30	072813HGA1
DUP				**3106-1154r2**	1.13	072813HGA1
				Mean	*1.22*	
				RPD	**14%**	
AMB13-115	M8	TME	Seawater	**3106-1180**	1.02	072913HGA1
DUP				**3106-1180r2**	1.11	072913HGA1
				Mean	*1.06*	
				RPD	**8%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 072313	1555792	072413HGA1
SRM 1641 (2)		Total	Freshwater	1641d 072413	1507332	072513HGA1
SRM 1641 (3)		Total	Freshwater	1641d 072513	1643120	072613HGA1
SRM 1641 (4)		Total	Freshwater	1641d 072613	1584850	072813HGA1
SRM 1641 (5)		Total	Freshwater	1641d 072813	1620460	072913HGA1
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**0.1%**	
	SRM 1641 (2)			**PD**	**3.2%**	
	SRM 1641 (3)			**PD**	**5.5%**	
	SRM 1641 (4)			**PD**	**1.8%**	
	SRM 1641 (5)			**PD**	**4.1%**	

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Ambient Monitoring - AMB13
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.030**	**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**	**8.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB			DIWater	DIW	0.036	3.0	J	062713OC
MB			DIWater	DIW	0.031	2.6	J	062713OC
MB			DIWater	DIW	0.20	16.7		062713OC
MB			DIWater	DIW	0.061	5.1	J	062713OC
REPLICATE PRECISION								
AMB13-001	PS03	DME	Seawater	**3106-1097**	2.17	181		062713OC
DUP	PS03	DME	Seawater	**3106-1097r2**	2.19	182		062713OC
				Mean	*2.18*	*182*		
				RPD	**0.7%**	**0.7%**		
AMB13-024	PS03B	DME	Seawater	**3106-1143**	1.82	152		062713OC
DUP	PS03B	DME	Seawater	**3106-1143r2**	1.89	158		062713OC
				Mean	*1.86*	*155*		
				RPD	**3.7%**	**3.7%**		
AMB13-100	SN03	DME	Seawater	**3106-1151**	1.25	104		062713OC
DUP	SN03	DME	Seawater	**3106-1151r2**	1.29	108		062713OC
				Mean	*1.27*	*106*		
				RSD	**3.6%**	**3.6%**		
AMB13-111	ILSP	DME	Seawater	**3106-1173**	1.22	102		062713OC
DUP	ILSP	DME	Seawater	**3106-1173r2**	1.23	102		062713OC
				Mean	*1.22*	*102*		
				RPD	**0.3%**	**0.3%**		
AMB13-108	M2 DEEP	TME	Seawater	**3106-1166**	1.21	101		062713OC
DUP	M2 DEEP	TME	Seawater	**3106-1166r2**	1.23	103		062713OC
				Mean	*1.22*	*102*		
				RPD	**1.7%**	**1.7%**		
AMB13-002	PS04	TME	Seawater	**3106-1098**	1.31	109		062713OC
DUP	PS04	TME	Seawater	**3106-1098r2**	1.32	110		062713OC
				Mean	*1.31*	*109*		
				RPD	**1.1%**	**1.1%**		
AMB13-024	PS03B	TME	Seawater	**3106-1142**	1.89	158		062713OC
DUP	PS03B	TME	Seawater	**3106-1142r2**	1.94	161		062713OC
				Mean	*1.91*	*160*		
				RPD	**2.4%**	**2.4%**		
AMB13-108	M2 DEEP	DME	Seawater	**3106-1167**	1.04	87.1		062713OC
DUP	M2 DEEP	DME	Seawater	**3106-1167r2**	1.08	90.2		062713OC
				Mean	*1.06*	*88.6*		
				RPD	**3.5%**	**3.5%**		

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Ambient Monitoring - AMB13
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	UM CRM	0.554	46.2		062713OC
CRM-2		DOC	Seawater	UM CRM	0.578	48.1		062713OC
CRM-3		DOC	Seawater	UM CRM	0.543	45.3		062713OC
CRM-4		DOC	Seawater	UM CRM	0.519	43.3		062713OC
CRM-5		DOC	Seawater	UM CRM	0.537	44.8		062713OC
CRM-6		DOC	Seawater	UM CRM	0.531	44.2		062713OC
CRM-7		DOC	Seawater	UM CRM	0.537	44.8		062713OC
CRM-8		DOC	Seawater	UM CRM	0.553	46.1		062713OC
CRM-9		DOC	Seawater	UM CRM	0.549	45.8		062713OC
CRM-10		DOC	Seawater	UM CRM	0.535	44.6		062713OC
CRM-11		DOC	Seawater	UM CRM	0.532	44.4		062713OC
CRM-12		DOC	Seawater	UM CRM	0.545	45.4		062713OC
CRM-13		DOC	Seawater	UM CRM	0.524	43.7		062713OC
CRM-14		DOC	Seawater	UM CRM	0.525	43.8		062713OC
CRM-15		DOC	Seawater	UM CRM	0.471	39.3		062713OC
CRM-16		DOC	Seawater	UM CRM	0.488	40.6		062713OC
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**8.6%**	**8.6%**		
CRM-2				**PD**	**13%**	**13%**		
CRM-3				**PD**	**6.5%**	**6.5%**		
CRM-4				**PD**	**1.8%**	**1.8%**		
CRM-5				**PD**	**5.4%**	**5.4%**		
CRM-6				**PD**	**4.1%**	**4.1%**		
CRM-7				**PD**	**5.4%**	**5.4%**		
CRM-8				**PD**	**8.5%**	**8.5%**		
CRM-9				**PD**	**7.7%**	**7.7%**		
CRM-10				**PD**	**4.9%**	**4.9%**		
CRM-11				**PD**	**4.4%**	**4.4%**		
CRM-12				**PD**	**6.8%**	**6.8%**		
CRM-13				**PD**	**2.8%**	**2.8%**		
CRM-14				**PD**	**3.0%**	**3.0%**		
CRM-15				**PD**	**7.6%**	**7.6%**		
CRM-16				**PD**	**4.4%**	**4.4%**		

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Ambient Monitoring - AMB13
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				CCV_1ppm	1.12	93.4		062713OC
ICV/CCV-2				CCV_1ppm	1.13	94.1		062713OC
ICV/CCV-3				CCV_1ppm	1.14	95.2		062713OC
ICV/CCV-4				CCV_1ppm	1.12	93.2		062713OC
ICV/CCV-5				CCV_1ppm	1.11	92.7		062713OC
ICV/CCV-6				CCV_1ppm	1.12	93.4		062713OC
ICV/CCV-7				CCV_1ppm	1.13	93.7		062713OC
ICV/CCV-8				CCV_1ppm	1.10	91.4		062713OC
ICV/CCV-9				CCV_1ppm	1.26	105.2		062713OC
ICV/CCV-10				CCV_1ppm	1.31	109.4		062713OC
ICV/CCV-11				CCV_1ppm	1.41	117.2		062713OC
ICV/CCV-12				CCV_1ppm	1.14	94.7		062713OC
ICV/CCV-13				ICV_1ppm	1.11	92.5		062713OC
ICV/CCV-14				ICV_1ppm	1.09	90.8		062713OC
ICV/CCV-15				ICV_1ppm	1.09	91.2		062713OC
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**112%**			
ICV/CCV-2				**% RECOVERY**	**113%**			
ICV/CCV-3				**% RECOVERY**	**114%**			
ICV/CCV-4				**% RECOVERY**	**112%**			
ICV/CCV-5				**% RECOVERY**	**111%**			
ICV/CCV-6				**% RECOVERY**	**112%**			
ICV/CCV-7				**% RECOVERY**	**113%**			
ICV/CCV-8				**% RECOVERY**	**110%**			
ICV/CCV-9				**% RECOVERY**	**126%**		[4]	
ICV/CCV-10				**% RECOVERY**	**131%**		[4]	
ICV/CCV-11				**% RECOVERY**	**141%**		[4]	
ICV/CCV-12				**% RECOVERY**	**114%**		[4]	
ICV/CCV-13				**% RECOVERY**	**111%**			
ICV/CCV-14				**% RECOVERY**	**109%**			
ICV/CCV-15				**% RECOVERY**	**109%**			

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Ambient Monitoring - AMB13
QC Sample Results for Salinity
ENVVEST June 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB		TME	Seawater	DIW Blank1	0.0 U	PSU	062113Osal
MB		TME	Seawater	DIW Blank2	0.0 U	PSU	062113Osal
MB		TME	Seawater	DIW Blank3	0.0 U	PSU	062113Osal
MB		TME	Seawater	DIW Blank1	0.0 U	PSU	062413osal
MB		TME	Seawater	DIW Blank2	0.0 U	PSU	062413osal
MB		TME	Seawater	DIW Blank3	0.0 U	PSU	062413osal
STANDARD REFERENCE MATERIAL							
SRM		TME	Seawater	Copenhagen Water 1	34.7	PSU	062113Osal
SRM		TME	Seawater	Copenhagen Water 2	34.7	PSU	062113Osal
SRM		TME	Seawater	Copenhagen Water 3	34.6	PSU	062113Osal
SRM		TME	Seawater	Copenhagen Water 4	34.3	PSU	062113Osal
SRM		TME	Seawater	Copenhagen Water 1	34.9	PSU	062413osal
SRM		TME	Seawater	Copenhagen Water 2	34.8	PSU	062413osal
SRM		TME	Seawater	Copenhagen Water 3	34.6	PSU	062413osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.8%**		
	SRM-2			**PD**	**0.8%**		
	SRM-3			**PD**	**1.1%**		
	SRM-4			**PD**	**2.0%**		
	SRM-5			**PD**	**0.3%**		
	SRM-6			**PD**	**0.5%**		
	SRM-7			**PD**	**1.1%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS1	20.7	PSU	062113Osal
LCS-2				LCS2	20.6	PSU	062113Osal
LCS-3				LCS3	20.5	PSU	062113Osal
LCS-4				LCS4	20.4	PSU	062113Osal
LCS-1				LCS1	20.4	PSU	062413osal
LCS-2				LCS2	20.3	PSU	062413osal
LCS-3				LCS3	20.8	PSU	062413osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**104%**		
	LCS-2			**% RECOVERY**	**103%**		
	LCS-3			**% RECOVERY**	**103%**		
	LCS-4			**% RECOVERY**	**102%**		
	LCS-1			**% RECOVERY**	**102%**		
	LCS-2			**% RECOVERY**	**102%**		
	LCS-3			**% RECOVERY**	**104%**		

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Ambient Monitoring - AMB13
QC Sample Results for Salinity
ENVVEST June 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				YSI 50 ms/cm ICV	50.1	mS	062113Osal
CCV-1				YSI 50 ms/cmCCV1	49.9	mS	062113Osal
CCV-2				YSI 50 ms/cmCCV2	49.8	mS	062113Osal
CCV-3				YSI 50 ms/cmCCV3	50.1	mS	062113Osal
CCV-4				YSI 50 ms/cmCCV4	50.0	mS	062113Osal
CCV-5				YSI 50 ms/cmCCV5	49.7	mS	062113Osal
ICV-1				YSI 50 ms/cm ICV	49.8	mS	062413osal
CCV-1				YSI 50 ms/cmCCV1	49.7	mS	062413osal
CCV-2				YSI 50 ms/cmCCV2	50.3	mS	062413osal
CCV-3				YSI 50 ms/cmCCV3	50.1	mS	062413osal
CCV-4				YSI 50 ms/cmCCV4	49.9	mS	062413osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**100%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		
	CCV-5			**% RECOVERY**	**99%**		
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**101%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB13
QC Sample Results for TSS
ENVVEST June 2013

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.49*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank 1	0.49 U	mg/L	062113Nu
MB2		TME	Seawater	Blank 2	0.49 U	mg/L	062113Nu
MB3		TME	Seawater	Blank 1	0.49 U	mg/L	062413Nu
MB4		TME	Seawater	Blank 2	0.49 U	mg/L	062413Nu
MB5		TME	Seawater	Blank 1	0.49 U	mg/L	062613Nu
MB6		TME	Seawater	Blank 2	0.49 U	mg/L	062613Nu
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	41.0	mg/L	062113Nu
LCS-2				LCS r2	44.0	mg/L	062113Nu
LCS-3				LCS r1	37.8	mg/L	062413Nu
LCS-4				LCS r2	40.7	mg/L	062413Nu
LCS-5				LCS 1	33.8	mg/L	062613Nu
LCS-6				LCS 2	37.1	mg/L	062613Nu
				TRUE VALUE	**40**	mg/L	
	LCS-1			**% RECOVERY**	**103%**		
	LCS-2			**% RECOVERY**	**110%**		
	LCS-3			**% RECOVERY**	**94%**		
	LCS-4			**% RECOVERY**	**102%**		
	LCS-5			**% RECOVERY**	**85%**		
	LCS-6			**% RECOVERY**	**93%**		

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Ambient Monitoring - AMB13
ENVVEST February 2013
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, June 2013 (AMB13)

PARAMETER: Total and Dissolved Metals – Al, Ag, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 6/18/2013 and 06/19/2013. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	06/18/13 and 06/19/13 EQP BLKS 06/19/13
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	06/18/13 and 06/19/13 EQP BLKS 06/19/13
TSS analysis dates	06/21/13, 06/24/13, and 06/26/13
OSAL analysis dates	06/21/13 and 06/24/13
CVAF analysis dates (Hg)	07/24 through 07/26/13, 07/28/13, 07/29/13
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cr, Cr, Cu, Ni, Pb, Zn)	07/25/13 and 07/22/13
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	07/18/13, 07/19/13, 07/22/13, 07/25/13
TOC/DOC Analysis Date	06/27/13 through 07/03/13

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Silver	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.006 µg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0351µg/L	0.11 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.025 µg/L	0.80 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.0060 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.026 µg/L	0.084 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.030 mg/L	0.095 mg/L
Silver	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.006 µg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following two methods. The analyses of Hg does not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals following preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation*

METHODS (cont): *for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed as follows, except Hg, which does not require a different method for freshwater versus saltwater. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The preconcentrated results were reported in units of µg/L. Data were reagent blank corrected for all metals (except Hg) and data were flagged with a "b". The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except several seawater replicates for Zn and one freshwater replicate for Cr. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions, as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank if the blank was above the RL. The reagent blank correction takes into consideration the detected blank for each batch and the seawater data for all metals except Hg should be reported as corrected in order to more accurately represent the true sample concentrations. The data were not considered impacted by the detected Zn blanks. The freshwater Cr blank was detected above the RL and the data were qualified with a "B" flag. The data were not significantly impacted by the detected blank.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL. The method blanks for TOC and DOC was deionized water. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon. The deionized water polisher canisters were replaced on 07/01/13 between the analysis of the blank checks at 1333 and 2238. The elevated blank measured at 2238 triggered a review of the data. House DI water was used as a CCB and also for the preparation of 1 ppm carbon CCV. This house DI water was also used to rinse the autosampler between each run. These samples showed elevated carbon in the CCV (increased from normally ~1.10 ppm to ~1.30 ppm) and CCB (increased from normally ~0.05 ppm to ~0.20 ppm). However, the following observations suggest that the instrument was in good performance and was not affected by the use of house DI water:

1. All University of Miami Low carbon water (LCW) and CRM, which were analyzed coupled with CCV/CCB, have consistent values compared to the past analysis. The LCW values are consistently low (~0.03 ppm), which also suggests that the rinsing with House DI water didn't create contamination problems (note that at that time the House DI water is ~0.20 ppm). The CRM values are right within the tight ideal range of this CRM (41-44 uM).
2. A measurement of a Milli-Q ultrapure water from Biotechnology lab downstairs also has very low OC value (0.037 ppm).
3. The House DI water OC (~0.20 ppm) is still lower than 10 X MDL (0.25 ppm).
4. All samples in that batch are TOC samples and their average measured concentrations are ~7.5 times of House DI water OC value, which means that the sample concentrations are much higher than instrument rinsing water.

Therefore, the data are not considered impacted by the House DI water problem and are acceptable. In the analytical batch 070313, the House DI water OC concentration was down to ~0.05 ppm and was considered back to normal.

LABORATORY CONTROL A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples

QA/QC NARRATIVE

SAMPLES: were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all metals detected above the RL and for the TOC/DOC analyses.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%.

Three different SRMs were analyzed with the analytical batches for Ag, Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion. There are no seawater SRMs certified for Ag and Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

Two seawater SRMs were analyzed with each ICP-MS batch. The primary SRM was the coastal SRM CASS-5 and the secondary was the estuarine SRM SLEW-3. Both were prepared with each batch of preconcentrated samples. The PDs were within the QC criterion for all metals certified greater than 10x the MDL, except one replicate of CASS-5 for Zn (PD = 27%). The "c" flag denotes those that exceeded the QC criterion, but were not greater than 10x the MDL.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 0.3-8% PD for all salinity measurements. There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PD ranged from 1.8 to 13%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1305955
Project:	June 2013 Ambient Monitoring (AMB13)	**Date Received:**	06/20/13
Sample Matrix:	Water and Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water and one ocean water sample was received for analysis at ALS Environmental on 06/20/13. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1305955
Project:	ENVVEST/June 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Water	**Date Received:**	06/20/13
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB13DD-001 OF021	K1305955-001	ND U	4.9	0.8	1	07/05/13 09:45	7/5/13	
Method Blank	K1305955-MB	ND U	5.0	0.8	1	07/05/13 09:45	7/5/13	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1305955
Project:	ENVVEST/June 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Ocean Water	**Date Received:**	06/20/13
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB13DD-002 OF019	K1305955-002	ND U	4.8	0.8	1	07/05/13 09:45	7/5/13	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1305955
Project:	ENVVEST/June 2013 Ambient Monitoring (AMB13)	**Date Collected:**	N/A
Sample Matrix:	Water	**Date Received:**	N/A
		Date Analyzed:	07/5/13
		Date Extracted:	07/5/13

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1306020-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1306020-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND	55.9	58.8	95	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1305955
Project:	ENVVEST/June 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	07/05/13
Sample Matrix:	Water	**Date Extracted:**	07/05/13

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	348013

	Lab Control Sample K1305955-LCS			Duplicate Lab Control Sample K1305955-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	54.9	60.0	91	54.0	60.0	90	78-114	2	20

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1306033
Project:	JUNE 2013 Ambient Monitoring (AMB13)	**Date Received:**	06/21/13
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-two ocean water samples were received for analysis at ALS Environmental on 06/21/13. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB13-001 PS03	K1306033-001	**0.162**	0.010	0.003	1	07/10/13 10:16	
AMB13-002 PS04	K1306033-002	**0.143**	0.010	0.003	1	07/10/13 10:16	
AMB13-003 PS05	K1306033-003	**0.137**	0.010	0.003	1	07/10/13 10:16	
AMB13-004 PS14	K1306033-004	**0.097**	0.010	0.003	1	07/10/13 10:16	
AMB13-006 PS06	K1306033-005	**0.140**	0.010	0.003	1	07/10/13 10:16	
AMB13-007 PS07	K1306033-006	**0.142**	0.010	0.003	1	07/10/13 10:16	
AMB13-008 PS08	K1306033-007	**0.128**	0.010	0.003	1	07/10/13 10:16	
AMB13-009 PS15	K1306033-008	**0.076**	0.010	0.003	1	07/10/13 10:16	
AMB13-010 PS09	K1306033-009	**0.126**	0.010	0.003	1	07/10/13 10:16	
AMB13-011 PS10	K1306033-010	**0.100**	0.010	0.003	1	07/10/13 10:16	
AMB13-012 PS10.1	K1306033-011	**0.122**	0.010	0.003	1	07/10/13 10:16	
AMB13-014 PS11	K1306033-012	**0.087**	0.010	0.003	1	07/10/13 10:16	
AMB13-015 PS16	K1306033-013	**0.093**	0.010	0.003	1	07/10/13 10:16	
AMB13-016 PS01	K1306033-014	**0.164**	0.010	0.003	1	07/10/13 10:16	
AMB13-017 PS02	K1306033-015	**0.148**	0.010	0.003	1	07/10/13 11:20	
AMB13-018 PS13	K1306033-016	**0.095**	0.010	0.003	1	07/10/13 11:20	
AMB13-019 M4	K1306033-017	**0.074**	0.010	0.003	1	07/10/13 11:20	
AMB13-020 BJEST	K1306033-018	**0.043**	0.010	0.003	1	07/10/13 11:20	
AMB13-021 M3.1	K1306033-019	**0.064**	0.010	0.003	1	07/10/13 11:20	
AMB13-022 M3.1 DEEP	K1306033-020	**0.061**	0.010	0.003	1	07/10/13 11:20	
AMB13-023 PS12	K1306033-021	**0.102**	0.010	0.003	1	07/10/13 11:20	
AMB13DD-001 OF021	K1306033-022	**0.004 J**	0.010	0.003	1	07/10/13 11:20	
AMB13DD-002 OF019	K1306033-023	**0.339**	0.010	0.003	1	07/10/13 11:20	
AMB13-100 SN03	K1306033-024	**0.588**	0.020	0.006	2	07/11/13 08:41	
AMB13-101 SN05	K1306033-025	**0.092**	0.010	0.003	1	07/11/13 08:41	
AMB13-102 SN08	K1306033-026	**0.036**	0.010	0.003	1	07/10/13 11:20	
AMB13-103 SN10	K1306033-027	**0.063**	0.010	0.003	1	07/10/13 11:20	
AMB13-104 SN10DUP	K1306033-028	**0.057**	0.010	0.003	1	07/10/13 11:20	
AMB13-105 SN11	K1306033-029	**0.047**	0.010	0.003	1	07/10/13 12:43	
AMB13-106 M3.3	K1306033-030	**0.037**	0.010	0.003	1	07/10/13 12:43	
AMB13-107 M2	K1306033-031	**0.061**	0.010	0.003	1	07/10/13 12:43	
AMB13-108 M2 DEEP	K1306033-032	**0.056**	0.010	0.003	1	07/10/13 12:43	
AMB13-109 CLMBAY	K1306033-033	**0.045**	0.010	0.003	1	07/10/13 12:43	
AMB13-110 WP	K1306033-034	**0.060**	0.010	0.003	1	07/10/13 12:43	
AMB13-111 ILSP	K1306033-035	**0.066**	0.010	0.003	1	07/10/13 12:43	
AMB13-112 M1	K1306033-036	**0.058**	0.010	0.003	1	07/10/13 12:43	
AMB13-113 M1 DEEP	K1306033-037	**0.047**	0.010	0.003	1	07/10/13 12:43	

Analytical Report

Client: Battelle Marine Sciences Lab
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)
Sample Matrix: Ocean Water
Analysis Method: 350.1

Service Request: K1306033
Date Collected: 06/18/13 - 06/19/13
Date Received: 06/21/13
Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB13-114 M6	K1306033-038	**0.036**	0.010	0.003	1	07/10/13 12:43	
AMB13-115 M8	K1306033-039	**0.005 J**	0.010	0.003	1	07/10/13 12:43	
AMB13-116 DYOTS	K1306033-040	**0.057**	0.010	0.003	1	07/10/13 12:43	
AMB13-117 DYOTS DUP	K1306033-041	**0.057**	0.010	0.003	1	07/10/13 12:43	
AMB13-118 PS03C	K1306033-042	**0.136**	0.010	0.003	1	07/10/13 12:43	
Method Blank	K1306033-MB1	**0.003 J**	0.010	0.003	1	07/10/13 10:16	
Method Blank	K1306033-MB2	ND U	0.010	0.003	1	07/10/13 11:20	
Method Blank	K1306033-MB3	ND U	0.010	0.003	1	07/10/13 12:43	
Method Blank	K1306033-MB4	**0.004 J**	0.010	0.003	1	07/11/13 08:41	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB13-001 PS03	K1306033-001DUP	0.010	0.003	0.162	0.160	0.161	<1	20	07/10/13
AMB13-017 PS02	K1306033-015DUP	0.010	0.003	0.148	0.144	0.146	3	20	07/10/13
AMB13-100 SN03	K1306033-024DUP	0.020	0.006	0.588	0.566	0.577	4	20	07/11/13
AMB13-105 SN11	K1306033-029DUP	0.010	0.003	0.047	0.047	0.0472	<1	20	07/10/13

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/10/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB13-001 PS03	**Units:**	mg/L
Lab Code:	K1306033-001	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1306033-001MS			Duplicate Matrix Spike K1306033-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.162	0.362	0.200	100	0.357	0.200	98	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/10/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB13-017 PS02	**Units:**	mg/L
Lab Code:	K1306033-015	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1306033-015MS			Duplicate Matrix Spike K1306033-015DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.148	0.346	0.200	99	0.342	0.200	97	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/11/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB13-100 SN03	**Units:**	mg/L
Lab Code:	K1306033-024	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1306033-024MS			Duplicate Matrix Spike K1306033-024DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.588	0.958	0.400	92	0.963	0.400	94	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/10/13

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB13-105 SN11	**Units:**	mg/L
Lab Code:	K1306033-029	**Basis:**	NA
Analysis Method:	350.1		

		Matrix Spike K1306033-029MS			Duplicate Matrix Spike K1306033-029DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.047	0.235	0.205	92	0.233	0.200	93	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 7/11/2013 11:10:35 AM

Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	07/10/13
Sample Matrix:	Ocean Water		

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA
		Analysis Lot:	348454

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1306033-LCS1	0.210	0.218	96	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	07/10/13
Sample Matrix:	Ocean Water		

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA
		Analysis Lot:	348500

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1306033-LCS2	10.0	10.9	92	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	07/10/13
Sample Matrix:	Ocean Water		

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA
		Analysis Lot:	348502

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1306033-LCS3	10.2	10.9	93	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	07/11/13
Sample Matrix:	Ocean Water		

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
		Basis:	NA
		Analysis Lot:	348632

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1306033-LCS4	10.0	10.9	92	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1306033
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	348454	KQ1307298-06	07/10/13 10:16	0.250	0.239	95	90-110
CCV2	348454	KQ1307298-07	07/10/13 10:16	0.250	0.241	96	90-110
CCV3	348454	KQ1307298-08	07/10/13 10:16	0.250	0.241	96	90-110
CCV4	348500	KQ1307315-06	07/10/13 11:20	0.250	0.239	96	90-110
CCV5	348500	KQ1307315-07	07/10/13 11:20	0.250	0.236	94	90-110
CCV6	348500	KQ1307315-08	07/10/13 11:20	0.250	0.237	95	90-110
CCV7	348502	KQ1307316-06	07/10/13 12:43	0.250	0.240	96	90-110
CCV8	348502	KQ1307316-07	07/10/13 12:43	0.250	0.238	95	90-110
CCV9	348502	KQ1307316-08	07/10/13 12:43	0.250	0.238	95	90-110
CCV10	348632	KQ1307342-06	07/11/13 08:41	0.250	0.229	92	90-110
CCV11	348632	KQ1307342-07	07/11/13 08:41	0.250	0.232	93	90-110

Client: Battelle Marine Sciences Lab
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)

Service Request: K1306033

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: 350.1

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	348454	KQ1307298-09	07/10/13 10:16	0.010	0.003	0.003	J
CCB2	348454	KQ1307298-10	07/10/13 10:16	0.010	0.003	0.008	J
CCB3	348454	KQ1307298-11	07/10/13 10:16	0.010	0.003	0.005	J
CCB4	348500	KQ1307315-09	07/10/13 11:20	0.010	0.003	ND	U
CCB5	348500	KQ1307315-10	07/10/13 11:20	0.010	0.003	ND	U
CCB6	348500	KQ1307315-11	07/10/13 11:20	0.010	0.003	ND	U
CCB7	348502	KQ1307316-09	07/10/13 12:43	0.010	0.003	ND	U
CCB8	348502	KQ1307316-10	07/10/13 12:43	0.010	0.003	ND	U
CCB9	348502	KQ1307316-11	07/10/13 12:43	0.010	0.003	ND	U
CCB10	348632	KQ1307342-08	07/11/13 08:41	0.010	0.003	0.005	J
CCB11	348632	KQ1307342-09	07/11/13 08:41	0.010	0.003	0.005	J

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB13-001 PS03	K1306033-001	**0.222**	0.050	0.009	1	06/27/13 13:31	
AMB13-002 PS04	K1306033-002	**0.117**	0.050	0.009	1	06/27/13 13:31	
AMB13-003 PS05	K1306033-003	**0.095**	0.050	0.009	1	06/27/13 13:31	
AMB13-004 PS14	K1306033-004	**0.092**	0.050	0.009	1	06/27/13 13:31	
AMB13-006 PS06	K1306033-005	**0.122**	0.050	0.009	1	06/27/13 13:31	
AMB13-007 PS07	K1306033-006	**0.124**	0.050	0.009	1	06/27/13 13:31	
AMB13-008 PS08	K1306033-007	**0.130**	0.050	0.009	1	06/27/13 13:31	
AMB13-009 PS15	K1306033-008	**0.097**	0.050	0.009	1	06/27/13 13:31	
AMB13-010 PS09	K1306033-009	**0.134**	0.050	0.009	1	06/27/13 13:31	
AMB13-011 PS10	K1306033-010	**0.103**	0.050	0.009	1	06/27/13 13:31	
AMB13-012 PS10.1	K1306033-011	**0.103**	0.050	0.009	1	06/27/13 13:31	
AMB13-014 PS11	K1306033-012	**0.098**	0.050	0.009	1	06/27/13 13:31	
AMB13-015 PS16	K1306033-013	**0.100**	0.050	0.009	1	06/27/13 13:31	
AMB13-016 PS01	K1306033-014	**0.160**	0.050	0.009	1	06/27/13 13:31	
AMB13-017 PS02	K1306033-015	**0.143**	0.050	0.009	1	06/27/13 13:31	
AMB13-018 PS13	K1306033-016	**0.102**	0.050	0.009	1	06/27/13 13:31	
AMB13-019 M4	K1306033-017	**0.076**	0.050	0.009	1	06/27/13 13:31	
AMB13-020 BJEST	K1306033-018	**0.075**	0.050	0.009	1	06/27/13 13:31	
AMB13-021 M3.1	K1306033-019	**0.090**	0.050	0.009	1	06/27/13 13:31	
AMB13-022 M3.1 DEEP	K1306033-020	**0.117**	0.050	0.009	1	06/27/13 13:31	
AMB13-023 PS12	K1306033-021	**0.123**	0.050	0.009	1	06/27/13 13:31	
AMB13DD-001 OF021	K1306033-022	**0.749**	0.050	0.009	1	06/27/13 13:31	
AMB13DD-002 OF019	K1306033-023	**0.617**	0.050	0.009	1	06/27/13 13:31	
AMB13-100 SN03	K1306033-024	**0.144**	0.050	0.009	1	06/27/13 13:31	
AMB13-101 SN05	K1306033-025	**0.091**	0.050	0.009	1	06/27/13 13:31	
AMB13-102 SN08	K1306033-026	**0.081**	0.050	0.009	1	06/27/13 13:31	
AMB13-103 SN10	K1306033-027	**0.080**	0.050	0.009	1	06/27/13 13:31	
AMB13-104 SN10DUP	K1306033-028	**0.080**	0.050	0.009	1	06/27/13 13:31	
AMB13-105 SN11	K1306033-029	**0.086**	0.050	0.009	1	06/27/13 13:31	
AMB13-106 M3.3	K1306033-030	**0.080**	0.050	0.009	1	06/27/13 13:31	
AMB13-107 M2	K1306033-031	**0.159**	0.050	0.009	1	06/27/13 13:31	
AMB13-108 M2 DEEP	K1306033-032	**0.188**	0.050	0.009	1	06/27/13 13:31	
AMB13-109 CLMBAY	K1306033-033	**0.147**	0.050	0.009	1	06/27/13 13:31	
AMB13-110 WP	K1306033-034	**0.122**	0.050	0.009	1	06/27/13 13:31	
AMB13-111 ILSP	K1306033-035	**0.082**	0.050	0.009	1	06/27/13 13:31	
AMB13-112 M1	K1306033-036	**0.019**	0.050	0.009	1	06/27/13 13:31	J
AMB13-113 M1 DEEP	K1306033-037	**0.082**	0.050	0.009	1	06/27/13 13:31	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB13-114 M6	K1306033-038	**0.058**	0.050	0.009	1	06/27/13 13:31	
AMB13-115 M8	K1306033-039	**0.028 J**	0.050	0.009	1	06/27/13 13:31	
AMB13-116 DYOTS	K1306033-040	**0.046 J**	0.050	0.009	1	06/27/13 13:31	
AMB13-117 DYOTS DUP	K1306033-041	**0.044 J**	0.050	0.009	1	06/27/13 13:31	
AMB13-118 PS03C	K1306033-042	**0.133**	0.050	0.009	1	06/27/13 13:31	
Method Blank	K1306033-MB1	**0.019 J**	0.050	0.009	1	06/27/13 13:31	
Method Blank	K1306033-MB2	**0.020 J**	0.050	0.009	1	06/27/13 13:31	
Method Blank	K1306033-MB3	**0.023 J**	0.050	0.009	1	06/27/13 13:31	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB13-016 PS01	K1306033-014DUP	0.050	0.009	0.160	0.158	0.159	1	20	06/27/13
AMB13-107 M2	K1306033-031DUP	0.050	0.009	0.159	0.161	0.160	1	20	06/27/13
Batch QC	K1306161-002DUP	0.50	0.09	11.0	11.2	11.1	1	20	06/27/13
Batch QC	K1306167-001DUP	0.050	0.009	0.170	0.171	0.171	<1	20	06/27/13

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	06/27/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB13-016 PS01	**Units:**	mg/L
Lab Code:	K1306033-014	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1306033-014MS			Duplicate Matrix Spike K1306033-014DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.160	2.10	2.00	97	2.07	2.00	95	89-114	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	06/27/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB13-107 M2	**Units:**	mg/L
Lab Code:	K1306033-031	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1306033-031MS			Duplicate Matrix Spike K1306033-031DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.159	2.09	2.00	97	2.08	2.00	96	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	06/27/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1306161-002	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1306161-002MS			Duplicate Matrix Spike K1306161-002DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	11.0	30.7	20.0	98	30.8	20.0	99	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	06/27/13

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1306167-001	**Basis:**	NA
Analysis Method:	353.2		

		Matrix Spike K1306167-001MS			Duplicate Matrix Spike K1306167-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.170	2.08	2.00	96	2.08	2.00	95	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	06/27/13
Sample Matrix:	Ocean Water		

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
		Basis:	NA
		Analysis Lot:	346852

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1306033-LCS1	4.27	4.35	98	90-110
Lab Control Sample	K1306033-LCS2	4.32	4.35	99	90-110
Lab Control Sample	K1306033-LCS3	4.33	4.35	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1306033
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	346852	KQ1306803-20	06/27/13 13:31	2.00	1.95	97	90-110
CCV2	346852	KQ1306803-21	06/27/13 13:31	2.00	1.93	97	90-110
CCV3	346852	KQ1306803-22	06/27/13 13:31	2.00	2.07	104	90-110
CCV4	346852	KQ1306803-23	06/27/13 13:31	2.00	2.07	103	90-110
CCV5	346852	KQ1306803-24	06/27/13 13:31	2.00	2.05	103	90-110
CCV6	346852	KQ1306803-25	06/27/13 13:31	2.00	2.05	103	90-110
CCV7	346852	KQ1306803-26	06/27/13 13:31	2.00	2.06	103	90-110
CCV8	346852	KQ1306803-27	06/27/13 13:31	2.00	2.07	103	90-110
CCV9	346852	KQ1306803-28	06/27/13 13:31	2.00	1.84	92	90-110
CCV10	346852	KQ1306803-29	06/27/13 13:31	2.00	1.92	96	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1306033
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	346852	KQ1306803-31	06/27/13 13:31	0.050	0.009	0.015	J
CCB2	346852	KQ1306803-32	06/27/13 13:31	0.050	0.009	0.018	J
CCB3	346852	KQ1306803-33	06/27/13 13:31	0.050	0.009	0.020	J
CCB4	346852	KQ1306803-34	06/27/13 13:31	0.050	0.009	0.017	J
CCB5	346852	KQ1306803-35	06/27/13 13:31	0.050	0.009	0.015	J
CCB6	346852	KQ1306803-36	06/27/13 13:31	0.050	0.009	0.011	J
CCB7	346852	KQ1306803-37	06/27/13 13:31	0.050	0.009	0.020	J
CCB8	346852	KQ1306803-38	06/27/13 13:31	0.050	0.009	0.011	J
CCB9	346852	KQ1306803-39	06/27/13 13:31	0.050	0.009	0.016	J
CCB10	346852	KQ1306803-40	06/27/13 13:31	0.050	0.009	0.019	J

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB13-001 PS03	K1306033-001	**0.104**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-002 PS04	K1306033-002	**0.077**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-003 PS05	K1306033-003	**0.074**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-004 PS14	K1306033-004	**0.067**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-006 PS06	K1306033-005	**0.080**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-007 PS07	K1306033-006	**0.083**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-008 PS08	K1306033-007	**0.075**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-009 PS15	K1306033-008	**0.067**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-010 PS09	K1306033-009	**0.076**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-011 PS10	K1306033-010	**0.073**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-012 PS10.1	K1306033-011	**0.071**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-014 PS11	K1306033-012	**0.066**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-015 PS16	K1306033-013	**0.071**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-016 PS01	K1306033-014	**0.082**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-017 PS02	K1306033-015	**0.079**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-018 PS13	K1306033-016	**0.064**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-019 M4	K1306033-017	**0.064**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-020 BJEST	K1306033-018	**0.065**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-021 M3.1	K1306033-019	**0.060**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-022 M3.1 DEEP	K1306033-020	**0.060**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-023 PS12	K1306033-021	**0.073**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13DD-001 OF021	K1306033-022	**0.033**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13DD-002 OF019	K1306033-023	**0.245**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-100 SN03	K1306033-024	**0.140**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-101 SN05	K1306033-025	**0.106**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-102 SN08	K1306033-026	**0.073**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-103 SN10	K1306033-027	**0.076**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-104 SN10DUP	K1306033-028	**0.072**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-105 SN11	K1306033-029	**0.067**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-106 M3.3	K1306033-030	**0.062**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-107 M2	K1306033-031	**0.063**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-108 M2 DEEP	K1306033-032	**0.065**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-109 CLMBAY	K1306033-033	**0.060**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-110 WP	K1306033-034	**0.062**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-111 ILSP	K1306033-035	**0.058**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-112 M1	K1306033-036	**0.058**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-113 M1 DEEP	K1306033-037	**0.062**	0.010	0.004	1	07/09/13 09:21	7/8/13	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB13-114 M6	K1306033-038	**0.055**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-115 M8	K1306033-039	**0.056**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-116 DYOTS	K1306033-040	**0.059**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-117 DYOTS DUP	K1306033-041	**0.059**	0.010	0.004	1	07/09/13 09:21	7/8/13	
AMB13-118 PS03C	K1306033-042	**0.082**	0.010	0.004	1	07/09/13 09:21	7/8/13	
Method Blank	K1306033-MB1	ND U	0.010	0.004	1	07/09/13 09:21	7/8/13	
Method Blank	K1306033-MB2	ND U	0.010	0.004	1	07/09/13 09:21	7/8/13	
Method Blank	K1306033-MB3	ND U	0.010	0.004	1	07/09/13 09:21	7/8/13	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13 - 06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Duplicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB13-001 PS03	K1306033-001DUP	0.010	0.004	0.104	0.102	0.103	2	20	07/09/13
AMB13-023 PS12	K1306033-021DUP	0.010	0.004	0.073	0.073	0.0729	<1	20	07/09/13
AMB13-117 DYOTS DUP	K1306033-041DUP	0.010	0.004	0.059	0.059	0.0588	<1	20	07/09/13

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 7/11/2013 11:07:00 AM

Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/9/13
		Date Extracted:	07/8/13

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB13-001 PS03	**Units:**	mg/L
Lab Code:	K1306033-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1306033-001MS			Duplicate Matrix Spike K1306033-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.104	0.491	0.500	77	0.847	1.00	74	60-135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/18/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/9/13
		Date Extracted:	07/8/13

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB13-023 PS12	**Units:**	mg/L
Lab Code:	K1306033-021	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1306033-021MS			Duplicate Matrix Spike K1306033-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.073	0.435	0.500	72	0.832	1.00	76	60-135	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 7/11/2013 11:07:00 AM

Superset Reference:13-0000253069 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Collected:**	06/19/13
Sample Matrix:	Ocean Water	**Date Received:**	06/21/13
		Date Analyzed:	07/9/13
		Date Extracted:	07/8/13

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB13-117 DYOTS DUP	**Units:**	mg/L
Lab Code:	K1306033-041	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1306033-041MS			Duplicate Matrix Spike K1306033-041DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.059	0.421	0.500	72	0.779	1.00	72	60-135	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1306033
Project:	ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)	**Date Analyzed:**	07/09/13
Sample Matrix:	Ocean Water	**Date Extracted:**	07/08/13

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	348212

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1306033-LCS1	3.34	3.46	96	85-115
Lab Control Sample	K1306033-LCS2	3.39	3.46	98	85-115
Lab Control Sample	K1306033-LCS3	3.38	3.46	98	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1306033
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	348212	KQ1307242-01	07/09/13 09:21	0.500	0.515	103	90-110
CCV2	348212	KQ1307242-02	07/09/13 09:21	0.500	0.519	104	90-110
CCV3	348212	KQ1307242-03	07/09/13 09:21	0.500	0.517	103	90-110
CCV4	348212	KQ1307242-04	07/09/13 09:21	0.500	0.516	103	90-110
CCV5	348212	KQ1307242-05	07/09/13 09:21	0.500	0.522	104	90-110
CCV6	348212	KQ1307242-06	07/09/13 09:21	0.500	0.522	104	90-110
CCV7	348212	KQ1307242-07	07/09/13 09:21	0.500	0.523	105	90-110

Client: Battelle Marine Sciences Lab
Project: ENVVEST/JUNE 2013 Ambient Monitoring (AMB13)

Service Request: K1306033

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	348212	KQ1307242-08	07/09/13 09:21	0.010	0.004	ND	U
CCB2	348212	KQ1307242-09	07/09/13 09:21	0.010	0.004	ND	U
CCB3	348212	KQ1307242-10	07/09/13 09:21	0.010	0.004	ND	U
CCB4	348212	KQ1307242-11	07/09/13 09:21	0.010	0.004	ND	U
CCB5	348212	KQ1307242-12	07/09/13 09:21	0.010	0.004	ND	U
CCB6	348212	KQ1307242-13	07/09/13 09:21	0.010	0.004	ND	U
CCB7	348212	KQ1307242-14	07/09/13 09:21	0.010	0.004	ND	U

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/17/13 6/18/13

Page: 1 of 2

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 54220

Project Name: AMB13

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106* Total Diss 8

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
	AMB13-		6/18/13													
	-001	PS03	6/17/13 0905	NS	X	X	X	X	X	X				9		1096 1097
	-002	PS04	0921	NS	X	X	X	X	X	X				5		1098 1099
	-003	PS05	0935	NS	X	X	X	X	X	X				5		1100 1101
	-004	PS14	0947	NS	X	X	X	X	X	X				5		1102 1103
	-005	PS14 Dup	0952	NS	X	X	X	X	X	X				5		1104 1105
	-006	PS06	0957	NS	X	X	X	X	X	X				5		1106 1107
	-007	PS07	1016	NS	X	X	X	X	X	X				5		1108 1109
	-008	PS08	1033	NS	X	X	X	X	X	X				5		1110 1111
	-009	PS15	1048	NS	X	X	X	X	X	X				5		1112 1113
	-010	PS09	1102	NS	X	X	X	X	X	X				5		1114 1115
	-011	PS10	1138	NS	X	X	X	X	X	X				5		1116 1117
	-012	PS10.1	1150	NS	X	X	X	X	X	X				5		1118 1119
	-013	PS10.1 Dup	1151	NS	X	X	X	X	X	X				5		1120 1121
	-014	PS11	1207	NS	X	X	X	X	X	X				5		1122 1123
	-015	PS16	1216	NS	X	X	X	X	X	X				5	5	1124 1125

Relinquished by:
Signature — 6/18/13 Date — 1933 Time
Jill Brandenberger — PNNL
Printed Name — Company

Received by:
Signature — 6/18/13 0920
LT Jang Kuo
Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivery

Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/17/13 6/18/13
Page: 2 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 54220
Project Name: ENVVEST Ambient Monitoring ~~Mussel Watch Stations~~ AMB13
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments	
	AMB13-		6/18/13													3106*	
																TOTAL	DISS
	-016	PS01	6/17/13 1246	NS	X	X	X	X	X	X				5		1126	1127
	-017	PS02	1258	NS	X	X	X	X	X	X				5		1128	1129
	-018	PS13	1308	NS	X	X	X	X	X	X				5		1130	1131
	-019	M4	1317	M	X	X	X	X	X	X				5		1132	1133
	-020	BSEST	1332	NS	X	X	X	X	X	X				5		1134	1135
	-021	M31	1347	M	X	X	X	X	X	X				5		1136	1137
	-022	M3.1 Deep	1355	M	X	X	X	X	X	X				5	1138	7m deep	1139
	-023	PS12	1413	NS	X	X	X	X	X	X				5	1140		1141
	-024	PS03B	1432	NS	X	X	X	~~X~~	X	X				8 4	1142	No nutrients	1143
	AMB13 DD-001	OF021	6/18/13 1130	FW	X	X	X	X	X	X	X			6	1144	24 comp	1145
	DD-002	OF019	6/17/13 1528	SW	X	X	X	X	X	X	X			6	1146	grab	1147
	-003	OF018	6/17/13 1300	SW	X	X	X	X	X	X					1148	24 comp / no nutrients	1149

Relinquished by: _____ Signature; 6/18/13 Date; 1933 Time
JM Brandenberger Printed Name; PNNL Company

Received by: _____ Signature; 6/18/13 1933
LT-Jung Kao Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery
Sample Disposition:

Relinquished by: _____ Signature; Date; Time
Printed Name; Company

Received by: _____ Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector	Johnston, Gebhart, Rosen, Brandenberger, Beyerle	Page 1 of 1
Sampling Team		AMB-13 2013_6_18
Organization		Bremerton Tides

Use pre-assigned id | m/dd/yy hh:mm | m/dd/yy hh:mm | Weather:

StationID	6/18/13 Time Arrive Date/Time	6/18/13 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PSP3	0855	0915	NS	47.55571	122.65182	
PS04	0920	0929	NS	47.55458	122.64760	
PS05	0934	0940	NS	47.55592	122.64501	
PS14	0945	0952	NS	47.55243	122.64344	
PS06	0955	1009	NS	47.55314	122.64241	
PS07	1015	1021	NS	47.55586	122.64142	
PS08	1032	1042	NS	47.55796	122.63868	
PS15	1045	1055	NS	47.55565	122.63676	
PS09	1100	1119	NS	47.56012	122.63595	
PS10	1136	1141	NS	47.56035	122.63250	
PS10.1	1148	1159	NS	47.56115	122.63130	
PS11	1205	1210	NS	47.56083	122.62896	
PS16	1213	1221	NS	47.55821	122.62846	troll out ~1240
PS01	1245	1253	NS	47.55375	122.65658	troll in ~1245 out 1253
PS02	1257	1303	NS	47.55434	122.65439	in 1257 out 1303
PS13	1306	1312	NS	47.55187	122.65371	in 1306 out 1312
M4	1316	1323	M	47.54404	122.66253	in 1316 out 1323
BJEST	1331	1336	NS	47.54434	122.62715	in 1330 out 1336
M3.1	1343	1357	M	47.55730	122.61256	in 1343 out 1357
PS12	1410	1415	NS	47.56053	122.62842	in 1410 out 1415
PS03B	1425	1435	NS	47.55521	122.65196	in 1425 out 1435

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Johnston, Begerle, Rosen, Brandenberger												PSNS Project ENVVEST			
Sampling Team	Gebhart												Ambient Monitoring:	AMB-13 2013 06 18		
Organization		HORIBA											Micro			
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m	ntu	mg/L	C	m	%	g/L	g/ml	mV	ntu	ft	ft	
SampleID	StationID	6/18/13 Date/Time	pH	COND (sp)	Turb	DO	Temp	Probe Depth	Sal	TDS	density	ORP	Turb	secchi dish	tom depth	Remarks/ Comments
	PS03	0855	8.09	4.93	0	8.99	15.4	~~1.3~~ -0.2	3.2	30	24	131		15	39.2	
	PS04	0924	8.18	5.05	1.8 2.0	9.86	15.3	0	3.3	30	24	139		16	42.6	Turb unstable
	PS05	0934	8.21	5.07	.2	10.0	15.0	0	3.3	30	24	143		16	38.9	
	PS14	0952	8.33	5.09	0.2	11.3	14.4	0.1	3.3	31	25	143		19	48.9	
	PS06	1003	8.23	5.09	1.2	10.2	14.2	0.1	3.3	31	25	147		21	40.8	
	PS07 Profile 3m	1005	8.25	5.12	1.1	10.35	14.1	3.0	3.3	31	25	146		-	-	
	Profile 5.8m	1007	8.24	5.15	0.2	10.24	13.7	5.8	3.4	31	25	142		-	-	
	PS07	1020	8.19	5.06	0	9.7	14.2	0.1	3.3	30	25	151		20	39.8 20	
	PS08	1038	8.17	5.12	11.1	9.63	14.3	0.3	3.3	31	25	158		20	21.9	
	PS15	1055	8.35	5.14	15.1	11.17	14.5	0	3.3	31	25	150		25	48.3	
	Profile	1052	8.3	5.17	6.9	10.51	14.1	5.7	3.4	31	25	152		-	-	
	Profile	1053	8.32	5.16	7.4	10.77	14.3	3.1	3.4	31	25	151		-	-	
	PS09	1104	8.22	4.99	.6	10.-	14.6	.5	3.3	30	24	152		23	41.5	
	3m	1106	8.21	4.88	.3	10	14.5	3m	3.1	30	23	148		-	-	
	11.1	1109	8.26	5.2	0	9.92	13.6	11.1	3.4	31	25	147		-	-	
	PS10	1142	8.29	5.14	1.1	10.66	14.6	.3	3.3	31	25	154		21	35.6	
	PS10-1	1157	8.22	5.14	0.9	10.99	15	.4	3.4	31	25	154		20	30.1	Turbity error
	PS11	1210	8.3	5.18	1.1	10.62	14.1	0.5	3.4	31	25	145		14	43.9	
	PS10															N/R
	PS01	1252	8.32	5.07	0.2	10.68	14.8	.4	3.3	31	25	184		18	44.7	

Water Quality Log

Sample Collector	See Previous												PSNS Project ENVVEST AMB-13 2013 0618			
Sampling Team													Ambient Monitoring:			
Organization		HORIBA											Micro			
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m	ntu	mg/L	C	m	%		g/ml	mV	ntu	ft	ft	
SampleID	StationID	6/18/13 Date/Time	pH	COND (sp)	Turb	DO	Temp	Probe Depth	Sal	TDS	density	ORP	Turb	secchi dish	tom depth	Remarks/ Comments
	PS02	1303	8.22	4.91	0.7	10.11	15.8	-.3	3.2	30	23	187		19	30.3	
	PS13	1312	8.30	5.02	0.3	10.57	14.8	-.3	3.3	31	25	182		20	52.8	
	M4	1322	8.41	5.14	0.1	12.53	14.5	.1	3.3	31	25	190		15	39.5	
	BWEST	1335	8.45	5.03	.7	13.21	15.9	.3	3.3	30	24	196		bt.	5.0	
	M3.1	1349	8.36	5.12	1.0	11.22	15.1	.2	3.3	31	25	196		20	130	
	~~PS12 Deep~~ M3.1 Deep	1357	8.3	5.12	3.-	9.86	15.8	7m	3.3	31	25	210		—	—	
	PS12	1414	8.28	5.18	0.3	9.91	13.7	0.1	3.4	31	25	197		14	21.9	
	PS03B		8.22	5.03	0.9	9.66	15.7	0.2	3.3	30	24	210		21	44.5	

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2013 Logged in 6/19/13
Batch: 32
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-001	PS03-TME	TME	PS03	3106-1096	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-001	PS03-DME	DME	PS03	3106-1097	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-002	PS04-TME	TME	PS04	3106-1098	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-002	PS04-DME	DME	PS04	3106-1099	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-003	PS05-TME	TME	PS05	3106-1100	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-003	PS05-DME	DME	PS05	3106-1101	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-004	PS14-TME	TME	PS14	3106-1102	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-004	PS14-DME	DME	PS14	3106-1103	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-005	PS14DUP-TME	TME	PS14DUP	3106-1104	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-005	PS14DUP-DME	DME	PS14DUP	3106-1105	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-006	PS06-TME	TME	PS06	3106-1106	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-006	PS06-DME	DME	PS06	3106-1107	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-007	PS07-TME	TME	PS07	3106-1108	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-007	PS07-DME	DME	PS07	3106-1109	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-008	PS08-TME	TME	PS08	3106-1110	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-008	PS08-DME	DME	PS08	3106-1111	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-009	PS15-TME	TME	PS15	3106-1112	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-009	PS15-DME	DME	PS15	3106-1113	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-010	PS09-TME	TME	PS09	3106-1114	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-010	PS09-DME	DME	PS09	3106-1115	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-011	PS10-TME	TME	PS10	3106-1116	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-011	PS10-DME	DME	PS10	3106-1117	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-012	PS10.1-TME	TME	PS10.1	3106-1118	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-012	PS10.1-DME	DME	PS10.1	3106-1119	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-013	PS10.1DUP-TME	TME	PS10.1DUP	3106-1120	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-013	PS10.1DUP-DME	DME	PS10.1DUP	3106-1121	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-014	PS11-TME	TME	PS11	3106-1122	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-014	PS11-DME	DME	PS11	3106-1123	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-015	PS16-TME	TME	PS16	3106-1124	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-015	PS16-DME	DME	PS16	3106-1125	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-016	PS01-TME	TME	PS01	3106-1126	Seawater	PREP LAB	Total Metals, Hg	06/18/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2013 Logged in 6/19/13
Batch: 32
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-016	PS01-DME	DME	PS01	3106-1127	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-017	PS02-TME	TME	PS02	3106-1128	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-017	PS02-DME	DME	PS02	3106-1129	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-018	PS13-TME	TME	PS13	3106-1130	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-018	PS13-DME	DME	PS13	3106-1131	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-019	M4-TME	TME	M4	3106-1132	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-019	M4-DME	DME	M4	3106-1133	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-020	BJEST-TME	TME	BJEST	3106-1134	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-020	BJEST-DME	DME	BJEST	3106-1135	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-021	M3.1-TME	TME	M3.1	3106-1136	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-021	M3.1-DME	DME	M3.1	3106-1137	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-022	M3.1 DEEP-TME	TME	M3.1 DEEP	3106-1138	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-022	M3.1 DEEP-DME	DME	M3.1 DEEP	3106-1139	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-023	PS12-TME	TME	PS12	3106-1140	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-023	PS12-DME	DME	PS12	3106-1141	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13-024	PS03B-TME	TME	PS03B	3106-1142	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13-024	PS03B-DME	DME	PS03B	3106-1143	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13DD-001	OF021-TME	TME	OF021	3106-1144	Freshwater	PREP LAB	Total Metals, Hg	06/18/13
AMB13DD-001	OF021-DME	DME	OF021	3106-1145	Freshwater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13DD-002	OF019-TME	TME	OF019	3106-1146	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13DD-002	OF019-DME	DME	OF019	3106-1147	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13
AMB13DD-003	OF018-TME	TME	OF018	3106-1148	Seawater	PREP LAB	Total Metals, Hg	06/18/13
AMB13DD-003	OF018-DME	DME	OF018	3106-1149	Seawater	PREP LAB	Dissolved Metals, Hg	06/18/13

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1096	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1098	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1100	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1102	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-005	PS14DUP-TSS/OSAL	TSS/OSAL	PS14DUP	3106-1104	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-006	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1106	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-007	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1108	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-008	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1110	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-009	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1112	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-010	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1114	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1116	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1118	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-013	PS10.1DUP-TSS/OSAL	TSS/OSAL	PS10.1DUP	3106-1120	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-014	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1122	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-015	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1124	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-016	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1126	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-017	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1128	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-018	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1130	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-019	M4-TSS/OSAL	TSS/OSAL	M4	3106-1132	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-020	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1134	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-021	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1136	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-022	M3.1 DEEP-TSS/OSAL	TSS/OSAL	M3.1 DEEP	3106-1138	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-023	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1140	Seawater	MSL	TSS/OSAL	06/18/13
AMB13-024	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-1142	Seawater	MSL	TSS/OSAL	06/18/13
AMB13DD-001	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1144	Freshwater	MSL	TSS/OSAL	06/18/13
AMB13DD-002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1146	Seawater	MSL	TSS/OSAL	06/18/13
AMB13DD-003	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1148	Seawater	MSL	TSS/OSAL	06/18/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2013 Logged in 6/19/13
Batch: 32
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-001	PS03-TOC	TOC	PS03	3106-1096	Seawater	MSL	TOC	06/18/13
AMB13-002	PS04-TOC	TOC	PS04	3106-1098	Seawater	MSL	TOC	06/18/13
AMB13-003	PS05-TOC	TOC	PS05	3106-1100	Seawater	MSL	TOC	06/18/13
AMB13-004	PS14-TOC	TOC	PS14	3106-1102	Seawater	MSL	TOC	06/18/13
AMB13-005	PS14DUP-TOC	TOC	PS14DUP	3106-1104	Seawater	MSL	TOC	06/18/13
AMB13-006	PS06-TOC	TOC	PS06	3106-1106	Seawater	MSL	TOC	06/18/13
AMB13-007	PS07-TOC	TOC	PS07	3106-1108	Seawater	MSL	TOC	06/18/13
AMB13-008	PS08-TOC	TOC	PS08	3106-1110	Seawater	MSL	TOC	06/18/13
AMB13-009	PS15-TOC	TOC	PS15	3106-1112	Seawater	MSL	TOC	06/18/13
AMB13-010	PS09-TOC	TOC	PS09	3106-1114	Seawater	MSL	TOC	06/18/13
AMB13-011	PS10-TOC	TOC	PS10	3106-1116	Seawater	MSL	TOC	06/18/13
AMB13-012	PS10.1-TOC	TOC	PS10.1	3106-1118	Seawater	MSL	TOC	06/18/13
AMB13-013	PS10.1DUP-TOC	TOC	PS10.1DUP	3106-1120	Seawater	MSL	TOC	06/18/13
AMB13-014	PS11-TOC	TOC	PS11	3106-1122	Seawater	MSL	TOC	06/18/13
AMB13-015	PS16-TOC	TOC	PS16	3106-1124	Seawater	MSL	TOC	06/18/13
AMB13-016	PS01-TOC	TOC	PS01	3106-1126	Seawater	MSL	TOC	06/18/13
AMB13-017	PS02-TOC	TOC	PS02	3106-1128	Seawater	MSL	TOC	06/18/13
AMB13-018	PS13-TOC	TOC	PS13	3106-1130	Seawater	MSL	TOC	06/18/13
AMB13-019	M4-TOC	TOC	M4	3106-1132	Seawater	MSL	TOC	06/18/13
AMB13-020	BJEST-TOC	TOC	BJEST	3106-1134	Seawater	MSL	TOC	06/18/13
AMB13-021	M3.1-TOC	TOC	M3.1	3106-1136	Seawater	MSL	TOC	06/18/13
AMB13-022	M3.1 DEEP-TOC	TOC	M3.1 DEEP	3106-1138	Seawater	MSL	TOC	06/18/13
AMB13-023	PS12-TOC	TOC	PS12	3106-1140	Seawater	MSL	TOC	06/18/13
AMB13-024	PS03B-TOC	TOC	PS03B	3106-1142	Seawater	MSL	TOC	06/18/13
AMB13DD-001	OF021-TOC	TOC	OF021	3106-1144	Freshwater	MSL	TOC	06/18/13
AMB13DD-002	OF019-TOC	TOC	OF019	3106-1146	Seawater	MSL	TOC	06/18/13
AMB13DD-003	OF018-TOC	TOC	OF018	3106-1148	Seawater	MSL	TOC	06/18/13

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-001	PS03-DOC	DOC	PS03	3106-1097	Seawater	MSL	DOC	06/18/13
AMB13-002	PS04-DOC	DOC	PS04	3106-1099	Seawater	MSL	DOC	06/18/13
AMB13-003	PS05-DOC	DOC	PS05	3106-1101	Seawater	MSL	DOC	06/18/13
AMB13-004	PS14-DOC	DOC	PS14	3106-1103	Seawater	MSL	DOC	06/18/13
AMB13-005	PS14DUP-DOC	DOC	PS14DUP	3106-1105	Seawater	MSL	DOC	06/18/13
AMB13-006	PS06-DOC	DOC	PS06	3106-1107	Seawater	MSL	DOC	06/18/13
AMB13-007	PS07-DOC	DOC	PS07	3106-1109	Seawater	MSL	DOC	06/18/13
AMB13-008	PS08-DOC	DOC	PS08	3106-1111	Seawater	MSL	DOC	06/18/13
AMB13-009	PS15-DOC	DOC	PS15	3106-1113	Seawater	MSL	DOC	06/18/13
AMB13-010	PS09-DOC	DOC	PS09	3106-1115	Seawater	MSL	DOC	06/18/13
AMB13-011	PS10-DOC	DOC	PS10	3106-1117	Seawater	MSL	DOC	06/18/13
AMB13-012	PS10.1-DOC	DOC	PS10.1	3106-1119	Seawater	MSL	DOC	06/18/13
AMB13-013	PS10.1DUP-DOC	DOC	PS10.1DUP	3106-1121	Seawater	MSL	DOC	06/18/13
AMB13-014	PS11-DOC	DOC	PS11	3106-1123	Seawater	MSL	DOC	06/18/13
AMB13-015	PS16-DOC	DOC	PS16	3106-1125	Seawater	MSL	DOC	06/18/13
AMB13-016	PS01-DOC	DOC	PS01	3106-1127	Seawater	MSL	DOC	06/18/13
AMB13-017	PS02-DOC	DOC	PS02	3106-1129	Seawater	MSL	DOC	06/18/13
AMB13-018	PS13-DOC	DOC	PS13	3106-1131	Seawater	MSL	DOC	06/18/13
AMB13-019	M4-DOC	DOC	M4	3106-1133	Seawater	MSL	DOC	06/18/13
AMB13-020	BJEST-DOC	DOC	BJEST	3106-1135	Seawater	MSL	DOC	06/18/13
AMB13-021	M3.1-DOC	DOC	M3.1	3106-1137	Seawater	MSL	DOC	06/18/13
AMB13-022	M3.1 DEEP-DOC	DOC	M3.1 DEEP	3106-1139	Seawater	MSL	DOC	06/18/13
AMB13-023	PS12-DOC	DOC	PS12	3106-1141	Seawater	MSL	DOC	06/18/13
AMB13-024	PS03B-DOC	DOC	PS03B	3106-1143	Seawater	MSL	DOC	06/18/13
AMB13DD-001	OF021-DOC	DOC	OF021	3106-1145	Freshwater	MSL	DOC	06/18/13
AMB13DD-002	OF019-DOC	DOC	OF019	3106-1147	Seawater	MSL	DOC	06/18/13
AMB13DD-003	OF018-DOC	DOC	OF018	3106-1149	Seawater	MSL	DOC	06/18/13

PROJECT ENVVEST																
Project Name: JUNE 2013 Ambient Monitoring (AMB13)																
SAMPLE TEAM:	Navy, Battelle															
DATE:	6/19/2013															
Laboratory:	Columbia Analytical															

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB13DD-001	OF021	06/18/13 1130	Freshwater						X			1	
AMB13DD-002	OF019	06/18/13 1528	Seawater						X			1	
--end--													
											Total:	2	

Relinquished By:		Company:	Battelle MSL
C. Suslick			6/19/2013
Signature/Printed Name			Date/Time
Received By:		Company:	
Signature/Printed Name			Date/Time

shipped via Fedex 6/19/13, CS

SOP#: MSL-A-001

From: (360) 681-3624 Origin ID: CLMA
Carolynn Suslick
BATTELLE MARINE SCIENCES LABS
1529 WEST SEQUIM BAY ROAD

SEQUIM, WA 98382

FedEx Express

J13111302120326

Ship Date: 19JUN13
ActWgt: 15.0 LB
CAD: 8453243/INET3370

Dims: 16 X 12 X 14 IN

Delivery Address Bar Code

Ref # H68246
Invoice #
PO #
Dept #

SHIP TO: (360) 577-7222 BILL SENDER

Howard Holmes
ALS (previously CAS)
1317 S 13TH AVE
PO BOX 479
KELSO, WA 98626

THU - 20 JUN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7960 3618 6645

98626
WA-US
PDX

86 LOGA

518G1/D777/93AB

/templates/components/dotcom_label_contents/FoldInstr/en/Folding_instructions.html loading...
/templates/components/dotcom_label_contents/WarningsOriginalLabel/en/Folding_warning.html loading...
/templates/components/dotcom_label_contents/TnCDom/us/en/TC_dom.html loading...

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1096-1149 Batch: 32

Project Name: Enviest AMB13 - DAYL Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Salt Water WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Received from field 4±2 °C

°C

Comment/Remedy:

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: Logged in 6/19/13 (Samples arrived @ MSL 1933 on 6/18/13)

Completed By: Date/Time: 6/19/13 0650

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐	Complete pH check required for project (use pH meter and record on pH Record form)		
☐	Sample(s) were preserved at MSL		
Type: ☑	0.2% HNO3 (Nutrients)	Notes: Nutrients	Lot#
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☑	Refrigerate/Freeze	Notes: TSS/DOC/TOC	
☑	Other	Notes: DIG Shipped to ALS	

Completed By: 6/19/13 Date/Time: 06/18/13 placed in storage

Storage Shelf: Nutrients - Lab 231

SAMPLE CHAIN OF CUSTODY FORM

Date: 6-19-13

Page: 1 of 2

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB13

Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
3106 Total/Diss	AMB13-															
1150 1151	-100	SNO-3	6/19/13 0836	WS	X	X	X	X	X	X				5		
1152 1153	-101	SNO-5	0850	NS	X	X	X	X	X	X				5		
1154 1155	-102	SNO-8	0902	NS	X	X	X	X	X	X				5		
1156 1157	-103	SN10	0915	NS	X	X	X	X	X	X				5		
1158 1159	-104	SN 10 Dup	0915	NS	X	X	X	X	X	X				5		
1160 1161	-105	SN 11	0928	NS	X	X	X	X	X	X				5		
1162 1163	-106	M3.3	0938	M	X	X	X	X	X	X				5		
1164 1165	-107	M2	1013	M	X	X	X	X	X	X				5		Geometers
1166 1167	-108	M2 Deep	1025	M	X	X	X	X	X	X				5		
1168 1169	-109	CLMBAY	1030	NS	X	X	X	X	X	X				5		
1170 1171	-110	WP	1053	NS	X	X	X	X	X	X				5		
1172 1173	-111	LCSP	1135	NS	X	X	X	X	X	X				5		
1174 1175	-112	M1	1149	M	X	X	X	X	X	X				5		Plankton
1176 1177	-113	M1 Deep	1258	M	X	X	X	X	X	X				5		Geometers; Plankton in water
1178 1179	-114	M6	1236	M	X	X	X	X	X	X				5		

Total # of Containers

Relinquished by: 6/19/13 1610
Signature Date Time
JM Brandenberger Battelle
Printed Name Company

Received by: 6/19/13 1610
Signature
LT Jing Kuo
Printed Name

Shipment Method:

Shipment Method: Hand delivery

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/19/13
Page: 2 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB13
Project Name: ENVVEST Ambient Monitoring
Mussel Watch Stations
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106
TOT / DISS

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
1180 1181	AMB13-115	MB	6/19/13 1247	M	X	X	X	X	X	X				5		
1182 1183	-116	DY OTS	1319	NS	X	X	X	X	X	X				5		
1184 1185	-117	DY OTS Dup	1319	NS	X	X	X	X	X	X				5		
1186 1187	-118	PS03C	1358	NS	X	X	X	X	X	X				5		
1188 1189	-119	EB	6/19/13 1610	DI	X	X										

Relinquished by: 6/19/13 1610
Signature Date Time
Jill Brandenberger Battelle
Printed Name Company

Relinquished by:
Signature Date Time
Printed Name Company

Received by: 6/19/13 1610
Signature
Printed Name

Received by:
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Station Log

Sample Collector / Sampling Team / Organization	Brandenburger, Mollerstuen, Gebhart, Beyerle	Page 1 of 1
Use pre-assigned id	m/dd/yy hh:mm / m/dd/yy hh:mm	Bremerton Tides
	Weather:	

StationID	6/19/13 Time Arrive Date/Time	6/19/13 Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
SN03	0835	0838	NS	47.55603	122.65155	
SN05	0846	0853	NS	47.53278	122.68285	
SN08	0859	0903	NS	47.54076	122.66304	harbor Seal
SN10	0911	0918	NS	47.54124	122.64278	
SN11	0925	0930	NS	47.54361	122.63545	
M3.3	0934	0940	M	47.54722	122.64279	
M2	1010	1026	M	47.57942	122.53881	
CLIMBAY	1035	1040	NS	47.57144	122.54686	harbor Seal
WP	1050	1055	NS	47.58381	122.57147	
ILSP	1033	1038	NS	47.60046	122.59395	
M1	1145	1200	M	47.63376	122.58313	
M6	1229	1239	M	47.59652	122.68449	
M8	1243	1249	M	47.57304	122.67632	
DYOTS	1315	1322	NS	47.64207	122.61398	
PSO3C	1353	1359	NS	47.55549	122.65187	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

Water Quality Log

Sample Collector	Brandenberger, Mollerstuen, Gebhart											PSNS Project ENVVEST				
Sampling Team	w/ Begerle											Ambient Monitoring:	AMB 2013_6_19			
Organization		HORIBA										Micro				
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m	ntu	mg/L	C	m	%		g/ml	mV	ntu	ft	ft	
SampleID	StationID	6/19/13 Date/Time	pH	COND (sp)	Turb	DO	Temp	Probe Depth	Sal	TDS	density	ORP	Turb	secchi dish	tom depth	Remarks/ Comments
	SN03	0838	8.21	4.96	1.5	10.05	13.1	.2	3.2	30	24	191		10	54.2	
	SN05	0856	8.07	5.08	2.4	9.03	13.2	.1	3.3	31	25	200		bottom	3.6	
	SN08	0902	8.32	5.07	1.2	11.74	13.6	.2	3.3	30	25	194		10	23.5	
	SN10	0914	8.36	5.17	26.7	11.96	14.5	.1	3.4	31	25	201		15	19.3	
	SN11	0929	8.34	5.21	1.1	11.71	14.5	.1	3.4	31	25	208		13	17.8	
	M3.3	0938	8.37	5.21	3.4	12.29	14.2	.1	3.4	31	25	210		16	39.2	
	MZ	1015	8.23	5.33	.9	10.19	12.8	.1	3.5	32	26	243		15	66.5	
	Profile	1020	8.21	5.37	0	9.81	12.7	3.5	3.5	32	26	230		—		
	Profile	1023	8.23	5.39	0.1	9.69	12.6	6.0	3.5	32	27	226		—		
	UMBAY	1039	8.21	5.35	2.8	14.88	13.0	.4	3.5	32	26	227		bottom	4.4	
	WP	1054	8.26	5.28	.6	10.69	13.8	.3	3.4	32	26	235		20	20.4	
	KSP	1138	8.35	5.32	.2	11.70	13.4	.3	3.5	32	26	240		30	39.4	
	M1	1149	8.57	5.27	3.4	15.20	15.2	.3	3.5	32	26	235		8	31	Plankton bloom?
	Profile	1153	8.36	5.34	2.8	12.07	13.9	3.3	3.5	32	26	239				
	Profile	1156	8.35	5.36	1.9	11.05	13.7	5.7	3.5	32	26	236				
	M6	1235	8.41	5.22	.3	12.04	15.6	.4	3.4	31	25	245		bottom	12.9	
	M8	1247	8.51	5.24	3.9	14.25	15.8	.2	3.4	31	25	240		8	16.2	
	DYOT5	1319	8.35	5.22	.3	10.52	18.4	.4	3.4	31	25	252		10	18.1	
	PS03C	1358	8.25	5.20	.5	10.25	14.7	.5	3.4	31	25	264		18	45.7	

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/19/2013 Logged in 6/20/13
Batch: 33
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-100	SN03-TME	TME	SN03	3106-1150	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-100	SN03-DME	DME	SN03	3106-1151	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-101	SN05-TME	TME	SN05	3106-1152	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-101	SN05-DME	DME	SN05	3106-1153	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-102	SN08-TME	TME	SN08	3106-1154	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-102	SN08-DME	DME	SN08	3106-1155	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-103	SN10-TME	TME	SN10	3106-1156	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-103	SN10-DME	DME	SN10	3106-1157	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-104	SN10DUP-TME	TME	SN10DUP	3106-1158	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-104	SN10DUP-DME	DME	SN10DUP	3106-1159	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-105	SN11-TME	TME	SN11	3106-1160	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-105	SN11-DME	DME	SN11	3106-1161	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-106	M3.3-TME	TME	M3.3	3106-1162	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-106	M3.3-DME	DME	M3.3	3106-1163	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-107	M2-TME	TME	M2	3106-1164	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-107	M2-DME	DME	M2	3106-1165	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-108	M2 DEEP-TME	TME	M2 DEEP	3106-1166	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-108	M2 DEEP-DME	DME	M2 DEEP	3106-1167	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-109	CLMBAY-TME	TME	CLMBAY	3106-1168	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-109	CLMBAY-DME	DME	CLMBAY	3106-1169	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-110	WP-TME	TME	WP	3106-1170	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-110	WP-DME	DME	WP	3106-1171	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-111	ILSP-TME	TME	ILSP	3106-1172	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-111	ILSP-DME	DME	ILSP	3106-1173	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-112	M1-TME	TME	M1	3106-1174	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-112	M1-DME	DME	M1	3106-1175	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-113	M1 DEEP-TME	TME	M1 DEEP	3106-1176	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-113	M1 DEEP-DME	DME	M1 DEEP	3106-1177	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-114	M6-TME	TME	M6	3106-1178	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-114	M6-DME	DME	M6	3106-1179	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-115	M8-TME	TME	M8	3106-1180	Seawater	PREP LAB	Total Metals, Hg	06/19/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/19/2013 Logged in 6/20/13
Batch: 33
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-115	M8-DME	DME	M8	3106-1181	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-116	DYOTS-TME	TME	DYOTS	3106-1182	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-116	DYOTS-DME	DME	DYOTS	3106-1183	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-117	DYOTS DUP-TME	TME	DYOTS DUP	3106-1184	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-117	DYOTS DUP-DME	DME	DYOTS DUP	3106-1185	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-118	PS03C-TME	TME	PS03C	3106-1186	Seawater	PREP LAB	Total Metals, Hg	06/19/13
AMB13-118	PS03C-DME	DME	PS03C	3106-1187	Seawater	PREP LAB	Dissolved Metals, Hg	06/19/13
AMB13-119	EB061913-TME	TME	EB061913	3106-1188	DI Water	PREP LAB	Total Metals, Hg	06/19/13
AMB13-119	EB061913-DME	DME	EB061913	3106-1189	DI Water	PREP LAB	Dissolved Metals, Hg	06/19/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/19/2013 Logged in 6/20/13
Batch: 33
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-100	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1150	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-101	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1152	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-102	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1154	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-103	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1156	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-104	SN10DUP-TSS/OSAL	TSS/OSAL	SN10DUP	3106-1158	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-105	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1160	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-106	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1162	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-107	M2-TSS/OSAL	TSS/OSAL	M2	3106-1164	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-108	M2 DEEP-TSS/OSAL	TSS/OSAL	M2 DEEP	3106-1166	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-109	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1168	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-110	WP-TSS/OSAL	TSS/OSAL	WP	3106-1170	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-111	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1172	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-112	M1-TSS/OSAL	TSS/OSAL	M1	3106-1174	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-113	M1 DEEP-TSS/OSAL	TSS/OSAL	M1 DEEP	3106-1176	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-114	M6-TSS/OSAL	TSS/OSAL	M6	3106-1178	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-115	M8-TSS/OSAL	TSS/OSAL	M8	3106-1180	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-116	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1182	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-117	DYOTS DUP-TSS/OSAL	TSS/OSAL	DYOTS DUP	3106-1184	Seawater	MSL	TSS/OSAL	06/19/13
AMB13-118	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-1186	Seawater	MSL	TSS/OSAL	06/19/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/19/2013 Logged in 6/20/13
Batch: 33
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-100	SN03-TOC	TOC	SN03	3106-1150	Seawater	MSL	TOC	06/19/13
AMB13-101	SN05-TOC	TOC	SN05	3106-1152	Seawater	MSL	TOC	06/19/13
AMB13-102	SN08-TOC	TOC	SN08	3106-1154	Seawater	MSL	TOC	06/19/13
AMB13-103	SN10-TOC	TOC	SN10	3106-1156	Seawater	MSL	TOC	06/19/13
AMB13-104	SN10DUP-TOC	TOC	SN10DUP	3106-1158	Seawater	MSL	TOC	06/19/13
AMB13-105	SN11-TOC	TOC	SN11	3106-1160	Seawater	MSL	TOC	06/19/13
AMB13-106	M3.3-TOC	TOC	M3.3	3106-1162	Seawater	MSL	TOC	06/19/13
AMB13-107	M2-TOC	TOC	M2	3106-1164	Seawater	MSL	TOC	06/19/13
AMB13-108	M2 DEEP-TOC	TOC	M2 DEEP	3106-1166	Seawater	MSL	TOC	06/19/13
AMB13-109	CLMBAY-TOC	TOC	CLMBAY	3106-1168	Seawater	MSL	TOC	06/19/13
AMB13-110	WP-TOC	TOC	WP	3106-1170	Seawater	MSL	TOC	06/19/13
AMB13-111	ILSP-TOC	TOC	ILSP	3106-1172	Seawater	MSL	TOC	06/19/13
AMB13-112	M1-TOC	TOC	M1	3106-1174	Seawater	MSL	TOC	06/19/13
AMB13-113	M1 DEEP-TOC	TOC	M1 DEEP	3106-1176	Seawater	MSL	TOC	06/19/13
AMB13-114	M6-TOC	TOC	M6	3106-1178	Seawater	MSL	TOC	06/19/13
AMB13-115	M8-TOC	TOC	M8	3106-1180	Seawater	MSL	TOC	06/19/13
AMB13-116	DYOTS-TOC	TOC	DYOTS	3106-1182	Seawater	MSL	TOC	06/19/13
AMB13-117	DYOTS DUP-TOC	TOC	DYOTS DUP	3106-1184	Seawater	MSL	TOC	06/19/13
AMB13-118	PS03C-TOC	TOC	PS03C	3106-1186	Seawater	MSL	TOC	06/19/13

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/19/2013 Logged in 6/20/13
Batch: 33
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2013 (AMB13)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB13-100	SN03-DOC	DOC	SN03	3106-1151	Seawater	MSL	DOC	06/19/13
AMB13-101	SN05-DOC	DOC	SN05	3106-1153	Seawater	MSL	DOC	06/19/13
AMB13-102	SN08-DOC	DOC	SN08	3106-1155	Seawater	MSL	DOC	06/19/13
AMB13-103	SN10-DOC	DOC	SN10	3106-1157	Seawater	MSL	DOC	06/19/13
AMB13-104	SN10DUP-DOC	DOC	SN10DUP	3106-1159	Seawater	MSL	DOC	06/19/13
AMB13-105	SN11-DOC	DOC	SN11	3106-1161	Seawater	MSL	DOC	06/19/13
AMB13-106	M3.3-DOC	DOC	M3.3	3106-1163	Seawater	MSL	DOC	06/19/13
AMB13-107	M2-DOC	DOC	M2	3106-1165	Seawater	MSL	DOC	06/19/13
AMB13-108	M2 DEEP-DOC	DOC	M2 DEEP	3106-1167	Seawater	MSL	DOC	06/19/13
AMB13-109	CLMBAY-DOC	DOC	CLMBAY	3106-1169	Seawater	MSL	DOC	06/19/13
AMB13-110	WP-DOC	DOC	WP	3106-1171	Seawater	MSL	DOC	06/19/13
AMB13-111	ILSP-DOC	DOC	ILSP	3106-1173	Seawater	MSL	DOC	06/19/13
AMB13-112	M1-DOC	DOC	M1	3106-1175	Seawater	MSL	DOC	06/19/13
AMB13-113	M1 DEEP-DOC	DOC	M1 DEEP	3106-1177	Seawater	MSL	DOC	06/19/13
AMB13-114	M6-DOC	DOC	M6	3106-1179	Seawater	MSL	DOC	06/19/13
AMB13-115	M8-DOC	DOC	M8	3106-1181	Seawater	MSL	DOC	06/19/13
AMB13-116	DYOTS-DOC	DOC	DYOTS	3106-1183	Seawater	MSL	DOC	06/19/13
AMB13-117	DYOTS DUP-DOC	DOC	DYOTS DUP	3106-1185	Seawater	MSL	DOC	06/19/13
AMB13-118	PS03C-DOC	DOC	PS03C	3106-1187	Seawater	MSL	DOC	06/19/13

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1150 - 1189 Batch: 33

Project Name: AMB13 Day 2 + EB Project Manager: JMA

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: seawater WP#

Yes	No	
☐	☑	Navy-type Project (requires high-level sample tracking procedures)
☐	☑	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☑	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☑	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☑	☐	Special instructions:

Sample Preservation Instructions: see Day 1

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) 5 coolers all 4±2°C °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: JMA Date/Time: 6/19/13 1638

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type:			
☑	0.2% HNO3	Notes: JMA	Lot# 12/2020
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: Date/Time: 13:00 6/20/13

Storage Shelf: L-1-A, L-2-C, K-1-D

PROJECT ENVVEST				CHAIN OF CUSTODY FORM											
Project Name: JUNE 2013 Ambient Monitoring (AMB13)															
SAMPLE TEAM:		Navy, Battelle													
DATE:	6/20/2013														
Laboratory:	Columbia Analytical			Testing Parameters per QAPP											
Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS		
AMB13-001	PS03	06/18/13 0905	Seawater				X					1			
AMB13-002	PS04	06/18/13 0921	Seawater				X					1			
AMB13-003	PS05	06/18/13 0935	Seawater				X					1			
AMB13-004	PS14	06/18/13 0947	Seawater				X					1			
~~AMB13-005~~	~~PS14DUP~~	~~06/18/13 0952~~	~~Seawater~~				~~X~~					~~1~~	No nutrients ☹		
AMB13-006	PS06	06/18/13 0957	Seawater				X					1			
AMB13-007	PS07	06/18/13 1016	Seawater				X					1			
AMB13-008	PS08	06/18/13 1033	Seawater				X					1			
AMB13-009	PS15	06/18/13 1048	Seawater				X					1			
AMB13-010	PS09	06/18/13 1102	Seawater				X					1			
AMB13-011	PS10	06/18/13 1138	Seawater				X					1			
AMB13-012	PS10.1	06/18/13 1150	Seawater				X					1			
~~AMB13-013~~	~~PS10.1DUP~~	~~06/18/13 1151~~	~~Seawater~~				~~X~~					~~1~~	No Nutrients ☹		
AMB13-014	PS11	06/18/13 1207	Seawater				X					1			
AMB13-015	PS16	06/18/13 1216	Seawater				X					1			
AMB13-016	PS01	06/18/13 1246	Seawater				X					1			
AMB13-017	PS02	06/18/13 1258	Seawater				X					1			
AMB13-018	PS13	06/18/13 1308	Seawater				X					1			
AMB13-019	M4	06/18/13 1317	Seawater				X					1			
AMB13-020	BJEST	06/18/13 1332	Seawater				X					1			
AMB13-021	M3.1	06/18/13 1347	Seawater				X					1			
AMB13-022	M3.1 DEEP	06/18/13 1355	Seawater				X					1			
AMB13-023	PS12	06/18/13 1413	Seawater				X					1			
AMB13DD-001	OF021	06/18/13 1130	Seawater				X					1			
AMB13DD-002	OF019	06/18/13 1528	Seawater				X					1			
AMB13-100	SN03	06/19/13 0836	Seawater				X					1			

SOP#: MSL-A-001

PROJECT ENVVEST

Project Name: JUNE 2013 Ambient Monitoring (AMB13)

SAMPLE TEAM: Navy, Battelle

DATE: 6/20/2013

Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

				Testing Parameters per QAPP	
AMB13-101	SN05	06/19/13 0850	Seawater	X	1
AMB13-102	SN08	06/19/13 0902	Seawater	X	1
AMB13-103	SN10	06/19/13 0915	Seawater	X	1
AMB13-104	SN10DUP	06/19/13 0915	Seawater	X	1
AMB13-105	SN11	06/19/13 0928	Seawater	X	1
AMB13-106	M3.3	06/19/13 0938	Seawater	X	1
AMB13-107	M2	06/19/13 1013	Seawater	X	1
AMB13-108	M2 DEEP	06/19/13 1025	Seawater	X	1
AMB13-109	CLMBAY	06/19/13 1030	Seawater	X	1
AMB13-110	WP	06/19/13 1053	Seawater	X	1
AMB13-111	ILSP	06/19/13 1135	Seawater	X	1
AMB13-112	M1	06/19/13 1147	Seawater	X	1
AMB13-113	M1 DEEP	06/19/13 1258	Seawater	X	1
AMB13-114	M6	06/19/13 1236	Seawater	X	1
AMB13-115	M8	06/19/13 1247	Seawater	X	1
AMB13-116	DYOTS	06/19/13 1319	Seawater	X	1
AMB13-117	DYOTS DUP	06/19/13 1319	Seawater	X	1
AMB13-118	PS03C	06/19/13 1358	Seawater	X	1
--end--					

Total: ~~44~~ 425

Relinquished By: C. Suslick — Company: Battelle MSL — 6/20/2013 — Signature/Printed Name — Date/Time

shipped via Fedex 6/20/13, CS

Received By: — Company: — Signature/Printed Name — Date/Time

SOP#: MSL-A-001

K13054155

PROJECT ENVVEST																
Project Name: JUNE 2013 Ambient Monitoring (AMB13)				**CHAIN OF CUSTODY FORM**												
SAMPLE TEAM:	Navy, Battelle															
DATE:	6/19/2013															
Laboratory:	Columbia Analytical			Testing Parameters per QAPP												
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	**COMMENTS**			
AMB13DD-001	OF021	06/18/13 1130	Freshwater						X			1				
AMB13DD-002	OF019	06/18/13 1528	Seawater						X			1				
--end--																
											Total:	2				

Relinquished By:	Company: Battelle MSL	shipped via Fedex 6/19/13, CS	
C. Suslick	6/19/2013		
Signature/Printed Name	Date/Time		
Received By:	Company:		
Signature/Printed Name	Date/Time		
Driver-Tubin	6/20/13 920		

8

PC #2

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K13* 5955

Received: 6/20/13 Opened: 6/20/13 By: BT Unloaded: 6/20/13 By: BT

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.4	0.2	—	—	-0.2	330		7960 3618 6045	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* Paper
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

K1306033

PROJECT ENVVEST		
Project Name: JUNE 2013 Ambient Monitoring (AMB13)		
SAMPLE TEAM:		Navy, Battelle
DATE:	6/20/2013	
Laboratory:	Columbia Analytical	

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB13-001	PS03	06/18/13 0905	Seawater				X					1	
2	AMB13-002	PS04	06/18/13 0921	Seawater				X					1	
3	AMB13-003	PS05	06/18/13 0935	Seawater				X					1	
4	AMB13-004	PS14	06/18/13 0947	Seawater				X					1	
	~~AMB13-005~~	~~PS14DUP~~	~~06/18/13 0952~~	~~Seawater~~				~~X~~					~~1~~	No nutrients ES
5	AMB13-006	PS06	06/18/13 0957	Seawater				X					1	
6	AMB13-007	PS07	06/18/13 1016	Seawater				X					1	
7	AMB13-008	PS08	06/18/13 1033	Seawater				X					1	
8	AMB13-009	PS15	06/18/13 1048	Seawater				X					1	
9	AMB13-010	PS09	06/18/13 1102	Seawater				X					1	
10	AMB13-011	PS10	06/18/13 1138	Seawater				X					1	
11	AMB13-012	PS10.1	06/18/13 1150	Seawater				X					1	
	~~AMB13-013~~	~~PS10.1DUP~~	~~06/18/13 1151~~	~~Seawater~~				~~X~~					~~1~~	No Nutrients ES
12	AMB13-014	PS11	06/18/13 1207	Seawater				X					1	
13	AMB13-015	PS16	06/18/13 1216	Seawater				X					1	
14	AMB13-016	PS01	06/18/13 1246	Seawater				X					1	
15	AMB13-017	PS02	06/18/13 1258	Seawater				X					1	
16	AMB13-018	PS13	06/18/13 1308	Seawater				X					1	
17	AMB13-019	M4	06/18/13 1317	Seawater				X					1	
18	AMB13-020	BJEST	06/18/13 1332	Seawater				X					1	
19	AMB13-021	M3.1	06/18/13 1347	Seawater				X					1	
20	AMB13-022	M3.1 DEEP	06/18/13 1355	Seawater				X					1	
21	AMB13-023	PS12	06/18/13 1413	Seawater				X					1	
22	AMB13DD-001	OF021	06/18/13 1130	Seawater				X					1	
23	AMB13DD-002	OF019	06/18/13 1528	Seawater				X					1	
24	AMB13-100	SN03	06/19/13 0836	Seawater				X					1	

8

SOP#: MSL-A-001

K13 0L033

| | | |

PC Hz

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K13 6033

Received: 6/21/13 Opened: 6/21/13 By: [signature] Unloaded: 6/21/13 By: [signature]

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	-0.4	—	—	-0.3	298	0	7960 5649 9380	
2.5	2.8	—	—	+0.3	276		" " 9277	
-0.4	-0.6	—	—	-0.2	327		" " 9163	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* paper

5.	Were custody papers properly filled out (ink, signed, etc.)?	NA Y N
6.	Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.*	NA Y N
7.	Were all sample labels complete (i.e analysis, preservation, etc.)?	NA Y N
8.	Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.*	NA Y N
9.	Were appropriate bottles/containers and volumes received for the tests indicated?	NA Y N
10.	Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below*	NA Y N
11.	Were VOA vials received without headspace? *Indicate in the table below.*	NA Y N
12.	Was C12/Res negative?	NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring February 2014 (AMB14)

Seawater and Freshwater Chemistry

Battelle Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 14,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 9
QA/QC Narrative 25

Narrative, Batch K1401739 30
Summary Report, Batch K1401739 31

Narrative, Batch K1401787 33
Summary Report, Batch K1401787 34

Sample Custody Information

Sample Collection, 021914 69
Sample Collection and Equipment Blank, 022014 83

Chain of Custody, Batch K1401739 91
Chain of Custody, Batch K1401787 93

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.49**	**0.032**	**2.5**	**0.100**	**0.002**	**0.2**	**0.002**	**0.06**	**0.035**
Seawater Reporting Limit (MDL* 3.18)								**0.095**	**8.0**	**0.320**	**0.006**	**0.6**	**0.01**	**0.2**	**0.11**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.100**	**0.002**	**0.2**	**0.004**	**0.1**	**0.0053**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.320**	**0.006**	**0.6**	**0.01**	**0.3**	**0.017**
AMB14															
AMB14-001	PS03	TME	Seawater	3106-1190	02/19/14	27.5	0.72	1.13	94.1	2.94	0.00305 bJ	18.9 b	0.0802 b	0.203 b	1.84 b
AMB14-001	PS03	DME	Seawater	3106-1191	02/19/14	--	--	1.03	86.0	1.81	0.002 Ub	3.15 b	0.0799 b	0.539 b	1.59 b
AMB14-002	PS04	TME	Seawater	3106-1192	02/19/14	28.4	0.69	1.04	86.9	1.07	0.002 Ub	15.7 b	0.0823 b	0.118 bJ	2.15 b
AMB14-002	PS04	DME	Seawater	3106-1193	02/19/14	--	--	1.01	84.5	0.517	0.002 Ub	2.44 b	0.0770 b	0.128 bJ	1.73 b
AMB14-003	PS05	TME	Seawater	3106-1194	02/19/14	29.3	0.81	1.00	83.7	0.596	0.002 Ub	14.2 b	0.0786 b	0.112 bJ	1.56 b
AMB14-003	PS05	DME	Seawater	3106-1195	02/19/14	--	--	0.99	82.6	0.210	0.002 Ub	2.01 b	0.0844 b	0.101 bJ	1.47 b
AMB14-004	PS05DUP	TME	Seawater	3106-1196	02/19/14	29.0	0.77	1.02	84.7	0.601	0.002 Ub	17.3 b	0.0781 b	0.118 bJ	1.28 b
AMB14-004	PS05DUP	DME	Seawater	3106-1197	02/19/14	--	--	0.99	82.6	0.226	0.002 Ub	1.87 b	0.0828 b	0.107 bJ	1.16 b
AMB14-005	PS14	TME	Seawater	3106-1198	02/19/14	29.1	0.87	1.00	83.4	0.697	0.002 Ub	18.9 b	0.0780 b	0.137 bJ	1.43 b
AMB14-005	PS14	DME	Seawater	3106-1199	02/19/14	--	--	0.98	81.9	0.248	0.002 Ub	1.89 b	0.0766 b	0.102 bJ	1.23 b
AMB14-006	PS06	TME	Seawater	3106-1200	02/19/14	29.0	1.25	0.98	82.0	1.19	0.002 Ub	18.4 b	0.0804 b	0.133 bJ	1.72 b
AMB14-006	PS06	DME	Seawater	3106-1201	02/19/14	--	--	1.00	83.4	0.449	0.002 Ub	1.35 b	0.0857 b	0.106 bJ	1.53 b
AMB14-007	PS07	TME	Seawater	3106-1202	02/19/14	29.4	0.86	1.00	83.1	0.618	0.002 Ub	19.5 b	0.0854 b	0.142 bJ	1.37 b
AMB14-007	PS07	DME	Seawater	3106-1203	02/19/14	--	--	0.99	82.7	0.304	0.002 Ub	1.57 b	0.0782 b	0.0952 bJ	1.11 b
AMB14-008	PS08	TME	Seawater	3106-1204	02/19/14	29.2	1.08	1.06	88.6	0.475	0.002 Ub	20.4 b	0.0768 b	0.135 bJ	1.53 b
AMB14-008	PS08	DME	Seawater	3106-1205	02/19/14	--	--	1.01	84.4	0.197	0.002 Ub	1.58 b	0.0831 b	0.0701 bJ	1.36 b
AMB14-009	PS15	TME	Seawater	3106-1206	02/19/14	29.2	0.76	1.00	83.3	0.534	0.002 Ub	19.1 b	0.0803 b	0.118 bJ	1.19 b
AMB14-009	PS15	DME	Seawater	3106-1207	02/19/14	--	--	0.94	78.7	0.268	0.002 Ub	1.99 b	0.0861 b	0.148 bJ	1.09 b
AMB14-010	PS09	TME	Seawater	3106-1208	02/19/14	28.8	0.80	1.00	83.1	0.956	0.002 Ub	17.2 b	0.0842 b	0.145 bJ	1.60 b
AMB14-010	PS09	DME	Seawater	3106-1209	02/19/14	--	--	0.90	75.2	0.311	0.002 Ub	1.10 b	0.0794 b	0.109 bJ	1.23 b
AMB14-010B	PS09DUP	TME	Seawater	3106-1210	02/19/14	29.0	0.86	0.94	78.4	0.966	0.002 Ub	18.0 b	0.0832 b	0.162 bJ	1.63 b
AMB14-010B	PS09DUP	DME	Seawater	3106-1211	02/19/14	--	--	0.91	76.0	0.373	0.002 Ub	1.20 b	0.0844 b	0.0942 bJ	1.31 b
AMB14-011	PS10	TME	Seawater	3106-1212	02/19/14	29.4	0.97	1.02	85.4	1.39	0.002 Ub	18.6 b	0.0858 b	0.160 bJ	1.49 b
AMB14-011	PS10	DME	Seawater	3106-1213	02/19/14	--	--	0.97	80.6	0.265	0.002 Ub	1.17 b	0.0819 b	0.0882 bJ	1.12 b
AMB14-012	PS10.1	TME	Seawater	3106-1214	02/19/14	29.3	1.34	1.00	83.3	1.35	0.002 Ub	22.5 b	0.0834 b	0.146 bJ	1.22 b
AMB14-012	PS10.1	DME	Seawater	3106-1215	02/19/14	--	--	0.98	81.5	0.285	0.002 Ub	1.38 b	0.0774 b	0.0759 bJ	0.894 b
AMB14-013	PS11	TME	Seawater	3106-1216	02/19/14	29.4	0.62	1.05	87.3	0.519	0.002 Ub	22.0 b	0.0830 b	0.120 bJ	1.05 b
AMB14-013	PS11	DME	Seawater	3106-1217	02/19/14	--	--	0.98	81.9	0.212	0.002 Ub	1.19 b	0.0775 b	0.0782 bJ	0.862 b
AMB14-014	PIER 7	TME	Seawater	3106-1218	02/19/14	ns	ns			0.525	0.002 Ub	14.7 b	0.0769 b	0.104 bJ	0.837 b
AMB14-014	PIER 7	DME	Seawater	3106-1219	02/19/14	--	--	0.94	78.6	0.192	0.002 Ub	1.30 b	0.0824 b	0.126 bJ	0.812 b
AMB14-015	PS16	TME	Seawater	3106-1220	02/19/14	29.5	1.15	0.97	80.4	0.493	0.002 Ub	22.1 b	0.0864 b	0.139 bJ	0.938 b
AMB14-015	PS16	DME	Seawater	3106-1221	02/19/14	--	--	0.96	79.8	0.272	0.002 Ub	1.46 b	0.0838 b	0.103 bJ	0.760 b
AMB14-016	PS01	TME	Seawater	3106-1222	02/19/14	28.3	0.49 U	1.05	87.9	0.830	0.002 Ub	18.5 b	0.0810 b	0.158 bJ	1.65 b
AMB14-016	PS01	DME	Seawater	3106-1223	02/19/14	--	--	0.98	81.5	0.475	0.002 Ub	3.23 b	0.0845 b	0.123 bJ	1.46 b
AMB14-017	PS02	TME	Seawater	3106-1224	02/19/14	28.8	1.77	1.05	87.4	0.986	0.002 Ub	26.1 b	0.0821 b	0.172 bJ	1.63 b
AMB14-017	PS02	DME	Seawater	3106-1225	02/19/14	--	--	1.03	85.8	0.444	0.002 Ub	2.49 b	0.0817 b	0.109 bJ	1.34 b
AMB14-018	PS13	TME	Seawater	3106-1226	02/19/14	28.9	1.14	1.05	87.3	0.561	0.002 Ub	17.1 b	0.0831 b	0.142 bJ	1.42 b
AMB14-018	PS13	DME	Seawater	3106-1227	02/19/14	--	--	0.98	81.4	0.300	0.002 Ub	2.23 b	0.0806 b	0.110 bJ	1.23 b

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB14-019	M4	TME	Seawater	3106-1228	02/19/14	29.3	1.17	1.04	86.8	0.594	0.002 Ub	33.5 b	0.0859 b	0.142 bJ	0.661 b
AMB14-019	M4	DME	Seawater	3106-1229	02/19/14	--	--	1.00	83.3	0.227	0.002 Ub	2.02 b	0.0826 b	0.0852 bJ	0.507 b
AMB14-020	BJEST	TME	Seawater	3106-1230	02/19/14	30.1	1.66	1.05	87.6	1.60	0.002 Ub	225 b	0.0810 b	0.746 b	1.00 b
AMB14-020	BJEST	DME	Seawater	3106-1231	02/19/14	--	--	0.99	82.8	0.256	0.002 Ub	1.81 b	0.0798 b	0.109 bJ	0.668 b
AMB14-021	M3.1	TME	Seawater	3106-1232	02/19/14	29.1	1.44	1.05	87.8	0.677	0.002 Ub	34.8 b	0.0820 b	0.310 b	0.666 b
AMB14-021	M3.1	DME	Seawater	3106-1233	02/19/14	--	--	1.01	84.1	0.281	0.002 Ub	2.22 b	0.0768 b	0.111 bJ	0.624 b
AMB14-022	PS03B	TME	Seawater	3106-1234	02/19/14	27.9	0.62	1.16	96.9	3.24	0.002 Ub	21.9 b	0.0829 b	0.171 bJ	1.60 b
AMB14-022	PS03B	DME	Seawater	3106-1235	02/19/14	--	--	1.05	87.1	2.11	0.002 Ub	13.6 b	0.0807 b	0.127 bJ	1.30 b
AMB14DD-001	OF018	TME	Seawater	3106-1236	02/19/14	23.5	6.49	1.01	84.3	5.90	0.0160 b	14.3 b	0.110 b	0.414 b	10.8 b
AMB14DD-001	OF018	DME	Seawater	3106-1237	02/19/14	--	--	0.90	75.1	1.51	0.00667 b	0.2 Ub	0.0971 b	0.227 b	4.54 b
AMB14DD-002	OF019	TME	Seawater	3106-1238	02/19/14	25.2	3.09	0.94	78.1	6.29	0.00897 b	55.1 b	0.0860 b	17.9 b	9.58 b
AMB14DD-002	OF019	DME	Seawater	3106-1239	02/19/14	--	--	0.86	71.8	1.35	0.00519 bJ	0.360 bJ	0.0852 b	0.976 b	4.84 b
AMB14DD-003	OF021	TME	Freshwater	3106-1240	02/19/14	0.3	0.49 U	0.32	26.7	1.13	0.002 U	7.84	0.004 U	0.632	0.269
AMB14DD-003	OF021	DME	Freshwater	3106-1241	02/19/14	--	--	0.30	25.4	1.06	0.002 U	7.22	0.004 U	0.641	0.234
AMB14-201	SN03	TME	Seawater	3106-1242	02/20/14	30.0	1.08	1.05	87.5	5.76	0.002 Ub	22.9 b	0.0794 b	0.138 bJ	0.652 b
AMB14-201	SN03	DME	Seawater	3106-1243	02/20/14	--	--	0.92	76.9	0.166	0.002 Ub	0.877 b	0.0808 b	0.0898 bJ	0.501 b
AMB14-202	SN05	TME	Seawater	3106-1244	02/20/14	28.3	1.38	1.13	93.9	0.655	0.002 Ub	42.2 b	0.0855 b	0.207 b	0.653 b
AMB14-202	SN05	DME	Seawater	3106-1245	02/20/14	--	--	1.01	84.0	0.295	0.002 Ub	2.89 b	0.0762 b	0.100 bJ	0.431 b
AMB14-203	SN05DUP	TME	Seawater	3106-1246	02/20/14	28.8	1.94	1.13	94.1	0.720	0.002 Ub	42.6 b	0.0860 b	0.205 b	0.672 b
AMB14-203	SN05DUP	DME	Seawater	3106-1247	02/20/14	--	--	1.02	85.0	0.212	0.002 Ub	2.89 b	0.0760 b	0.112 bJ	0.498 b
AMB14-204	SN08	TME	Seawater	3106-1248	02/20/14	29.7	1.73	1.03	86.2	0.727	0.002 Ub	30.4 b	0.0861 b	0.164 bJ	0.779 b
AMB14-204	SN08	DME	Seawater	3106-1249	02/20/14	--	--	0.94	78.7	0.169	0.002 Ub	1.39 b	0.0841 b	0.108 bJ	0.556 b
AMB14-205	SN10	TME	Seawater	3106-1250	02/20/14	29.7	0.88	1.03	86.0	0.604	0.002 Ub	25.0 b	0.0820 b	0.142 bJ	0.873 b
AMB14-205	SN10	DME	Seawater	3106-1251	02/20/14	--	--	0.98	81.4	0.206	0.002 Ub	1.74 b	0.0802 b	0.0918 bJ	0.739 b
AMB14-206	M3.3	TME	Seawater	3106-1252	02/20/14	29.7	2.75	0.99	82.1	0.837	0.002 Ub	30.0 b	0.0810 b	0.154 bJ	0.751 b
AMB14-206	M3.3	DME	Seawater	3106-1253	02/20/14	--	--	0.95	79.3	0.188	0.002 Ub	1.10 b	0.0817 b	0.0868 bJ	0.677 b
AMB14-207	M3.3DEEP	TME	Seawater	3106-1254	02/20/14	29.7	0.77	0.98	81.4	0.582	0.002 Ub	25.4 b	0.0842 b	0.139 bJ	0.734 b
AMB14-207	M3.3DEEP	DME	Seawater	3106-1255	02/20/14	--	--	1.04	86.6	0.187	0.002 Ub	1.42 b	0.0845 b	0.0858 bJ	0.568 b
AMB14-208	M1	TME	Seawater	3106-1256	02/20/14	30.3	1.13	0.96	80.0	0.481	0.002 Ub	21.2 b	0.0806 b	0.121 bJ	0.507 b
AMB14-208	M1	DME	Seawater	3106-1257	02/20/14	--	--	0.91	76.0	0.171	0.002 Ub	0.767 b	0.0805 b	0.0838 bJ	0.490 b
AMB14-209	M1DEEP	TME	Seawater	3106-1258	02/20/14	29.9	0.82	0.96	80.1	0.453	0.002 Ub	19.4 b	0.0811 b	0.120 bJ	0.568 b
AMB14-209	M1DEEP	DME	Seawater	3106-1259	02/20/14	--	--	0.92	76.9	0.216	0.002 Ub	0.937 b	0.0816 b	0.0898 bJ	0.481 b
AMB14-210	ILSP	TME	Seawater	3106-1260	02/20/14	30.6	1.24	0.93	77.7	0.430	0.002 Ub	22.3 b	0.0815 b	0.156 bJ	0.586 b
AMB14-210	ILSP	DME	Seawater	3106-1261	02/20/14	--	--	0.93	77.8	0.181	0.002 Ub	0.525 bJ	0.0794 b	0.108 bJ	0.406 b
AMB14-211	ILSP DUP	TME	Seawater	3106-1262	02/20/14	30.3	1.03	0.97	80.7	0.461	0.002 Ub	17.7 b	0.0850 b	0.244 b	0.498 b
AMB14-211	ILSP DUP	DME	Seawater	3106-1263	02/20/14	--	--	0.92	76.4	0.172	0.002 Ub	0.565 bJ	0.0810 b	0.0818 bJ	0.429 b
AMB14-212	CLMBAY	TME	Seawater	3106-1264	02/20/14	29.3	1.31	1.21	100.6	0.612	0.002 Ub	52.6 b	0.0749 b	0.235 b	0.777 b
AMB14-212	CLMBAY	DME	Seawater	3106-1265	02/20/14	--	--	1.10	91.5	0.384	0.002 Ub	3.61 b	0.0775 b	0.117 bJ	0.442 b
AMB14-213	M2	TME	Seawater	3106-1266	02/20/14	30.2	1.17	0.94	78.0	0.511	0.002 Ub	25.2 b	0.0824 b	0.136 bJ	0.480 b
AMB14-213	M2	DME	Seawater	3106-1267	02/20/14	--	--	0.90	74.8	0.254	0.002 Ub	0.534 bJ	0.0783 b	0.0898 bJ	0.447 b
AMB14-214	M2DEEP	TME	Seawater	3106-1268	02/20/14	30.3	1.05	0.94	78.3	0.487	0.002 Ub	18.6 b	0.0804 b	0.138 bJ	0.524 b
AMB14-214	M2DEEP	DME	Seawater	3106-1269	02/20/14	--	--	0.87	72.2	0.240	0.002 Ub	0.537 bJ	0.0758 b	0.0838 bJ	0.405 b
AMB14-215	M6	TME	Seawater	3106-1270	02/20/14	29.6	1.34	1.04	86.9	0.590	0.002 Ub	26.4 b	0.0898 b	0.155 bJ	0.631 b

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1529 West Sequim Bay Road
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360/681-4564

Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Ag	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB14-215	M6	DME	Seawater	3106-1271	02/20/14	--	--	0.97	80.8	0.208	0.002 Ub	1.35 b	0.0872 b	0.0948 bJ	0.502 b
AMB14-216	M8	TME	Seawater	3106-1272	02/20/14	28.8	1.43	1.02	84.6	0.668	0.002 Ub	26.6 b	0.0891 b	0.135 bJ	0.604 b
AMB14-216	M8	DME	Seawater	3106-1273	02/20/14	--	--	0.99	82.4	0.223	0.002 Ub	1.39 b	0.0858 b	0.0968 bJ	0.502 b
AMB14-217	DYOTS	TME	Seawater	3106-1274	02/20/14	27.8	1.56	1.37	113.8	0.707	0.002 Ub	42.2 b	0.0811 b	0.201 b	0.640 b
AMB14-217	DYOTS	DME	Seawater	3106-1275	02/20/14	--	--	1.24	103.1	0.356	0.002 Ub	5.30 b	0.0817 b	0.132 bJ	0.521 b
AMB14-218	PS03C	TME	Seawater	3106-1276	02/20/14	28.4	0.67	1.04	86.6	1.81	0.002 Ub	23.4 b	0.0833 b	0.177 bJ	1.68 b
AMB14-218	PS03C	DME	Seawater	3106-1277	02/20/14	--	--	1.00	83.3	1.01	0.002 Ub	2.20 b	0.0790 b	0.131 bJ	1.34 b
AMB14-219	WP	TME	Seawater	3106-1278	02/20/14	29.8	1.16	1.05	87.6	0.605	0.002 Ub	35.2 b	0.0850 b	0.164 bJ	0.570 b
AMB14-219	WP	DME	Seawater	3106-1279	02/20/14	--	--	0.90	75.0	0.179	0.002 Ub	0.967 b	0.0819 b	0.0868 bJ	0.448 b
AMB14-220	EQPBLK022014	TME	Freshwater	3106-1280	02/20/14	--	--	--	--	0.1 U	0.002 U	0.2 U	0.004 U	0.1 U	0.0362
AMB14-220	EQPBLK022014	DME	Freshwater	3106-1281	02/20/14	--	--	--	--	0.1 U	0.002 U	0.2 U	0.004 U	0.1 U	0.0738

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Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.025**	**0.0019**	**0.026**					
Seawater Reporting Limit (MDL* 3.18)					**0.080**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					**0.004**	**0.0022**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.01**	**0.0070**	**0.06**					
AMB14												
AMB14-001	PS03	TME	Seawater	3106-1190	0.520 b	0.101 b	8.42 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-001	PS03	DME	Seawater	3106-1191	1.87 b	0.0263 b	8.25 b	032114HGA	040114B-DRC	--		--
AMB14-002	PS04	TME	Seawater	3106-1192	0.461 b	0.103 b	6.47 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-002	PS04	DME	Seawater	3106-1193	0.459 b	0.0295 b	6.03 b	032114HGA	040114B-DRC	--		--
AMB14-003	PS05	TME	Seawater	3106-1194	0.460 b	0.0579 b	4.10 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-003	PS05	DME	Seawater	3106-1195	0.459 b	0.0122 b	4.62 b	032114HGA	040114B-DRC	--		--
AMB14-004	PS05DUP	TME	Seawater	3106-1196	0.440 b	0.0533 b	3.54 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-004	PS05DUP	DME	Seawater	3106-1197	0.510 b	0.00975 b	4.73 b	032114HGA	040114B-DRC	--		--
AMB14-005	PS14	TME	Seawater	3106-1198	0.470 b	0.0609 b	3.70 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-005	PS14	DME	Seawater	3106-1199	0.453 b	0.00985 b	3.61 b	032114HGA	040114B-DRC	--		--
AMB14-006	PS06	TME	Seawater	3106-1200	0.677 b	0.0579 b	4.66 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-006	PS06	DME	Seawater	3106-1201	0.659 b	0.00892 b	4.95 b	032114HGA	040114B-DRC	--		--
AMB14-007	PS07	TME	Seawater	3106-1202	0.595 b	0.0544 b	5.45 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-007	PS07	DME	Seawater	3106-1203	0.558 b	0.00773 b	5.20 b	032114HGA	040114B-DRC	--		--
AMB14-008	PS08	TME	Seawater	3106-1204	0.490 b	0.0468 b	5.17 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-008	PS08	DME	Seawater	3106-1205	0.420 b	0.00532 bJ	5.50 b	032114HGA	040114B-DRC	--		--
AMB14-009	PS15	TME	Seawater	3106-1206	0.502 b	0.0526 b	3.80 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-009	PS15	DME	Seawater	3106-1207	0.833 b	0.00903 b	3.95 b	032114HGA	040114B-DRC	--		--
AMB14-010	PS09	TME	Seawater	3106-1208	0.559 b	0.0797 b	8.91 b	032114HGA	040114B-DRC	021914Osal		021914Nu
AMB14-010	PS09	DME	Seawater	3106-1209	0.511 b	0.00872 b	8.50 b	032114HGA	040114B-DRC	--		--
AMB14-010B	PS09DUP	TME	Seawater	3106-1210	0.578 b	0.0769 b	9.08 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-010B	PS09DUP	DME	Seawater	3106-1211	0.534 b	0.00949 b	9.20 b	032514HGA	040114B-DRC	--		--
AMB14-011	PS10	TME	Seawater	3106-1212	0.758 b	0.0718 b	5.46 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-011	PS10	DME	Seawater	3106-1213	0.485 b	0.00653 b	5.24 b	032514HGA	040114B-DRC	--		--
AMB14-012	PS10.1	TME	Seawater	3106-1214	0.522 b	0.0688 b	6.17 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-012	PS10.1	DME	Seawater	3106-1215	0.468 b	0.00524 bJ	5.59 b	032514HGA	040114B-DRC	--		--
AMB14-013	PS11	TME	Seawater	3106-1216	0.469 b	0.0579 b	3.78 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-013	PS11	DME	Seawater	3106-1217	0.424 b	0.00708 b	3.53 b	032514HGA	040114B-DRC	--		--
AMB14-014	PIER 7	TME	Seawater	3106-1218	0.465 b	0.0454 b	3.33 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-014	PIER 7	DME	Seawater	3106-1219	0.484 b	0.00797 b	4.73 b	032514HGA	040114B-DRC	--		--
AMB14-015	PS16	TME	Seawater	3106-1220	0.496 b	0.0563 b	3.00 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-015	PS16	DME	Seawater	3106-1221	0.536 b	0.00703 b	2.82 b	032514HGA	040114B-DRC	--		--
AMB14-016	PS01	TME	Seawater	3106-1222	0.527 b	0.0664 b	4.75 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-016	PS01	DME	Seawater	3106-1223	0.500 b	0.0164 b	4.70 b	032514HGA	040114B-DRC	--		--
AMB14-017	PS02	TME	Seawater	3106-1224	0.644 b	0.0725 b	4.11 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-017	PS02	DME	Seawater	3106-1225	0.499 b	0.00939 b	3.96 b	032514HGA	040114B-DRC	--		--
AMB14-018	PS13	TME	Seawater	3106-1226	0.513 b	0.0539 b	5.34 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-018	PS13	DME	Seawater	3106-1227	0.452 b	0.0130 b	5.06 b	032514HGA	040114B-DRC	--		--

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Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB14-019	M4	TME	Seawater	3106-1228	0.482 b	0.0641 b	1.53 b	032514HGA	040114B-DRC	021914Osal		021914Nu
AMB14-019	M4	DME	Seawater	3106-1229	0.431 b	0.00606 b	1.30 b	032514HGA	040114B-DRC	--		--
AMB14-020	BJEST	TME	Seawater	3106-1230	1.23 b	0.222 b	2.61 b	032814HGA	040914A-DRC	021914Osal		021914Nu
AMB14-020	BJEST	DME	Seawater	3106-1231	0.544 b	0.00627 b	1.41 bB	032814HGA	040914A-DRC	--		--
AMB14-021	M3.1	TME	Seawater	3106-1232	0.573 b	0.0597 b	2.30 b	032814HGA	040914A-DRC	021914Osal		021914Nu
AMB14-021	M3.1	DME	Seawater	3106-1233	0.581 b	0.00580 bJ	1.34 bB	032814HGA	040914A-DRC	--		--
AMB14-022	PS03B	TME	Seawater	3106-1234	0.537 b	0.0937 b	4.62 b	032814HGA	040914A-DRC	021914Osal		021914Nu
AMB14-022	PS03B	DME	Seawater	3106-1235	0.461 b	0.0169 b	4.30 b	032814HGA	040914A-DRC	--		--
AMB14DD-001	OF018	TME	Seawater	3106-1236	2.83 b	0.357 b	47.2 b	032814HGA	040914A-DRC	021914Osal		021914Nu
AMB14DD-001	OF018	DME	Seawater	3106-1237	1.57 b	0.00811 b	30.6 b	032814HGA	040914A-DRC	--		--
AMB14DD-002	OF019	TME	Seawater	3106-1238	5.28 b	0.319 b	19.7 b	032814HGA	040914A-DRC	021914Osal		021914Nu
AMB14DD-002	OF019	DME	Seawater	3106-1239	4.71 b	0.00730 b	17.3 b	032814HGA	040914A-DRC	--		--
AMB14DD-003	OF021	TME	Freshwater	3106-1240	1.21	0.00528 J	0.776	032814HGA	040214-DRC	021914Osal		021914Nu
AMB14DD-003	OF021	DME	Freshwater	3106-1241	1.25	0.0022 U	0.772	032814HGA	040214-DRC	--		--
AMB14-201	SN03	TME	Seawater	3106-1242	0.493 b	0.0645 b	1.43 bB	032814HGA	040914A-DRC	022014Osal		022014Nu
AMB14-201	SN03	DME	Seawater	3106-1243	0.418 b	0.00707 b	1.31 bB	032814HGA	040914A-DRC	--		--
AMB14-202	SN05	TME	Seawater	3106-1244	0.531 b	0.0774 b	1.42 bB	032814HGA	040914A-DRC	022014Osal		022014Nu
AMB14-202	SN05	DME	Seawater	3106-1245	0.406 b	0.00733 b	1.23 bB	032814HGA	040914A-DRC	--		--
AMB14-203	SN05DUP	TME	Seawater	3106-1246	0.526 b	0.0895 b	1.44 bB	032814HGA	040914A-DRC	022014Osal		022014Nu
AMB14-203	SN05DUP	DME	Seawater	3106-1247	0.420 b	0.00761 b	1.07 bB	032814HGA	040914A-DRC	--		--
AMB14-204	SN08	TME	Seawater	3106-1248	0.612 b	0.0756 b	1.46 bB	032814HGA	040914A-DRC	022014Osal		022014Nu
AMB14-204	SN08	DME	Seawater	3106-1249	0.579 b	0.00924 b	1.32 bB	032814HGA	040914A-DRC	--		--
AMB14-205	SN10	TME	Seawater	3106-1250	0.530 b	0.0600 b	2.10 b	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-205	SN10	DME	Seawater	3106-1251	0.448 b	0.00622 b	2.06 b	033114HGA	040914A-DRC	--		--
AMB14-206	M3.3	TME	Seawater	3106-1252	0.545 b	0.0719 b	1.44 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-206	M3.3	DME	Seawater	3106-1253	0.469 b	0.00581 bJ	1.26 bB	033114HGA	040914A-DRC	--		--
AMB14-207	M3.3DEEP	TME	Seawater	3106-1254	0.496 b	0.0587 b	1.67 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-207	M3.3DEEP	DME	Seawater	3106-1255	0.463 b	0.00616 b	1.60 bB	033114HGA	040914A-DRC	--		--
AMB14-208	M1	TME	Seawater	3106-1256	0.456 b	0.0405 b	0.903 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-208	M1	DME	Seawater	3106-1257	0.432 b	0.00284 bJ	0.787 bB	033114HGA	040914A-DRC	--		--
AMB14-209	M1DEEP	TME	Seawater	3106-1258	0.477 b	0.0398 b	0.933 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-209	M1DEEP	DME	Seawater	3106-1259	0.469 b	0.00341 bJ	0.853 bB	033114HGA	040914A-DRC	--		--
AMB14-210	ILSP	TME	Seawater	3106-1260	0.762 b	0.0459 b	0.913 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-210	ILSP	DME	Seawater	3106-1261	0.462 b	0.00344 bJ	1.00 bB	033114HGA	040914A-DRC	--		--
AMB14-211	ILSP DUP	TME	Seawater	3106-1262	0.535 b	0.0376 b	0.903 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-211	ILSP DUP	DME	Seawater	3106-1263	0.438 b	0.00372 bJ	0.794 bB	033114HGA	040914A-DRC	--		--
AMB14-212	CLMBAY	TME	Seawater	3106-1264	1.03 b	0.0710 b	1.03 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-212	CLMBAY	DME	Seawater	3106-1265	0.498 b	0.00357 bJ	0.518 bB	033114HGA	040914A-DRC	--		--
AMB14-213	M2	TME	Seawater	3106-1266	0.488 b	0.0447 b	0.730 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-213	M2	DME	Seawater	3106-1267	0.423 b	0.00251 bJ	0.677 bB	033114HGA	040914A-DRC	--		--
AMB14-214	M2DEEP	TME	Seawater	3106-1268	0.565 b	0.0352 b	0.720 bB	033114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-214	M2DEEP	DME	Seawater	3106-1269	0.423 b	0.00266 bJ	0.746 bB	033114HGA	040914A-DRC	--		--
AMB14-215	M6	TME	Seawater	3106-1270	0.536 b	0.0678 b	1.43 bB	040114HGA	040914A-DRC	022014Osal		022014Nu

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Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB14-215	M6	DME	Seawater	3106-1271	0.513 b	0.00958 b	1.34 bB	040114HGA	040914A-DRC	--		--
AMB14-216	M8	TME	Seawater	3106-1272	0.505 b	0.0847 b	1.55 bB	040114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-216	M8	DME	Seawater	3106-1273	0.456 b	0.0110 b	1.36 bB	040114HGA	040914A-DRC	--		--
AMB14-217	DYOTS	TME	Seawater	3106-1274	0.552 b	0.0634 b	1.59 bB	040114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-217	DYOTS	DME	Seawater	3106-1275	0.487 b	0.00688 b	2.02 b	040114HGA	040914A-DRC	--		--
AMB14-218	PS03C	TME	Seawater	3106-1276	0.682 b	0.103 b	5.63 b	040114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-218	PS03C	DME	Seawater	3106-1277	0.506 b	0.0148 b	5.22 b	040114HGA	040914A-DRC	--		--
AMB14-219	WP	TME	Seawater	3106-1278	0.583 b	0.0660 b	1.16 bB	040114HGA	040914A-DRC	022014Osal		022014Nu
AMB14-219	WP	DME	Seawater	3106-1279	0.427 b	0.00406 bJ	1.09 bB	040114HGA	040914A-DRC	--		--
AMB14-220	EQPBLK022014	TME	Freshwater	3106-1280	0.0909	0.0022 U	0.0334 J	040114HGA	040214-DRC	--		--
AMB14-220	EQPBLK022014	DME	Freshwater	3106-1281	0.0321	0.0022 U	0.0639 J	040114HGA	040214-DRC	--		--

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Ambient Monitoring - AMB14
QC Sample Results for ICP-MS
ENVVEST February 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.002**	**0.2**	**0.002**	**0.06**	**0.035**	**0.025**	**0.0019**	**0.026**	
Seawater Reporting Limit (MDL* 3.18)					**0.006**	**0.6**	**0.01**	**0.2**	**0.11**	**0.080**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					**0.002**	**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**	**0.0022**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.006**	**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**	
METHOD BLANKS													
TRM_BLK1		Total	Freshwater	TRM Blank 040214	0.002 U	0.2 U	0.004 U	0.1 U	0.0053 U	0.004 U	0.0022 U	0.02 U	040214-DRC
MB		Total	Seawater	DI Blank R1	0.0000 U	0.284 J	0.0003 U	0.0416 U	0.0558 J	0.0332 J	0.00052 U	0.0541 J	040114B-DRC
MB		Total	Seawater	DI Blank R2	0.0000 U	0.221 J	0.0002 U	0.0110 U	0.0542 J	0.0251 J	0.00068 U	0.0515 J	040114B-DRC
MB		Total	Seawater	DI Blank R3	0.0000 U	0.230 J	0.0000 U	0.0121 U	0.0505 J	0.0284 J	0.00032 U	0.0526 J	040114B-DRC
MB		Total	Seawater	DI Blank R4	0.0001 U	0.278 J	0.0000 U	0.0323 U	0.0667 J	0.0369 J	0.00033 U	0.0664 J	040114B-DRC
MB		Total	Seawater	DI Blank R5	0.0000 U	0.177 U	0.0000 U	0.0169 U	0.0615 J	0.0258 J	0.00031 U	0.0591 J	040114B-DRC
MB		Total	Seawater	DI Blank R6	0.0000 U	0.217 J	0.0000 U	0.0292 U	0.0640 J	0.0351 J	0.00053 U	0.0731 J	040114B-DRC
MEAN REAGENT BLANK			Seawater	***BMRB_040114***	**0.0000** U	**0.235** J	**0.0001** U	**0.0239** U	**0.0588** J	**0.0308** J	**0.00045** U	**0.0595** J	040114B-DRC
MB		Total	Seawater	DI Blank R1 0325	0.0000 U	0.251 J	0.0000 U	0.0207 U	0.0414 J	0.0256 J	0.00059 U	0.103	040914A-DRC
MB		Total	Seawater	DI Blank R2 0325	0.0000 U	0.424 J	0.0000 U	0.0316 U	0.0661 J	0.0354 J	0.00040 U	0.119	040914A-DRC
MB		Total	Seawater	DI Blank R3 0325	0.0000 U	0.285 J	0.0000 U	0.0423 U	0.0360 J	0.0374 J	0.00033 U	0.102	040914A-DRC
MB		Total	Seawater	DI Blank R4 0325	0.0000 U	0.293 J	0.0000 U	0.0049 U	0.0490 J	0.0270 J	0.00036 U	0.0893	040914A-DRC
MB		Total	Seawater	DI Blank R5 0325	0.0000 U	0.247 J	0.0000 U	0.0172 U	0.0391 J	0.0278 J	0.00026 U	0.0850	040914A-DRC
MB		Total	Seawater	DI Blank R6 0325	0.0000 U	0.258 J	0.0000 U	0.0000 U	0.0383 J	0.0188 U	0.00023 U	0.0946	040914A-DRC
MB		Total	Seawater	DI Blank R7 0325	0.0000 U	0.468 J	0.0000 U	0.0189 U	0.0508 J	0.0401 J	0.00039 U	0.119	040914A-DRC
MB		Total	Seawater	DI Blank R8 0325	0.0000 U	0.278 J	0.0000 U	0.0145 U	0.0475 J	0.0358 J	0.00066 U	0.843	040914A-DRC
MB		Total	Seawater	DI Blank R9 0325	0.0000 U	0.316 J	0.0000 U	0.0229 U	0.0550 J	0.0305 J	0.00034 U	0.132	040914A-DRC
MEAN REAGENT BLANK			Seawater	***BMRB_040914***	**0.0000** U	**0.313** J	**0.0000** U	**0.0192** U	**0.0470** J	**0.0309** J	**0.00039** U	**0.187**	040914A-DRC

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Ambient Monitoring - AMB14
QC Sample Results for ICP-MS
ENVVEST February 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		Total	Freshwater	TRM Blank	0.002 U	0.2 U	0.004 U	0.1 U	0.0053 U	0.004 U	0.0022 U	0.02 U	040214-DRC
LCS		Total	Freshwater	TRM LCS	2.02	2.09	2.05	2.05	2.09	2.10	2.01	2.56	040214-DRC
				Percent Recovery, LCS	**101%**	**105%**	**103%**	**103%**	**105%**	**105%**	**101%**	**128%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.002 bU	0.365 bJ	0.0670 b	0.149 bJ	0.229 b	0.351 b	0.00212 bJ	0.267 b	040114B-DRC
LCS		Total	Seawater	SB LCS R1	1.75 b	2.10 b	1.83 b	1.89 b	1.97 b	2.10 b	1.81 b	1.85 b	040114B-DRC
				Percent Recovery, LCS	**87%**	**87%**	**88%**	**87%**	**87%**	**87%**	**90%**	**79%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	0.002 bU	0.362 bJ	0.0699 b	0.128 bJ	0.255 b	0.406 b	0.00218 bJ	0.268 b	040114B-DRC
LCS		Total	Seawater	SB LCS R2	1.88 b	2.21 b	1.93 b	1.91 b	2.03 b	2.22 b	1.87 b	1.92 b	040114B-DRC
				Percent Recovery, LCS	**94%**	**92%**	**93%**	**89%**	**89%**	**91%**	**93%**	**83%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.002 bU	0.337 bJ	0.0694 b	0.111 bJ	0.241 b	0.336 b	0.00263 bJ	0.188 b	040914A-DRC
LCS		Total	Seawater	SB LCS R1	1.78 b	2.07 b	1.84 b	1.82 b	1.99 b	2.10 b	1.84 b	1.93 b	040914A-DRC
				Percent Recovery, LCS	**89%**	**87%**	**89%**	**86%**	**88%**	**88%**	**92%**	**87%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	0.002 bU	0.332 bJ	0.0702 b	0.107 bJ	0.330 b	0.382 b	0.00266 bJ	0.206 b	040914A-DRC
LCS		Total	Seawater	SB LCS R2	1.84 b	2.27 b	1.94 b	1.93 b	2.07 b	2.25 b	1.93 b	1.83 b	040914A-DRC
				Percent Recovery, LCS	**92%**	**97%**	**93%**	**91%**	**87%**	**93%**	**96%**	**81%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R3	0.002 bU	0.344 bJ	0.0733 b	0.104 bJ	0.258 b	0.360 b	0.00261 bJ	0.161 b	040914A-DRC
LCS		Total	Seawater	SB LCS R3	1.89 b	2.30 b	1.97 b	1.94 b	2.11 b	2.27 b	1.99 b	1.86 b	040914A-DRC
				Percent Recovery, LCS	**95%**	**98%**	**95%**	**92%**	**93%**	**95%**	**99%**	**85%**	

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Ambient Monitoring - AMB14
QC Sample Results for ICP-MS
ENVVEST February 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS													
AMB14DD-003	OF021	DME	Freshwater	**3106-1241**	0.002 U	7.22	0.002 U	0.641	0.234	1.25	0.0022 U	0.772	040214-DRC
MS				**3106-1241MS**	1.01	8.26	1.07	1.66	1.02	2.28	1.04	1.83	040214-DRC
MSD				**3106-1241MSD**	1.00	8.36	1.01	1.70	0.990	2.27	1.03	1.79	040214-DRC
				Spiking Level	1	1	1	1	1	1	1	1	
				Percent Recovery, MS	**101%**	**104%**	**107%**	**102%**	**79%**	**103%**	**104%**	**106%**	
				Percent Recovery, MSD	**100%**	**114%**	**101%**	**106%**	**76%**	**102%**	**103%**	**102%**	
AMB14-005	PS14	TME	Seawater	**3106-1198**	0.002 Ub	18.9 b	0.0780 b	0.137 bJ	1.43 b	0.470 b	0.0609 b	3.70 b	040114B-DRC
MS				**3106-1198MS**	0.908 b	25.1 b	0.989 b	1.02 b	2.33 b	1.34 b	0.990 b	7.84 b	040114B-DRC
MSD				**3106-1198MSD**	0.909 b	25.2 b	0.994 b	1.03 b	2.34 b	1.35 b	0.996 b	8.14 b	040114B-DRC
				Spiking Level	1	5	1	1	1	1	1	5	
				Percent Recovery, MS	**91%**	**124%**	**91%**	**88%**	**90%**	**87%**	**93%**	**83%**	
				Percent Recovery, MSD	**91%**	**126%**	**92%**	**89%**	**91%**	**88%**	**93%**	**89%**	
AMB14-019	M4	DME	Seawater	**3106-1229**	0.002 Ub	2.02 b	0.0826 b	0.0852 bJ	0.507 b	0.431 b	0.00606 b	1.30 b	040114B-DRC
MS				**3106-1229MS**	0.959 b	2.98 b	1.02 b	1.01 b	1.43 b	1.38 b	0.978 b	2.16 b	040114B-DRC
MSD				**3106-1229MSD**	0.987 b	3.11 b	1.04 b	1.06 b	1.48 b	1.42 b	0.998 b	2.29 b	040114B-DRC
				Spiking Level	1	1	1	1	1	1	1	1	
				Percent Recovery, MS	**96%**	**96%**	**94%**	**92%**	**92%**	**95%**	**97%**	**86%**	
				Percent Recovery, MSD	**99%**	**109%**	**96%**	**97%**	**97%**	**99%**	**99%**	**99%**	
AMB14-021	M3.1	TME	Seawater	**3106-1232**	0.002 Ub	34.8 b	0.0820 b	0.310 b	0.666 b	0.573 b	0.0597 b	2.30 b	040914A-DRC
MS				**3106-1232MS**	0.871 b	39.7 b	0.975 b	4.47 b	5.07 b	4.97 b	4.76 b	5.39 b	040914A-DRC
MSD				**3106-1232MSD**	0.865 b	40.7 b	0.938 b	4.59 b	5.16 b	5.05 b	4.74 b	5.59 b	040914A-DRC
				Spiking Level	1	5	1	5	5	5	5	5	
				Percent Recovery, MS	**87%**	**98%**	**89%**	**83%**	**88%**	**88%**	**94%**	**62%** N	
				Percent Recovery, MSD	**87%**	**118%**	**86%**	**86%**	**90%**	**90%**	**94%**	**66%** N	
AMB14-213	M2	DME	Seawater	**3106-1267**	0.002 Ub	0.534 bJ	0.0783 b	0.0898 bJ	0.447 b	0.423 b	0.00251 bJ	0.677 b	040914A-DRC
MS				**3106-1267MS**	0.883 b	5.46 b	0.972 b	0.945 b	5.12 b	5.22 b	0.927 b	1.48 b	040914A-DRC
MSD				**3106-1267MSD**	0.965 b	5.01 b	1.05 b	1.02 b	4.85 b	4.91 b	1.02 b	1.67 b	040914A-DRC
				Spiking Level	1	5	1	1	5	5	1	1	
				Percent Recovery, MS	**88%**	**109%**	**89%**	**86%**	**94%**	**96%**	**92%**	**81%**	
				Percent Recovery, MSD	**97%**	**100%**	**97%**	**93%**	**88%**	**90%**	**102%**	**100%**	
AMB14-216	M8	TME	Seawater	**3106-1272**	0.002 Ub	26.6 b	0.0891 b	0.135 bJ	0.604 b	0.505 b	0.0847 b	1.55 b	040914A-DRC
MS				**3106-1272MS**	0.911 b	32.5 b	1.00 b	1.03 b	5.32 b	5.31 b	1.04 b	5.99 b	040914A-DRC
MSD				**3106-1272MSD**	0.918 b	32.7 b	1.00 b	1.01 b	5.29 b	5.19 b	1.03 b	5.98 b	040914A-DRC
				Spiking Level	1	5	1	1	5	5	1	5	
				Percent Recovery, MS	**91%**	**118%**	**91%**	**90%**	**94%**	**96%**	**95%**	**89%**	
				Percent Recovery, MSD	**92%**	**122%**	**91%**	**88%**	**94%**	**94%**	**94%**	**89%**	

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Ambient Monitoring - AMB14
QC Sample Results for ICP-MS
ENVVEST February 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION													
AMB14DD-003	OF021	TME	Freshwater	**3106-1240**	0.002 U	7.84	0.004 U	0.632	0.269	1.21	0.00528 J	0.776	040214-DRC
DUP				**3106-1240r2**	0.002 U	7.75	0.004 U	0.690	0.267	1.25	0.00495 J	0.779	040214-DRC
				Mean	*0.002 U*	*7.80*	*0.004 U*	*0.661*	*0.268*	*1.23*	*0.00512 J*	*0.778*	040214-DRC
				RPD	**NA**	**1.2%**	**NA**	**8.8%**	**0.7%**	**3.3%**	**6.5%**	**0.4%**	
AMB14-001	PS03	TME	Seawater	**3106-1190**	0.00305 bJ	18.9 b	0.0802 b	0.203 b	1.84 b	0.520 b	0.101 b	8.42 b	040114B-DRC
DUP				**3106-1190r2**	0.00293 bJ	19.7 b	0.0805 b	0.174 bJ	1.81 b	0.485 b	0.102 b	8.43 b	040114B-DRC
				Mean	*0.00299 bJ*	*19.3 b*	*0.0804 b*	*0.189 bJ*	*1.83 b*	*0.503 b*	*0.101 b*	*8.43 b*	040114B-DRC
				RPD	**4.0%**	**4.2%**	**0.4%**	**15%**	**1.6%**	**7.0%**	**1.0%**	**0.1%**	
AMB14-012	PS10.1	TME	Seawater	**3106-1214**	0.002 Ub	22.5 b	0.0834 b	0.146 bJ	1.22 b	0.522 b	0.0688 b	6.17 b	040114B-DRC
DUP				**3106-1214r2**	0.002 Ub	22.8 b	0.0805 b	0.157 bJ	1.19 b	0.505 b	0.0695 b	6.03 b	040114B-DRC
				Mean	0.002 Ub	*22.6 b*	*0.0820 b*	*0.152 bJ*	*1.21 b*	*0.514 b*	*0.0691 b*	*6.10 b*	040114B-DRC
				RPD	**NA**	**1.3%**	**3.5%**	**7.3%**	**2.5%**	**3.3%**	**1.0%**	**2.3%**	
AMB14-022	PS03B	TME	Seawater	**3106-1234**	0.002 Ub	21.9 b	0.0829 b	0.171 bJ	1.60 b	0.537 b	0.0937 b	4.62 b	040914A-DRC
DUP				**3106-1234r2**	0.002 Ub	21.8 b	0.0806 b	0.167 bJ	1.54 b	0.517 b	0.0899 b	4.62 b	040914A-DRC
				Mean	0.002 Ub	*21.8 b*	*0.0817 b*	*0.169 bJ*	*1.57 b*	*0.527 b*	*0.0918 b*	*4.62 b*	040914A-DRC
				RPD	**NA**	**0.5%**	**2.8%**	**2.4%**	**3.8%**	**3.8%**	**4.1%**	**0.0%**	
AMB14-214	M2DEEP	TME	Seawater	**3106-1268**	0.002 Ub	18.6 b	0.0804 b	0.138 bJ	0.524 b	0.565 b	0.0352 b	0.720 b	040914A-DRC
DUP				**3106-1268r2**	0.002 Ub	18.8 b	0.0834 b	0.131 bJ	0.483 b	0.555 b	0.0365 b	0.743 b	040914A-DRC
				Mean	0.002 Ub	*18.7* b	*0.0819 b*	*0.134 bJ*	*0.503 b*	*0.560 b*	*0.0359 b*	*0.731 b*	040914A-DRC
				RPD	**NA**	**1.1%**	**3.7%**	**5.2%**	**8.1%**	**1.8%**	**3.6%**	**3.1%**	
AMB14-218	PS03C	TME	Seawater	**3106-1276**	0.002 Ub	23.4 b	0.0833 b	0.177 bJ	1.68 b	0.682 b	0.103 b	5.63 b	040914A-DRC
DUP				**3106-1276r2**	0.002 Ub	21.9 b	0.0803 b	0.163 bJ	1.63 b	0.645 b	0.100 b	5.41 b	040914A-DRC
				Mean	0.002 Ub	*22.6* b	*0.0818 b*	*0.170 bJ*	*1.66 b*	*0.664 b*	*0.101 b*	*5.52 b*	040914A-DRC
				RPD	**NA**	**6.6%**	**3.7%**	**8.2%**	**3.0%**	**5.6%**	**3.0%**	**4.0%**	

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Ambient Monitoring - AMB14
QC Sample Results for ICP-MS
ENVVEST February 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ag	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 R1	0.002 bU	0.660 b	0.0233 b	0.117 bJ	0.344 b	0.319 b	0.00936 b	0.588 b	040114B-DRC
SRM CASS-5		Total	Seawater	CASS-5 R2	0.002 bU	0.695 b	0.0248 b	0.138 bJ	0.375 b	0.360 b	0.00928 b	0.568 b	040114B-DRC
SRM CASS-5		Total	Seawater	CASS-5 R1 0325	0.002 bU	0.757 b	0.0220 b	0.0968 bJ	0.359 b	0.307 b	0.00901 b	0.616 b	040914A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R2 0325	0.002 bU	1.12 b	0.0196 b	0.0790 bJ	0.369 b	0.290 b	0.00801 b	1.07 b	040914A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R3 0325	0.002 bU	0.687 b	0.0220 b	0.0878 bJ	0.375 b	0.319 b	0.00869 b	0.477 b	040914A-DRC
				Certified Value	NC	NC	**0.0215**	**0.106** c	**0.380**	**0.330**	**0.011** c	**0.719**	
				PD	--	--	**8%**	**11%**	**9%**	**3%**	**15%**	**18%**	
				PD	--	--	**15%**	**30%** c	**1%**	**9%**	**16%**	**21%** &	
				PD	--	--	**2%**	**9%**	**6%**	**7%**	**18%**	**14%**	
				PD	--	--	**9%**	**25%** c	**3%**	**12%**	**27%** c	**49%** &	
				PD	--	--	**2%**	**17%**	**1%**	**3%**	**21%** c	**34%** &	
STANDARD REFERENCE MATERIAL													
INSTRUMENT CHECK SAMPLE/Freshwater SRM													
SRM 1640a		Total	Freshwater	TRM 1640a 10x	8.01	54.2	4.04	40.3	86.2	25.6	12.1	58.6	040214-DRC
SRM 1640a		Total	Freshwater	1640a 5x	7.91	56.1	3.96	40.0	85.0	25.0	12.0	54.3	040114B-DRC
SRM 1640a		Total	Freshwater		8.31	56.9	4.04	40.3	87.4	26.0	12.4	58.1	040914A-DRC
				Certified Value	**8.08**	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**1%**	**2%**	**1%**	**0%**	**1%**	**1%**	**0%**	**5%**	

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Ambient Monitoring - AMB14
QC Sample Results for CVAF
ENVVEST February 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1		TME	Water	Method Blank1	0.100 U	032114HGA1
MB-2		TME	Water	Method Blank2	0.100 U	032114HGA1
MB-3		TME	Water	Method Blank3	0.100 U	032114HGA1
MB-4		TME	Water	Method Blank1	0.100 U	032514HGA1
MB-5		TME	Water	Method Blank2	0.100 U	032514HGA1
MB-6		TME	Water	Method Blank3	0.100 U	032514HGA1
MB-7		TME	Water	Method Blank1	0.100 U	032814HGA1
MB-8		TME	Water	Method Blank2	0.100 U	032814HGA1
MB-9		TME	Water	Method Blank3	0.100 U	032814HGA1
MB-10		TME	Water	Method Blank1	0.100 U	033114HGA1
MB-11		TME	Water	Method Blank2	0.100 U	033114HGA1
MB-12		TME	Water	Method Blank3	0.100 U	033114HGA1
MB-13		TME	Water	Method Blank1	0.100 U	040114HGA1
MB-14		TME	Water	Method Blank2	0.100 U	040114HGA1
MB-15		TME	Water	Method Blank3	0.100 U	040114HGA1
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 032014 run1	4.82	032114HGA1
LCS (2)		TME	Water	OPR 032014 run2	5.05	032114HGA1
LCS Blank (1)		TME	Water	BLANK032014	0.100 U	032114HGA1
				Percent Recovery, LCS 1	**97%**	
				Percent Recovery, LCS 2	**102%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 032414 run1	4.86	032514HGA1
LCS (2)		TME	Water	OPR 032414 run2	4.99	032514HGA1
LCS Blank (1)		TME	Water	BLANK 032414	0.100 U	032514HGA1
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 032714 run1	5.02	032814HGA1
LCS (2)		TME	Water	OPR 032714 run2	4.83	032814HGA1
LCS Blank (1)		TME	Water	BLANK032714	0.100 U	032814HGA1
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**97%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 032814 run1	5.06	033114HGA1
LCS (2)		TME	Water	OPR 032814 run2	4.86	033114HGA1
LCS Blank (1)		TME	Water	BLANK 032814	0.100 U	033114HGA1
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**98%**	

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Ambient Monitoring - AMB14
QC Sample Results for CVAF
ENVVEST February 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont)						
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 033114 run1	4.81	040114HGA1
LCS (2)		TME	Water	OPR 033114 run2	5.09	040114HGA1
LCS Blank (1)		TME	Water	BLANK 033114	0.100 U	040114HGA1
				Percent Recovery, LCS 1	**97%**	
				Percent Recovery, LCS 2	**103%**	
MATRIX SPIKE RESULTS						
AMB14-005	PS14	TME	Seawater	**3106-1198**	0.697	032114HGA1
MS				**3106-1198MS**	5.55	032114HGA1
MSD				**3106-1198MSD**	5.69	032114HGA1
				Spiking Level, MS	4.81	
				Spiking Level, MSD	4.78	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**104%**	
				RPD	**3.4%**	
AMB14-009	PS15	DME	Seawater	3106-1207	0.268	032114HGA1
MS				**3106-1207MS**	4.98	032114HGA1
MSD				**3106-1207MSD**	5.05	032114HGA1
				Spiking Level, MS	4.89	
				Spiking Level, MSD	4.91	
				Percent Recovery, MS	**96%**	
				Percent Recovery, MSD	**98%**	
				RPD	**1.2%**	
AMB14-010B	PS09DUP	DME	Seawater	**3106-1211**	0.376	032514HGA1
MS				**3106-1211MS**	5.13	032514HGA1
MSD				**3106-1211MSD**	5.32	032514HGA1
				Spiking Level, MS	4.91	
				Spiking Level, MSD	4.87	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**101%**	
				RPD	**4.4%**	
AMB14-019	M4	DME	Seawater	**3106-1229**	0.227	032514HGA1
MS				**3106-1229MS**	5.03	032514HGA1
MSD				**3106-1229MSD**	4.77	032514HGA1
				Spiking Level, MS	4.94	
				Spiking Level, MSD	4.90	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**93%**	
				RPD	**4.9%**	

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Ambient Monitoring - AMB14
QC Sample Results for CVAF
ENVVEST February 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB14-021	M3.1	TME	Seawater	**3106-1232**	0.677	032814HGA1
MS				**3106-1232MS**	5.77	032814HGA1
MSD				**3106-1232MSD**	5.41	032814HGA1
				Spiking Level, MS	4.92	
				Spiking Level, MSD	4.88	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**97%**	
				RPD	**6.9%**	
AMB14-201	SN03	DME	Seawater	**3106-1243**	0.166	032814HGA1
MS				**3106-1243MS**	5.09	032814HGA1
MSD				**3106-1243MSD**	5.30	032814HGA1
				Spiking Level, MS	4.93	
				Spiking Level, MSD	4.98	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**103%**	
				RPD	**3.1%**	
AMB14-208	M1	TME	Seawater	**3106-1256**	0.481	033114HGA1
MS				**3106-1256MS**	5.61	033114HGA1
MSD				**3106-1256MSD**	5.92	033114HGA1
				Spiking Level, MS	4.74	
				Spiking Level, MSD	4.98	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**109%**	
				RPD	**1.0%**	
AMB14-213	M2	DME	Seawater	**3106-1267**	0.254	033114HGA1
MS				**3106-1267MS**	5.80	033114HGA1
MSD				**3106-1267MSD**	5.55	033114HGA1
				Spiking Level, MS	5.09	
				Spiking Level, MSD	4.98	
				Percent Recovery, MS	**109%**	
				Percent Recovery, MSD	**106%**	
				RPD	**2.5%**	
AMB14-216	M8	TME	Seawater	**3106-1272**	0.668	040114HGA1
MS				**3106-1272MS**	5.64	040114HGA1
MSD				**3106-1272MSD**	5.49	040114HGA1
				Spiking Level, MS	4.80	
				Spiking Level, MSD	4.97	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**97%**	
				RPD	**6.6%**	
AMB14-218	PS03C	DME	Seawater	**3106-1277**	1.01	040114HGA1
MS				**3106-1277MS**	5.96	040114HGA1
MSD				**3106-1277MSD**	5.91	040114HGA1
				Spiking Level, MS	4.88	
				Spiking Level, MSD	4.95	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**99%**	
				RPD	**2.4%**	

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Ambient Monitoring - AMB14
QC Sample Results for CVAF
ENVVEST February 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB14-001	PS03	TME	Seawater	**3106-1190**	2.94	032114HGA1
DUP				**3106-1190R2**	2.92	032114HGA1
				Mean	*2.93*	
				RPD	**1%**	
AMB14-012	PS10.1	TME	Seawater	**3106-1214**	1.35	032514HGA1
DUP				**3106-1214r2**	1.37	032514HGA1
				Mean	*1.36*	
				RPD	**2%**	
AMB14-022	PS03B	TME	Seawater	**3106-1234**	3.24	032814HGA1
DUP				**3106-1234r2**	3.48	032814HGA1
				Mean	*3.36*	
				RPD	**7%**	
AMB14-214	M2DEEP	TME	Seawater	**3106-1268**	0.487	033114HGA1
DUP				**3106-1268r2**	0.477	033114HGA1
				Mean	*0.482*	
				RPD	**2%**	
AMB14-218	PS03C	TME	Seawater	**3106-1276**	1.81	040114HGA1
DUP				**3106-1276r2**	1.86	040114HGA1
				Mean	*1.83*	
				RPD	**2%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 032014	1456796	032114HGA1
SRM 1641 (2)		Total	Freshwater	1641d 032414	1568254	032514HGA1
SRM 1641 (3)		Total	Freshwater	1641d 032714	1622688	032814HGA1
SRM 1641 (4)		Total	Freshwater	1641d 032814	1512095	033114HGA1
SRM 1641 (5)		Total	Freshwater	1641d 033114	1600181	040114HGA1
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**6.4%**	
	SRM 1641 (2)			**PD**	**0.7%**	
	SRM 1641 (3)			**PD**	**4.2%**	
	SRM 1641 (4)			**PD**	**2.9%**	
	SRM 1641 (5)			**PD**	**2.8%**	

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Ambient Monitoring - AMB14
QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.03**	**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**	**8.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	DIW	0.024	2.0	U	032114OC
MB-2			DIWater	DIW	0.053	4.4	U	032114OC
MB-3			DIWater	DIW	0.035	2.9	U	032114OC
MB-4			DIWater	DIW	0.028	2.3	U	032114OC
MB-5			DIWater	DIW	0.033	2.8	U	032114OC
MB-6			DIWater	DIW	0.052	4.3	U	032114OC
REPLICATE PRECISION								
AMB14-022	PS03B	TME	Seawater	**3106-1234**	1.16	97		032114OC
DUP	PS03B	TME	Seawater	**3106-1234r2**	1.12	93		032114OC
				Mean	*1.14*	*95*		
				RPD	**3.7%**	**3.7%**		
AMB14-213	M2	TME	Seawater	**3106-1266**	0.94	78		032114OC
DUP	M2	TME	Seawater	**3106-1266r2**	0.93	77		032114OC
				Mean	*0.93*	*78*		
				RPD	**1.1%**	**1.1%**		
AMB14-213	M2	DME	Seawater	**3106-1267**	0.90	75		032114OC
DUP	M2	DME	Seawater	**3106-1267r2**	0.89	74		032114OC
				Mean	*0.90*	*75*		
				RSD	**0.6%**	**0.6%**		
AMB14-218	PS03C	DME	Seawater	**3106-1277**	1.00	83		032114OC
DUP	PS03C	DME	Seawater	**3106-1277r2**	1.02	85		032114OC
				Mean	*1.01*	*84*		
				RPD	**2.2%**	**2.2%**		
AMB14-219	WP	TME	Seawater	**3106-1278**	0.99	83		032114OC
DUP	WP	TME	Seawater	**3106-1278r2**	0.96	80		032114OC
				Mean	*0.97*	*81*		
				RPD	**3.2%**	**3.2%**		
AMB14-219	WP	DME	Seawater	**3106-1279**	0.90	75		032114OC
DUP	WP	DME	Seawater	**3106-1279r2**	0.90	75		032114OC
				Mean	*0.90*	*75*		
				RPD	**0.3%**	**0.3%**		

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Ambient Monitoring - AMB14
QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	UM CRM	0.610	50.9		032114OC
CRM-2		DOC	Seawater	UM CRM	0.602	50.2		032114OC
CRM-3		DOC	Seawater	UM CRM	0.571	47.6		032114OC
CRM-4		DOC	Seawater	UM CRM	0.573	47.8		032114OC
CRM-5		DOC	Seawater	UM CRM	0.572	47.7		032114OC
CRM-6		DOC	Seawater	UM CRM	0.568	47.3		032114OC
CRM-7		DOC	Seawater	UM CRM	0.570	47.5		032114OC
CRM-8		DOC	Seawater	UM CRM	0.587	48.9		032114OC
CRM-9		DOC	Seawater	UM CRM	0.571	47.6		032114OC
CRM-10		DOC	Seawater	UM CRM	0.608	50.7		032114OC
CRM-11		DOC	Seawater	UM CRM	0.585	48.7		032114OC
CRM-12		DOC	Seawater	UM CRM	0.568	47.3		032114OC
CRM-13		DOC	Seawater	UM CRM	0.546	45.5		032114OC
CRM-14		DOC	Seawater	UM CRM	0.542	45.1		032114OC
CRM-15		DOC	Seawater	UM CRM	0.550	45.8		032114OC
CRM-16		DOC	Seawater	UM CRM	0.549	45.7		032114OC
CRM-17		DOC	Seawater	UM CRM	0.550	45.9		032114OC
CRM-18		DOC	Seawater	UM CRM	0.549	45.77		032114OC
CRM-19		DOC	Seawater	UM CRM	0.549	45.72		032114OC
CRM-20		DOC	Seawater	UM CRM	0.555	46.26		032114OC
CRM-21		DOC	Seawater	UM CRM	0.593	49.44		032114OC
CRM-22		DOC	Seawater	UM CRM	0.588	48.98		032114OC
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**20%**	**20%**		
CRM-2				**PD**	**18%**	**18%**		
CRM-3				**PD**	**12%**	**12%**		
CRM-4				**PD**	**12%**	**12%**		
CRM-5				**PD**	**12%**	**12%**		
CRM-6				**PD**	**11%**	**11%**		
CRM-7				**PD**	**12%**	**12%**		
CRM-8				**PD**	**15%**	**15%**		
CRM-9				**PD**	**12%**	**12%**		
CRM-10				**PD**	**19%**	**19%**		
CRM-11				**PD**	**15%**	**15%**		
CRM-12				**PD**	**11%**	**11%**		
CRM-13				**PD**	**7%**	**7%**		
CRM-14				**PD**	**6%**	**6%**		
CRM-15				**PD**	**8%**	**8%**		
CRM-16				**PD**	**8%**	**8%**		
CRM-17				**PD**	**8%**	**8%**		
CRM-18				**PD**	**8%**	**8%**		
CRM-19				**PD**	**8%**	**8%**		
CRM-20				**PD**	**9%**	**9%**		
CRM-21				**PD**	**16%**	**16%**		
CRM-22				**PD**	**15%**	**15%**		

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Ambient Monitoring - AMB14
QC Sample Results for TOC/DOC by HTCO
ENVVEST February 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1ppm	1.13	94.5		032114OC
ICV/CCV-2				CCV_1ppm	1.15	96.1		032114OC
ICV/CCV-3				CCV_1ppm	1.16	96.2		032114OC
ICV/CCV-4				ICV_1ppm	1.18	98.4		032114OC
ICV/CCV-5				CCV_1ppm	1.17	97.4		032114OC
ICV/CCV-6				CCV_1ppm	1.15	95.4		032114OC
ICV/CCV-7				CCV_1ppm	1.13	94.2		032114OC
ICV/CCV-8				ICV_1ppm	1.07	89.1		032114OC
ICV/CCV-9				CCV_1ppm	1.12	93.2		032114OC
ICV/CCV-10				CCV_1ppm	1.07	89.0		032114OC
ICV/CCV-11				CCV_1ppm	1.06	88.5		032114OC
ICV/CCV-12				ICV_1ppm	1.16	96.9		032114OC
ICV/CCV-13				ICV_1ppm	1.17	97.2		032114OC
ICV/CCV-14				ICV_1ppm	1.13	94.3		032114OC
ICV/CCV-15				ICV_1ppm	1.13	94.2		032114OC
ICV/CCV-16				ICV_1ppm	1.14	94.6		032114OC
ICV/CCV-17				ICV_1ppm	1.12	93.0		032114OC
ICV/CCV-18				ICV_1ppm	1.10	92.0		032114OC
ICV/CCV-19				ICV_1ppm	1.09	90.9		032114OC
ICV/CCV-20				ICV_1ppm	1.11	92.8		032114OC
ICV/CCV-21				ICV_1ppm	1.12	93.2		032114OC
ICV/CCV-22				ICV_1ppm	1.10	91.8		032114OC
ICV/CCV-23				ICV_1ppm	1.13	94.3		032114OC
ICV/CCV-24				ICV_1ppm	1.14	95.2		032114OC

	TRUE VALUE	**1.0**
ICV/CCV-1	**% RECOVERY**	**113%**
ICV/CCV-2	**% RECOVERY**	**115%**
ICV/CCV-3	**% RECOVERY**	**116%**
ICV/CCV-4	**% RECOVERY**	**118%**
ICV/CCV-5	**% RECOVERY**	**117%**
ICV/CCV-6	**% RECOVERY**	**115%**
ICV/CCV-7	**% RECOVERY**	**113%**
ICV/CCV-8	**% RECOVERY**	**107%**
ICV/CCV-9	**% RECOVERY**	**112%**
ICV/CCV-10	**% RECOVERY**	**107%**
ICV/CCV-11	**% RECOVERY**	**106%**
ICV/CCV-12	**% RECOVERY**	**116%**
ICV/CCV-13	**% RECOVERY**	**117%**
ICV/CCV-14	**% RECOVERY**	**113%**
ICV/CCV-15	**% RECOVERY**	**113%**
ICV/CCV-16	**% RECOVERY**	**114%**
ICV/CCV-17	**% RECOVERY**	**112%**
ICV/CCV-18	**% RECOVERY**	**110%**
ICV/CCV-19	**% RECOVERY**	**109%**
ICV/CCV-20	**% RECOVERY**	**111%**
ICV/CCV-21	**% RECOVERY**	**112%**
ICV/CCV-22	**% RECOVERY**	**110%**
ICV/CCV-23	**% RECOVERY**	**113%**
ICV/CCV-24	**% RECOVERY**	**114%**

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Ambient Monitoring - AMB14
QC Sample Results for Salinity
ENVVEST February 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	DIW Blank1	0.0 U	PSU	021914Osal
MB2		TME	Seawater	DIW Blank2	0.0 U	PSU	021914Osal
MB3		TME	Seawater	DIW Blank3	0.0 U	PSU	021914Osal
MB4		TME	Seawater	DIW Blank1	0.0 U	PSU	022014Osal
MB5		TME	Seawater	DIW Blank2	0.0 U	PSU	022014Osal
MB6		TME	Seawater	DIW Blank3	0.0 U	PSU	022014Osal
STANDARD REFERENCE MATERIAL							
SRM-1		TME	Seawater	Copenhagen Water 1	34.5	PSU	021914Osal
SRM-2		TME	Seawater	Copenhagen Water 2	34.7	PSU	021914Osal
SRM-3		TME	Seawater	Copenhagen Water 3	34.7	PSU	021914Osal
SRM-4		TME	Seawater	Copenhagen Water 4	34.7	PSU	021914Osal
SRM-5		TME	Seawater	Copenhagen Water 1	34.6	PSU	022014Osal
SRM-6		TME	Seawater	Copenhagen Water 2	34.5	PSU	022014Osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**1.4%**		
	SRM-2			**PD**	**0.8%**		
	SRM-3			**PD**	**0.8%**		
	SRM-4			**PD**	**0.8%**		
	SRM-5			**PD**	**1.1%**		
	SRM-6			**PD**	**1.4%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS1	21.0	PSU	021914Osal
LCS-2				LCS2	21.0	PSU	021914Osal
LCS-3				LCS3	20.9	PSU	021914Osal
LCS-4				LCS4	20.1	PSU	021914Osal
LCS-5				LCS1	20.8	PSU	022014Osal
LCS-6				LCS2	20.8	PSU	022014Osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**105%**		
	LCS-2			**% RECOVERY**	**105%**		
	LCS-3			**% RECOVERY**	**105%**		
	LCS-4			**% RECOVERY**	**100%**		
	LCS-5			**% RECOVERY**	**104%**		
	LCS-6			**% RECOVERY**	**104%**		

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Ambient Monitoring - AMB14
QC Sample Results for Salinity
ENVVEST February 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				YSI 50 ms/cm ICV	50.0	mS	021914Osal
CCV-1				YSI 50 ms/cmCCV1	49.7	mS	021914Osal
CCV-2				YSI 50 ms/cmCCV2	49.8	mS	021914Osal
CCV-3				YSI 50 ms/cmCCV3	49.8	mS	021914Osal
CCV-4				YSI 50 ms/cmCCV4	49.8	mS	021914Osal
CCV-5				YSI 50 ms/cmCCV5	49.7	mS	021914Osal
CCV-6				YSI 50 ms/cmCCV6	49.9	mS	022014Osal
CCV-7				YSI 50 ms/cmCCV7	49.6	mS	022014Osal
CCV-8				YSI 50 ms/cmCCV8	49.5	mS	022014Osal
CCV-9				YSI 50 ms/cmCCV9	49.4	mS	022014Osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**100%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		
	CCV-5			**% RECOVERY**	**99%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**99%**		
	CCV-8			**% RECOVERY**	**99%**		
	CCV-9			**% RECOVERY**	**99%**		

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Ambient Monitoring - AMB14
QC Sample Results for TSS
ENVVEST February 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.49*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank 1	0.068 U	mg/L	021914Nu
MB2		TME	Seawater	Blank 2	0.067 U	mg/L	021914Nu
MB3		TME	Seawater	Blank 1	0.065 U	mg/L	021914Nu
MB4		TME	Seawater	Blank 2	0.000 U	mg/L	022014Nu
MB5		TME	Seawater	Blank 1	0.000 U	mg/L	022014Nu
MB6		TME	Seawater	Blank 2	0.000 U	mg/L	022014Nu
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	41.2	mg/L	021914Nu
LCS-2				LCS r2	39.3	mg/L	021914Nu
LCS-3				LCS r3	38.9	mg/L	021914Nu
LCS-4				LCS 1	40.4	mg/L	022014Nu
LCS-5				LCS 2	38.2	mg/L	022014Nu
LCS-6				LCS 3	40.6	mg/L	022014Nu
				TRUE VALUE	**40**	mg/L	
	LCS-1			**% RECOVERY**	**103%**		
	LCS-2			**% RECOVERY**	**98%**		
	LCS-3			**% RECOVERY**	**97%**		
	LCS-4			**% RECOVERY**	**101%**		
	LCS-5			**% RECOVERY**	**96%**		
	LCS-6			**% RECOVERY**	**101%**		

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Ambient Monitoring - AMB14
ENVVEST February 2014
Metals in Water

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
3	Sample concentration <10x MDL
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, February 2014 (AMB14)

PARAMETER: Total and Dissolved Metals – Al, Ag, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 2/19/2014 and 02/20/2014. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	2/19/2014 and 02/20/2014 EQP BLKS 02/20/2014
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	2/19/2014 and 02/20/2014 EQP BLKS 02/20/2014
TSS analysis dates	2/27/2014, and 2/28/2014
OSAL analysis dates	2/19/2014 and 02/20/2014
CVAF analysis dates (Hg)	03/21/14, 03/25/13, 03/28/14, 03/31/14, and 04/01/14
TRM Prep/Freshwater Analysis by ICP-MS (Ag, Al, Cr, Cr, Cu, Ni, Pb, Zn)	04/02/14
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Ag, Al, Cd, Cr, Cu, Ni, Pb, Zn)	04/01/14, and 04/09/14
TOC/DOC Analysis Date	03/20/14 through 03/26/14

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.03 mg/L	0.095 mg/L
Silver	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.006 µg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.035 µg/L	0.11 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.025 µg/L	0.08 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.0060 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.026 µg/L	0.084 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.03 mg/L	0.095 mg/L
Silver	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.006 µg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses following two methods. The analyses of Hg does not require a salt removal technique prior to analyses, therefore, the data are not reported as reagent blank corrected. All samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals following preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation*

METHODS (cont): *for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed as follows, except Hg, which does not require a different method for freshwater versus saltwater. The other metals were determined by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640 followed by analyses by ICP-MS.

The preconcentrated results were reported in units of µg/L. Data were reagent blank corrected for all metals (except Hg) and data were flagged with a "b". The required preconcentration procedure for ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. Results were corrected using the mean batch reagent blank identified for each preparation batch as BMRB_analysis date and provided in the table identified as the QC Results for ICP-MS.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets contingency criterion
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn in the 040914 reagent blanks. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analysis includes the addition of chelating agents to induce precipitation of metals under specific conditions, as discussed in the method section above. The data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank and the blank was above the RL. The reagent blank correction takes into consideration the detected blank for each batch. The seawater data for all metals except Hg should be reported as corrected in order to more accurately represent the true sample concentrations. The data were not considered impacted by the detected Zn blanks.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL. The method blanks for TOC and DOC was deionized water. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples.

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. Sample 1232 contained a native sample concentration of 2.3 ppb for Zn and was spiked at 5 ppb. The spiking level was just greater than two times the native sample concentration and considered underspiked. The data are qualified. Alternate matrix spikes demonstrate acceptable accuracy and precision for Zn in this seawater matrix. No additional actions were required.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The percent recoveries were within the QC acceptance criterion of 80-120%.

Two SRMs were analyzed with the analytical batches for Ag, Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion. There are no

seawater SRMs certified for Ag and Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

CASS-5 is a seawater SRMs analyzed with each ICP-MS batch. The PDs were within the QC criterion for all metals certified greater than 10x the MDL, except three replicates of CASS-5 for Zn. The "c" flag denotes those that exceeded the QC criterion, but were not greater than 10x the MDL. The freshwater SRM, MS/MSD, and LCS all verify that the Zn analysis was within the QC tolerances. A new batch of reagents was used for the Fe/Pd and therefore, reagent correction was essential to provide representative data.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 0.8-1.4% PD for all salinity measurements. There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PD ranged from 6.3 to 20%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1401739
Project:	Feb 2014 Ambient Monitoring (AMB14)	**Date Received:**	02/21/14
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two ocean water samples were received for analysis at ALS Environmental on 02/21/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401739
Project:	ENVVEST/Feb 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14
Sample Matrix:	Ocean Water	**Date Received:**	02/21/14
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14DD-001	K1401739-001	**9.4**	5.6	0.8	1	03/07/14 10:30	3/6/14	
AMB14DD-002	K1401739-002	ND U	5.4	0.8	1	03/07/14 10:30	3/6/14	
Method Blank	K1401739-MB	ND U	5.0	0.8	1	03/07/14 10:30	3/6/14	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401739
Project:	ENVVEST/Feb 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/07/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/06/14

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	382812

	Lab Control Sample K1401739-LCS			Duplicate Lab Control Sample K1401739-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	58.9	60.0	98	59.9	60.0	100	78-114	2	20

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1401787
Project:	ENVVEST/ FEB 2014 Ambient Monitoring (AMB14)	**Date Received:**	02/22/14
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-four ocean water samples were received for analysis at ALS Environmental on 02/22/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Ammonia as Nitrogen by EPA Method 350.1:
The Relative Percent Difference (RPD) criterion for the replicate analysis in samples AMB14-001/PS03, AMB14-021/M3.1 and AMB14-216/M8 were not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

The matrix spike recovery for sample AMB14-216/M8 was outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential low bias. No further corrective action was taken.

Total Phosphorus by EPA Method 365.3:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample AMB14-015/PS16 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14-001/PS03	K1401787-001	**0.059**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-002/PS04	K1401787-002	**0.040**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-003/PS05	K1401787-003	**0.048**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-004/PS05DUP	K1401787-004	**0.038**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-005/PS14	K1401787-005	**0.034**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-006/PS06	K1401787-006	**0.048**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-007/PS07	K1401787-007	**0.053**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-008/PS08	K1401787-008	**0.025**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-009/PS15	K1401787-009	**0.035**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-010/PS09	K1401787-010	**0.049**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-010B/PS09DUP	K1401787-011	**0.041**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-011/PS10	K1401787-012	**0.030**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-012/PS10.1	K1401787-013	**0.026**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-013/PS11	K1401787-014	**0.029**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-015/PS16	K1401787-015	**0.025**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-016/PS01	K1401787-016	**0.061**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-017/PS02	K1401787-017	**0.041**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-018/PS13	K1401787-018	**0.055**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-019/M4	K1401787-019	**0.032**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-020/BJEST	K1401787-020	**0.023**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-021/M3.1	K1401787-021	**0.017**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-022/PS03B	K1401787-022	**0.043**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14DD-001/OF018	K1401787-023	**0.236**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14DD-002/OF019	K1401787-024	**0.209**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14DD-003/OF021	K1401787-025	**0.026**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-201/SN03	K1401787-026	**0.110**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-202/SN05	K1401787-027	**0.026**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-203/SN05DUP	K1401787-028	**0.025**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-204/SN08	K1401787-029	**0.028**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-205/SN10	K1401787-030	**0.024**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-206/M3.3	K1401787-031	**0.024**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-207/M3.3DEEP	K1401787-032	**0.030**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-208/M1	K1401787-033	**0.006**	0.010	0.003	1	03/07/14 13:58	3/7/14	J
AMB14-209/M1DEEP	K1401787-034	**0.011**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-210/ILSP	K1401787-035	**0.015**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-211/ILSP DUP	K1401787-036	**0.009**	0.010	0.003	1	03/07/14 13:58	3/7/14	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14-212/CLMBAY	K1401787-037	**0.010 J**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-213/M2	K1401787-038	**0.005 J**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-214/M2DEEP	K1401787-039	**0.008 J**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-215/M6	K1401787-040	**0.017**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-216/M8	K1401787-041	**0.029**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-217/DYOTS	K1401787-042	**0.008 J**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-218/PS03C	K1401787-043	**0.061**	0.010	0.003	1	03/07/14 13:58	3/7/14	
AMB14-219/WP	K1401787-044	**0.008 J**	0.010	0.003	1	03/07/14 13:58	3/7/14	
Method Blank	K1401787-MB1	ND U	0.010	0.003	1	03/07/14 13:58	3/7/14	
Method Blank	K1401787-MB2	ND U	0.010	0.003	1	03/07/14 13:58	3/7/14	
Method Blank	K1401787-MB3	ND U	0.010	0.003	1	03/07/14 13:58	3/7/14	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB14-001/PS03	K1401787-001DUP	0.010	0.003	0.059	0.047	0.0527	23 *	20	03/07/14
AMB14-021/M3.1	K1401787-021DUP	0.010	0.003	0.017	0.038	0.0279	75 *	20	03/07/14
AMB14-216/M8	K1401787-041DUP	0.010	0.003	0.029	0.022	0.0257	25 *	20	03/07/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	03/7/14
		Date Extracted:	03/7/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB14-001/PS03	**Units:**	mg/L
Lab Code:	K1401787-001	**Basis:**	NA
Analysis Method:	350.1		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1401787-001MS			K1401787-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.059	0.251	0.200	96	0.255	0.200	98	90-110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	03/7/14
		Date Extracted:	03/7/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB14-021/M3.1	**Units:**	mg/L
Lab Code:	K1401787-021	**Basis:**	NA
Analysis Method:	350.1		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1401787-021MS			K1401787-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.017	0.218	0.200	100	0.220	0.200	101	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	03/7/14
		Date Extracted:	03/7/14

Duplicate Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB14-216/M8	**Units:**	mg/L
Lab Code:	K1401787-041	**Basis:**	NA
Analysis Method:	350.1		
Prep Method:	Method		

		Matrix Spike			**Duplicate Matrix Spike**					
		K1401787-041MS			K1401787-041DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen	0.029	0.206	0.200	89 *	0.209	0.200	90	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/07/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/07/14

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	382891

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS1	9.99	10.9	92	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/07/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/07/14

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	382890

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS2	10.2	10.9	93	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/07/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/07/14

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	350.1	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	382889

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS3	10.2	10.9	94	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1401787
Project: ENVVEST/FEB 2014 Ambient Monitoring (AMB14)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	382889	KQ1402328-01	03/07/14 13:58	0.250	0.269	108	90-110
CCV2	382889	KQ1402328-02	03/07/14 13:58	0.250	0.266	106	90-110
CCV3	382889	KQ1402328-03	03/07/14 13:58	0.250	0.273	109	90-110
CCV4	382889	KQ1402328-04	03/07/14 13:58	0.250	0.266	106	90-110
CCV5	382890	KQ1402329-01	03/07/14 13:58	0.250	0.266	106	90-110
CCV6	382890	KQ1402329-02	03/07/14 13:58	0.250	0.265	106	90-110
CCV7	382890	KQ1402329-03	03/07/14 13:58	0.250	0.263	105	90-110
CCV8	382890	KQ1402329-04	03/07/14 13:58	0.250	0.260	104	90-110
CCV9	382891	KQ1402330-01	03/07/14 13:58	0.250	0.260	104	90-110
CCV10	382891	KQ1402330-02	03/07/14 13:58	0.250	0.262	105	90-110
CCV11	382891	KQ1402330-03	03/07/14 13:58	0.250	0.264	105	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1401787
Project: ENVVEST/FEB 2014 Ambient Monitoring (AMB14)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: 350.1 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	382889	KQ1402328-05	03/07/14 13:58	0.010	0.003	ND	U
CCB2	382889	KQ1402328-06	03/07/14 13:58	0.010	0.003	ND	U
CCB3	382889	KQ1402328-07	03/07/14 13:58	0.010	0.003	ND	U
CCB4	382889	KQ1402328-08	03/07/14 13:58	0.010	0.003	ND	U
CCB5	382890	KQ1402329-05	03/07/14 13:58	0.010	0.003	ND	U
CCB6	382890	KQ1402329-06	03/07/14 13:58	0.010	0.003	ND	U
CCB7	382890	KQ1402329-07	03/07/14 13:58	0.010	0.003	ND	U
CCB8	382890	KQ1402329-08	03/07/14 13:58	0.010	0.003	ND	U
CCB9	382891	KQ1402330-04	03/07/14 13:58	0.010	0.003	ND	U
CCB10	382891	KQ1402330-05	03/07/14 13:58	0.010	0.003	ND	U
CCB11	382891	KQ1402330-06	03/07/14 13:58	0.010	0.003	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14-001/PS03	K1401787-001	**0.440**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-002/PS04	K1401787-002	**0.432**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-003/PS05	K1401787-003	**0.435**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-004/PS05DUP	K1401787-004	**0.435**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-005/PS14	K1401787-005	**0.426**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-006/PS06	K1401787-006	**0.425**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-007/PS07	K1401787-007	**0.422**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-008/PS08	K1401787-008	**0.429**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-009/PS15	K1401787-009	**0.432**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-010/PS09	K1401787-010	**0.422**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-010B/PS09DUP	K1401787-011	**0.432**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-011/PS10	K1401787-012	**0.432**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-012/PS10.1	K1401787-013	**0.440**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-013/PS11	K1401787-014	**0.427**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-015/PS16	K1401787-015	**0.428**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-016/PS01	K1401787-016	**0.444**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-017/PS02	K1401787-017	**0.443**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-018/PS13	K1401787-018	**0.442**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-019/M4	K1401787-019	**0.420**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-020/BJEST	K1401787-020	**0.421**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-021/M3.1	K1401787-021	**0.431**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-022/PS03B	K1401787-022	**0.441**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14DD-001/OF018	K1401787-023	**0.681**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14DD-002/OF019	K1401787-024	**0.339**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14DD-003/OF021	K1401787-025	**0.318**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-201/SN03	K1401787-026	**0.436**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-202/SN05	K1401787-027	**0.434**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-203/SN05DUP	K1401787-028	**0.436**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-204/SN08	K1401787-029	**0.428**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-205/SN10	K1401787-030	**0.437**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-206/M3.3	K1401787-031	**0.429**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-207/M3.3DEEP	K1401787-032	**0.432**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-208/M1	K1401787-033	**0.426**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-209/M1DEEP	K1401787-034	**0.432**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-210/ILSP	K1401787-035	**0.423**	0.050	0.020	1	03/12/14 14:23	3/12/14	
AMB14-211/ILSP DUP	K1401787-036	**0.409**	0.050	0.020	1	03/13/14 09:57	3/13/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14-212/CLMBAY	K1401787-037	**0.465**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-213/M2	K1401787-038	**0.439**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-214/M2DEEP	K1401787-039	**0.423**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-215/M6	K1401787-040	**0.415**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-216/M8	K1401787-041	**0.398**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-217/DYOTS	K1401787-042	**0.420**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-218/PS03C	K1401787-043	**0.454**	0.050	0.020	1	03/13/14 09:57	3/13/14	
AMB14-219/WP	K1401787-044	**0.426**	0.050	0.020	1	03/13/14 09:57	3/13/14	
Method Blank	K1401787-MB1	**0.031 J**	0.050	0.020	1	03/12/14 14:23	3/12/14	
Method Blank	K1401787-MB2	**0.027 J**	0.050	0.020	1	03/12/14 14:23	3/12/14	
Method Blank	K1401787-MB3	**0.026 J**	0.050	0.020	1	03/13/14 09:57	3/13/14	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary

Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB14-001/PS03	K1401787-001DUP	0.050	0.020	0.440	0.449	0.444	2	20	03/12/14
AMB14-018/PS13	K1401787-018DUP	0.050	0.020	0.442	0.449	0.445	1	20	03/12/14
AMB14-213/M2	K1401787-038DUP	0.050	0.020	0.439	0.437	0.438	<1	20	03/13/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	03/12/14
		Date Extracted:	03/12/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB14-001/PS03	**Units:**	mg/L
Lab Code:	K1401787-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1401787-001MS			Duplicate Matrix Spike K1401787-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.440	2.50	2.00	103	2.46	2.00	101	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	03/12/14
		Date Extracted:	03/12/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB14-018/PS13	**Units:**	mg/L
Lab Code:	K1401787-018	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1401787-018MS			Duplicate Matrix Spike K1401787-018DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.442	2.52	2.00	104	2.47	2.00	101	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	03/13/14
		Date Extracted:	03/13/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB14-213/M2	**Units:**	mg/L
Lab Code:	K1401787-038	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike				Duplicate Matrix Spike					
		K1401787-038MS				K1401787-038DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.439	2.50	2.00	103	2.42	2.00	99	89-114	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/12/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/12/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	383427

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS1	4.35	4.35	100	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/12/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/12/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	383428

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS2	4.33	4.35	100	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/13/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/13/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	383429

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS3	4.33	4.35	99	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1401787
Project: ENVVEST/FEB 2014 Ambient Monitoring (AMB14)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	383427	KQ1402509-01	03/12/14 14:23	2.00	1.97	98	90-110
CCV2	383427	KQ1402509-02	03/12/14 14:23	2.00	1.96	98	90-110
CCV3	383427	KQ1402509-03	03/12/14 14:23	2.00	1.98	99	90-110
CCV4	383427	KQ1402509-04	03/12/14 14:23	2.00	1.97	99	90-110
CCV5	383428	KQ1402512-01	03/12/14 14:23	2.00	1.98	99	90-110
CCV6	383428	KQ1402512-02	03/12/14 14:23	2.00	1.97	99	90-110
CCV7	383428	KQ1402512-03	03/12/14 14:23	2.00	1.98	99	90-110
CCV8	383428	KQ1402512-07	03/12/14 14:23	2.00	1.96	98	90-110
CCV9	383429	KQ1402520-01	03/13/14 09:57	2.00	1.97	98	90-110
CCV10	383429	KQ1402520-02	03/13/14 09:57	2.00	1.98	99	90-110
CCV11	383429	KQ1402520-03	03/13/14 09:57	2.00	1.98	99	90-110
CCV12	383429	KQ1402520-04	03/13/14 09:57	2.00	1.96	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1401787
Project: ENVVEST/FEB 2014 Ambient Monitoring (AMB14)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	383427	KQ1402509-05	03/12/14 14:23	0.050	0.020	0.022	J
CCB2	383427	KQ1402509-06	03/12/14 14:23	0.050	0.020	0.036	J
CCB3	383427	KQ1402509-07	03/12/14 14:23	0.050	0.020	0.024	J
CCB4	383427	KQ1402509-08	03/12/14 14:23	0.050	0.020	0.023	J
CCB5	383428	KQ1402512-04	03/12/14 14:23	0.050	0.020	0.024	J
CCB6	383428	KQ1402512-05	03/12/14 14:23	0.050	0.020	0.023	J
CCB7	383428	KQ1402512-06	03/12/14 14:23	0.050	0.020	0.041	J
CCB8	383428	KQ1402512-08	03/12/14 14:23	0.050	0.020	0.045	J
CCB9	383429	KQ1402520-05	03/13/14 09:57	0.050	0.020	0.032	J
CCB10	383429	KQ1402520-06	03/13/14 09:57	0.050	0.020	0.035	J
CCB11	383429	KQ1402520-07	03/13/14 09:57	0.050	0.020	0.030	J
CCB12	383429	KQ1402520-08	03/13/14 09:57	0.050	0.020	0.027	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14-001/PS03	K1401787-001	**0.020**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-002/PS04	K1401787-002	**0.089**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-003/PS05	K1401787-003	**0.084**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-004/PS05DUP	K1401787-004	**0.085**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-005/PS14	K1401787-005	**0.079**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-006/PS06	K1401787-006	**0.088**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-007/PS07	K1401787-007	**0.089**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-008/PS08	K1401787-008	**0.087**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-009/PS15	K1401787-009	**0.086**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-010/PS09	K1401787-010	**0.095**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-010B/PS09DUP	K1401787-011	**0.096**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-011/PS10	K1401787-012	**0.089**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-012/PS10.1	K1401787-013	**0.090**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-013/PS11	K1401787-014	**0.088**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-015/PS16	K1401787-015	**0.070**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-016/PS01	K1401787-016	**0.090**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-017/PS02	K1401787-017	**0.103**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-018/PS13	K1401787-018	**0.094**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-019/M4	K1401787-019	**0.087**	0.010	0.004	1	03/14/14 16:04	3/14/14	
AMB14-020/BJEST	K1401787-020	**0.087**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-021/M3.1	K1401787-021	**0.086**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-022/PS03B	K1401787-022	**0.086**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14DD-001/OF018	K1401787-023	**0.172**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14DD-002/OF019	K1401787-024	**0.154**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14DD-003/OF021	K1401787-025	**0.288**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-201/SN03	K1401787-026	**0.098**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-202/SN05	K1401787-027	**0.089**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-203/SN05DUP	K1401787-028	**0.085**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-204/SN08	K1401787-029	**0.084**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-205/SN10	K1401787-030	**0.086**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-206/M3.3	K1401787-031	**0.066**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-207/M3.3DEEP	K1401787-032	**0.085**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-208/M1	K1401787-033	**0.083**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-209/M1DEEP	K1401787-034	**0.083**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-210/ILSP	K1401787-035	**0.085**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-211/ILSP DUP	K1401787-036	**0.084**	0.010	0.004	1	02/24/14 15:50	2/24/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB14-212/CLMBAY	K1401787-037	**0.081**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-213/M2	K1401787-038	**0.090**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-214/M2DEEP	K1401787-039	**0.082**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-215/M6	K1401787-040	**0.080**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-216/M8	K1401787-041	**0.079**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-217/DYOTS	K1401787-042	**0.078**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-218/PS03C	K1401787-043	**0.089**	0.010	0.004	1	02/24/14 15:50	2/24/14	
AMB14-219/WP	K1401787-044	**0.080**	0.010	0.004	1	02/24/14 15:50	2/24/14	
Method Blank	K1401787-MB1	ND U	0.010	0.004	1	02/24/14 15:50	2/24/14	
Method Blank	K1401787-MB2	ND U	0.010	0.004	1	02/24/14 15:50	2/24/14	
Method Blank	K1401787-MB3	ND U	0.010	0.004	1	02/24/14 15:50	2/24/14	
Method Blank	K1401787-MB4	ND U	0.010	0.004	1	02/24/14 15:50	2/24/14	
Method Blank	K1401787-MB5	ND U	0.010	0.004	1	03/14/14 16:04	3/14/14	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14 - 02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary

Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1401716-001DUP	0.010	0.004	0.275	0.299	0.287	8	20	02/24/14
AMB14-015/PS16	K1401787-015DUP	0.010	0.004	0.070	0.086	0.0776	21 *	20	02/24/14
AMB14-210/ILSP	K1401787-035DUP	0.010	0.004	0.085	0.090	0.0876	5	20	02/24/14
Batch QC	K1402478-012DUP	0.010	0.004	ND U	0.005 J	NC	NC	20	03/14/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	02/24/14
		Date Extracted:	02/24/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1401716-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1401716-001MS			K1401716-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.275	0.837	0.500	112	0.827	0.500	110	60-135	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/19/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	02/24/14
		Date Extracted:	02/24/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB14-015/PS16	**Units:**	mg/L
Lab Code:	K1401787-015	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1401787-015MS			**Duplicate Matrix Spike** K1401787-015DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.070	0.512	0.500	88	0.505	0.500	87	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	02/20/14
Sample Matrix:	Ocean Water	**Date Received:**	02/22/14
		Date Analyzed:	02/24/14
		Date Extracted:	02/24/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB14-210/ILSP	**Units:**	mg/L
Lab Code:	K1401787-035	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1401787-035MS			K1401787-035DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.085	0.535	0.500	90	0.503	0.500	84	60-135	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	03/14/14
		Date Extracted:	03/14/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1402478-012	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1402478-012MS			K1402478-012DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	ND U	0.462	0.500	92	0.456	0.500	91	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	02/24/14
Sample Matrix:	Ocean Water	**Date Extracted:**	02/24/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	381267

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS1	3.44	3.46	99	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	02/24/14
Sample Matrix:	Ocean Water	**Date Extracted:**	02/24/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	381269

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS2	3.48	3.46	101	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	02/24/14
Sample Matrix:	Ocean Water	**Date Extracted:**	02/24/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	381271

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS3	3.46	3.46	100	85-115
Lab Control Sample	K1401787-LCS4	3.46	3.46	100	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1401787
Project:	ENVVEST/FEB 2014 Ambient Monitoring (AMB14)	**Date Analyzed:**	03/14/14
Sample Matrix:	Ocean Water	**Date Extracted:**	03/14/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	383930

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1401787-LCS5	3.48	3.46	100	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1401787
Project: ENVVEST/FEB 2014 Ambient Monitoring (AMB14)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	381267	KQ1401766-01	02/24/14 15:50	0.500	0.522	104	90-110
CCV2	381267	KQ1401766-02	02/24/14 15:50	0.500	0.524	105	90-110
CCV3	381267	KQ1401766-03	02/24/14 15:50	0.500	0.523	105	90-110
CCV4	381267	KQ1401766-04	02/24/14 15:50	0.500	0.527	105	90-110
CCV5	381267	KQ1401766-05	02/24/14 15:50	0.500	0.526	105	90-110
CCV6	381267	KQ1401766-06	02/24/14 15:50	0.500	0.528	106	90-110
CCV7	381269	KQ1401767-01	02/24/14 15:50	0.500	0.523	105	90-110
CCV8	381269	KQ1401767-02	02/24/14 15:50	0.500	0.527	105	90-110
CCV9	381269	KQ1401767-03	02/24/14 15:50	0.500	0.531	106	90-110
CCV10	381269	KQ1401767-04	02/24/14 15:50	0.500	0.527	105	90-110
CCV11	381271	KQ1401768-01	02/24/14 15:50	0.500	0.527	105	90-110
CCV12	381271	KQ1401768-02	02/24/14 15:50	0.500	0.526	105	90-110
CCV13	381271	KQ1401768-03	02/24/14 15:50	0.500	0.528	106	90-110
CCV14	381271	KQ1401768-04	02/24/14 15:50	0.500	0.525	105	90-110
CCV15	381271	KQ1401768-05	02/24/14 15:50	0.500	0.528	106	90-110
CCV16	383828	KQ1402612-01	03/14/14 14:06	0.500	0.504	101	90-110
CCV17	383828	KQ1402612-02	03/14/14 14:06	0.500	0.502	100	90-110
CCV18	383828	KQ1402612-03	03/14/14 14:06	0.500	0.505	101	90-110
CCV19	383828	KQ1402612-04	03/14/14 14:06	0.500	0.504	101	90-110
CCV20	383828	KQ1402612-05	03/14/14 14:06	0.500	0.513	103	90-110
CCV21	383828	KQ1402612-06	03/14/14 14:06	0.500	0.518	104	90-110
CCV22	383930	KQ1402646-01	03/14/14 16:04	0.500	0.518	104	90-110
CCV23	383930	KQ1402646-02	03/14/14 16:04	0.500	0.522	104	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1401787
Project: ENVVEST/FEB 2014 Ambient Monitoring (AMB14)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	381267	KQ1401766-07	02/24/14 15:50	0.010	0.004	ND	U
CCB2	381267	KQ1401766-08	02/24/14 15:50	0.010	0.004	ND	U
CCB3	381267	KQ1401766-09	02/24/14 15:50	0.010	0.004	ND	U
CCB4	381267	KQ1401766-10	02/24/14 15:50	0.010	0.004	ND	U
CCB5	381267	KQ1401766-11	02/24/14 15:50	0.010	0.004	ND	U
CCB6	381267	KQ1401766-12	02/24/14 15:50	0.010	0.004	ND	U
CCB7	381269	KQ1401767-05	02/24/14 15:50	0.010	0.004	ND	U
CCB8	381269	KQ1401767-06	02/24/14 15:50	0.010	0.004	ND	U
CCB9	381269	KQ1401767-07	02/24/14 15:50	0.010	0.004	ND	U
CCB10	381269	KQ1401767-08	02/24/14 15:50	0.010	0.004	ND	U
CCB11	381271	KQ1401768-06	02/24/14 15:50	0.010	0.004	ND	U
CCB12	381271	KQ1401768-07	02/24/14 15:50	0.010	0.004	ND	U
CCB13	381271	KQ1401768-08	02/24/14 15:50	0.010	0.004	ND	U
CCB14	381271	KQ1401768-09	02/24/14 15:50	0.010	0.004	ND	U
CCB15	381271	KQ1401768-10	02/24/14 15:50	0.010	0.004	ND	U
CCB16	383828	KQ1402612-07	03/14/14 14:06	0.010	0.004	ND	U
CCB17	383828	KQ1402612-08	03/14/14 14:06	0.010	0.004	ND	U
CCB18	383828	KQ1402612-09	03/14/14 14:06	0.010	0.004	ND	U
CCB19	383828	KQ1402612-10	03/14/14 14:06	0.010	0.004	ND	U
CCB20	383828	KQ1402612-11	03/14/14 14:06	0.010	0.004	ND	U
CCB21	383828	KQ1402612-12	03/14/14 14:06	0.010	0.004	ND	U
CCB22	383930	KQ1402646-03	03/14/14 16:04	0.010	0.004	ND	U
CCB23	383930	KQ1402646-04	03/14/14 16:04	0.010	0.004	ND	U

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/19/2014; logged in 2/20/14
Batch: 34
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-001	PS03-TME	TME	PS03	3106-1190	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-001	PS03-DME	DME	PS03	3106-1191	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-002	PS04-TME	TME	PS04	3106-1192	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-002	PS04-DME	DME	PS04	3106-1193	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-003	PS05-TME	TME	PS05	3106-1194	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-003	PS05-DME	DME	PS05	3106-1195	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-004	PS05DUP-TME	TME	PS05DUP	3106-1196	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-004	PS05DUP-DME	DME	PS05DUP	3106-1197	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-005	PS14-TME	TME	PS14	3106-1198	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-005	PS14-DME	DME	PS14	3106-1199	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-006	PS06-TME	TME	PS06	3106-1200	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-006	PS06-DME	DME	PS06	3106-1201	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-007	PS07-TME	TME	PS07	3106-1202	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-007	PS07-DME	DME	PS07	3106-1203	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-008	PS08-TME	TME	PS08	3106-1204	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-008	PS08-DME	DME	PS08	3106-1205	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-009	PS15-TME	TME	PS15	3106-1206	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-009	PS15-DME	DME	PS15	3106-1207	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-010	PS09-TME	TME	PS09	3106-1208	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-010	PS09-DME	DME	PS09	3106-1209	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-010B	PS09DUP-TME	TME	PS09DUP	3106-1210	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-010B	PS09DUP-DME	DME	PS09DUP	3106-1211	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-011	PS10-TME	TME	PS10	3106-1212	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-011	PS10-DME	DME	PS10	3106-1213	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-012	PS10.1-TME	TME	PS10.1	3106-1214	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-012	PS10.1-DME	DME	PS10.1	3106-1215	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-013	PS11-TME	TME	PS11	3106-1216	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-013	PS11-DME	DME	PS11	3106-1217	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-014	PIER 7-TME	TME	PIER 7	3106-1218	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-014	PIER 7-DME	DME	PIER 7	3106-1219	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-015	PS16-TME	TME	PS16	3106-1220	Seawater	PREP LAB	Total Metals, Hg	02/19/14

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/19/2014; logged in 2/20/14
Batch: 34
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-015	PS16-DME	DME	PS16	3106-1221	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-016	PS01-TME	TME	PS01	3106-1222	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-016	PS01-DME	DME	PS01	3106-1223	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-017	PS02-TME	TME	PS02	3106-1224	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-017	PS02-DME	DME	PS02	3106-1225	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-018	PS13-TME	TME	PS13	3106-1226	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-018	PS13-DME	DME	PS13	3106-1227	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-019	M4-TME	TME	M4	3106-1228	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-019	M4-DME	DME	M4	3106-1229	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-020	BJEST-TME	TME	BJEST	3106-1230	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-020	BJEST-DME	DME	BJEST	3106-1231	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-021	M3.1-TME	TME	M3.1	3106-1232	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-021	M3.1-DME	DME	M3.1	3106-1233	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14-022	PS03B-TME	TME	PS03B	3106-1234	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14-022	PS03B-DME	DME	PS03B	3106-1235	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14DD-001	OF018-TME	TME	OF018	3106-1236	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14DD-001	OF018-DME	DME	OF018	3106-1237	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14DD-002	OF019-TME	TME	OF019	3106-1238	Seawater	PREP LAB	Total Metals, Hg	02/19/14
AMB14DD-002	OF019-DME	DME	OF019	3106-1239	Seawater	PREP LAB	Dissolved Metals, Hg	02/19/14
AMB14DD-003	OF021-TME	TME	OF021	3106-1240	Freshwater	PREP LAB	Total Metals, Hg	02/19/14
AMB14DD-003	OF021-DME	DME	OF021	3106-1241	Freshwater	PREP LAB	Dissolved Metals, Hg	02/19/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/19/2014; logged in 2/20/14
Batch: 34
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-001	PS03-TOC	TOC	PS03	3106-1190	Seawater	MSL	TOC	02/19/14
AMB14-002	PS04-TOC	TOC	PS04	3106-1192	Seawater	MSL	TOC	02/19/14
AMB14-003	PS05-TOC	TOC	PS05	3106-1194	Seawater	MSL	TOC	02/19/14
AMB14-004	PS05DUP-TOC	TOC	PS05DUP	3106-1196	Seawater	MSL	TOC	02/19/14
AMB14-005	PS14-TOC	TOC	PS14	3106-1198	Seawater	MSL	TOC	02/19/14
AMB14-006	PS06-TOC	TOC	PS06	3106-1200	Seawater	MSL	TOC	02/19/14
AMB14-007	PS07-TOC	TOC	PS07	3106-1202	Seawater	MSL	TOC	02/19/14
AMB14-008	PS08-TOC	TOC	PS08	3106-1204	Seawater	MSL	TOC	02/19/14
AMB14-009	PS15-TOC	TOC	PS15	3106-1206	Seawater	MSL	TOC	02/19/14
AMB14-010	PS09-TOC	TOC	PS09	3106-1208	Seawater	MSL	TOC	02/19/14
AMB14-010B	PS09DUP-TOC	TOC	PS09DUP	3106-1210	Seawater	MSL	TOC	02/19/14
AMB14-011	PS10-TOC	TOC	PS10	3106-1212	Seawater	MSL	TOC	02/19/14
AMB14-012	PS10.1-TOC	TOC	PS10.1	3106-1214	Seawater	MSL	TOC	02/19/14
AMB14-013	PS11-TOC	TOC	PS11	3106-1216	Seawater	MSL	TOC	02/19/14
AMB14-014	PIER 7-TOC	TOC	PIER 7	3106-1218	Seawater	MSL	TOC	02/19/14
AMB14-015	PS16-TOC	TOC	PS16	3106-1220	Seawater	MSL	TOC	02/19/14
AMB14-016	PS01-TOC	TOC	PS01	3106-1222	Seawater	MSL	TOC	02/19/14
AMB14-017	PS02-TOC	TOC	PS02	3106-1224	Seawater	MSL	TOC	02/19/14
AMB14-018	PS13-TOC	TOC	PS13	3106-1226	Seawater	MSL	TOC	02/19/14
AMB14-019	M4-TOC	TOC	M4	3106-1228	Seawater	MSL	TOC	02/19/14
AMB14-020	BJEST-TOC	TOC	BJEST	3106-1230	Seawater	MSL	TOC	02/19/14
AMB14-021	M3.1-TOC	TOC	M3.1	3106-1232	Seawater	MSL	TOC	02/19/14
AMB14-022	PS03B-TOC	TOC	PS03B	3106-1234	Seawater	MSL	TOC	02/19/14
AMB14DD-001	OF018-TOC	TOC	OF018	3106-1236	Seawater	MSL	TOC	02/19/14
AMB14DD-002	OF019-TOC	TOC	OF019	3106-1238	Seawater	MSL	TOC	02/19/14
AMB14DD-003	OF021-TOC	TOC	OF021	3106-1240	Freshwater	MSL	TOC	02/19/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/19/2014; logged in 2/20/14
Batch: 34
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-001	PS03-DOC	DOC	PS03	3106-1191	Seawater	MSL	DOC	02/19/14
AMB14-002	PS04-DOC	DOC	PS04	3106-1193	Seawater	MSL	DOC	02/19/14
AMB14-003	PS05-DOC	DOC	PS05	3106-1195	Seawater	MSL	DOC	02/19/14
AMB14-004	PS05DUP-DOC	DOC	PS05DUP	3106-1197	Seawater	MSL	DOC	02/19/14
AMB14-005	PS14-DOC	DOC	PS14	3106-1199	Seawater	MSL	DOC	02/19/14
AMB14-006	PS06-DOC	DOC	PS06	3106-1201	Seawater	MSL	DOC	02/19/14
AMB14-007	PS07-DOC	DOC	PS07	3106-1203	Seawater	MSL	DOC	02/19/14
AMB14-008	PS08-DOC	DOC	PS08	3106-1205	Seawater	MSL	DOC	02/19/14
AMB14-009	PS15-DOC	DOC	PS15	3106-1207	Seawater	MSL	DOC	02/19/14
AMB14-010	PS09-DOC	DOC	PS09	3106-1209	Seawater	MSL	DOC	02/19/14
AMB14-010B	PS09DUP-DOC	DOC	PS09DUP	3106-1211	Seawater	MSL	DOC	02/19/14
AMB14-011	PS10-DOC	DOC	PS10	3106-1213	Seawater	MSL	DOC	02/19/14
AMB14-012	PS10.1-DOC	DOC	PS10.1	3106-1215	Seawater	MSL	DOC	02/19/14
AMB14-013	PS11-DOC	DOC	PS11	3106-1217	Seawater	MSL	DOC	02/19/14
AMB14-014	PIER 7-DOC	DOC	PIER 7	3106-1219	Seawater	MSL	DOC	02/19/14
AMB14-015	PS16-DOC	DOC	PS16	3106-1221	Seawater	MSL	DOC	02/19/14
AMB14-016	PS01-DOC	DOC	PS01	3106-1223	Seawater	MSL	DOC	02/19/14
AMB14-017	PS02-DOC	DOC	PS02	3106-1225	Seawater	MSL	DOC	02/19/14
AMB14-018	PS13-DOC	DOC	PS13	3106-1227	Seawater	MSL	DOC	02/19/14
AMB14-019	M4-DOC	DOC	M4	3106-1229	Seawater	MSL	DOC	02/19/14
AMB14-020	BJEST-DOC	DOC	BJEST	3106-1231	Seawater	MSL	DOC	02/19/14
AMB14-021	M3.1-DOC	DOC	M3.1	3106-1233	Seawater	MSL	DOC	02/19/14
AMB14-022	PS03B-DOC	DOC	PS03B	3106-1235	Seawater	MSL	DOC	02/19/14
AMB14DD-001	OF018-DOC	DOC	OF018	3106-1237	Seawater	MSL	DOC	02/19/14
AMB14DD-002	OF019-DOC	DOC	OF019	3106-1239	Seawater	MSL	DOC	02/19/14
AMB14DD-003	OF021-DOC	DOC	OF021	3106-1241	Freshwater	MSL	DOC	02/19/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/19/2014; logged in 2/20/14
Batch: 34
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle *The Business of Innovation*

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1190	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1192	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1194	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-004	PS05DUP-TSS/OSAL	TSS/OSAL	PS05DUP	3106-1196	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-005	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1198	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-006	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1200	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-007	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1202	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-008	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1204	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-009	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1206	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-010	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1208	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-010B	PS09DUP-TSS/OSAL	TSS/OSAL	PS09DUP	3106-1210	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1212	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1214	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-013	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1216	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-014	PIER 7-TSS/OSAL	TSS/OSAL	PIER 7	3106-1218	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-015	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1220	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-016	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1222	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-017	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1224	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-018	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1226	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-019	M4-TSS/OSAL	TSS/OSAL	M4	3106-1228	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-020	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1230	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-021	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1232	Seawater	MSL	TSS/OSAL	02/19/14
AMB14-022	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-1234	Seawater	MSL	TSS/OSAL	02/19/14
AMB14DD-001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1236	Seawater	MSL	TSS/OSAL	02/19/14
AMB14DD-002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1238	Seawater	MSL	TSS/OSAL	02/19/14
AMB14DD-003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1240	Freshwater	MSL	TSS/OSAL	02/19/14

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360-824-6279

Dr. R.K. Johnston

Feb 19 14 06:14p

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/19/2014

Page: 1 of 2

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB14 DAY1

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

No. of bottles

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

3106

TOP

Lab. Use only: Lab ID	Lab. Use only: Field ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TMF/DME	TOC	DOC	Nuts	PSS/OSAC						No. of containers	StationID	Comments
1190	1191	-001	PS03	~~0910~~ 0920	WS	1	1	1	1	1						5	PS03	Tom's Dock
1192	1193	-002	PS04	0940		1	1	1	1	1						5	PS03	Charlie Pier
1194	1195	-003	PS05	0952												5	PS05	Pier B NW corner
1196	1197	-004	PS05DUP	0953												5	PS05	" " "
1198	1199	-005	PS14	1006												5	PS14	at Barrier
1200	1201	-006	PS06	1017												5	PS06	OF19
1202	1203	-007	PS07	1025												5	PS07	Finger Pier
1204	1205	-008	PS08	1036												5	PS08	Dive Barge
1206	1207	-009	PS15	1045												5	PS14	at barrier off P3
1208	1209	-010	~~PS00~~ PS09	1056												5	PS09	OF16
1210	1211	-010 (AB)	PS09DUP	1100												5	PS09	OF16
1212	1213	-011	PS10	1127												5	PS10	DD7
1214	1215	-012	PS10.1	1138												5	PS10.1	DD1
1216	1217	-013	PS11	1150												5	PS11	Pier7/DD3
1218	1219	-014	Pier7	1159		1	1	1								2	Pier7	leaking metals bottle

Relinquished by: _____ Signature; 2/19/14 Date; 1830 Time
Jill Brandenberger Printed Name; _____ Company

Received by: _____ Signature
C. Nelson Printed Name

Total # of Containers

Shipment Method:

Shipment Method: Hand delivered by staff

Sample Disposition:

Relinquished by: _____ Signature; _____ Date; _____ Time
_____ Printed Name; _____ Company

Received by: _____ Signature
_____ Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 2/19/2014
Page: 2 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB 14 DAY 1
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB14 Day 1

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

3106 TPT DISS

Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	TMPE/DMPE	TOC	DOC	NUTS	TSS/OSAL	O&G	No. of containers	StationID	Comments
1220	1221	-015	PS16	1204	NS	1	1	1	1	1		5	PS16	SW side Pier 7
1222	1223	-016	PS01	1232	NS								PS01	inactive fleet
1224	1225	-017	PS02	1305	1								PS02	
1226	1227	-018	PS13	1322	1								PS13	OF21
1228	1229	-019	MH	1340	m								MH	
1230	1231	-020	BJEST	1354	NS								BJEST	
1232	1233	-021	M3.1	1415	m								M3.1	120 ft hole
1234	1235	AMB14-022	PS03B	1435	NS								PS03	Tom's Dock resamp
		MW2014-401	PS01-1	1245	Mussel	See Sch							PS01	Mooring G
		MW2014-402	PS01-2	~~1300~~ 1250	1								PS01	↓
		MW2014-403	PS01-3	~~1310~~ 1255	1								PS01	
1236	1237	AMBDD-001	OF18								1		OF18	grab
1238	1239	002	OF19								1		OF19	Grab
1240	1241	003	OF21								1		OF21	24 hr comp
END														

Relinquished by: Jill Brandenberger — Signature — 2/19/14 Date — 1830 Time — Jill Brandenberger Printed Name — Company

Received by: C. Sushka — Signature — Printed Name

Total # of Containers
Shipment Method: hand delivered by Staff
Sample Disposition:

Relinquished by: Signature — Date — Time — Printed Name — Company

Received by: Signature — Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

* Envvest Mussel Watch — different COC

p.5 360-824-6279 Dr. R.K. Johnston Feb 19 14 06:15p

AMB14 DAY 1 COCS

Station Log

Sample Collector	Johnston, Gebhart, Rosen, Brandenberger, Strivens	Page 1 of 1
Sampling Team	Beyle	AMB14 2014_02_19
Organization	PSNS ENVEST	Bremerton Tides

2/19/2014

Use pre-assigned id 2/19/2014 mm/dd/yy hh:mm mm/dd/yy hh:mm Weather: Clear Sunny cool rain previous days

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS03 -001	0915	0930	NS	47,55579	122.65209	Tom's Dock btwn of MDC
PS04 -002	0935		NS	47,55752	122.64756	Charlie Pier SW side
PS05 -003	0940		NS	47.55605	122.64497	Pier B NW corner
PS14 -005	1005	1012	NS	47.55240	122643 19	at barrier
PS06 -006	1014		NS	47.55315	122.64249	OF 19
PS07 -007	1024			47,55594	122.64138	near bow of NERWIN 716
PS08 -008	1032			47,55776	122,63874	Dive Barge
001 PS15	1043			47,55561	122.63648	at barrier
PS09	1055			47.56012	122,63648	OF 18
PS10	1125			47.56038	122.63253	DD7
PS10.1	1138			47.56131	122.63182	DD1
PS11	1148			47.56051	122.62894	DD3
Pier 7	1155			47.55947	122.62891	near MW site btwn Subs
PS16	1202			47.55882	122.62845	Pier 7 SW side
PS01	1236			77.55391	122.65636	Inactive Fleet
PS02	1300			47.55434	122.65724	PSNS008
PS13	1320			47.55151	122.65351	BF21
M4	1335			47.54341	122.66445	off Ross Point
BFEST	1355			47.54713	122.62765	drifting away from stirred up bottom
M3.1	1412			47.55805	122,61367	deep 120 hole
PS03B	1432			47.55579	122.65200	back at Toms Dock

Feb 19 14 06:14p Dr. R.K. Johnston 360-824-6279 p. 1

Water Quality Log

Page _1_ of _1_

Sample Collector	Johnston, Stivens											PSNS Project ENVVEST						
Sampling Team												Ambient Monitoring:	AMB14 2014_02.19					
Organization			HORIBA									Micro						
Use pre-assigned id	Use allowable code only	2/19/2014 mm/dd/yy hh:mm		S/m	ntu	mg/L	C	m	%		g/ml	Cal Check 0.02 mV	ntu	ft	ft	YSI Temp Sal TDS		
SampleID	StationID	Date/Time	pH	COND (sp)	Turb	DO	Temp	Probe Depth	Sal	TDS	density	ORP	Turb	secchi dish	tom depth	cond conct Remarks/ Comments		
	PS03	0920	8.2	5.0		8.06	7.26	0.5	3.2	30	25	137	0.37	21	23	28.42 ms 43.14 ms 6.9 28.2 28.42		
	PS04	0940	8.2	5.03		8.18	7.63	0.6	3.2	30	25	134	0.49	18	50	27.72 ms 42.35 6.5 27.2 27.55		
	PS05	0952	8.21	5.03		8.11	7.56	0.7	3.2	31	25	134	0.34	18	26.9	29.15 43.84 7.1 28.3 28.51		
	PS14	1006	8.22	5.04		8.14	7.58	0.5	3.2	30	25	132	0.04	17	55	29.23 43.9 7.2 28.3 28.5		
	PS06	1017	8.21	5.0		8.29	8.03	0.7	3.2	30	25	135	0.05	20	41	29.52 43.91 7.5 28.3 28.44		
	PS07	1025	8.24	5.03		8.33	7.5	0.6	3.2	30	25	138	0.0	17	46	29.6 44.18 7.3 28.5 28.71		
	PS06	1036	8.24	5.09		8.37	7.41	0.7	3.2	31	25	143	0.01	19	36	29.64 44.4 7.2 28.7 28.86		
15	~~PS08~~	1045	8.14	5.09		8.35	7.53	0.7	3.2	31	25	149	0.0	16	59	29.7 44.29 7.4 28.6 28.82		
	PS09	1058	8.25	5.09		8.45	7.53	0.57	3.2	31	25	160	6.02	21	31	29.37 43.12 7.4 27.8 28.14		
	PS04 Deep	1103	8.23	5.14		8.07	7.62	4.2	3.3	31	26	156						
	PS10	1127	8.27	5.1		8.45	7.73	.8	3.2	31	25	170	0.0	20	30	29.89 44.40 7.5 28.7 28.85		
	PS10.1	1140	8.27	5.0		8.47	7.6	0.8	3.2	30	25	161	6.26	17	30.5	29.8 44.35 7.4 28.7 28.83		
	PS 11	1150	8.25	5.1		7.96	7.78	1.0	3.2	31	25	160	0.33	19	30	29.98 44.54 7.4 28.7 28.89		
	PS17	1158	8.25	5.08		8.23	7.74	.8	3.2	30	25	159	6.0	18	44	29.84 44.44 7.4 28.8 28.96		
	PS16	~~1209~~ 1204	8.26	5.07		8.2	7.69	1.0	3.2	30	25	160	0.0	20	47	30.08 44.68 7.5 28.9 29.04		
	PS01	1232	8.27	4.98		8.29	7.54	1.0	3.2	30	25	192	0.90	20	46	29.48 44.10 7.3 28.5 28.68		
	PS02	1305	8.18	4.94		8.26	7.34	-.1	3.1	30	24	190	0.95	16	29	29.09 43.61 7.2 28.1 28.37		
	PS13	1322	8.2	4.97		8.53	7.5	0.3	3.1	30	25	205	0.0	18	52	29.35 43.99 7.3 28.5 28.65		
	M4	1340	8.2	5.0		8.27	7.71	.3	3.2	30	25	166	.33	16	39	29.8 44.22 7.5 28.6 28.73		
	[illegible]	1226	8.32	6.01		9.29	7.8	-.6	2.2	20	1.5	177	0.95	[illegible]	6	29.85 44.25 7.1 28.6 28.72		

360-824-6279

Dr. R.K. Johnston

AMB14 Day 1 Water Quality Log

Sample Collector: Johston, Stivens
Sampling Team:
Organization: 2/19/2014 HORIBA

PSNS Project ENVVEST
Ambient Monitoring:
Micro

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm		S/m	ntu	mg/L	C	m	%		g/ml	mV	ntu	ft	ft	
SampleID	StationID	Date/Time	pH	COND (sp)	Turb	DO	Temp	Probe Depth	Sal	TDS	density	ORP	Turb	secchi dish	tom depth	Remarks/ Comments
	~~MS.1~~	~~1445~~		~~8.26~~									~~0.42~~	~~13~~		MS
	MS.1	1415	8.28	5.01		8.57	7.52	0.7	3.2	30	25	198	0.42	13	160	29.55 44.16 7.3 28.15 28.7
	PSOSB	1435	8.21	4.99		8.3	7.52	1.0	3.2	30	25	201	1.02	15	30	28.57 42.99 7.3 28.1 28.45

Identical Set to Centric set "A"

Project: PSNS ENVVEST

Sampling Team: Johnston Gebhart

Results To: Bob Johnston johnston@spawar.navy.mil

FAX: 360-824-6279

Cell: 360 782-0113

Type: Freshwater (FW) Nearshore (NS) Marine (M) Stormwater (SW)

B & C Two samples of each labled "B" & "C"

Date: 2/19/2014

ID: FC2014_02_19

Naval Hosp. Bremerton Attn:Blaine Brock
2850 Thresher Ave, Silverdale, WA
(360) 315 4471

PSNS&IMF c/106.32
1400 Farragut Ave
Bremerton, WA 98314

#	Sample ID	Sample Date:Time	Lab ID #	Results	MF Fecal Coliform	E. Coli	Entrococci	Other	Dilution Reported 1/____ (Specify Ratio)	Sample Type	Notes & Comments
1	PS03	0920								NS	
2	PS04	0940									
3	PS05	0952									
4	PS05DUP	0953									field Dup
5	PS14	1006									
6	PS06	1017									
7	PS07	1025									
8	PS08	1036									
9	PS15	1045									
10	PS09	1058									
11	PS09DUP	1100									field Dup
12	PS10	1127									
13	PS10.1	1138									
14	PS11	1150									
15	PS16	1209									46 + 5 Sections
16	PS01	1232									
17	PS02	1305									
18	PS13	1322									
19	M4	1340								M	
20	BJEST	1356								NS	
21	M3.1	1415								M	
22	PS03B	1435								NS	
23											
24											
25											
26											
27											

Relinquished by: RF

Date/Time: 2/19/14 1620 Location: WHB

Received by: Bob Black

Date/Time: 2/19/14 1620 Location: WHB

Received by:

Date/Time: Location:

Plated Date/Time

Read Date/Time

For Lab Use

Notes:

Feb 19 14 06:18p Dr. R.K. Johnston 360-824-6279 p.6

NBK Bremerton Marine Mammal Tally Sheet	
Date 2/19/2014	
Observers	Johnston, Gebhart, Rosen, Braudenberger
Weather	
Observations	Note number and species present

10-15 5 sea lions on barrier just ~~east~~ west of Pier 3
1210 Bald Eagle on barrier w/ prey
1215 - 46 Sea Lions (40, 44, 46) btwn Pier 5 & 7 on barrie
+ 5 Sea Lions on barrier west of Pier 3

Notes:

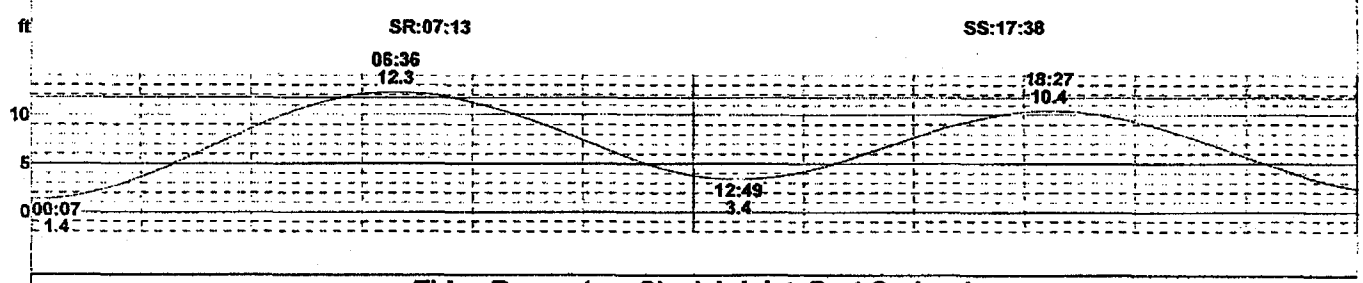
on 2/18/2014 observed 4 Sea Lions on barrier in front of Pier 6

Tides-Bremerton, Sinclair Inlet, Port Orchard

Mean Range: 8.0 ft
MHHW: 11.7 ft

based on Seattle, Washington (NOAA)
47° 33.70 N 122° 37.40 W

Monday, February 17, 2014
(PST)

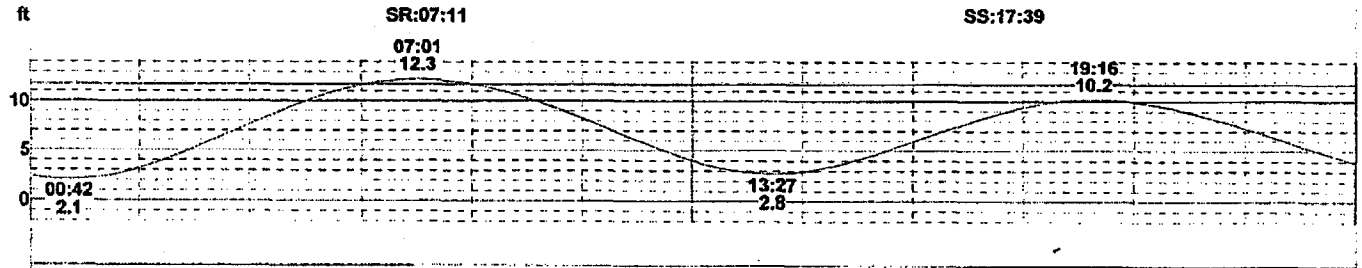


Tides-Bremerton, Sinclair Inlet, Port Orchard

Mean Range: 8.0 ft
MHHW: 11.7 ft

based on Seattle, Washington (NOAA)
47° 33.70 N 122° 37.40 W

Tuesday, February 18, 2014
(PST)

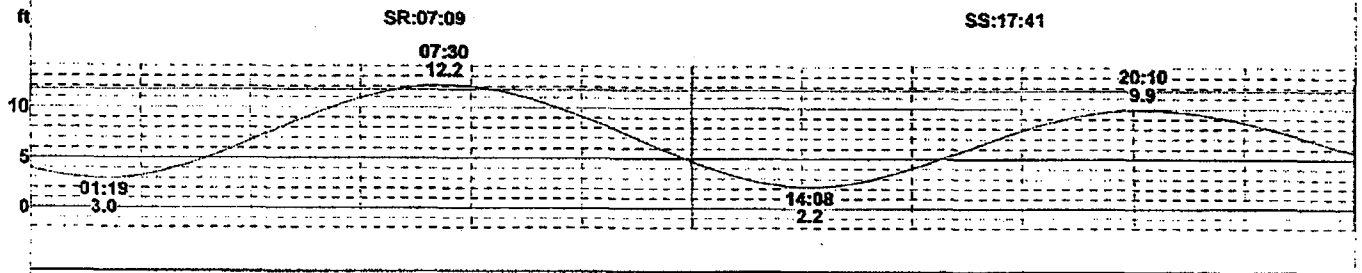


Tides-Bremerton, Sinclair Inlet, Port Orchard

Mean Range: 8.0 ft
MHHW: 11.7 ft

based on Seattle, Washington (NOAA)
47° 33.70 N 122° 37.40 W

Wednesday, February 19, 2014
(PST)

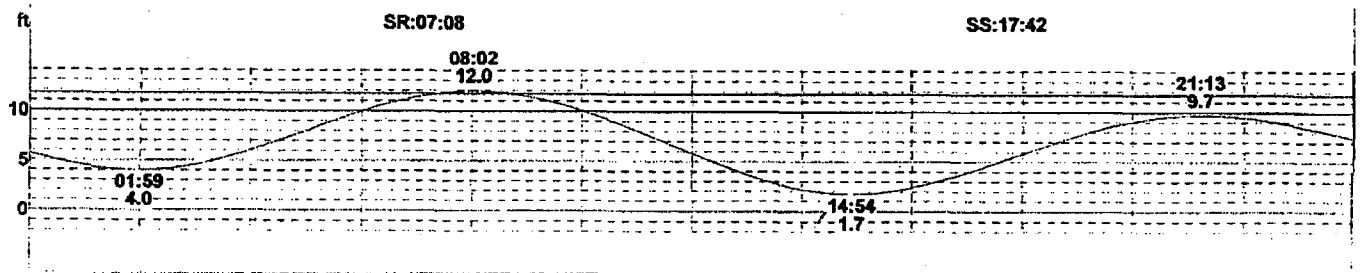


Tides-Bremerton, Sinclair Inlet, Port Orchard

Mean Range: 8.0 ft
MHHW: 11.7 ft

based on Seattle, Washington (NOAA)
47° 33.70 N 122° 37.40 W

Thursday, February 20, 2014
(PST)



© Nautical Software (503) 579-1414

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1190 - 1241 Batch: 35 34

Project Name: AMB14 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No		
☐	☐		Navy-type Project (requires high-level sample tracking procedures)
☐	☐		USDA Samples (see Compliance Agreement Checklist)
☐	☐		Filter Samples: Amount: Entire sample Half of sample
☐	☐		Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐		Special instructions:

PM Verification:

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☑	☐	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Hand Delivered to lab Stored in Walk-in refrig Until login

_____ °C

_____ °C

Comment/Remedy: _____

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: NUT TSS SPM NUT TOC DOC O.G

Completed By: _____ Date/Time: 02/19/14

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☐ Sample(s) were preserved at MSL

Type:				
☑	0.2% HNO3	Notes: Metals	Lot#	
☐	0.5% HCl (Hg samples)	Notes:	Lot#	
☑	Refrigerate/Freeze — TOC DOC TSS	Notes:		
☑	Other	Notes: NUT Shipped to CAS 2/		

Completed By: _____ Date/Time: 02/19/14

Storage Shelf: _____

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/20/2014; logged in 2/21/14
Batch: 35
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-201	SN03-TME	TME	SN03	3106-1242	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-201	SN03-DME	DME	SN03	3106-1243	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-202	SN05-TME	TME	SN05	3106-1244	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-202	SN05-DME	DME	SN05	3106-1245	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-203	SN05DUP-TME	TME	SN05DUP	3106-1246	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-203	SN05DUP-DME	DME	SN05DUP	3106-1247	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-204	SN08-TME	TME	SN08	3106-1248	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-204	SN08-DME	DME	SN08	3106-1249	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-205	SN10-TME	TME	SN10	3106-1250	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-205	SN10-DME	DME	SN10	3106-1251	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-206	M3.3-TME	TME	M3.3	3106-1252	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-206	M3.3-DME	DME	M3.3	3106-1253	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-207	M3.3DEEP-TME	TME	M3.3DEEP	3106-1254	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-207	M3.3DEEP-DME	DME	M3.3DEEP	3106-1255	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-208	M1-TME	TME	M1	3106-1256	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-208	M1-DME	DME	M1	3106-1257	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-209	M1DEEP-TME	TME	M1DEEP	3106-1258	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-209	M1DEEP-DME	DME	M1DEEP	3106-1259	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-210	ILSP-TME	TME	ILSP	3106-1260	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-210	ILSP-DME	DME	ILSP	3106-1261	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-211	ILSP DUP-TME	TME	ILSP DUP	3106-1262	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-211	ILSP DUP-DME	DME	ILSP DUP	3106-1263	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-212	CLMBAY-TME	TME	CLMBAY	3106-1264	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-212	CLMBAY-DME	DME	CLMBAY	3106-1265	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-213	M2-TME	TME	M2	3106-1266	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-213	M2-DME	DME	M2	3106-1267	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-214	M2DEEP-TME	TME	M2DEEP	3106-1268	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-214	M2DEEP-DME	DME	M2DEEP	3106-1269	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-215	M6-TME	TME	M6	3106-1270	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-215	M6-DME	DME	M6	3106-1271	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-216	M8-TME	TME	M8	3106-1272	Seawater	PREP LAB	Total Metals, Hg	02/20/14

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 2/20/2014; logged in 2/21/14
Batch: 35
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-216	M8-DME	DME	M8	3106-1273	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-217	DYOTS-TME	TME	DYOTS	3106-1274	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-217	DYOTS-DME	DME	DYOTS	3106-1275	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-218	PS03C-TME	TME	PS03C	3106-1276	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-218	PS03C-DME	DME	PS03C	3106-1277	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-219	WP-TME	TME	WP	3106-1278	Seawater	PREP LAB	Total Metals, Hg	02/20/14
AMB14-219	WP-DME	DME	WP	3106-1279	Seawater	PREP LAB	Dissolved Metals, Hg	02/20/14
AMB14-220	EQPBLK022014-TME	TME	EQPBLK022014	3106-1280	~~Seawater~~ DI	PREP LAB	Total Metals, Hg	02/20/14
AMB14-220	EQPBLK022014-DME	DME	EQPBLK022014	3106-1281	~~Seawater~~ DI	PREP LAB	Dissolved Metals, Hg	02/20/14

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Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-201	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1242	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-202	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1244	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-203	SN05DUP-TSS/OSAL	TSS/OSAL	SN05DUP	3106-1246	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-204	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1248	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-205	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1250	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-206	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1252	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-207	M3.3DEEP-TSS/OSAL	TSS/OSAL	M3.3DEEP	3106-1254	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-208	M1-TSS/OSAL	TSS/OSAL	M1	3106-1256	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-209	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1258	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-210	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1260	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-211	ILSP DUP-TSS/OSAL	TSS/OSAL	ILSP DUP	3106-1262	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-212	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1264	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-213	M2-TSS/OSAL	TSS/OSAL	M2	3106-1266	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-214	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1268	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-215	M6-TSS/OSAL	TSS/OSAL	M6	3106-1270	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-216	M8-TSS/OSAL	TSS/OSAL	M8	3106-1272	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-217	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1274	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-218	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-1276	Seawater	MSL	TSS/OSAL	02/20/14
AMB14-219	WP-TSS/OSAL	TSS/OSAL	WP	3106-1278	Seawater	MSL	TSS/OSAL	02/20/14

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Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-201	SN03-TOC	TOC	SN03	3106-1242	Seawater	MSL	TOC	02/20/14
AMB14-202	SN05-TOC	TOC	SN05	3106-1244	Seawater	MSL	TOC	02/20/14
AMB14-203	SN05DUP-TOC	TOC	SN05DUP	3106-1246	Seawater	MSL	TOC	02/20/14
AMB14-204	SN08-TOC	TOC	SN08	3106-1248	Seawater	MSL	TOC	02/20/14
AMB14-205	SN10-TOC	TOC	SN10	3106-1250	Seawater	MSL	TOC	02/20/14
AMB14-206	M3.3-TOC	TOC	M3.3	3106-1252	Seawater	MSL	TOC	02/20/14
AMB14-207	M3.3DEEP-TOC	TOC	M3.3DEEP	3106-1254	Seawater	MSL	TOC	02/20/14
AMB14-208	M1-TOC	TOC	M1	3106-1256	Seawater	MSL	TOC	02/20/14
AMB14-209	M1DEEP-TOC	TOC	M1DEEP	3106-1258	Seawater	MSL	TOC	02/20/14
AMB14-210	ILSP-TOC	TOC	ILSP	3106-1260	Seawater	MSL	TOC	02/20/14
AMB14-211	ILSP DUP-TOC	TOC	ILSP DUP	3106-1262	Seawater	MSL	TOC	02/20/14
AMB14-212	CLMBAY-TOC	TOC	CLMBAY	3106-1264	Seawater	MSL	TOC	02/20/14
AMB14-213	M2-TOC	TOC	M2	3106-1266	Seawater	MSL	TOC	02/20/14
AMB14-214	M2DEEP-TOC	TOC	M2DEEP	3106-1268	Seawater	MSL	TOC	02/20/14
AMB14-215	M6-TOC	TOC	M6	3106-1270	Seawater	MSL	TOC	02/20/14
AMB14-216	M8-TOC	TOC	M8	3106-1272	Seawater	MSL	TOC	02/20/14
AMB14-217	DYOTS-TOC	TOC	DYOTS	3106-1274	Seawater	MSL	TOC	02/20/14
AMB14-218	PS03C-TOC	TOC	PS03C	3106-1276	Seawater	MSL	TOC	02/20/14
AMB14-219	WP-TOC	TOC	WP	3106-1278	Seawater	MSL	TOC	02/20/14

SAMPLE LOGIN

Project Manager: Brandenberger
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Batch: 35
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Sequim, Washington 98382
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Project: **ENVVEST Ambient Monitoring, FEB 2014 (AMB14)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB14-201	SN03-DOC	DOC	SN03	3106-1243	Seawater	MSL	DOC	02/20/14
AMB14-202	SN05-DOC	DOC	SN05	3106-1245	Seawater	MSL	DOC	02/20/14
AMB14-203	SN05DUP-DOC	DOC	SN05DUP	3106-1247	Seawater	MSL	DOC	02/20/14
AMB14-204	SN08-DOC	DOC	SN08	3106-1249	Seawater	MSL	DOC	02/20/14
AMB14-205	SN10-DOC	DOC	SN10	3106-1251	Seawater	MSL	DOC	02/20/14
AMB14-206	M3.3-DOC	DOC	M3.3	3106-1253	Seawater	MSL	DOC	02/20/14
AMB14-207	M3.3DEEP-DOC	DOC	M3.3DEEP	3106-1255	Seawater	MSL	DOC	02/20/14
AMB14-208	M1-DOC	DOC	M1	3106-1257	Seawater	MSL	DOC	02/20/14
AMB14-209	M1DEEP-DOC	DOC	M1DEEP	3106-1259	Seawater	MSL	DOC	02/20/14
AMB14-210	ILSP-DOC	DOC	ILSP	3106-1261	Seawater	MSL	DOC	02/20/14
AMB14-211	ILSP DUP-DOC	DOC	ILSP DUP	3106-1263	Seawater	MSL	DOC	02/20/14
AMB14-212	CLMBAY-DOC	DOC	CLMBAY	3106-1265	Seawater	MSL	DOC	02/20/14
AMB14-213	M2-DOC	DOC	M2	3106-1267	Seawater	MSL	DOC	02/20/14
AMB14-214	M2DEEP-DOC	DOC	M2DEEP	3106-1269	Seawater	MSL	DOC	02/20/14
AMB14-215	M6-DOC	DOC	M6	3106-1271	Seawater	MSL	DOC	02/20/14
AMB14-216	M8-DOC	DOC	M8	3106-1273	Seawater	MSL	DOC	02/20/14
AMB14-217	DYOTS-DOC	DOC	DYOTS	3106-1275	Seawater	MSL	DOC	02/20/14
AMB14-218	PS03C-DOC	DOC	PS03C	3106-1277	Seawater	MSL	DOC	02/20/14
AMB14-219	WP-DOC	DOC	WP	3106-1279	Seawater	MSL	DOC	02/20/14

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31106 Sample No(s): 1242 - 1281 Batch: ~~34~~ 35

Project Name: AMB 14 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Hand delivered to Lab
Held in Walkin ref.
until login

Yes	No	N/A	Indicate in Appropriate Box
☐	☑	☐	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) _____ °C _____ °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

THC DOC TSS SPC NUT TDC DOC O&G

Notes:

Completed By: _____ Date/Time: 02/20/14

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☐ Sample(s) were preserved at MSL

Type:	☑	0.2% HNO3	Notes:	Lot#
	☐	0.5% HCl (Hg samples)	Notes:	Lot#
	☑	Refrigerate/Freeze — TDC DOC TSS	Notes:	
	☑	Other	Notes:	NUT shipped to CAS / O:G shipped to CAS

Completed By: _____ Date/Time: 02/20/14

Storage Shelf:

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/20/2014
Page: 1 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMBI4 DAY 2
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters: TME/DME; TSS/OSAL; Nutrients; TOC; DOC; No. of containers

Observations, Instructions

3 bottle

TBT Lab. Use only: Lab ID	FHC Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	StationID	Comments
1242	1243	-201	SN03	0858	NS	SN03	Brems Point
1244	1245	-202	SN05	0912	NS	SN05	Gorst
1246	1247	-203	SN05DUP	0915	NS	SN05	
1248	1249	-204	SN08	0928	NS	SN08	Moss Point
1250	1251	-205	SN10	0940	NS	SN10	Port Orchard Sinclair Marina
1252	1253	-206	M3.3	1001	M	M3.3	middle Sinclair
1254	1255	-207	M3.3 Deep	0959	M	M3.3	5 m deep
1256	1257	-208	M1	1034	M	M1	Port Orchard Pass Main. Pol
1258	1259	-209	M1 Deep	1040	M	M1	3.5 m deep
1260	1261	-210	ILSP	1140	NS	ILSP	Illahee State Park Dock
1262	1263	-211	ILSPDUP	1143	NS	ILSP	
1264	1265	-212	CLMBAY	1232	NS	CLMBAY	Clam Bay / Beaver Cr.
1266	1267	-213	M2	1203	M	Rich Pass	M2
1268	1269	-214	M2 DEEP	1209	M	Rich Pass	4 m deep
1270	1271	-215	M7 Ostrich	1335	~~NS~~ M	Ostrich Bay	200 of Ammo pier

Relinquished by: Jm Brandenberger — Signature — 2/20/14 Date — 1800 Time — PNNL Company — Printed Name

Received by: C. Suslick — Signature — Printed Name

Total # of Containers

Shipment Method: hand carry to MSL Lab

Sample Disposition:

Relinquished by: _____ Signature Date Time _____ Printed Name Company

Received by: _____ Signature _____ Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Feb 20 14 05:57p Dr. R.K. Johnston 360-824-6279

K2C K5D

P.4

360-824-6279

Dr. R.K. Johnston

Feb 20 14 05:57p

SAMPLE CHAIN OF CUSTODY FORM

Date: 2/20/2014

Page: 2 of 2

COC Number: AMB14 DAY 2

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

Lab. only: ID	Use Lab	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
		MW2014-500 Series		2/20/2014													
		AMB14-200 Series															
1272	1273	-216	MB System	1344	NS	✓	✓	✓	-	-						MB	Oyster Bay
1274	1275	-217	DYOT3	1405	NS	✓	✓	✓	-	-						DYOT3	Old Marina Silverdale
1276	1277	-214	PS03C	1440	NS	✓	✓	✓	✓	-						PS03	Toms Dock Return
		MW2014-501	MLPIER-1	1231	Mussel		See SOW									MLPIER	Manchester(Ld) Pier
		-502	MLPIER-2	1235													
		-503	MLPIER-3	1240													
		MW2014-504	DYOAMP-1	1325												DYOAMP	Dyes Oshkosh Bay Ammo Pier
		-505	DYOAMP-2	1330													Ammo Pier
		-506	DYOAMP-3	1335													
		JMB -507	WP														
1278	1279	-219	WP	1150	NS	✓	✓	✓	✓	✓						WP	tide was ripping
1280	1281	-220	EQP BLK	1800	DI	✓	✓										

Relinquished by: _____ Signature — 2/20/14 Date — 1800 Time
JM Brandenberger Printed Name — PNNL Company

Received by: _____ Signature
C. Susun Printed Name

Total # of Containers
Shipment Method:
Shipment Method: hand carry to MSL Lab
Sample Disposition:

Relinquished by: _____ Signature — Date — Time
Printed Name — Company

Received by: _____ Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

h1401739

PROJECT ENVVEST
Project Name: FEB 2014 Ambient Monitoring (AMB14)
SAMPLE TEAM: Navy, Battelle
DATE: 2/20/2014
Laboratory: Columbia Analytical (ALS)

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, TKN, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
✓ AMB14DD-001	OF018	2/19/14 0:00	Seawater						X			1	
✓ AMB14DD-002	OF019	2/19/14 0:00	Seawater						X			1	
✓ AMB14DD-003	OF021	2/19/14 0:00	Freshwater						X			1	
--end--													

Total: 3

Relinquished By: C. Suslick — Company: Battelle MSL — 2/20/2014
Signature/Printed Name — Date/Time

shipped via Fedex 2/20/14, CS

Received By: [signature] — Company: ALS — 2-21-14 — 940
Signature/Printed Name — Date/Time

PC 112

Cooler Receipt and Preservation Form

Client / Project: Battelle Marine Sciences Service Request **K14** 01739

Received: 2/21/14 Opened: 2/21/14 By: DW Unloaded: 2/21/14 By:

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
-1.0	-1.0	—	—	0.0	304		7979 8391 8992	

4. Packing material: (*Inserts*) (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) (*Dry Ice*) *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y (N)
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
OF021 (AMBHDD 003)	1-liter OxG			✓					DW	9:40

Notes, Discrepancies, & Resolutions: Sample broken in cooler (frozen)

K1401787

PROJECT ENVVEST			
Project Name: FEB 2014 Ambient Monitoring (AMB14)			**CHAIN OF CUSTODY FORM**
SAMPLE TEAM:	Navy, Battelle		(updated 2/24/14: TKN dropped per JMB)
DATE:	2/21/2014		
Laboratory:	Columbia Analytical		Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB14-001	PS03	2/19/14 0:00	Seawater				X					1	
AMB14-002	PS04	2/19/14 0:00	Seawater				X					1	
AMB14-003	PS05	2/19/14 0:00	Seawater				X					1	
AMB14-004	PS05DUP	2/19/14 0:00	Seawater				X					1	
AMB14-005	PS14	2/19/14 0:00	Seawater				X					1	
AMB14-006	PS06	2/19/14 0:00	Seawater				X					1	
AMB14-007	PS07	2/19/14 0:00	Seawater				X					1	
AMB14-008	PS08	2/19/14 0:00	Seawater				X					1	
AMB14-009	PS15	2/19/14 0:00	Seawater				X					1	
AMB14-010	PS09	2/19/14 0:00	Seawater				X					1	
AMB14-010B	PS09DUP	2/19/14 0:00	Seawater				X					1	
AMB14-011	PS10	2/19/14 0:00	Seawater				X					1	
AMB14-012	PS10.1	2/19/14 0:00	Seawater				X					1	
AMB14-013	PS11	2/19/14 0:00	Seawater				X					1	
AMB14-015	PS16	2/19/14 0:00	Seawater				X					1	
AMB14-016	PS01	2/19/14 0:00	Seawater				X					1	
AMB14-017	PS02	2/19/14 0:00	Seawater				X					1	
AMB14-018	PS13	2/19/14 0:00	Seawater				X					1	
AMB14-019	M4	2/19/14 0:00	Seawater				X					1	
AMB14-020	BJEST	2/19/14 0:00	Seawater				X					1	
AMB14-021	M3.1	2/19/14 0:00	Seawater				X					1	
AMB14-022	PS03B	2/19/14 0:00	Seawater				X					1	
AMB14DD-001	OF018	2/19/14 0:00	Seawater				X					1	
AMB14DD-002	OF019	2/19/14 0:00	Seawater				X					1	
AMB14DD-003	OF021	2/19/14 0:00	Freshwater				X					1	
AMB14-201	SN03	2/20/14 0:00	Seawater				X					1	

SOP#: MSL-A-001

REC: [signature] ARYNCH ALS 2/22/14 1015

K1401787

| PROJECT ENVVEST | | |

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring June 2014 (AMB15)

Seawater and Freshwater Chemistry

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 15,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 9
QA/QC Narrative 26

Narrative, Batch K1405950 31
Summary Report, Batch K1405950 32

Sample Custody Information

Sample Collection, 061014 69
Sample Collection, 061114 78
Equipment Blank, 060414 84
Chain of Custody, Batch K1405950 85

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB15
ENVVEST June 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu	Ni
						Units		HTCO	HTCO						
				Instrument:		(PSU)	mg/L	(mg/L)	(µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.49**	**0.032**	**2.5**	**0.100**	**0.2**	**0.002**	**0.06**	**0.035**	**0.025**
Seawater Reporting Limit (MDL* 3.18)								**0.095**	**8.0**	**0.320**	**0.6**	**0.01**	**0.2**	**0.11**	**0.080**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.100**	**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.320**	**0.6**	**0.01**	**0.3**	**0.017**	**0.01**
AMB15															
AMB15-001	PS03	TME	Seawater	3106-1282	06/10/14	28.9	10.1	2.38	198	11.0	11.8	0.0604	0.221	1.57	0.535
AMB15-001	PS03	DME	Seawater	3106-1283	06/10/14	--	--	1.53	127	4.56	0.673	0.0571	0.165 J	1.19	0.596
AMB15-002	PS01	TME	Seawater	3106-1284	06/10/14	27.1	3.67	2.61	218	5.83	95.5	0.0769	0.618	3.04	1.09
AMB15-002	PS01	DME	Seawater	3106-1285	06/10/14	--	--	1.60	133	1.42	4.62	0.0506	0.290	1.21	0.686
AMB15-003	PS02	TME	Seawater	3106-1286	06/10/14	24.5	4.09	2.77	231	4.17	83.2	0.0741	0.500	2.55	0.764
AMB15-003	PS02	DME	Seawater	3106-1287	06/10/14	--	--	1.72	143	0.877	0.439 J	0.0579	0.244	1.22	0.440
AMB15-004	PS03 T2	TME	Seawater	3106-1288	06/10/14	28.8	1.90	2.91	243	1.63	7.28	0.0584	0.177 J	1.51	0.439
AMB15-004	PS03 T2	DME	Seawater	3106-1289	06/10/14	--	--	1.50	125	0.721	0.595 J	0.0581	0.153 J	1.31	0.413
AMB15-005	M4	TME	Seawater	3106-1290	06/10/14	28.8	1.98	2.60	217	0.816	20.0	0.0534	0.231	1.05	0.491
AMB15-005	M4	DME	Seawater	3106-1291	06/10/14	--	--	1.58	131	0.331	0.730	0.0509	0.153 J	0.861	0.441
AMB15-006	BJEST	TME	Seawater	3106-1292	06/10/14	28.3	1.61	2.84	236	0.666	8.60	0.0566	0.225	1.13	0.486
AMB15-006	BJEST	DME	Seawater	3106-1293	06/10/14	--	--	1.49	124	0.324	0.580 J	0.0529	0.162 J	0.960	0.413
AMB15-007	M3.1 SURF	TME	Seawater	3106-1294	06/10/14	27.6	1.83	1.82	152	0.463	8.78	0.0634	0.230	0.671	0.539
AMB15-007	M3.1 SURF	DME	Seawater	3106-1295	06/10/14	--	--	1.15	95.7	0.225	0.455 J	0.0558	0.130 J	0.528	0.474
AMB15-008	M3.1 DEEP	TME	Seawater	3106-1296	06/10/14	29.1	1.91	1.50	125	0.652	13.3	0.0676	0.173 J	0.769	0.471
AMB15-008	M3.1 DEEP	DME	Seawater	3106-1297	06/10/14	--	--	1.12	93.2	0.183	0.435 J	0.0614	0.126 J	0.525	0.411
AMB15-009	PS12	TME	Seawater	3106-1298	06/10/14	28.2	2.39	1.75	146	0.707	9.15	0.0738	0.176 J	1.78	0.471
AMB15-009	PS12	DME	Seawater	3106-1299	06/10/14	--	--	1.26	105	0.226	0.495 J	0.0650	0.143 J	1.38	0.792
AMB15-010	PS14	TME	Seawater	3106-1300	06/10/14	28.6	2.91	2.37	198	1.19	12.9	0.0597	0.212	1.40	0.827
AMB15-010	PS14	DME	Seawater	3106-1301	06/10/14	--	--	1.65	137	0.299	0.504 J	0.0561	0.156 J	1.12	0.667
AMB15-011	PS14DUP	TME	Seawater	3106-1302	06/10/14	27.9	2.73	2.38	198	0.827	12.4	0.0571	0.199 J	1.39	0.473
AMB15-011	PS14DUP	DME	Seawater	3106-1303	06/10/14	--	--	1.57	131	0.263	0.762	0.0548	0.175 J	1.09	0.429
AMB15-012	PS06	TME	Seawater	3106-1304	06/10/14	26.4	1.86	1.44	120	1.83	13.4	0.0655	0.552	1.68	0.677
AMB15-012	PS06	DME	Seawater	3106-1305	06/10/14	--	--	1.21	101	1.07	0.450 J	0.0628	0.147 J	1.26	0.583
AMB15-013	PS07	TME	Seawater	3106-1306	06/10/14	27.5	2.08	1.98	165	1.33	7.40	0.0671	0.185 J	1.98	0.596
AMB15-013	PS07	DME	Seawater	3106-1307	06/10/14	--	--	1.31	109	0.640	0.799	0.0634	0.142 J	1.57	0.531
AMB15-014	PS08	TME	Seawater	3106-1308	06/10/14	27.9	4.29	1.98	165	0.696	5.99	0.0618	0.169 J	2.43	0.486
AMB15-014	PS08	DME	Seawater	3106-1309	06/10/14	--	--	1.36	114	0.278	0.415 J	0.0647	0.179 J	2.11	0.836
AMB15-015	PS15	TME	Seawater	3106-1310	06/10/14	27.3	3.22	2.29	191	0.766	8.74	0.0656	0.181 J	1.41	0.449
AMB15-015	PS15	DME	Seawater	3106-1311	06/10/14	--	--	1.35	112	0.260	0.417 J	0.0621	0.181 J	1.12	0.410
AMB15-016	PS09	TME	Seawater	3106-1312	06/10/14	28.0	2.35	2.25	188	1.00	7.56	0.0615	0.219	1.85	1.12
AMB15-016	PS09	DME	Seawater	3106-1313	06/10/14	--	--	1.36	114	0.265	0.356 J	0.0585	0.151 J	1.48	0.406
AMB15-017	PS09DUP	TME	Seawater	3106-1314	06/10/14	27.6	2.69	2.22	185	0.717	6.07	0.0607	0.184 J	1.84	0.476
AMB15-017	PS09DUP	DME	Seawater	3106-1315	06/10/14	--	--	1.36	113	0.254	0.557 J	0.0597	0.164 J	1.42	0.426

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB15
ENVVEST June 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu	Ni
						Units		HTCO	HTCO						
				Instrument:		(PSU)	mg/L	(mg/L)	(µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB15-018	PS10	TME	Seawater	3106-1316	06/10/14	27.9	1.67	1.96	163	0.781	7.84	0.0710	0.228	2.61	0.583
AMB15-018	PS10	DME	Seawater	3106-1317	06/10/14	--	--	1.37	114	0.381	0.444 J	0.0606	0.180 J	2.06	0.451
AMB15-019	PS10.1	TME	Seawater	3106-1318	06/10/14	27.9	1.85	1.88	157	0.676	7.94	0.0728	0.211	2.35	0.563
AMB15-019	PS10.1	DME	Seawater	3106-1319	06/10/14	--	--	1.28	106	0.274	0.480 J	0.0654	0.152 J	1.86	0.434
AMB15-020	PS11	TME	Seawater	3106-1320	06/10/14	28.2	1.45	1.90	158	0.653	7.72	0.0668	0.164 J	1.36	0.515
AMB15-020	PS11	DME	Seawater	3106-1321	06/10/14	--	--	1.25	104	0.258	0.344 J	0.0612	0.135 J	1.13	0.472
AMB15-021	PS16	TME	Seawater	3106-1322	06/10/14	29.7	1.84	2.10	175	0.499	6.68	0.0667	0.146 J	0.975	0.431
AMB15-021	PS16	DME	Seawater	3106-1323	06/10/14	--	--	1.31	109	0.254	0.305 J	0.0621	0.124 J	0.840	0.394
AMB15-022	PS05	TME	Seawater	3106-1324	06/10/14	29.4	4.11	2.86	238	1.02	18.5	0.0508	0.217	1.14	0.497
AMB15-022	PS05	DME	Seawater	3106-1325	06/10/14	--	--	1.57	131	0.401	0.583 J	0.0547	0.155 J	1.03	0.426
AMB15-023	PS04	TME	Seawater	3106-1326	06/10/14	29.4	2.18	2.21	184	1.07	15.7	0.0570	0.214	1.23	0.545
AMB15-023	PS04	DME	Seawater	3106-1327	06/10/14	--	--	1.66	138	0.371	0.729	0.0570	0.169 J	1.09	0.428
AMB15-024	PS03B	TME	Seawater	3106-1328	06/10/14	29.3	3.00	2.95	246	4.21	25.3	0.0617	0.252	1.62	0.540
AMB15-024	PS03B	DME	Seawater	3106-1329	06/10/14	--	--	1.56	130	2.09	0.596 J	0.0545	0.177 J	1.29	0.467
AMB15-DD001	OF021	TME	Freshwater	3106-1330	06/09/14	0.2	0.490 U	2.35	196	1.89	17.8	0.002 U	1.47	1.13	0.918
AMB15-DD001	OF021	DME	Freshwater	3106-1331	06/09/14	--	--	2.31	192	1.70	16.0	0.002 U	1.31	0.992	0.789
AMB15-DD002	OF018	TME	Seawater	3106-1332	06/09/14	25.5	1.72	1.07	89.5	6.12	17.8	0.103	0.419	5.29	1.37
AMB15-DD002	OF018	DME	Seawater	3106-1333	06/09/14	--	--	1.03	85.8	2.58	0.838	0.0966	0.263	2.53	0.882
AMB15-DD003	OF019	TME	Seawater	3106-1334	06/09/14	29.5	0.768	1.21	101	2.52	6.08	0.0748	3.43	4.83	1.88
AMB15-DD003	OF019	DME	Seawater	3106-1335	06/09/14	--	--	1.37	114	0.645	1.21	0.0748	1.13	3.56	1.46
AMB15-100	SN03	TME	Seawater	3106-1336	06/11/14	29.7	2.37	2.38	199	0.610	4.83	0.0579	0.164 J	1.01	0.436
AMB15-100	SN03	DME	Seawater	3106-1337	06/11/14	--	--	1.52	127	0.297	0.434 J	0.0567	0.166 J	1.01	0.684
AMB15-101	SN05	TME	Seawater	3106-1338	06/11/14	27.6	5.33	1.88	157	2.31	86.4	0.0489	0.593	1.22	0.862
AMB15-101	SN05	DME	Seawater	3106-1339	06/11/14	--	--	1.55	129	0.482	1.92	0.0428	0.303	1.21	0.509
AMB15-102	SN08	TME	Seawater	3106-1340	06/11/14	29.2	5.44	5.99	499	1.16	25.8	0.0606	0.278	1.25	0.507
AMB15-102	SN08	DME	Seawater	3106-1341	06/11/14	--	--	1.58	132	0.335	0.846	0.0542	0.176 J	0.969	0.419
AMB15-103	SN10	TME	Seawater	3106-1342	06/11/14	28.5	3.56	2.01	168	0.540	6.26	0.0550	0.176 J	1.41	0.507
AMB15-103	SN10	DME	Seawater	3106-1343	06/11/14	--	--	1.43	119	0.365	0.836	0.0525	0.169 J	1.23	0.442
AMB15-104	SN11	TME	Seawater	3106-1344	06/11/14	28.1	2.89	1.90	158	0.775	10.9	0.0516	0.227	1.35	0.503
AMB15-104	SN11	DME	Seawater	3106-1345	06/11/14	--	--	1.43	119	0.326	0.637	0.0542	0.150 J	1.27	0.412
AMB15-105	SN11 DUP	TME	Seawater	3106-1346	06/11/14	28.2	2.52	1.88	156	0.687	15.3	0.0608	0.234	1.50	0.554
AMB15-105	SN11 DUP	DME	Seawater	3106-1347	06/11/14	--	--	1.44	120	0.279	0.652	0.0585	0.166 J	1.26	0.407
AMB15-106	M2 SURF	TME	Seawater	3106-1348	06/11/14	28.8	2.10	1.27	106	0.906	17.3	0.0691	0.226	0.691	0.736
AMB15-106	M2 SURF	DME	Seawater	3106-1349	06/11/14	--	--	1.05	87.8	0.263	0.430 J	0.0642	0.159 J	0.468	0.426
AMB15-107	M2 DEEP	TME	Seawater	3106-1350	06/11/14	28.8	1.63	1.22	101	0.822	15.9	0.0665	0.202	0.568	0.475
AMB15-107	M2 DEEP	DME	Seawater	3106-1351	06/11/14	--	--	1.03	86.0	0.245	0.313 J	0.0623	0.211	0.489	0.820
AMB15-108	CLMBAY	TME	Seawater	3106-1352	06/11/14	28.5	3.02	1.33	111	0.680	25.8	0.0656	0.195 J	0.568	0.499
AMB15-108	CLMBAY	DME	Seawater	3106-1353	06/11/14	--	--	1.14	94.8	0.225	0.485 J	0.0649	0.135 J	0.469	0.565
AMB15-109	ILSP	TME	Seawater	3106-1354	06/11/14	27.7	2.26	1.52	127	0.610	7.20	0.0572	0.131 J	0.525	0.488
AMB15-109	ILSP	DME	Seawater	3106-1355	06/11/14	--	--	1.12	93.1	0.252	0.374 J	0.0538	0.123 J	0.477	0.435

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB15
ENVVEST June 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/D OC	Hg	Al	Cd	Cr	Cu	Ni
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB15-110	M1 SURF	TME	Seawater	3106-1356	06/11/14	27.6	1.88	1.60	134	0.313	5.78	0.0593	0.126 J	0.520	0.442
AMB15-110	M1 SURF	DME	Seawater	3106-1357	06/11/14	--	--	1.13	94.0	0.177	0.334 J	0.0514	0.114 J	0.448	0.406
AMB15-111	M1 DEEP	TME	Seawater	3106-1358	06/11/14	28.9	2.13	1.50	125	0.651	6.42	0.0963	0.145 J	0.574	0.581
AMB15-111	M1 DEEP	DME	Seawater	3106-1359	06/11/14	--	--	1.09	91.2	0.190	0.374 J	0.0618	0.318	0.468	1.25
AMB15-112	M5	TME	Seawater	3106-1360	06/11/14	29.0	2.83	1.56	130	0.767	16.2	0.0600	0.149 J	0.605	0.435
AMB15-112	M5	DME	Seawater	3106-1361	06/11/14	--	--	1.20	100	0.237	0.450 J	0.0557	0.120 J	0.518	0.432
AMB15-113	M5 DUP	TME	Seawater	3106-1362	06/11/14	29.0	2.49	1.60	134	0.693	16.1	0.0588	0.143 J	0.600	0.533
AMB15-113	M5 DUP	DME	Seawater	3106-1363	06/11/14	--	--	1.20	99.7	0.249	0.321 J	0.0551	0.110 J	0.508	0.392
AMB15-114	PS03C	TME	Seawater	3106-1364	06/11/14	28.1	3.23	2.67	223	0.641	6.24	0.0547	0.173 J	1.36	0.463
AMB15-114	PS03C	DME	Seawater	3106-1365	06/11/14	--	--	1.48	124	0.381	0.748	0.0516	0.142 J	1.22	0.428
AMB15-115	WP	TME	Seawater	3106-1366	06/11/14	28.9	2.67	1.35	113	0.741	22.3	0.0651	0.170 J	0.665	0.471
AMB15-115	WP	DME	Seawater	3106-1367	06/11/14	--	--	1.09	90.7	0.316	0.381 J	0.0602	0.119 J	0.529	0.409
AMB15-EB	Filter Blank	DME	Freshwater	3106-1368	06/04/14	--	--	--	--	--	0.2 U	0.004 U	0.1 U	0.0063 J	0.0319
NA	GO FLO 10	TME	Freshwater	NA	06/04/14	--	--	--	--	--	0.536 J	0.004 U	0.1 U	0.0053 U	0.004 U

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Ambient Monitoring - AMB15
ENVVEST June 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.0019**	**0.026**					
Seawater Reporting Limit (MDL* 3.18)					**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					**0.0022**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.0070**	**0.06**					
AMB15											
AMB15-001	PS03	TME	Seawater	3106-1282	0.136	2.24	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-001	PS03	DME	Seawater	3106-1283	0.0282	1.53	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-002	PS01	TME	Seawater	3106-1284	0.671	8.47	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-002	PS01	DME	Seawater	3106-1285	0.0616	3.36	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-003	PS02	TME	Seawater	3106-1286	0.583	5.00	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-003	PS02	DME	Seawater	3106-1287	0.0312	1.19	073114HGA1	072214DRC	--	070714HTCO	--
AMB15-004	PS03 T2	TME	Seawater	3106-1288	0.0714	2.06	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-004	PS03 T2	DME	Seawater	3106-1289	0.0212	1.42	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-005	M4	TME	Seawater	3106-1290	0.0975	1.19	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-005	M4	DME	Seawater	3106-1291	0.0309	0.621 B	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-006	BJEST	TME	Seawater	3106-1292	0.0574	1.55	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-006	BJEST	DME	Seawater	3106-1293	0.0224	0.804 B	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-007	M3.1 SURF	TME	Seawater	3106-1294	0.0380	0.855 B	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-007	M3.1 SURF	DME	Seawater	3106-1295	0.0101	0.472 B	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-008	M3.1 DEEP	TME	Seawater	3106-1296	0.0749	1.34	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-008	M3.1 DEEP	DME	Seawater	3106-1297	0.0164	0.950 B	073114HGA1	072214DRC	--	062514HTCO	--
AMB15-009	PS12	TME	Seawater	3106-1298	0.113	4.13	073114HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-009	PS12	DME	Seawater	3106-1299	0.0226	3.23	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-010	PS14	TME	Seawater	3106-1300	0.0807	2.31	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-010	PS14	DME	Seawater	3106-1301	0.0241	1.44	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-011	PS14DUP	TME	Seawater	3106-1302	0.0757	2.11	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-011	PS14DUP	DME	Seawater	3106-1303	0.0223	1.32	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-012	PS06	TME	Seawater	3106-1304	0.119	5.98	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-012	PS06	DME	Seawater	3106-1305	0.0318	5.37	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-013	PS07	TME	Seawater	3106-1306	0.215	4.81	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-013	PS07	DME	Seawater	3106-1307	0.0281	4.23	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-014	PS08	TME	Seawater	3106-1308	0.0679	6.33	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-014	PS08	DME	Seawater	3106-1309	0.0203	5.92	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-015	PS15	TME	Seawater	3106-1310	0.0572	2.71	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-015	PS15	DME	Seawater	3106-1311	0.0180	1.98	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-016	PS09	TME	Seawater	3106-1312	0.0677	4.26	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-016	PS09	DME	Seawater	3106-1313	0.0176	3.08	080514HGA1	072214DRC	--	062514HTCO	--
AMB15-017	PS09DUP	TME	Seawater	3106-1314	0.0586	3.37	080514HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-017	PS09DUP	DME	Seawater	3106-1315	0.0172	2.79	080514HGA1	072214DRC	--	062514HTCO	--

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Ambient Monitoring - AMB15
ENVVEST June 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*					
AMB15-018	PS10	TME	Seawater	3106-1316	0.0816	4.33	080714HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-018	PS10	DME	Seawater	3106-1317	0.0198	3.33	080714HGA1	072214DRC	--	062514HTCO	--
AMB15-019	PS10.1	TME	Seawater	3106-1318	0.0877	4.59	080714HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-019	PS10.1	DME	Seawater	3106-1319	0.0203	3.61	080714HGA1	072214DRC	--	062514HTCO	--
AMB15-020	PS11	TME	Seawater	3106-1320	0.0584	2.94	080714HGA1	072214DRC	061314Osal	070714HTCO	061414Nu
AMB15-020	PS11	DME	Seawater	3106-1321	0.0177	2.31	080714HGA1	072214DRC	--	062514HTCO	--
AMB15-021	PS16	TME	Seawater	3106-1322	0.0478	1.75	080714HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-021	PS16	DME	Seawater	3106-1323	0.0141	1.47	080714HGA1	073114A-DRC	--	062514HTCO	--
AMB15-022	PS05	TME	Seawater	3106-1324	0.104	1.46	080714HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-022	PS05	DME	Seawater	3106-1325	0.0322	0.974	080714HGA1	073114A-DRC	--	062514HTCO	--
AMB15-023	PS04	TME	Seawater	3106-1326	0.0996	7.18	080714HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-023	PS04	DME	Seawater	3106-1327	0.0371	1.98	080714HGA1	073114A-DRC	--	062514HTCO	--
AMB15-024	PS03B	TME	Seawater	3106-1328	0.141	2.76	080714HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-024	PS03B	DME	Seawater	3106-1329	0.0292	1.30	080714HGA1	073114A-DRC	--	062514HTCO	--
AMB15-DD001	OF021	TME	Freshwater	3106-1330	0.0196	1.21	080714HGA1	072514DRC	061314Osal	070714HTCO	061414Nu
AMB15-DD001	OF021	DME	Freshwater	3106-1331	0.0138	1.02	080714HGA1	072514DRC	--	062514HTCO	--
AMB15-DD002	OF018	TME	Seawater	3106-1332	0.265	37.6	080714HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-DD002	OF018	DME	Seawater	3106-1333	0.0246	31.4	080714HGA1	073114A-DRC	--	062514HTCO	--
AMB15-DD003	OF019	TME	Seawater	3106-1334	0.207	15.8	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-DD003	OF019	DME	Seawater	3106-1335	0.0477	15.5	081214HGA1	073114A-DRC	--	070714HTCO	--
AMB15-100	SN03	TME	Seawater	3106-1336	0.0467	1.71	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-100	SN03	DME	Seawater	3106-1337	0.0230	0.853	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-101	SN05	TME	Seawater	3106-1338	0.302	1.32	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-101	SN05	DME	Seawater	3106-1339	0.0594	0.617	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-102	SN08	TME	Seawater	3106-1340	0.114	2.04	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-102	SN08	DME	Seawater	3106-1341	0.0278	1.11	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-103	SN10	TME	Seawater	3106-1342	0.0476	2.56	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-103	SN10	DME	Seawater	3106-1343	0.0164	1.82	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-104	SN11	TME	Seawater	3106-1344	0.0622	2.18	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-104	SN11	DME	Seawater	3106-1345	0.0183	1.96	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-105	SN11 DUP	TME	Seawater	3106-1346	0.0795	2.61	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-105	SN11 DUP	DME	Seawater	3106-1347	0.0169	1.85	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-106	M2 SURF	TME	Seawater	3106-1348	0.0643	0.597	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-106	M2 SURF	DME	Seawater	3106-1349	0.0103	0.405	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-107	M2 DEEP	TME	Seawater	3106-1350	0.0531	0.512	081214HGA1	073114A-DRC	061314Osal	070714HTCO	061414Nu
AMB15-107	M2 DEEP	DME	Seawater	3106-1351	0.0121	0.335	081214HGA1	073114A-DRC	--	062514HTCO	--
AMB15-108	CLMBAY	TME	Seawater	3106-1352	0.0680	0.785	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-108	CLMBAY	DME	Seawater	3106-1353	0.0221	0.441	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-109	ILSP	TME	Seawater	3106-1354	0.0244	0.489	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-109	ILSP	DME	Seawater	3106-1355	0.0134	0.346	081414HGA1	073114B-DRC	--	062514HTCO	--

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Ambient Monitoring - AMB15
ENVVEST June 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Pb**	**Zn**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*					
AMB15-110	M1 SURF	TME	Seawater	3106-1356	0.0302	0.586	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-110	M1 SURF	DME	Seawater	3106-1357	0.00898	0.367	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-111	M1 DEEP	TME	Seawater	3106-1358	0.0359	0.707	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-111	M1 DEEP	DME	Seawater	3106-1359	0.00977	0.372	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-112	M5	TME	Seawater	3106-1360	0.0756	0.675	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-112	M5	DME	Seawater	3106-1361	0.0230	0.514	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-113	M5 DUP	TME	Seawater	3106-1362	0.0740	0.696	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-113	M5 DUP	DME	Seawater	3106-1363	0.0204	0.431	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-114	PS03C	TME	Seawater	3106-1364	0.0494	1.85	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-114	PS03C	DME	Seawater	3106-1365	0.0183	1.11	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-115	WP	TME	Seawater	3106-1366	0.116	0.792	081414HGA1	073114B-DRC	061314Osal	070714HTCO	061414Nu
AMB15-115	WP	DME	Seawater	3106-1367	0.0200	0.521	081414HGA1	073114B-DRC	--	062514HTCO	--
AMB15-EB	Filter Blank	DME	Freshwater	3106-1368	0.0022 U	0.02 U	--	060414DRC	--	--	--
NA	GO FLO 10	TME	Freshwater	NA	0.0022 U	0.0288 J	--	060414DRC	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB15
QC Sample Results for ICP-MS
ENVVEST June 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.2**	**0.002**	**0.06**	**0.035**	**0.025**	**0.0019**	**0.026**	
Seawater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.2**	**0.11**	**0.080**	**0.0060**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**	**0.0022**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.0**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**	
METHOD BLANKS												
TRM_BLK1		Total	Freshwater	TRM Blank	0.2 U	0.004 U	0.1 U	0.0053 U	0.004 U	0.0022 U	0.02 U	072514DRC
MB		Total	Seawater	DI Blank R1	0.148 U	0.0000 U	0.0393 U	0.0308 U	0.0236 U	0.00242 J	0.102	072214DRC
MB		Total	Seawater	DI Blank R2	0.159 U	0.0000 U	--	0.0391 J	--	0.00206 J	0.0890	072214DRC
MB		Total	Seawater	DI Blank R3	0.143 U	0.0001 U	0.0225 U	0.0328 U	0.0260 J	0.00233 J	0.111	072214DRC
MB		Total	Seawater	DI Blank R4	0.217 J	0.0001 U	0.0380 U	0.0409 J	0.0151 U	0.00201 J	0.0862	072214DRC
MB		Total	Seawater	DI Blank R5	0.199 U	0.0000 U	0.0287 U	0.0431 J	0.0133 U	0.00207 J	0.0934	072214DRC
MEAN REAGENT BLANK			Seawater	***BMRB_072214***	**0.173** U	**0.000** U	**0.0321** U	**0.037** J	**0.020** U	**0.0022** J	**0.0963**	072214DRC
MB		Total	Seawater	DI Blank R1 0722	0.119	0.0000	0.0274	0.0729	0.0483	0.00046	0.0739 J	073114A-DRC
MB		Total	Seawater	DI Blank R 0722	0.132	0.0000	0.0291	0.0506	0.0135	0.00070	0.0793 J	073114A-DRC
MB		Total	Seawater	DI Blank R3 0722	0.135	0.0000	0.0229	0.0524	0.0083	0.00054	0.0701 J	073114A-DRC
MB		Total	Seawater	DI Blank R4 0722	0.173	0.0000	0.0298	0.0491	0.0089	0.00042	0.0753 J	073114A-DRC
MB		Total	Seawater	DI Blank R5 0722	0.131	0.0000	0.0209	0.0479	0.0071	0.00056	0.0709 J	073114B-DRC
MB		Total	Seawater	DI Blank R6 0722	0.213	0.0000	0.0243	0.0503	0.0092	0.00101	0.0768 J	073114B-DRC
MB		Total	Seawater	DI Blank R7 0722	0.150	0.0001	0.0270	0.0480	0.0061	0.00047	0.0852	073114B-DRC
MB		Total	Seawater	DI Blank R8 0722	0.182	0.0000	0.0203	0.0522	0.0105	0.00047	0.0728 J	073114B-DRC
MB		Total	Seawater	DI Blank R9 0722	0.133	0.0002	0.0195	0.0319	0.0072	0.00074	0.0503 J	073114B-DRC
MEAN REAGENT BLANK			Seawater	***BMRB_073114***	**0.152** J	**0.000** U	**0.025** U	**0.051** J	**0.013** J	**0.001** U	**0.0727** J	073114-DRC

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Ambient Monitoring - AMB15
QC Sample Results for ICP-MS
ENVVEST June 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
TRM_BLK1		Total	Freshwater	TRM Blank	0.2 U	0.004 U	0.1 U	0.0053 U	0.004 U	0.0022 U	0.02 U	072514DRC
LCS		Total	Freshwater	TRM LCS	2.27	1.97	2.07	2.04	2.05	1.99	2.10	072514DRC
				Percent Recovery, LCS	**114%**	**99%**	**104%**	**102%**	**103%**	**100%**	**105%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	1.99	0.0521	0.167 J	0.394	0.314	0.00433	0.396	072214DRC
LCS		Total	Seawater	SB LCS R1	4.08	1.93	2.00	2.09	2.09	1.93	1.98	072214DRC
				Percent Recovery, LCS	**105%**	**94%**	**92%**	**85%**	**89%**	**96%**	**79%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	2.27	0.0535	0.179	0.386	0.326	0.00662	0.339	072214DRC
LCS		Total	Seawater	SB LCS R2	3.70	1.89	1.99	2.06	2.08	1.89	1.92	072214DRC
				Percent Recovery, LCS	**72%**	**92%**	**91%**	**84%**	**88%**	**94%**	**79%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1 0722	2.17	0.0549	0.157	0.278	0.330	0.00316	0.289	073114A-DRC
LCS		Total	Seawater	SB LCS R1 0722	3.99	1.95	2.02	2.08	2.15	1.95	2.14	073114A-DRC
				Percent Recovery, LCS	**91%**	**95%**	**93%**	**90%**	**91%**	**97%**	**93%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R2	2.29	0.0544	0.170	0.271	0.344	0.00349	0.264	073114A-DRC
LCS		Total	Seawater	SB LCS R2	4.16	1.99	2.26	2.17	2.29	1.96	1.77	073114A-DRC
				Percent Recovery, LCS	**94%**	**97%**	**105%**	**95%**	**97%**	**98%**	**75%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R3 0722	2.09	0.0508	0.150	0.257	0.323	0.00288	0.218	073114B-DRC
LCS		Total	Seawater	SB LCS R3 0722	3.96	1.85	1.87	2.07	2.18	1.88	1.86	073114B-DRC
				Percent Recovery, LCS	**94%**	**90%**	**86%**	**91%**	**93%**	**94%**	**82%**	

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Ambient Monitoring - AMB15
QC Sample Results for ICP-MS
ENVVEST June 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB15-DD001	OF021	DME	Freshwater	3106-1331	16.0	0.002 U	1.31	0.992	0.789	0.0138	1.02	072514DRC
MS				3106-1331 MS	17.1	1.03	2.28	1.96	1.77	1.04	2.03	072514DRC
MSD				3106-1331 MSD	16.9	1.02	2.23	1.97	1.76	1.02	2.08	072514DRC
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**110%**	**103%**	**97%**	**97%**	**98%**	**103%**	**101%**	
				Percent Recovery, MSD	**90%**	**102%**	**92%**	**98%**	**97%**	**101%**	**106%**	
AMB15-005	M4	TME	Seawater	3106-1290	20.0	0.0534	0.231	1.05	0.491	0.0975	1.19	072214DRC
MS				3106-1290MS	25.8	0.953	1.12	1.92	1.33	1.03	5.18	072214DRC
MSD				3106-1290MSD	26.3	1.03	1.19	1.96	1.42	1.09	5.37	072214DRC
				Spiking Level	5	1	1	1	1	1	5	
				Percent Recovery, MS	**116%**	**90%**	**89%**	**87%**	**84%**	**93%**	**80%**	
				Percent Recovery, MSD	**126%**	**98%**	**96%**	**91%**	**93%**	**99%**	**84%**	
AMB15-020	PS11	DME	Seawater	3106-1321	0.344 J	0.0612	0.135 J	1.13	0.472	0.0177	2.31	072214DRC
MS				3106-1321MS	1.24	1.04	1.14	2.05	1.34	1.00	3.21	072214DRC
MSD				3106-1321MSD	1.26	1.03	1.11	2.03	1.33	1.00	3.19	072214DRC
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**90%**	**98%**	**101%**	**92%**	**87%**	**98%**	**90%**	
				Percent Recovery, MSD	**92%**	**97%**	**98%**	**90%**	**86%**	**98%**	**88%**	
AMB15-102	SN08	TME	Seawater	3106-1340	25.8	0.0606	0.278	1.25	0.507	0.114	2.04	073114A-DRC
MS				3106-1340 MS	34.5	0.979	1.25	2.09	1.39	1.06	5.81	073114A-DRC
MSD				3106-1340 MSD	33.8	0.977	1.27	2.06	1.40	1.04	5.72	073114A-DRC
				Spiking Level	5	1	1	1	1	1	5	
				Percent Recovery, MS	**174%** c	**92%**	**97%**	**84%**	**88%**	**95%**	**75%**	
				Percent Recovery, MSD	**160%** c	**92%**	**99%**	**81%**	**89%**	**93%**	**74%**	
AMB15-106	M2 SURF	DME	Seawater	3106-1349	0.430 J	0.0642	0.159 J	0.468	0.426	0.0103	0.405	073114A-DRC
MS				3106-1349MS	1.42	1.03	1.26	1.38	1.40	0.984	1.17	073114A-DRC
MSD				3106-1349MSD	1.50	1.05	1.31	1.45	1.43	1.01	1.23	073114A-DRC
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**99%**	**97%**	**110%**	**91%**	**97%**	**97%**	**77%**	
				Percent Recovery, MSD	**107%**	**99%**	**115%**	**98%**	**100%**	**100%**	**83%**	
AMB15-115	WP	DME	Seawater	3106-1367	0.381 J	0.0602	0.119 J	0.529	0.409	0.0200	0.521	073114B-DRC
MS				3106-1367MS	1.23	0.973	0.982	1.43	1.33	0.968	1.31	073114B-DRC
MSD				3106-1367MSD	1.42	1.00	1.02	1.45	1.35	0.993	1.35	073114B-DRC
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**85%**	**91%**	**86%**	**90%**	**92%**	**95%**	**79%**	
				Percent Recovery, MSD	**104%**	**93%**	**90%**	**92%**	**94%**	**97%**	**83%**	

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Ambient Monitoring - AMB15
QC Sample Results for ICP-MS
ENVVEST June 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION												
AMB15-001	PS03	TME	Seawater	3106-1282 R1	11.8	0.0604	0.221	1.57	0.535	0.136	2.24	072214DRC
DUP				3106-1282 R2	8.55	0.0518	0.184	1.40	0.480	0.117	1.88	072214DRC
				Mean	*10.2*	*0.0561*	*0.203*	*1.49*	*0.508*	*0.127*	*2.06*	072214DRC
				RPD	**32%** *	**15%**	**18%**	**11%**	**11%**	**15%**	**17%**	
AMB15-013	PS07	TME	Seawater	3106-1306 R1	7.40	0.0671	0.185 J	1.98	0.596	0.215	4.81	072214DRC
DUP				3106-1306 R2	7.99	0.0684	0.194 J	1.95	0.575	0.0963	5.11	072214DRC
				Mean	*7.70*	*0.0678*	*0.190* J	*1.97*	*0.586*	*0.156*	*4.96*	072214DRC
				RPD	**8%**	**2%**	**5%**	**2%**	**4%**	**76%** *	**6%**	
AMB15-DD001	OF021	TME	Freshwater	3106-1330 R1	17.8	0.002 U	1.47	1.13	0.918	0.0196	1.21	072514DRC
DUP				3106-1330 R2	17.3	0.002 U	1.43	1.12	0.914	0.0198	1.12	072514DRC
				Mean	*17.6*	*NA*	*1.45*	*1.13*	*0.916*	*0.0197*	*1.17*	072514DRC
				RPD	**3%**		**3%**	**1%**	**0%**	**1%**	**8%**	
AMB15-024	PS03B	TME	Seawater	3106-1328R1	25.3	0.0617	0.252	1.62	0.540	0.141	2.76	073114A-DRC
DUP				3106-1328R2	23.4	0.0558	0.251	1.52	0.520	0.131	15.2	073114A-DRC
				Mean	*24.4*	*0.0588*	*0.252*	*1.57*	*0.530*	*0.136*	*8.98*	073114A-DRC
				RPD	**8%**	**10%**	**0%**	**6%**	**4%**	**7%**	**139%** *	
AMB15-104	SN11	TME	Seawater	3106-1344 R1	10.9	0.0516	0.227	1.35	0.503	0.0622	2.18	073114A-DRC
DUP				3106-1344 R2	11.2	0.0606	0.228	1.55	0.526	0.0674	2.69	073114A-DRC
				Mean	*11.1*	*0.0561*	*0.228*	*1.45*	*0.515*	*0.0648*	*2.44*	073114A-DRC
				RPD	**3%**	**16%**	**0%**	**14%**	**4%**	**8%**	**21%**	
AMB15-114	PS03C	TME	Seawater	3106-1364 R1	6.24	0.0547	0.173 J	1.36	0.463	0.0494	1.85	073114B-DRC
DUP				3106-1364 R2	6.51	0.0562	0.170 J	1.34	0.456	0.0502	1.85	073114B-DRC
				Mean	*6.38*	*0.0555*	*0.172 J*	*1.35*	*0.460*	*0.0498*	*1.85*	073114B-DRC
				RPD	**4%**	**3%**	**2%**	**1%**	**2%**	**2%**	**0%**	

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Ambient Monitoring - AMB15
QC Sample Results for ICP-MS
ENVVEST June 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-5		Total	Seawater	CASS-5 R1	0.866	0.0226	0.140	0.391	0.297	0.01070	0.744	072214DRC
SRM CASS-5		Total	Seawater	CASS-5 R2	0.804	0.0219	0.132	0.369	0.272	0.01040	0.606	072214DRC
SRM CASS-5		Total	Seawater	CASS-5 R1 0722	0.948	0.0234	0.129	0.374	0.303	0.00988	0.667	073114A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R2 0722	0.920	0.0224	0.125	0.362	0.288	0.00936	0.694	073114A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R3 0722	0.969	0.0245	0.129	0.369	0.312	0.00950	0.609	073114B-DRC
				Certified Value	NC	**0.0215**	**0.106** c	**0.380**	**0.330**	**0.011** c	**0.719**	
				PD	**--**	**5%**	**32%** &	**3%**	**10%**	**3%**	**3%**	
				PD	**--**	**2%**	**25%** &	**3%**	**18%**	**5%**	**16%**	
				PD	**--**	**9%**	**22%** &	**2%**	**8%**	**10%**	**7%**	
				PD	**--**	**4%**	**18%**	**5%**	**13%**	**15%**	**3%**	
				PD	**--**	**14%**	**22%** &	**3%**	**5%**	**14%**	**15%**	
SRM SLEW-3		Total	Seawater	SLEW-3 R1	0.436 J	0.0443	0.197	1.39	1.12	0.00893	0.324	072214DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R2	0.662	0.0454	0.217	1.41	1.14	0.0115	0.350	072214DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R1 0722	0.391	0.0469	0.193	1.49	1.21	0.00695	0.203	073114A-DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R2 0722	0.424	0.0484	0.199	1.52	1.23	0.00734	0.201	073114A-DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R3 0722	0.393	0.0409	0.168	1.34	1.10	0.00630	0.150	073114B-DRC
				Certified Value	NC	**0.0480**	**0.183**	**1.55**	**1.23**	**0.009**	**0.201**	
				PD	**--**	**--**	**8%**	**--**	**--**	**--**	**--**	
				PD	**--**	**--**	**19%**	**--**	**--**	**--**	**--**	
				PD	**--**	**--**	**5%**	**--**	**--**	**--**	**--**	
				PD	**--**	**--**	**9%**	**--**	**--**	**--**	**--**	
				PD	**--**	**--**	**8%**	**--**	**--**	**--**	**--**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Total	Freshwater	1640a 10x	54.0	3.99	40.2	84.1	25.1	11.7	56.1	072214DRC
SRM 1640a		Total	Freshwater	TRM 1640a 10x	54.3	4.16	40.5	87.1	25.3	12.1	58.2	072514DRC
SRM 1640a		Total	Freshwater	1640a 10x	59.8	4.15	40.2	85.5	24.6	12.1	57.7	073114A-DRC
SRM 1640a		Total	Freshwater	1640a 10x	60.0	4.00	38.8	85.2	25.3	12.0	54.2	073114B-DRC
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**2%**	**0%**	**1%**	**2%**	**1%**	**3%**	**1%**	
				PD	**2%**	**4%**	**0%**	**2%**	**0%**	**0%**	**5%**	
				PD	**13%**	**4%**	**1%**	**0%**	**3%**	**0%**	**4%**	
				PD	**13%**	**0%**	**4%**	**1%**	**0%**	**1%**	**3%**	

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Ambient Monitoring - AMB15
QC Sample Results for CVAF
ENVVEST June 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		CVAF Batch ID
				Instrument:	*CVAF*		
Laboratory Achieved Detection Limits					**0.100**		
Reporting Limit (MDL* 3.18)					**0.320**		
METHOD BLANKS							
MB-1	TME		Water	Method Blank1	0.100	U	073114HGA1
MB-2	TME		Water	Method Blank2	0.100	U	073114HGA1
MB-3	TME		Water	Method Blank3	0.100	U	073114HGA1
MB-4	TME		Water	Method Blank1	0.100	U	080514HGA1
MB-5	TME		Water	Method Blank2	0.100	U	080514HGA1
MB-6	TME		Water	Method Blank3	0.100	U	080514HGA1
MB-7	TME		Water	Method Blank1	0.100	U	080714HGA1
MB-8	TME		Water	Method Blank2	0.100	U	080714HGA1
MB-9	TME		Water	Method Blank3	0.100	U	080714HGA1
MB-10	TME		Water	Method Blank1	0.100	U	081214HGA1
MB-11	TME		Water	Method Blank2	0.100	U	081214HGA1
MB-12	TME		Water	Method Blank3	0.100	U	081214HGA1
MB-13	TME		Water	Method Blank1	0.100	U	081414HGA1
MB-14	TME		Water	Method Blank2	0.100	U	081414HGA1
MB-15	TME		Water	Method Blank3	0.100	U	081414HGA1
LABORATORY CONTROL SAMPLES							
Spiking Level					4.96		
LCS (1)	TME		Water	OPR 073014 run1	5.07		073114HGA1
LCS (2)	TME		Water	OPR 073014 run2	5.07		073114HGA1
LCS Blank (1)	TME		Water	BLANK 073014	0.107	J	073114HGA1
				Percent Recovery, LCS 1	**100%**		
				Percent Recovery, LCS 2	**100%**		
Spiking Level					4.96		
LCS (1)	TME		Water	OPR 080414 run1	5.38		080514HGA1
LCS (2)	TME		Water	OPR 080414 run2	5.36		080514HGA1
LCS Blank (1)	TME		Water	BLANK 080414	0.111	J	080514HGA1
				Percent Recovery, LCS 1	**106%**		
				Percent Recovery, LCS 2	**106%**		
Spiking Level					4.96		
LCS (1)	TME		Water	OPR 080614 run1	5.13		080714HGA1
LCS (2)	TME		Water	OPR 080614 run2	5.11		080714HGA1
LCS Blank (1)	TME		Water	BLANK 080614	0.100	U	080714HGA1
				Percent Recovery, LCS 1	**104%**		
				Percent Recovery, LCS 2	**103%**		
Spiking Level					4.96		
LCS (1)	TME		Water	OPR 081114 run1	4.84		081214HGA1
LCS (2)	TME		Water	OPR 081114 run2	5.24		081214HGA1
LCS Blank (1)	TME		Water	BLANK 081114	0.131	J	081214HGA1
				Percent Recovery, LCS 1	**95%**		
				Percent Recovery, LCS 2	**103%**		

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Ambient Monitoring - AMB15
QC Sample Results for CVAF
ENVVEST June 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont)						
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 081314 run1	5.00	081414HGA1
LCS (2)		TME	Water	OPR 081314 run2	4.89	081414HGA1
LCS Blank (1)		TME	Water	BLANK 081314	0.100 U	081414HGA1
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**99%**	
MATRIX SPIKE RESULTS						
AMB15-003	PS02	DME	Seawater	3106-1287	0.877	073114HGA1
MS				3106-1287MS	7.42	073114HGA1
MSD				3106-1287MSD	7.18	073114HGA1
				Spiking Level, MS	5.96	
				Spiking Level, MSD	5.96	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**106%**	
				RPD	**3.7%**	
AMB15-005	M4	TME	Seawater	3106-1290	0.816	073114HGA1
MS				3106-1290MS	7.03	073114HGA1
MSD				3106-1290MSD	6.85	073114HGA1
				Spiking Level, MS	5.96	
				Spiking Level, MSD	5.95	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**101%**	
				RPD	**2.8%**	
AMB15-012	PS06	TME	Seawater	3106-1304	1.83	080514HGA1
MS				3106-1304 MS	8.66	080514HGA1
MSD				3106-1304 MSD	8.33	080514HGA1
				Spiking Level, MS	5.89	
				Spiking Level, MSD	5.97	
				Percent Recovery, MS	**116%**	
				Percent Recovery, MSD	**109%**	
				RPD	**6.2%**	
AMB15-016	PS09	DME	Seawater	3106-1313	0.265	080514HGA1
MS				3106-1313 MS	6.64	080514HGA1
MSD				3106-1313 MSD	6.31	080514HGA1
				Spiking Level, MS	5.90	
				Spiking Level, MSD	5.85	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**103%**	
				RPD	**4.7%**	

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Ambient Monitoring - AMB15
QC Sample Results for CVAF
ENVVEST June 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB15-020	PS11	DME	Seawater	3106-1321	0.258	080714HGA1
MS				3106-1321 MS	6.67	080714HGA1
MSD				3106-1321 MSD	6.32	080714HGA1
				Spiking Level, MS	5.96	
				Spiking Level, MSD	5.96	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**102%**	
				RPD	**5.7%**	
AMB15-023	PS04	TME	Seawater	3106-1326	1.07	080714HGA1
MS				3106-1326 MS	7.13	080714HGA1
MSD				3106-1326 MSD	7.44	080714HGA1
				Spiking Level, MS	5.89	
				Spiking Level, MSD	5.91	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**108%**	
				RPD	**4.6%**	
AMB15-102	SN08	TME	Seawater	3106-1340	1.16	081214HGA1
MS				3106-1340 MS	6.82	081214HGA1
MSD				3106-1340 MSD	7.40	081214HGA1
				Spiking Level, MS	5.85	
				Spiking Level, MSD	5.93	
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**105%**	
				RPD	**8.5%**	
AMB15-106	M2 SURF	DME	Seawater	3106-1349	0.263	081214HGA1
MS				3106-1349 MS	6.80	081214HGA1
MSD				3106-1349 MSD	6.71	081214HGA1
				Spiking Level, MS	5.93	
				Spiking Level, MSD	5.99	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**108%**	
				RPD	**2.4%**	
AMB15-109	ILSP	TME	Seawater	3106-1354	0.610	081414HGA1
MS				3106-1354 MS	6.59	081414HGA1
MSD				3106-1354 MSD	6.71	081414HGA1
				Spiking Level, MS	5.86	
				Spiking Level, MSD	5.93	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.8%**	
AMB15-115	WP	DME	Seawater	3106-1367	0.316	081414HGA1
MS				3106-1367 MS	6.37	081414HGA1
MSD				3106-1367 MSD	6.26	081414HGA1
				Spiking Level, MS	5.97	
				Spiking Level, MSD	5.89	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.2%**	

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Ambient Monitoring - AMB15
QC Sample Results for CVAF
ENVVEST June 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB15-001	PS03	TME	Seawater	3106-1282 R1	11.0	073114HGA1
DUP	PS03	TME	Seawater	3106-1282 R2	11.9	073114HGA1
				Mean	*11.4*	073114HGA1
				RPD	**8%**	
AMB15-013	PS07	TME	Seawater	3106-1306	1.33	080514HGA1
DUP				3106-1306 R2	1.20	080514HGA1
				Mean	*1.26*	080514HGA1
				RPD	**11%**	
AMB15-024	PS03B	TME	Seawater	3106-1328	4.21	080714HGA1
DUP				3106-1328 r2	4.24	080714HGA1
				Mean	*4.23*	080714HGA1
				RPD	**1%**	
AMB15-104	SN11	TME	Seawater	3106-1344	0.775	081214HGA1
DUP				3106-1344 r2	0.695	081214HGA1
				Mean	*0.735*	081214HGA1
				RPD	**11%**	
AMB15-114	PS03C	TME	Seawater	3106-1364	0.641	081414HGA1
DUP				3106-1364 r2	0.631	081414HGA1
				Mean	*0.636*	081414HGA1
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 073014	1507425	073114HGA1
SRM 1641 (2)		Total	Freshwater	1641d 080414	1477464	080514HGA1
SRM 1641 (3)		Total	Freshwater	1641d 080614	1537715	080714HGA1
SRM 1641 (4)		Total	Freshwater	1641d 081114	1510467	081214HGA1
SRM 1641 (5)		Total	Freshwater	1641d 081314	1528551	081414HGA1
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**3.2%**	
	SRM 1641 (2)			**PD**	**5.1%**	
	SRM 1641 (3)			**PD**	**1.2%**	
	SRM 1641 (4)			**PD**	**3.0%**	
	SRM 1641 (5)			**PD**	**1.8%**	

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Ambient Monitoring - AMB15
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.03**	**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**	**8.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.03	2.5	U	062514HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.03	2.5	U	070914HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.03	2.5	U	070914HTCO
REPLICATE PRECISION								
AMB15-102	SN08	TME	Seawater	3106-1340	5.99	499		070914HTCO
DUP				3106-1340 r2	5.99	499		070914HTCO
				Mean	*5.99*	*499*		070914HTCO
				RPD	**0.0%**	**0.0%**		
AMB15-107	M2 DEEP	TME	Seawater	3106-1350	1.22	101		070914HTCO
DUP				3106-1350 r2	1.22	102		070914HTCO
				Mean	*1.22*	*102*		070914HTCO
				RPD	**0.2%**	**0.2%**		
AMB15-108	CLMBAY	TME	Seawater	3106-1352	1.33	111		070914HTCO
DUP				3106-1352 r2	1.33	111		070914HTCO
				Mean	*1.33*	*111*		070914HTCO
				RPD	**0.4%**	**0.4%**		
AMB15-109	ILSP	TME	Seawater	3106-1354	1.52	127		070914HTCO
DUP				3106-1354 r2	1.50	125		070914HTCO
				Mean	*1.51*	*126*		070914HTCO
				RPD	**1.9%**	**1.9%**		
AMB15-110	M1 SURF	TME	Seawater	3106-1356	1.60	134		070914HTCO
DUP				3106-1356 r2	1.58	132		070914HTCO
				Mean	*1.59*	*133*		070914HTCO
				RPD	**1.3%**	**1.3%**		
AMB15-111	M1 DEEP	TME	Seawater	3106-1358	1.50	125		070914HTCO
DUP				3106-1358 r2	1.49	124		070914HTCO
				Mean	*1.50*	*125*		070914HTCO
				RPD	**0.4%**	**0.4%**		
AMB15-111	M1 DEEP	DME	Seawater	3106-1359	1.09	91.2		062514HTCO
DUP				3106-1359 r2	1.07	89.4		062514HTCO
				Mean	*1.08*	*90.3*		062514HTCO
				RPD	**2.0%**	**2.0%**		
AMB15-112	M5	TME	Seawater	3106-1360	1.56	130		070914HTCO
DUP				3106-1360 r2	1.56	130		070914HTCO
				Mean	*1.56*	*130*		070914HTCO
				RPD	**0.5%**	**0.5%**		
AMB15-112	M5	DME	Seawater	3106-1361	1.20	100		062514HTCO
DUP				3106-1361 r2	1.16	96.3		062514HTCO
				Mean	*1.18*	*98.2*		062514HTCO
				RPD	**3.9%**	**3.9%**		

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Ambient Monitoring - AMB15
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
AMB15-113	M5 DUP	TME	Seawater	3106-1362	1.60	134		070914HTCO
DUP				3106-1362 r2	1.61	134		070914HTCO
				Mean	*1.61*	*134*		070914HTCO
				RPD	**0.6%**	**0.6%**		
AMB15-113	M5 DUP	DME	Seawater	3106-1363	1.20	99.7		062514HTCO
DUP				3106-1363 r2	1.19	99.3		062514HTCO
				Mean	*1.19*	*99.5*		062514HTCO
				RPD	**0.4%**	**0.4%**		
AMB15-114	PS03C	TME	Seawater	3106-1364	2.67	223		070914HTCO
DUP				3106-1364 r2	2.68	223		070914HTCO
				Mean	*2.68*	*223*		070914HTCO
				RPD	**0.3%**	**0.3%**		
AMB15-114	PS03C	DME	Seawater	3106-1365	1.48	124		062514HTCO
DUP				3106-1365 r2	1.47	123		062514HTCO
				Mean	*1.48*	*123*		062514HTCO
				RPD	**0.9%**	**0.9%**		
AMB15-115	WP	TME	Seawater	3106-1366	1.35	113		070914HTCO
DUP				3106-1366 r2	1.34	112		070914HTCO
				Mean	*1.35*	*112*		070914HTCO
				RPD	**0.7%**	**0.7%**		
AMB15-115	WP	DME	Seawater	3106-1367	1.09	90.7		062514HTCO
DUP				3106-1367 r2	1.10	91.7		062514HTCO
				Mean	*1.09*	*91.2*		062514HTCO
				RPD	**1.1%**	**1.1%**		

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Ambient Monitoring - AMB15
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.464	38.6		062514HTCO
CRM-2		DOC	Seawater	CRM	0.498	41.5		062514HTCO
CRM-3		DOC	Seawater	CRM	0.490	40.9		062514HTCO
CRM-4		DOC	Seawater	CRM	0.479	39.9		062514HTCO
CRM-5		DOC	Seawater	CRM	0.520	43.3		062514HTCO
CRM-6		DOC	Seawater	CRM	0.497	41.5		062514HTCO
CRM-7		DOC	Seawater	CRM	0.499	41.6		062514HTCO
CRM-8		DOC	Seawater	CRM	0.516	43.0		062514HTCO
CRM-9		DOC	Seawater	CRM	0.506	42.1		070914HTCO
CRM-10		DOC	Seawater	CRM	0.507	42.2		070914HTCO
CRM-11		DOC	Seawater	CRM	0.491	40.9		070914HTCO
CRM-12		DOC	Seawater	CRM	0.477	39.7		070914HTCO
CRM-13		DOC	Seawater	CRM	0.511	42.6		070914HTCO
CRM-14		DOC	Seawater	CRM	0.505	42.1		070914HTCO
CRM-15		DOC	Seawater	CRM	0.482	40.2		070914HTCO
CRM-16		DOC	Seawater	CRM	0.499	41.6		070914HTCO
CRM-17		DOC	Seawater	CRM	0.504	42.0		070914HTCO
CRM-18		DOC	Seawater	CRM	0.512	42.6		070914HTCO
CRM-19		DOC	Seawater	CRM	0.489	40.7		070914HTCO
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**9.1%**	**9.1%**		
CRM-2				**PD**	**2.3%**	**2.3%**		
CRM-3				**PD**	**3.8%**	**3.8%**		
CRM-4				**PD**	**6.2%**	**6.2%**		
CRM-5				**PD**	**2.0%**	**2.0%**		
CRM-6				**PD**	**2.5%**	**2.5%**		
CRM-7				**PD**	**2.1%**	**2.1%**		
CRM-8				**PD**	**1.2%**	**1.2%**		
CRM-9				**PD**	**0.8%**	**0.8%**		
CRM-10				**PD**	**0.6%**	**0.6%**		
CRM-11				**PD**	**3.8%**	**3.8%**		
CRM-12				**PD**	**6.5%**	**6.5%**		
CRM-13				**PD**	**0.1%**	**0.1%**		
CRM-14				**PD**	**1.0%**	**1.0%**		
CRM-15				**PD**	**5.4%**	**5.4%**		
CRM-16				**PD**	**2.2%**	**2.2%**		
CRM-17				**PD**	**1.3%**	**1.3%**		
CRM-18				**PD**	**0.3%**	**0.3%**		
CRM-19				**PD**	**4.2%**	**4.2%**		

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Ambient Monitoring - AMB15
QC Sample Results for TOC/DOC by HTCO
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	0.943	78.6		062514HTCO
ICV/CCV-2				ICV_1PPM	0.977	81.4		070714HTCO
ICV/CCV-3				ICV_1PPM	1.000	83.4		070714HTCO
ICV/CCV-4				CCV_1PPM	1.003	83.6		062514HTCO
ICV/CCV-5				CCV_1PPM	0.982	81.8		062514HTCO
ICV/CCV-6				CCV_1PPM	0.973	81.1		062514HTCO
ICV/CCV-7				CCV_1PPM	0.960	80.0		062514HTCO
ICV/CCV-8				CCV_1PPM	0.975	81.2		062514HTCO
ICV/CCV-9				CCV_1PPM	0.966	80.5		062514HTCO
ICV/CCV-10				CCV_1PPM	0.938	78.2		062514HTCO
ICV/CCV-11				CCV_1PPM	0.998	83.2		070914HTCO
ICV/CCV-12				CCV_1PPM	0.974	81.2		070914HTCO
ICV/CCV-13				CCV_1PPM	0.940	78.3		070914HTCO
ICV/CCV-14				CCV_1PPM	0.947	78.9		070914HTCO
ICV/CCV-15				CCV_1PPM	0.946	78.9		070914HTCO
ICV/CCV-16				CCV_1PPM	0.935	77.9		070914HTCO
ICV/CCV-17				CCV_1PPM	0.931	77.6		070914HTCO
ICV/CCV-18				CCV_1PPM	1.000	83.4		070914HTCO
ICV/CCV-19				CCV_1PPM	0.996	83.0		070914HTCO
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**94%**			
ICV/CCV-2				**% RECOVERY**	**98%**			
ICV/CCV-3				**% RECOVERY**	**100%**			
ICV/CCV-4				**% RECOVERY**	**100%**			
ICV/CCV-5				**% RECOVERY**	**98%**			
ICV/CCV-6				**% RECOVERY**	**97%**			
ICV/CCV-7				**% RECOVERY**	**96%**			
ICV/CCV-8				**% RECOVERY**	**97%**			
ICV/CCV-9				**% RECOVERY**	**97%**			
ICV/CCV-10				**% RECOVERY**	**94%**			
ICV/CCV-11				**% RECOVERY**	**100%**			
ICV/CCV-12				**% RECOVERY**	**97%**			
ICV/CCV-13				**% RECOVERY**	**94%**			
ICV/CCV-14				**% RECOVERY**	**95%**			
ICV/CCV-15				**% RECOVERY**	**95%**			
ICV/CCV-16				**% RECOVERY**	**93%**			
ICV/CCV-17				**% RECOVERY**	**93%**			
ICV/CCV-18				**% RECOVERY**	**100%**			
ICV/CCV-19				**% RECOVERY**	**100%**			

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Ambient Monitoring - AMB15
QC Sample Results for Salinity
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		TME	Seawater	DIW Blank1	0.01 U	PSU	061314Osal
MB2		TME	Seawater	DIW Blank2	0.01 U	PSU	061314Osal
MB3		TME	Seawater	DIW Blank3	0.01 U	PSU	061314Osal
MB4		TME	Seawater	DIW Blank 4	0.01 U	PSU	061314Osal
MB5		TME	Seawater	DIW Blank 5	0.01 U	PSU	061314Osal
MB6		TME	Seawater	DIW Blank 6	0.01 U	PSU	061314Osal
STANDARD REFERENCE MATERIAL							
SRM-1		TME	Seawater	Copenhagen Water 1	35.5	PSU	061314Osal
SRM-2		TME	Seawater	Copenhagen Water 2	35.0	PSU	061314Osal
SRM-3		TME	Seawater	Copenhagen Water 3	36.7	PSU	061314Osal
SRM-4		TME	Seawater	Copenhagen Water 4	37.2	PSU	061314Osal
SRM-5		TME	Seawater	Copenhagen Water 5	35.5	PSU	061314Osal
SRM-6		TME	Seawater	Copenhagen Water 6	35.3	PSU	061314Osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**1.5%**		
	SRM-2			**PD**	**0.0%**		
	SRM-3			**PD**	**4.9%**		
	SRM-4			**PD**	**6.3%**		
	SRM-5			**PD**	**1.5%**		
	SRM-6			**PD**	**0.9%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS1	21.8	PSU	061314Osal
LCS-2				LCS2	21.5	PSU	061314Osal
LCS-3				LCS3	22.4	PSU	061314Osal
LCS-4				LCS4	22.9	PSU	061314Osal
LCS-5				LCS5	21.7	PSU	061314Osal
LCS-6				LCS6	21.7	PSU	061314Osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**109%**		
	LCS-2			**% RECOVERY**	**108%**		
	LCS-3			**% RECOVERY**	**112%**		
	LCS-4			**% RECOVERY**	**115%**		
	LCS-5			**% RECOVERY**	**109%**		
	LCS-6			**% RECOVERY**	**109%**		

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Ambient Monitoring - AMB15
QC Sample Results for Salinity
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				YSI 50 ms/cm ICV	50.0	mS	061314Osal
CCV-1				YSI 50 ms/cmCCV1	50.1	mS	061314Osal
CCV-2				YSI 50 ms/cmCCV2	50.0	mS	061314Osal
CCV-3				YSI 50 ms/cmCCV3	49.8	mS	061314Osal
CCV-4				YSI 50 ms/cmCCV4	50.0	mS	061314Osal
CCV-5				YSI 50 ms/cmCCV5	53.2	mS	061314Osal
CCV-6				YSI 50 ms/cmCCV6	50.0	mS	061314Osal
CCV-7				YSI 50 ms/cmCCV7	50.2	mS	061314Osal
CCV-8				YSI 50 ms/cmCCV8	51.2	mS	061314Osal
CCV-9				YSI 50 ms/cmCCV9	50.1	mS	061314Osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**100%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		
	CCV-5			**% RECOVERY**	**106%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**100%**		
	CCV-8			**% RECOVERY**	**102%**		
	CCV-9			**% RECOVERY**	**100%**		

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Ambient Monitoring - AMB15
QC Sample Results for TSS
ENVVEST June 2014

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.49*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank 1	0.49 U	mg/L	061414Nu
MB2		TME	Seawater	Blank 2	0.49 U	mg/L	061414Nu
MB3		TME	Seawater	Blank 3	0.49 U	mg/L	061414Nu
MB4		TME	Seawater	Blank 4	0.49 U	mg/L	061414Nu
MB5		TME	Seawater	Blank 5	0.49 U	mg/L	061414Nu
MB6		TME	Seawater	Blank 6	0.49 U	mg/L	061414Nu
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	37.4	mg/L	061414Nu
LCS-2				LCS r2	40.3	mg/L	061414Nu
LCS-3				LCS r3	39.2	mg/L	061414Nu
LCS-4				LCS r4	41.2	mg/L	061414Nu
LCS-5				LCS r5	38.2	mg/L	061414Nu
LCS-6				LCS r6	39.7	mg/L	061414Nu
				TRUE VALUE	**40**	mg/L	
	LCS-1			**% RECOVERY**	**94%**		
	LCS-2			**% RECOVERY**	**101%**		
	LCS-3			**% RECOVERY**	**98%**		
	LCS-4			**% RECOVERY**	**103%**		
	LCS-5			**% RECOVERY**	**95%**		
	LCS-6			**% RECOVERY**	**99%**		

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Data Qualifiers
Ambient Monitoring - AMB15
ENVVEST June 2014

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, June 2014 (AMB15)

PARAMETER: Total and Dissolved Metals – Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 6/10/2014 and 06/11/2014. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	6/10/2014 and 06/11/2014 EQP BLKS 06/04/2014
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	6/10/2014 and 06/11/2014 EQP BLKS 06/04/2014
TSS analysis dates	06/14/14
OSAL analysis dates	06/13/14
CVAF analysis dates (Hg)	07/31/14, 08/05/14, 08/07/14, 08/12/14, and 08/14/14
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cr, Cr, Cu, Ni, Pb, Zn)	06/04/14 (EBs), 07/25/14
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	07/22/14 and 07/31/14
TOC/DOC Analysis Date	06/25/14 through 07/09/14

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.03 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.035 µg/L	0.11 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.025 µg/L	0.08 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.0060 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.026 µg/L	0.084 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.49 mg/L	0.49 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.03 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for ten metals: aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), silver (Ag), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by two methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals using a preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate*

METHODS (cont): *Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The ICP-MS data were reported in units of µg/L. The required preconcentration procedure for seawater samples analyzed by ICP-MS includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method includes a matrix matching procedure that allows the quantification of the small concentrations of metals added to the samples during the Fe/Pd preparation to be subtracted from the sample during the analyses. The correction of the data allows it to be directly compared to all previous AMB events, but does not require the addition of the "b" data qualifier to the ICP-MS data.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%

& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:
  1 SRM certified <10x MDL or
  2 Insufficient spiking level relative to native sample concentrations
b Result is reagent blank corrected using the batch specific blank (BMRB)

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions, as discussed in the method section above. The Zn data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank and the blank was above the RL. Five samples were qualified in the 072214DRC batch. The data are not considered impacted as the total and dissolved pairs do not indicate significant contamination.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC was deionized water. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. Sample 1340 contained a native sample concentration of 26 ppb for Al and was spiked at 5 ppb. The data are not flagged as they meet the contingency criteria for the unsufficient spiking level. Alternate LCS and MS/MSD samples demonstrated acceptable accuracy and precision for Al in this seawater matrix. No additional actions were required.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL except one set for Al (32%), Pb (76%), and Zn (139%). Acceptable precision was demonstrated throughout the data set; results were flagged and no additional action taken.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

QA/QC NARRATIVE

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion. There were no seawater SRMs for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

CASS-5 is a seawater SRM analyzed with each ICP-MS batch. The PDs were within the QC criterion for all metals except Cr. The SRM is certified less than 10 times the MDL and meets the contingency criterion. The data are flagged with a "c". The alternate seawater SRM, SLEW-3, demonstrated acceptable analytical accuracy for Cr.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 0.0-6.3% PD for all salinity measurements. There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PD ranged from 0.1 to 9.1%.

ALS ENVIRONMENTAL

Client:	Battelle	**Service Request No.:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Received:**	6/13/14
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty three water samples were received for analysis at ALS Environmental on 6/13/14. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with this analysis were observed.

Approved by

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Water	**Date Received:**	06/13/14
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-DD001/OF021	K1405950-025	ND U	4.8	0.8	1	06/24/14 14:45	6/24/14	
Method Blank	K1405950-MB1	ND U	5.0	0.8	1	06/24/14 14:45	6/24/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-DD002/OF018	K1405950-026	ND U	5.4	0.8	1	06/24/14 14:45	6/24/14	
AMB15-DD003/OF019	K1405950-027	ND U	4.9	0.8	1	06/24/14 14:45	6/24/14	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	N/A
Sample Matrix:	Water	**Date Received:**	N/A
		Date Analyzed:	06/24/14
		Date Extracted:	06/24/14

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1406121-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1406121-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	4.3 J	55.5	58.8	87	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Analyzed:**	06/24/14
Sample Matrix:	Water	**Date Extracted:**	06/24/14

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	398621

	Lab Control Sample K1405950-LCS4			Duplicate Lab Control Sample K1405950-DLCS4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	56.3	60.0	94	55.9	60.0	93	78-114	<1	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-001/PS03	K1405950-001	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-002/PS01	K1405950-002	**0.040 J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-003/PS02	K1405950-003	**0.080**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-004/PS03 T2	K1405950-004	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-005/M4	K1405950-005	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-006/BJEST	K1405950-006	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-007/M3.1 SURF	K1405950-007	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-008/M3.1 DEEP	K1405950-008	**0.037 J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-009/PS12	K1405950-009	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-010/PS14	K1405950-010	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-011/PS14DUP	K1405950-011	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-012/PS06	K1405950-012	**0.038 J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-013/PS07	K1405950-013	**0.025 J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-014/PS08	K1405950-014	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-015/PS15	K1405950-015	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-016/PS09	K1405950-016	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-017/PS09DUP	K1405950-017	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-018/PS10	K1405950-018	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-019/PS10.1	K1405950-019	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-020/PS11	K1405950-020	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-021/PS16	K1405950-021	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-022/PS05	K1405950-022	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-023/PS04	K1405950-023	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-024/PS03B	K1405950-024	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-DD002/OF018	K1405950-026	**0.327**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-DD003/OF019	K1405950-027	**0.095**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-100/SN03	K1405950-028	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-101/SN05	K1405950-029	**0.034 J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-102/SN08	K1405950-030	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-103/SN10	K1405950-031	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-104/SN11	K1405950-032	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-105/SN11 DUP	K1405950-033	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-106/M2 SURF	K1405950-034	**0.064**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-107/M2 DEEP	K1405950-035	**0.065**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-108/CLMBAY	K1405950-036	**0.049 J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-109/ILSP	K1405950-037	ND U	0.050	0.020	1	06/25/14 18:13	6/25/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-110/M1 SURF	K1405950-038	ND	U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-111/M1 DEEP	K1405950-039	**0.049**	**J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-112/M5	K1405950-040	**0.022**	**J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-113/M5 DUP	K1405950-041	**0.023**	**J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-114/PS03C	K1405950-042	ND	U	0.050	0.020	1	06/25/14 18:13	6/25/14	
AMB15-115/WP	K1405950-043	**0.040**	**J**	0.050	0.020	1	06/25/14 18:13	6/25/14	
Method Blank	K1405950-MB1	ND	U	0.050	0.020	1	06/25/14 18:13	6/25/14	
Method Blank	K1405950-MB2	ND	U	0.050	0.020	1	06/25/14 18:13	6/25/14	
Method Blank	K1405950-MB3	ND	U	0.050	0.020	1	06/25/14 18:13	6/25/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Water	**Date Received:**	06/13/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-DD001/OF021	K1405950-025	**0.592**	0.050	0.020	1	06/25/14 18:13	6/25/14	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB15-001/PS03	K1405950-001DUP	0.050	0.020	ND U	ND U	NC	NC	20	06/25/14
AMB15-009/PS12	K1405950-009DUP	0.050	0.020	ND U	ND U	NC	NC	20	06/25/14
AMB15-019/PS10.1	K1405950-019DUP	0.050	0.020	ND U	ND U	NC	NC	20	06/25/14
AMB15-101/SN05	K1405950-029DUP	0.050	0.020	0.034 J	0.034 J	0.0336	<1	20	06/25/14
AMB15-111/M1 DEEP	K1405950-039DUP	0.050	0.020	0.049 J	0.049 J	0.0491	1	20	06/25/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/25/14
		Date Extracted:	06/25/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB15-001/PS03	**Units:**	mg/L
Lab Code:	K1405950-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1405950-001MS			Duplicate Matrix Spike K1405950-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	0.980	1.00	98	0.955	1.00	96	89-114	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/25/14
		Date Extracted:	06/25/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB15-009/PS12	**Units:**	mg/L
Lab Code:	K1405950-009	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1405950-009MS			K1405950-009DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	1.00	1.00	100	0.980	1.00	98	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/25/14
		Date Extracted:	06/25/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB15-019/PS10.1	**Units:**	mg/L
Lab Code:	K1405950-019	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1405950-019MS			Duplicate Matrix Spike K1405950-019DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	1.00	1.00	100	0.990	1.00	99	89-114	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/25/14
		Date Extracted:	06/25/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB15-101/SN05	**Units:**	mg/L
Lab Code:	K1405950-029	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1405950-029MS			Duplicate Matrix Spike K1405950-029DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.034 J	1.02	1.00	99	1.02	1.00	99	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/25/14
		Date Extracted:	06/25/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB15-111/M1 DEEP	**Units:**	mg/L
Lab Code:	K1405950-039	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1405950-039MS			Duplicate Matrix Spike K1405950-039DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.049 J	1.05	1.00	100	1.04	1.00	99	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Analyzed:**	06/25/14
Sample Matrix:	Ocean Water	**Date Extracted:**	06/25/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	399083

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1405950-LCS1	3.46	3.52	98	90-110
Lab Control Sample	K1405950-LCS2	3.56	3.52	101	90-110
Lab Control Sample	K1405950-LCS3	3.52	3.52	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1405950
Project: ENVVEST June 2014 AMB 15

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	399083	KQ1407133-01	06/25/14 18:13	1.00	1.04	104	90-110
CCV2	399083	KQ1407133-02	06/25/14 18:13	1.00	1.04	104	90-110
CCV3	399083	KQ1407133-03	06/25/14 18:13	1.00	1.02	102	90-110
CCV4	399083	KQ1407133-04	06/25/14 18:13	1.00	1.02	102	90-110
CCV5	399083	KQ1407133-05	06/25/14 18:13	1.00	1.03	103	90-110
CCV6	399083	KQ1407133-06	06/25/14 18:13	1.00	1.03	103	90-110
CCV7	399083	KQ1407133-07	06/25/14 18:13	1.00	1.03	103	90-110
CCV8	399083	KQ1407133-08	06/25/14 18:13	1.00	1.05	105	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1405950
Project: ENVVEST June 2014 AMB 15

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	399083	KQ1407133-09	06/25/14 18:13	0.050	0.020	ND	U
CCB2	399083	KQ1407133-10	06/25/14 18:13	0.050	0.020	ND	U
CCB3	399083	KQ1407133-11	06/25/14 18:13	0.050	0.020	ND	U
CCB4	399083	KQ1407133-12	06/25/14 18:13	0.050	0.020	ND	U
CCB5	399083	KQ1407133-13	06/25/14 18:13	0.050	0.020	ND	U
CCB6	399083	KQ1407133-14	06/25/14 18:13	0.050	0.020	ND	U
CCB7	399083	KQ1407133-15	06/25/14 18:13	0.050	0.020	ND	U
CCB8	399083	KQ1407133-16	06/25/14 18:13	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-001/PS03	K1405950-001	**0.036**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-002/PS01	K1405950-002	**0.071**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-003/PS02	K1405950-003	**0.082**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-004/PS03 T2	K1405950-004	**0.034**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-005/M4	K1405950-005	**0.034**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-006/BJEST	K1405950-006	**0.026**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-007/M3.1 SURF	K1405950-007	**0.036**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-008/M3.1 DEEP	K1405950-008	**0.047**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-009/PS12	K1405950-009	**0.051**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-010/PS14	K1405950-010	**0.037**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-011/PS14DUP	K1405950-011	**0.034**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-012/PS06	K1405950-012	**0.070**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-013/PS07	K1405950-013	**0.059**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-014/PS08	K1405950-014	**0.051**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-015/PS15	K1405950-015	**0.046**	0.010	0.004	1	06/17/14 20:20	6/17/14	
AMB15-016/PS09	K1405950-016	**0.051**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-017/PS09DUP	K1405950-017	**0.045**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-018/PS10	K1405950-018	**0.065**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-019/PS10.1	K1405950-019	**0.056**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-020/PS11	K1405950-020	**0.055**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-021/PS16	K1405950-021	**0.057**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-022/PS05	K1405950-022	**0.055**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-023/PS04	K1405950-023	**0.047**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-024/PS03B	K1405950-024	**0.062**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-DD002/OF018	K1405950-026	**0.120**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-DD003/OF019	K1405950-027	**0.074**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-100/SN03	K1405950-028	**0.032**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-101/SN05	K1405950-029	**0.051**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-102/SN08	K1405950-030	**0.034**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-103/SN10	K1405950-031	**0.042**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-104/SN11	K1405950-032	**0.047**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-105/SN11 DUP	K1405950-033	**0.043**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-106/M2 SURF	K1405950-034	**0.059**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-107/M2 DEEP	K1405950-035	**0.053**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-108/CLMBAY	K1405950-036	**0.056**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-109/ILSP	K1405950-037	**0.037**	0.010	0.004	1	06/20/14 13:13	6/20/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-110/M1 SURF	K1405950-038	**0.035**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-111/M1 DEEP	K1405950-039	**0.063**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-112/M5	K1405950-040	**0.062**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-113/M5 DUP	K1405950-041	**0.061**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-114/PS03C	K1405950-042	**0.035**	0.010	0.004	1	06/20/14 13:13	6/20/14	
AMB15-115/WP	K1405950-043	**0.112**	0.010	0.004	1	06/20/14 13:13	6/20/14	
Method Blank	K1405950-MB1	ND U	0.010	0.004	1	06/17/14 20:20	6/17/14	
Method Blank	K1405950-MB2	ND U	0.010	0.004	1	06/20/14 13:13	6/20/14	
Method Blank	K1405950-MB3	ND U	0.010	0.004	1	06/20/14 13:13	6/20/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Water	**Date Received:**	06/13/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB15-DD001/OF021	K1405950-025	**0.070**	0.010	0.004	1	06/20/14 13:13	6/20/14	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB15-015/PS15	K1405950-015DUP	0.010	0.004	0.046	0.042	0.0439	10	20	06/17/14
AMB15-016/PS09	K1405950-016DUP	0.010	0.004	0.051	0.046	0.0481	11	20	06/20/14
AMB15-102/SN08	K1405950-030DUP	0.010	0.004	0.034	0.037	0.0356	7	20	06/20/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/17/14
		Date Extracted:	06/17/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB15-015/PS15	**Units:**	mg/L
Lab Code:	K1405950-015	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1405950-015MS			K1405950-015DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.046	0.419	0.500	75	0.432	0.500	77	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/20/14
		Date Extracted:	06/20/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB15-016/PS09	**Units:**	mg/L
Lab Code:	K1405950-016	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1405950-016MS			K1405950-016DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.051	0.390	0.500	68	0.390	0.500	68	60-135	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/20/14
		Date Extracted:	06/20/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB15-102/SN08	**Units:**	mg/L
Lab Code:	K1405950-030	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1405950-030MS			K1405950-030DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.034	0.377	0.500	68	0.391	0.500	71	60-135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Analyzed:**	06/17/14
Sample Matrix:	Ocean Water	**Date Extracted:**	06/17/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	397720

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1405950-LCS1	3.31	3.46	96	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Analyzed:**	06/20/14
Sample Matrix:	Ocean Water	**Date Extracted:**	06/20/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	398191

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1405950-LCS2	3.63	3.46	105	85-115
Lab Control Sample	K1405950-LCS3	3.47	3.46	100	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1405950
Project: ENVVEST June 2014 AMB 15

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	397720	KQ1406754-01	06/17/14 20:20	0.500	0.523	105	90-110
CCV2	397720	KQ1406754-04	06/17/14 20:20	0.500	0.524	105	90-110
CCV3	397720	KQ1406754-06	06/17/14 20:20	0.500	0.524	105	90-110
CCV4	397720	KQ1406754-08	06/17/14 20:20	0.500	0.520	104	90-110
CCV5	397720	KQ1406754-10	06/17/14 20:20	0.500	0.528	106	90-110
CCV6	397720	KQ1406754-12	06/17/14 20:20	0.500	0.524	105	90-110
CCV7	398191	KQ1406892-01	06/20/14 13:13	0.500	0.540	108	90-110
CCV8	398191	KQ1406892-02	06/20/14 13:13	0.500	0.540	108	90-110
CCV9	398191	KQ1406892-03	06/20/14 13:13	0.500	0.544	109	90-110
CCV10	398191	KQ1406892-04	06/20/14 13:13	0.500	0.543	109	90-110
CCV11	398191	KQ1406892-05	06/20/14 13:13	0.500	0.547	109	90-110
CCV12	398191	KQ1406892-06	06/20/14 13:13	0.500	0.540	108	90-110
CCV13	398191	KQ1406892-07	06/20/14 13:13	0.500	0.539	108	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1405950
Project: ENVVEST June 2014 AMB 15

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	397720	KQ1406754-02	06/17/14 20:20	0.010	0.004	ND	U
CCB2	397720	KQ1406754-03	06/17/14 20:20	0.010	0.004	ND	U
CCB3	397720	KQ1406754-05	06/17/14 20:20	0.010	0.004	ND	U
CCB4	397720	KQ1406754-07	06/17/14 20:20	0.010	0.004	ND	U
CCB5	397720	KQ1406754-09	06/17/14 20:20	0.010	0.004	ND	U
CCB6	397720	KQ1406754-11	06/17/14 20:20	0.010	0.004	ND	U
CCB7	398191	KQ1406892-08	06/20/14 13:13	0.010	0.004	ND	U
CCB8	398191	KQ1406892-09	06/20/14 13:13	0.010	0.004	ND	U
CCB9	398191	KQ1406892-10	06/20/14 13:13	0.010	0.004	ND	U
CCB10	398191	KQ1406892-11	06/20/14 13:13	0.010	0.004	ND	U
CCB11	398191	KQ1406892-12	06/20/14 13:13	0.010	0.004	ND	U
CCB12	398191	KQ1406892-13	06/20/14 13:13	0.010	0.004	ND	U
CCB13	398191	KQ1406892-14	06/20/14 13:13	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB15-001/PS03	K1405950-001	**0.064**	0.050	0.009	1	06/18/14 02:10	
AMB15-002/PS01	K1405950-002	**0.111**	0.050	0.009	1	06/18/14 02:10	
AMB15-003/PS02	K1405950-003	**0.066**	0.050	0.009	1	06/18/14 02:10	
AMB15-004/PS03 T2	K1405950-004	**0.042 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-005/M4	K1405950-005	**0.045 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-006/BJEST	K1405950-006	**0.020 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-007/M3.1 SURF	K1405950-007	**0.056**	0.050	0.009	1	06/18/14 02:10	
AMB15-008/M3.1 DEEP	K1405950-008	**0.053**	0.050	0.009	1	06/18/14 02:10	
AMB15-009/PS12	K1405950-009	**0.120**	0.050	0.009	1	06/18/14 02:10	
AMB15-010/PS14	K1405950-010	**0.034 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-011/PS14DUP	K1405950-011	**0.039 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-012/PS06	K1405950-012	**0.159**	0.050	0.009	1	06/18/14 02:10	
AMB15-013/PS07	K1405950-013	**0.113**	0.050	0.009	1	06/18/14 02:10	
AMB15-014/PS08	K1405950-014	**0.071**	0.050	0.009	1	06/18/14 02:10	
AMB15-015/PS15	K1405950-015	**0.054**	0.050	0.009	1	06/18/14 02:10	
AMB15-016/PS09	K1405950-016	**0.054**	0.050	0.009	1	06/18/14 02:10	
AMB15-017/PS09DUP	K1405950-017	**0.015 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-018/PS10	K1405950-018	**0.111**	0.050	0.009	1	06/18/14 02:10	
AMB15-019/PS10.1	K1405950-019	**0.053**	0.050	0.009	1	06/18/14 02:10	
AMB15-020/PS11	K1405950-020	**0.045 J**	0.050	0.009	1	06/18/14 02:10	
AMB15-021/PS16	K1405950-021	**0.078**	0.050	0.009	1	06/19/14 09:15	
AMB15-022/PS05	K1405950-022	**0.046 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-023/PS04	K1405950-023	**0.100**	0.050	0.009	1	06/19/14 09:15	
AMB15-024/PS03B	K1405950-024	**0.036 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-DD002/OF018	K1405950-026	**0.106**	0.050	0.009	1	06/19/14 09:15	
AMB15-DD003/OF019	K1405950-027	**0.109**	0.050	0.009	1	06/19/14 09:15	
AMB15-100/SN03	K1405950-028	**0.035 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-101/SN05	K1405950-029	**0.035 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-102/SN08	K1405950-030	**0.020 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-103/SN10	K1405950-031	**0.037 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-104/SN11	K1405950-032	**0.048 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-105/SN11 DUP	K1405950-033	**0.042 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-106/M2 SURF	K1405950-034	**0.062**	0.050	0.009	1	06/19/14 09:15	
AMB15-107/M2 DEEP	K1405950-035	**0.064**	0.050	0.009	1	06/19/14 09:15	
AMB15-108/CLMBAY	K1405950-036	**0.052**	0.050	0.009	1	06/19/14 09:15	
AMB15-109/ILSP	K1405950-037	**0.057**	0.050	0.009	1	06/19/14 09:15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB15-110/M1 SURF	K1405950-038	**0.041 J**	0.050	0.009	1	06/19/14 09:15	
AMB15-111/M1 DEEP	K1405950-039	**0.064**	0.050	0.009	1	06/19/14 09:15	
AMB15-112/M5	K1405950-040	**0.056**	0.050	0.009	1	06/19/14 09:15	
AMB15-113/M5 DUP	K1405950-041	**0.066**	0.050	0.009	1	06/19/14 09:15	
AMB15-114/PS03C	K1405950-042	**0.062**	0.050	0.009	1	06/19/14 09:15	
AMB15-115/WP	K1405950-043	**0.067**	0.050	0.009	1	06/19/14 09:15	
Method Blank	K1405950-MB1	**0.012 J**	0.050	0.009	1	06/18/14 02:10	
Method Blank	K1405950-MB2	**0.009 J**	0.050	0.009	1	06/19/14 09:15	
Method Blank	K1405950-MB3	**0.021 J**	0.050	0.009	1	06/19/14 09:15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Water	**Date Received:**	06/13/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB15-DD001/OF021	K1405950-025	**0.033 J**	0.050	0.009	1	06/19/14 09:15	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14 - 06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB15-001/PS03	K1405950-001DUP	0.050	0.009	0.064	0.060	0.0620	6	20	06/18/14
AMB15-021/PS16	K1405950-021DUP	0.050	0.009	0.078	0.067	0.0725	15	20	06/19/14
AMB15-113/M5 DUP	K1405950-041DUP	0.050	0.009	0.066	0.074	0.0700	11	20	06/19/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/18/14
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB15-001/PS03	**Units:**	mg/L
Lab Code:	K1405950-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1405950-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.064	9.98	10.0	99	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/10/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/19/14
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB15-021/PS16	**Units:**	mg/L
Lab Code:	K1405950-021	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1405950-021MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.078	9.85	10.0	98	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Collected:**	06/11/14
Sample Matrix:	Ocean Water	**Date Received:**	06/13/14
		Date Analyzed:	06/19/14
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB15-113/M5 DUP	**Units:**	mg/L
Lab Code:	K1405950-041	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1405950-041MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.066	9.85	10.0	98	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1405950
Project:	ENVVEST June 2014 AMB 15	**Date Analyzed:**	06/18/14
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	397808

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1405950-LCS1	16.4	15.1	109	80-115
Lab Control Sample	K1405950-LCS2	13.4	15.1	89	80-115
Lab Control Sample	K1405950-LCS3	16.3	15.1	108	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1405950
Project: ENVVEST June 2014 AMB 15

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	397808	KQ1406783-29	06/18/14 02:10	10.0	10.2	102	90-110
CCV2	397808	KQ1406783-30	06/18/14 02:10	10.0	10.1	101	90-110
CCV3	397808	KQ1406783-31	06/18/14 02:10	10.0	10.1	101	90-110
CCV4	397808	KQ1406783-32	06/19/14 09:15	10.0	9.59	96	90-110
CCV5	397808	KQ1406783-33	06/19/14 09:15	10.0	9.85	99	90-110
CCV6	397808	KQ1406783-34	06/19/14 09:15	10.0	9.52	95	90-110
CCV7	397808	KQ1406783-35	06/19/14 09:15	10.0	10.3	103	90-110
CCV8	397808	KQ1406783-36	06/19/14 09:15	10.0	9.98	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1405950
Project: ENVVEST June 2014 AMB 15

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	397808	KQ1406783-21	06/18/14 02:10	0.050	0.009	0.033	J
CCB2	397808	KQ1406783-22	06/18/14 02:10	0.050	0.009	0.016	J
CCB3	397808	KQ1406783-23	06/18/14 02:10	0.050	0.009	ND	U
CCB4	397808	KQ1406783-24	06/19/14 09:15	0.050	0.009	0.039	J
CCB5	397808	KQ1406783-25	06/19/14 09:15	0.050	0.009	0.014	J
CCB6	397808	KQ1406783-26	06/19/14 09:15	0.050	0.009	ND	U
CCB7	397808	KQ1406783-27	06/19/14 09:15	0.050	0.009	ND	U
CCB8	397808	KQ1406783-28	06/19/14 09:15	0.050	0.009	0.035	J

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/10/14

Page: 1 of 3

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 54220
Project Name: ENVVEST
Project Manager: Jill Brandenberger
Phone: (360) 681-4564

Analyze parameters per ENVVEST QAPP

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Station	Sample ID (AMB15-)	Collection Date/Time (6/10/14)	Matrix	TME/DME	TSS/OSAL	Nutrients	TOC	DOC	Oil and Grease	MSL QA#3104 TOT	MSL QA#3104 DISS	No. of containers	Comments
PS03	-001	PS03 0924	seawater	X	X	X	X	X		1282	1283	5	taken at t/ clock / low tide
PS01	-002	PS01 1006								1284	1285		
PS02	-003	1028								1286	1287		
PS03 T2	-004	1057								1288	1289		taken at the clock - time 2 / low tide
M4	-005	1138								1290	1291		
BJ EST	-006	1153								1292	1293		
M3.1 Surf	-007	1213								1294	1295		
M3.1 Deep	-008	1211								1296	1297		
PS12	-009	1230								1298	1299		
PS14	-010	1254								1300	1301		
PS14 Dup	-011	1255								1302	1303		
PS06	-012	1310								1304	1305		

Relinquished by: 6/10/14 1830
Signature Date Time
Jim Brandenberger PNNL
Printed Name Company

Received by: 6/11/14 1730
Signature Date Time
C. Sugnet MSL
Printed Name Company

Total # of Containers
Shipment Method: Hand delivered
Special Requirements or Conditions:
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature Date Time
Printed Name Company

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/10/14

Page: 2 of 3

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 54220
Project Name: ENVVEST
Project Manager: Jill Brandenberger
Phone: (360) 681-4564

Analyze parameters per ENVVEST QAPP

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Station	Sample ID	Collection Date/Time	Matrix	TME/DME	TSS/OSAL	Nutrients	TOC	DOC	Oil and Grease	MSL GP#3106 TOC	MSL GP#3106 DOC	No. of containers	Comments
PS07	AMB15-013	6/10/14 1317	Seawater	X	X	X	X	X		13306	13307	5	
PS08	-014	1330								13308	13309		
PS15	-015	1339								13310	13311		
PS09	-016	1350								13312	13313		
PS09 Dup	-017	1351								13314	13315		
PS10	-018	1406								13316	13317		
PS10.1	-019	1417								13318	13319		
PS11	-020	1425								13320	13321		
PS16	-021	1433								13322	13323		
PS05	-022	1446								13324	13325		
PS04	-023	1454								13326	13327		
PS03.3	-024	1506								13328	13329	4	hold coming in

Relinquished by: 6/10/14 1830
Signature Date Time
Jim Brandenberger PNNL
Printed Name Company

Received by: 6/11/14 1730
Signature Date Time
C. Sullivan MSL
Printed Name Company

Total # of Containers
Shipment Method: Hand delivered
Special Requirements or Conditions:

Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature Date Time
Printed Name Company

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/10/14

Page: 3 of 3

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 54220
Project Name: ENVVEST
Project Manager: Jill Brandenberger
Phone: (360) 681-4564

Analyze parameters per ENVVEST QAPP

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Station	Sample ID	Collection Date/Time	Matrix	TME/DME	TSS/OSAL	Nutrients	TOC	DOC	Oil and Grease	CP#3104 Tot	CP#3104 Diss	No. of containers	Comments
OF021	AMB15-001	6/10/14 1545	freshwater	X	X	X	X	X	X	1330	1331	6	24hr comp 6/9 - 6/10/14 1330 start
OF015	AMB15-002	6/10/14 1627	seawater	X	X	X	X	X	X	1332	1333	6	grab sample due to pump failure
OF019	AMB15-003	6/10/14 1650	seawater	X	X	X	X	X	X	1334	1335	6	grab sample / Sigma not connected

Relinquished by: 6/10/14 1830
Signature Date Time
JM Brandenberger PNNL
Printed Name Company

Received by: 6/11/14 1730
Signature Date Time
Carolynn Swilken MSL
Printed Name Company

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature Date Time
Printed Name Company

Total # of Containers
Shipment Method: Hand Delivered
Special Requirements or Conditions:
Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/10/14, logged in 06/12/14
Batch: 36
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-001	PS03-TME	TME	PS03	3106-1282	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-001	PS03-DME	DME	PS03	3106-1283	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-002	PS01-TME	TME	PS01	3106-1284	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-002	PS01-DME	DME	PS01	3106-1285	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-003	PS02-TME	TME	PS02	3106-1286	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-003	PS02-DME	DME	PS02	3106-1287	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-004	PS03 T2-TME	TME	PS03 T2	3106-1288	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-004	PS03 T2-DME	DME	PS03 T2	3106-1289	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-005	M4-TME	TME	M4	3106-1290	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-005	M4-DME	DME	M4	3106-1291	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-006	BJEST-TME	TME	BJEST	3106-1292	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-006	BJEST-DME	DME	BJEST	3106-1293	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-007	M3.1 SURF-TME	TME	M3.1 SURF	3106-1294	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-007	M3.1 SURF-DME	DME	M3.1 SURF	3106-1295	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-008	M3.1 DEEP-TME	TME	M3.1 DEEP	3106-1296	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-008	M3.1 DEEP-DME	DME	M3.1 DEEP	3106-1297	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-009	PS12-TME	TME	PS12	3106-1298	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-009	PS12-DME	DME	PS12	3106-1299	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-010	PS14-TME	TME	PS14	3106-1300	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-010	PS14-DME	DME	PS14	3106-1301	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-011	PS14DUP-TME	TME	PS14DUP	3106-1302	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-011	PS14DUP-DME	DME	PS14DUP	3106-1303	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-012	PS06-TME	TME	PS06	3106-1304	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-012	PS06-DME	DME	PS06	3106-1305	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-013	PS07-TME	TME	PS07	3106-1306	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-013	PS07-DME	DME	PS07	3106-1307	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-014	PS08-TME	TME	PS08	3106-1308	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-014	PS08-DME	DME	PS08	3106-1309	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-015	PS15-TME	TME	PS15	3106-1310	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-015	PS15-DME	DME	PS15	3106-1311	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-016	PS09-TME	TME	PS09	3106-1312	Seawater	PREP LAB	Total Metals, Hg	06/10/14

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/10/14, logged in 06/12/14
Batch: 36
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-016	PS09-DME	DME	PS09	3106-1313	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-017	PS09DUP-TME	TME	PS09DUP	3106-1314	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-017	PS09DUP-DME	DME	PS09DUP	3106-1315	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-018	PS10-TME	TME	PS10	3106-1316	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-018	PS10-DME	DME	PS10	3106-1317	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-019	PS10.1-TME	TME	PS10.1	3106-1318	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-019	PS10.1-DME	DME	PS10.1	3106-1319	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-020	PS11-TME	TME	PS11	3106-1320	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-020	PS11-DME	DME	PS11	3106-1321	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-021	PS16-TME	TME	PS16	3106-1322	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-021	PS16-DME	DME	PS16	3106-1323	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-022	PS05-TME	TME	PS05	3106-1324	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-022	PS05-DME	DME	PS05	3106-1325	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-023	PS04-TME	TME	PS04	3106-1326	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-023	PS04-DME	DME	PS04	3106-1327	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-024	PS03B-TME	TME	PS03B	3106-1328	Seawater	PREP LAB	Total Metals, Hg	06/10/14
AMB15-024	PS03B-DME	DME	PS03B	3106-1329	Seawater	PREP LAB	Dissolved Metals, Hg	06/10/14
AMB15-DD001	OF021-TME	TME	OF021	3106-1330	Freshwater	PREP LAB	Total Metals, Hg	06/09/14
AMB15-DD001	OF021-DME	DME	OF021	3106-1331	Freshwater	PREP LAB	Dissolved Metals, Hg	06/09/14
AMB15-DD002	OF018-TME	TME	OF018	3106-1332	Seawater	PREP LAB	Total Metals, Hg	06/09/14
AMB15-DD002	OF018-DME	DME	OF018	3106-1333	Seawater	PREP LAB	Dissolved Metals, Hg	06/09/14
AMB15-DD003	OF019-TME	TME	OF019	3106-1334	Seawater	PREP LAB	Total Metals, Hg	06/09/14
AMB15-DD003	OF019-DME	DME	OF019	3106-1335	Seawater	PREP LAB	Dissolved Metals, Hg	06/09/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/10/14, logged in 06/12/14
Batch: 36
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1282	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-002	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1284	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-003	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1286	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-004	PS03 T2-TSS/OSAL	TSS/OSAL	PS03 T2	3106-1288	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-005	M4-TSS/OSAL	TSS/OSAL	M4	3106-1290	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-006	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1292	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-007	M3.1 SURF-TSS/OSAL	TSS/OSAL	M3.1 SURF	3106-1294	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-008	M3.1 DEEP-TSS/OSAL	TSS/OSAL	M3.1 DEEP	3106-1296	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-009	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1298	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-010	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1300	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-011	PS14DUP-TSS/OSAL	TSS/OSAL	PS14DUP	3106-1302	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-012	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1304	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-013	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1306	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-014	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1308	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-015	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1310	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-016	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1312	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-017	PS09DUP-TSS/OSAL	TSS/OSAL	PS09DUP	3106-1314	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-018	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1316	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-019	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1318	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-020	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1320	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-021	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1322	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-022	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1324	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-023	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1326	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-024	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-1328	Seawater	MSL	TSS/OSAL	06/10/14
AMB15-DD001	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1330	Freshwater	MSL	TSS/OSAL	06/09/14
AMB15-DD002	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1332	Seawater	MSL	TSS/OSAL	06/09/14
AMB15-DD003	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1334	Seawater	MSL	TSS/OSAL	06/09/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/10/14, logged in 06/12/14
Batch: 36
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-001	PS03-TOC	TOC	PS03	3106-1282	Seawater	MSL	TOC	06/10/14
AMB15-002	PS01-TOC	TOC	PS01	3106-1284	Seawater	MSL	TOC	06/10/14
AMB15-003	PS02-TOC	TOC	PS02	3106-1286	Seawater	MSL	TOC	06/10/14
AMB15-004	PS03 T2-TOC	TOC	PS03 T2	3106-1288	Seawater	MSL	TOC	06/10/14
AMB15-005	M4-TOC	TOC	M4	3106-1290	Seawater	MSL	TOC	06/10/14
AMB15-006	BJEST-TOC	TOC	BJEST	3106-1292	Seawater	MSL	TOC	06/10/14
AMB15-007	M3.1 SURF-TOC	TOC	M3.1 SURF	3106-1294	Seawater	MSL	TOC	06/10/14
AMB15-008	M3.1 DEEP-TOC	TOC	M3.1 DEEP	3106-1296	Seawater	MSL	TOC	06/10/14
AMB15-009	PS12-TOC	TOC	PS12	3106-1298	Seawater	MSL	TOC	06/10/14
AMB15-010	PS14-TOC	TOC	PS14	3106-1300	Seawater	MSL	TOC	06/10/14
AMB15-011	PS14DUP-TOC	TOC	PS14DUP	3106-1302	Seawater	MSL	TOC	06/10/14
AMB15-012	PS06-TOC	TOC	PS06	3106-1304	Seawater	MSL	TOC	06/10/14
AMB15-013	PS07-TOC	TOC	PS07	3106-1306	Seawater	MSL	TOC	06/10/14
AMB15-014	PS08-TOC	TOC	PS08	3106-1308	Seawater	MSL	TOC	06/10/14
AMB15-015	PS15-TOC	TOC	PS15	3106-1310	Seawater	MSL	TOC	06/10/14
AMB15-016	PS09-TOC	TOC	PS09	3106-1312	Seawater	MSL	TOC	06/10/14
AMB15-017	PS09DUP-TOC	TOC	PS09DUP	3106-1314	Seawater	MSL	TOC	06/10/14
AMB15-018	PS10-TOC	TOC	PS10	3106-1316	Seawater	MSL	TOC	06/10/14
AMB15-019	PS10.1-TOC	TOC	PS10.1	3106-1318	Seawater	MSL	TOC	06/10/14
AMB15-020	PS11-TOC	TOC	PS11	3106-1320	Seawater	MSL	TOC	06/10/14
AMB15-021	PS16-TOC	TOC	PS16	3106-1322	Seawater	MSL	TOC	06/10/14
AMB15-022	PS05-TOC	TOC	PS05	3106-1324	Seawater	MSL	TOC	06/10/14
AMB15-023	PS04-TOC	TOC	PS04	3106-1326	Seawater	MSL	TOC	06/10/14
AMB15-024	PS03B-TOC	TOC	PS03B	3106-1328	Seawater	MSL	TOC	06/10/14
AMB15-DD001	OF021-TOC	TOC	OF021	3106-1330	Freshwater	MSL	TOC	06/09/14
AMB15-DD002	OF018-TOC	TOC	OF018	3106-1332	Seawater	MSL	TOC	06/09/14
AMB15-DD003	OF019-TOC	TOC	OF019	3106-1334	Seawater	MSL	TOC	06/09/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/10/14, logged in 06/12/14
Batch: 36
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-001	PS03-DOC	DOC	PS03	3106-1283	Seawater	MSL	DOC	06/10/14
AMB15-002	PS01-DOC	DOC	PS01	3106-1285	Seawater	MSL	DOC	06/10/14
AMB15-003	PS02-DOC	DOC	PS02	3106-1287	Seawater	MSL	DOC	06/10/14
AMB15-004	PS03 T2-DOC	DOC	PS03 T2	3106-1289	Seawater	MSL	DOC	06/10/14
AMB15-005	M4-DOC	DOC	M4	3106-1291	Seawater	MSL	DOC	06/10/14
AMB15-006	BJEST-DOC	DOC	BJEST	3106-1293	Seawater	MSL	DOC	06/10/14
AMB15-007	M3.1 SURF-DOC	DOC	M3.1 SURF	3106-1295	Seawater	MSL	DOC	06/10/14
AMB15-008	M3.1 DEEP-DOC	DOC	M3.1 DEEP	3106-1297	Seawater	MSL	DOC	06/10/14
AMB15-009	PS12-DOC	DOC	PS12	3106-1299	Seawater	MSL	DOC	06/10/14
AMB15-010	PS14-DOC	DOC	PS14	3106-1301	Seawater	MSL	DOC	06/10/14
AMB15-011	PS14DUP-DOC	DOC	PS14DUP	3106-1303	Seawater	MSL	DOC	06/10/14
AMB15-012	PS06-DOC	DOC	PS06	3106-1305	Seawater	MSL	DOC	06/10/14
AMB15-013	PS07-DOC	DOC	PS07	3106-1307	Seawater	MSL	DOC	06/10/14
AMB15-014	PS08-DOC	DOC	PS08	3106-1309	Seawater	MSL	DOC	06/10/14
AMB15-015	PS15-DOC	DOC	PS15	3106-1311	Seawater	MSL	DOC	06/10/14
AMB15-016	PS09-DOC	DOC	PS09	3106-1313	Seawater	MSL	DOC	06/10/14
AMB15-017	PS09DUP-DOC	DOC	PS09DUP	3106-1315	Seawater	MSL	DOC	06/10/14
AMB15-018	PS10-DOC	DOC	PS10	3106-1317	Seawater	MSL	DOC	06/10/14
AMB15-019	PS10.1-DOC	DOC	PS10.1	3106-1319	Seawater	MSL	DOC	06/10/14
AMB15-020	PS11-DOC	DOC	PS11	3106-1321	Seawater	MSL	DOC	06/10/14
AMB15-021	PS16-DOC	DOC	PS16	3106-1323	Seawater	MSL	DOC	06/10/14
AMB15-022	PS05-DOC	DOC	PS05	3106-1325	Seawater	MSL	DOC	06/10/14
AMB15-023	PS04-DOC	DOC	PS04	3106-1327	Seawater	MSL	DOC	06/10/14
AMB15-024	PS03B-DOC	DOC	PS03B	3106-1329	Seawater	MSL	DOC	06/10/14
AMB15-DD001	OF021-DOC	DOC	OF021	3106-1331	Freshwater	MSL	DOC	06/09/14
AMB15-DD002	OF018-DOC	DOC	OF018	3106-1333	Seawater	MSL	DOC	06/09/14
AMB15-DD003	OF019-DOC	DOC	OF019	3106-1335	Seawater	MSL	DOC	06/09/14

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1282- 1335 Batch: 36

Project Name: AMB 15 DAT Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WAT WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present hand delivered by staff Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) 6/11/14
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL? as noted T/D pairs

Samples held 4±2°C until delivered & stored in Walkin cooler until filtering 6/11/14

Comment/Remedy:

Sample condition(s): (Acceptable) Other (explain):

Container type: Teflon (Poly) Glass Cap Vial Other:

Not NUT/TSS/DSPN <0.6: TOC/DOC

Notes: delivered to MSL

Completed By: Date/Time: 6/10/14 1830

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
☐	Random pH checked for ~10% of samples (use dip paper) Sample IDs:
☐	Complete pH check required for project (use pH meter and record on pH Record form)
☐	Sample(s) were preserved at MSL

Type:	☑	0.2% HNO3	Notes: Metals Lot#
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☑	Refrigerate/Freeze	Notes: NUT/0.6/TSS/DSPN = Refrigerator TOC/DOC freezer after filtering
	☐	Other	Notes:

Completed By: Date/Time: 6/11/14

Storage Shelf: Lab 231 (west) Walkin for refrigerated items Deep freezer for TOC/DOC

SAMPLE CHAIN OF CUSTODY FORM
Date: 6/11/2014 AMBIS DAY2
Page: 1 of 1
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: AMB 15. 2014-06-11 DAY 2
Project Name: AMB Monitoring
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMBIS_2014.06.11
TIME/DATE

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg TOC	TSS / DSAL	Nuts/	DOC	Geoduck	Oil&Grease			No. of containers	StationID	Comments
CAP#3106 T/D	AMB15--		6/11/2014	Sea water												
1336 1337	-100	SN03	0904	Sample	X	X	X	X	X					5	SN03	water murky w/particulates
1338 1339	-101	SN05	0915	"	X	X	X	X	X					5	SN05	
1340 1341	-102	SN06	0926		X	X								5		
1342 1343	-103	SN10	0936		X	X								5		
1344 1345	-104	SN11	0946		X	X								5	SN11	
1346 1347	-105	SN11 DUP	0949		X	X									~~MZ~~ SN11	
1348 1349	-106	MZ Surf	1039 40		X	X									MZ ~~Surface~~	
1350 1351	-107	MZ DEEP	1042		X	X									MZ 8m deep	
1352 1353	-108	CLMBAY	1053		X	X									CLMBAY	
1354 1355	-109	ILSP	1113		X	X									ILSP	
1356 1357	-110	M1 Surf	1158		X	X									M1	
1358 1359	-111	M1 DEEP	1202		X	X									M1 DEEP	6 M
1360 1361	-112	M5 ~~1130 DUP~~	1310		X	X									M5	
1362 1363	-113	M5 DUP ~~PS03C~~	~~1505~~ 1312		X	X									~~PS03C~~	M5 towed back to deck
1364 1365	-114	PS03C	1505		X	X									PS03C	stirred up by tow boat
	-115	WP	6/11/14													

Relinquished by: 6/11/14 6/11/14 1700
Signature Date Time
JM Brandenberger PNNL
Printed Name Company

Received by: MSL 1730
Signature 6/11/14
C. Sushan
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivery

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/11/14, logged in 06/12/14
Batch: 37
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-100	SN03-TME	TME	SN03	3106-1336	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-100	SN03-DME	DME	SN03	3106-1337	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-101	SN05-TME	TME	SN05	3106-1338	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-101	SN05-DME	DME	SN05	3106-1339	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-102	SN08-TME	TME	SN08	3106-1340	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-102	SN08-DME	DME	SN08	3106-1341	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-103	SN10-TME	TME	SN10	3106-1342	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-103	SN10-DME	DME	SN10	3106-1343	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-104	SN11-TME	TME	SN11	3106-1344	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-104	SN11-DME	DME	SN11	3106-1345	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-105	SN11 DUP-TME	TME	SN11 DUP	3106-1346	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-105	SN11 DUP-DME	DME	SN11 DUP	3106-1347	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-106	M2 SURF-TME	TME	M2 SURF	3106-1348	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-106	M2 SURF-DME	DME	M2 SURF	3106-1349	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-107	M2 DEEP-TME	TME	M2 DEEP	3106-1350	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-107	M2 DEEP-DME	DME	M2 DEEP	3106-1351	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-108	CLMBAY-TME	TME	CLMBAY	3106-1352	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-108	CLMBAY-DME	DME	CLMBAY	3106-1353	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-109	ILSP-TME	TME	ILSP	3106-1354	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-109	ILSP-DME	DME	ILSP	3106-1355	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-110	M1 SURF-TME	TME	M1 SURF	3106-1356	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-110	M1 SURF-DME	DME	M1 SURF	3106-1357	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-111	M1 DEEP-TME	TME	M1 DEEP	3106-1358	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-111	M1 DEEP-DME	DME	M1 DEEP	3106-1359	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-112	M5-TME	TME	M5	3106-1360	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-112	M5-DME	DME	M5	3106-1361	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-113	M5 DUP-TME	TME	M5 DUP	3106-1362	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-113	M5 DUP-DME	DME	M5 DUP	3106-1363	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-114	PS03C-TME	TME	PS03C	3106-1364	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-114	PS03C-DME	DME	PS03C	3106-1365	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14
AMB15-115	WP-TME	TME	WP	3106-1366	Seawater	PREP LAB	Total Metals, Hg	06/11/14
AMB15-115	WP-DME	DME	WP	3106-1367	Seawater	PREP LAB	Dissolved Metals, Hg	06/11/14

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/11/14, logged in 06/12/14
Batch: 37
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-100	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1336	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-101	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1338	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-102	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1340	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-103	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1342	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-104	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1344	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-105	SN11 DUP-TSS/OSAL	TSS/OSAL	SN11 DUP	3106-1346	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-106	M2 SURF-TSS/OSAL	TSS/OSAL	M2 SURF	3106-1348	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-107	M2 DEEP-TSS/OSAL	TSS/OSAL	M2 DEEP	3106-1350	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-108	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1352	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-109	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1354	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-110	M1 SURF-TSS/OSAL	TSS/OSAL	M1 SURF	3106-1356	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-111	M1 DEEP-TSS/OSAL	TSS/OSAL	M1 DEEP	3106-1358	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-112	M5-TSS/OSAL	TSS/OSAL	M5	3106-1360	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-113	M5 DUP-TSS/OSAL	TSS/OSAL	M5 DUP	3106-1362	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-114	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-1364	Seawater	MSL	TSS/OSAL	06/11/14
AMB15-115	WP-TSS/OSAL	TSS/OSAL	WP	3106-1366	Seawater	MSL	TSS/OSAL	06/11/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/11/14, logged in 06/12/14
Batch: 37
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-100	SN03-TOC	TOC	SN03	3106-1336	Seawater	MSL	TOC	06/11/14
AMB15-101	SN05-TOC	TOC	SN05	3106-1338	Seawater	MSL	TOC	06/11/14
AMB15-102	SN08-TOC	TOC	SN08	3106-1340	Seawater	MSL	TOC	06/11/14
AMB15-103	SN10-TOC	TOC	SN10	3106-1342	Seawater	MSL	TOC	06/11/14
AMB15-104	SN11-TOC	TOC	SN11	3106-1344	Seawater	MSL	TOC	06/11/14
AMB15-105	SN11 DUP-TOC	TOC	SN11 DUP	3106-1346	Seawater	MSL	TOC	06/11/14
AMB15-106	M2 SURF-TOC	TOC	M2 SURF	3106-1348	Seawater	MSL	TOC	06/11/14
AMB15-107	M2 DEEP-TOC	TOC	M2 DEEP	3106-1350	Seawater	MSL	TOC	06/11/14
AMB15-108	CLMBAY-TOC	TOC	CLMBAY	3106-1352	Seawater	MSL	TOC	06/11/14
AMB15-109	ILSP-TOC	TOC	ILSP	3106-1354	Seawater	MSL	TOC	06/11/14
AMB15-110	M1 SURF-TOC	TOC	M1 SURF	3106-1356	Seawater	MSL	TOC	06/11/14
AMB15-111	M1 DEEP-TOC	TOC	M1 DEEP	3106-1358	Seawater	MSL	TOC	06/11/14
AMB15-112	M5-TOC	TOC	M5	3106-1360	Seawater	MSL	TOC	06/11/14
AMB15-113	M5 DUP-TOC	TOC	M5 DUP	3106-1362	Seawater	MSL	TOC	06/11/14
AMB15-114	PS03C-TOC	TOC	PS03C	3106-1364	Seawater	MSL	TOC	06/11/14
AMB15-115	WP-TOC	TOC	WP	3106-1366	Seawater	MSL	TOC	06/11/14

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 06/11/14, logged in 06/12/14
Batch: 37
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2014 (AMB15)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-100	SN03-DOC	DOC	SN03	3106-1337	Seawater	MSL	DOC	06/11/14
AMB15-101	SN05-DOC	DOC	SN05	3106-1339	Seawater	MSL	DOC	06/11/14
AMB15-102	SN08-DOC	DOC	SN08	3106-1341	Seawater	MSL	DOC	06/11/14
AMB15-103	SN10-DOC	DOC	SN10	3106-1343	Seawater	MSL	DOC	06/11/14
AMB15-104	SN11-DOC	DOC	SN11	3106-1345	Seawater	MSL	DOC	06/11/14
AMB15-105	SN11 DUP-DOC	DOC	SN11 DUP	3106-1347	Seawater	MSL	DOC	06/11/14
AMB15-106	M2 SURF-DOC	DOC	M2 SURF	3106-1349	Seawater	MSL	DOC	06/11/14
AMB15-107	M2 DEEP-DOC	DOC	M2 DEEP	3106-1351	Seawater	MSL	DOC	06/11/14
AMB15-108	CLMBAY-DOC	DOC	CLMBAY	3106-1353	Seawater	MSL	DOC	06/11/14
AMB15-109	ILSP-DOC	DOC	ILSP	3106-1355	Seawater	MSL	DOC	06/11/14
AMB15-110	M1 SURF-DOC	DOC	M1 SURF	3106-1357	Seawater	MSL	DOC	06/11/14
AMB15-111	M1 DEEP-DOC	DOC	M1 DEEP	3106-1359	Seawater	MSL	DOC	06/11/14
AMB15-112	M5-DOC	DOC	M5	3106-1361	Seawater	MSL	DOC	06/11/14
AMB15-113	M5 DUP-DOC	DOC	M5 DUP	3106-1363	Seawater	MSL	DOC	06/11/14
AMB15-114	PS03C-DOC	DOC	PS03C	3106-1365	Seawater	MSL	DOC	06/11/14
AMB15-115	WP-DOC	DOC	WP	3106-1367	Seawater	MSL	DOC	06/11/14

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): ~~1336~~ 1339 - 1367 Batch: 37

Project Name: AMB15 DRY2 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WAT WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples:	Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☐	☐	Special instructions:	

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☐	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL?

Samples were hand delivered to MSL, kept @ 4±2°C ~~then stored in walk-in refrig until filtered~~ 5

°C

Comment/Remedy:

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) ~~Glass~~ TSS/OSAL/NUT Cap. Vial Other:

Notes: WP not on CoC - added MCF TOC/DOC

Completed By: Date/Time: 6/11/14 1730

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐		Complete pH check required for project (use pH meter and record on pH Record form)		
☐		Sample(s) were preserved at MSL		
Type:	☑	0.2% HNO3	Notes: Metals	Lot#
	☐	0.5% HCl (Hg samples)	Notes:	Lot#
	☑	Refrigerate/Freeze	Notes: NUT/TSS/OSAL = refrigerator TOC/DOC = freezer	
	☐	Other	Notes:	

Completed By: Date/Time: 6/11/14 1740

Storage Shelf: Lab 231 = Mat j Walk-in for refrigerated Deep Freezer for TOC/DOC

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 6/4/2014
Batch: NA - lab created
Login Designee: McGahan
Project: **AMB15 - EQP BLK**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB15-EB	DI Water	3106-1368	water	Lab 227	Dissolved Metals	06/04/14

No Login Checksheet - Sample Created in Lab 6/4/14 ES

SOP#: MSL-A-001

K1403950

PROJECT ENVVEST																
Project Name: JUNE 2014 Ambient Monitoring (AMB15)								CHAIN OF CUSTODY FORM								
SAMPLE TEAM:	Navy, Battelle															
DATE:	6/12/2014															
Laboratory:	Columbia Analytical							Testing Parameters per QAPP								
	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB15-001	PS03	06/10/14 0858	Seawater				X					1	
2	AMB15-002	PS01	06/10/14 0912	Seawater				X					1	
3	AMB15-003	PS02	06/10/14 0915	Seawater				X					1	
4	AMB15-004	PS03 T2	06/10/14 0928	Seawater				X					1	
5	AMB15-005	M4	06/10/14 0940	Seawater				X					1	
6	AMB15-006	BJEST	06/10/14 1001	Seawater				X					1	
7	AMB15-007	M3.1 SURF	06/10/14 0959	Seawater				X					1	
8	AMB15-008	M3.1 DEEP	06/10/14 1034	Seawater				X					1	
9	AMB15-009	PS12	06/10/14 1040	Seawater				X					1	
10	AMB15-010	PS14	06/10/14 1140	Seawater				X					1	
11	AMB15-011	PS14DUP	06/10/14 1143	Seawater				X					1	
12	AMB15-012	PS06	06/10/14 1232	Seawater				X					1	
13	AMB15-013	PS07	06/10/14 1203	Seawater				X					1	
14	AMB15-014	PS08	06/10/14 1209	Seawater				X					1	
15	AMB15-015	PS15	06/10/14 1335	Seawater				X					1	
16	AMB15-016	PS09	06/10/14 1348	Seawater				X					1	
17	AMB15-017	PS09DUP	06/10/14 1405	Seawater				X					1	
18	AMB15-018	PS10	06/10/14 1440	Seawater				X					1	
19	AMB15-019	PS10.1	06/10/14 1150	Seawater				X					1	
20	AMB15-020	PS11	06/10/14 1150	Seawater				X					1	
21	AMB15-021	PS16	06/10/14 1150	Seawater				X					1	
22	AMB15-022	PS05	06/10/14 1150	Seawater				X					1	
23	AMB15-023	PS04	06/10/14 1150	Seawater				X					1	
24	AMB15-024	PS03B	06/10/14 1150	Seawater				X					1	
25	AMB15-DD001	OF021	06/10/14 1545	Freshwater				X		X			2	
26	AMB15-DD002	OF018	06/10/14 1627	Seawater				X		X			2	

K1405450

PROJECT ENVVEST
Project Name: JUNE 2014 Ambient Monitoring (AMB15)
SAMPLE TEAM: Navy, Battelle
DATE: 6/12/2014
Laboratory: Columbia Analytical

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
27	AMB15-DD003	OF019	06/10/14 1650	Seawater				X		X			2	
28	AMB15-100	SN03	06/11/14 0904	Seawater				X					1	
29	AMB15-101	SN05	06/11/14 0915	Seawater				X					1	
30	AMB15-102	SN08	06/11/14 0926	Seawater				X					1	
31	AMB15-103	SN10	06/11/14 0936	Seawater				X					1	
32	AMB15-104	SN11	06/11/14 0946	Seawater				X					1	
33	AMB15-105	SN11 DUP	06/11/14 0949	Seawater				X					1	
34	AMB15-106	M2 SURF	06/11/14 1040	Seawater				X					1	
39	AMB15-107	M2 DEEP	06/11/14 1042	Seawater				X					1	
36	AMB15-108	CLMBAY	06/11/14 1053	Seawater				X					1	
37	AMB15-109	ILSP	06/11/14 1113	Seawater				X					1	
38	AMB15-110	M1 SURF	06/11/14 1158	Seawater				X					1	
39	AMB15-111	M1 DEEP	06/11/14 1202	Seawater				X					1	
40	AMB15-112	M5	06/11/14 1310	Seawater				X					1	
41	AMB15-113	M5 DUP	06/11/14 1312	Seawater				X					1	
42	AMB15-114	PS03C	06/11/14 1505	Seawater				X					1	
43	AMB15-115	WP	06/11/14	Seawater				X					1	
	--end--													
												Total:	46	

Relinquished By: C. Suslick — Company: Battelle MSL — 6/12/2014
Signature/Printed Name: D Hoke/Parsons — 6-13-14 940 — Date/Time
shipped via Fedex 6/12/14, CS

PROJECT ENVVEST														
Project Name: JUNE 2014 Ambient Monitoring (AMB15)								CHAIN OF CUSTODY FORM						
SAMPLE TEAM:		Navy, Battelle												
DATE:	6/12/2014													
Laboratory:	Columbia Analytical							Testing Parameters per QAPP						
Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS	
Received By:		Company:												
Signature/Printed Name			Date/Time											

PC 42

Cooler Receipt and Preservation Form

Client / Project: Envest Battelle Service Request *K14* 05950

Received: 6-13-14 Opened: 6-13-14 By: GH Unloaded: 6-13-14 By: GH

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
4.5	4.7	8.9	9.1	+0.2	338		770285920447	
2.2	2.0	4.0	3.8	-0.2	321		770285918853	
2.3	2.4	3.9	4.0	+0.1	334		770285891945	
0.9	0.9	—	—	0	325		770285891783	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* Paper
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring September 2014 (AMB16)

Seawater and Freshwater Chemistry

Report Submission Date: 2/15/15
Report Revision No.: 0
PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 16,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 9
QA/QC Narrative 30

Narrative, Batch K140140 35
Summary Report, Batch K140140 36

Sample Custody Information

Sample Collection, 091614 77
Sample Collection, 091714 85
Equipment Blanks, 081514 93

Chain of Custody, Batch K140140 95

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.15**	**0.032**	**2.5**	**0.100**	**0.2**	**0.002**	**0.06**	**0.035**
Seawater Reporting Limit (MDL* 3.18)								**0.095**	**8.0**	**0.320**	**0.6**	**0.01**	**0.2**	**0.11**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.100**	**0.2**	**0.004**	**0.1**	**0.0053**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.320**	**0.6**	**0.01**	**0.3**	**0.017**
AMB16														
AMB16-002	PS04	Total	Seawater	3106-1376	9/16/2014	28.6	1.60	1.59	132	1.17	4.94	0.0455	0.114 J	2.04
AMB16-002	PS04	Diss	Seawater	3106-1377	9/16/2014	--	--	1.38	115	0.510	0.332 J	0.0505	0.115 J	1.90
AMB16-003	PS05	Total	Seawater	3106-1378	9/16/2014	29.6	1.56	1.60	133	0.806	6.14	0.0499	0.123 J	2.34
AMB16-003	PS05	Diss	Seawater	3106-1379	9/16/2014	--	--	1.37	114	0.392	0.295 J	0.0506	0.111 J	1.59
AMB16-004	PS14	Total	Seawater	3106-1380	9/16/2014	29.8	1.73	1.52	126	0.747	5.03	0.0561	0.117 J	1.71
AMB16-004	PS14	Diss	Seawater	3106-1381	9/16/2014	--	--	1.48	123	0.348	0.312 J	0.0552	0.109 J	1.44
AMB16-005	PS06	Total	Seawater	3106-1382	9/16/2014	28.7	1.13	1.33	111	0.949	5.23	0.0603	0.119 J	1.44
AMB16-005	PS06	Diss	Seawater	3106-1383	9/16/2014	--	--	1.32	110	0.446	0.336 J	0.0598	0.111 J	1.23
AMB16-006	PS07	Total	Seawater	3106-1384	9/16/2014	28.8	1.36	1.37	114	0.767	3.54	0.0579	2.81	2.45
AMB16-006	PS07	Diss	Seawater	3106-1385	9/16/2014	--	--	1.27	106	0.398	0.638	0.0594	0.105 J	2.15
AMB16-007	PS08	Total	Seawater	3106-1386	9/16/2014	28.9	1.58	1.45	121	0.596	9.22	0.0592	0.150 J	1.85
AMB16-007	PS08	Diss	Seawater	3106-1387	9/16/2014	--	--	1.24	103	0.218 J	0.357 J	0.0581	0.119 J	1.44
AMB16-008	PS15	Total	Seawater	3106-1388	9/16/2014	29.2	1.76	1.49	124	0.556	8.26	0.0557	0.120 J	0.838
AMB16-008	PS15	Diss	Seawater	3106-1389	9/16/2014	--	--	1.25	105	0.194 J	0.271 J	0.0539	0.0948 J	0.747
AMB16-009	PS09	Total	Seawater	3106-1390	9/16/2014	28.8	1.47	1.27	106	0.902	10.0	0.0638	0.153 J	1.67
AMB16-009	PS09	Diss	Seawater	3106-1391	9/16/2014	--	--	1.27	106	0.359	0.500	0.0630	0.133 J	1.37
AMB16-010	PS09DUP	Total	Seawater	3106-1392	9/16/2014	28.4	1.14	1.31	109	0.912	9.26	0.0661	0.161 J	1.67
AMB16-010	PS09DUP	Diss	Seawater	3106-1393	9/16/2014	--	--	1.57	131	0.348	0.385 J	0.0685	0.132 J	1.28
AMB16-011	PS10	Total	Seawater	3106-1394	9/16/2014	29.1	0.975	1.28	107	0.746	4.47	0.0602	0.130 J	2.20
AMB16-011	PS10	Diss	Seawater	3106-1395	9/16/2014	--	--	1.31	109	0.300 J	2.12	0.0621	0.118 J	1.90
AMB16-012	PS10.1	Total	Seawater	3106-1396	9/16/2014	28.9	1.46	1.43	119	0.610	5.24	0.0586	0.150	2.38
AMB16-012	PS10.1	Diss	Seawater	3106-1397	9/16/2014	--	--	1.36	113	0.269 J	3.25	0.0580	0.152	2.05
AMB16-013	PS11	Total	Seawater	3106-1398	9/16/2014	29.1	1.51	1.31	109	0.845	7.36	0.0601	0.174	1.95
AMB16-013	PS11	Diss	Seawater	3106-1399	9/16/2014	--	--	1.34	112	0.228 J	0.411 J	0.0577	0.142	1.52
AMB16-014	PS16	Total	Seawater	3106-1400	9/16/2014	29.0	1.20	1.26	105	0.708	13.0	0.0672	0.191	1.12
AMB16-014	PS16	Diss	Seawater	3106-1401	9/16/2014	--	--	1.29	108	0.187 J	0.839	0.0609	0.172	0.868
AMB16-015	PS16DUP	Total	Seawater	3106-1402	9/16/2014	28.0	1.27	1.26	105	1.21	11.7	0.0647	0.202	1.01
AMB16-015	PS16DUP	Diss	Seawater	3106-1403	9/16/2014	--	--	1.32	110	0.182 J	0.691	0.0605	0.255	0.789
AMB16-016	PS01	Total	Seawater	3106-1404	9/16/2014	28.1	3.31	1.64	137	1.31	17.5	0.0536	0.266	1.72
AMB16-016	PS01	Diss	Seawater	3106-1405	9/16/2014	--	--	1.59	133	0.555	0.530 J	0.0503	0.240	1.34
AMB16-017	PS02	Total	Seawater	3106-1406	9/16/2014	26.7	1.98	1.66	138	1.85	9.65	0.0518	0.289	1.78

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/D OC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB16-017	PS02	Diss	Seawater	3106-1407	9/16/2014	--	--	1.57	131	0.907	0.489 J	0.0520	0.260	1.50
AMB16-018	PS13	Total	Seawater	3106-1408	9/16/2014	27.6	2.02	1.75	146	0.844	8.86	0.0444	0.191	1.61
AMB16-018	PS13	Diss	Seawater	3106-1409	9/16/2014	--	--	1.52	127	0.387	0.778	0.0492	0.207	1.51
AMB16-019	M4	Total	Seawater	3106-1410	9/16/2014	28.6	2.70	1.98	165	0.600	8.66	0.0530	0.302	0.874
AMB16-019	M4	Diss	Seawater	3106-1411	9/16/2014	--	--	1.51	126	0.234 J	0.307 J	0.0444	0.111	0.656
AMB16-020	BJEST	Total	Seawater	3106-1412	9/16/2014	20.3	2.51	1.57	131	0.805	38.7	0.0432	0.284	1.13
AMB16-020	BJEST	Diss	Seawater	3106-1413	9/16/2014	--	--	1.53	127	0.289 J	0.886	0.0393	0.143	0.877
AMB16-021	M3.1	Total	Seawater	3106-1414	9/16/2014	29.0	1.58	1.42	119	0.518	7.43	0.0537	0.151	0.956
AMB16-021	M3.1	Diss	Seawater	3106-1415	9/16/2014	--	--	1.35	113	0.266 J	0.527 J	0.0569	0.134	0.749
AMB16-022	M3.1DEEP	Total	Seawater	3106-1416	9/16/2014	29.0	1.39	1.29	108	0.519	8.66	0.0639	0.144	0.682
AMB16-022	M3.1DEEP	Diss	Seawater	3106-1417	9/16/2014	--	--	1.21	101	0.199 J	0.308 J	0.0608	0.136	0.574
AMB16-023	PS12	Total	Seawater	3106-1418	9/16/2014	28.8	1.36	1.25	104	0.769	6.81	0.0616	0.163	1.69
AMB16-023	PS12	Diss	Seawater	3106-1419	9/16/2014	--	--	1.24	104	0.300 J	0.489 J	0.0608	0.121	1.36
AMB16-024	PS03B	Total	Seawater	3106-1420	9/16/2014	28.1	2.93	1.72	143	2.10	14.7	0.0545	0.197	1.57
AMB16-024	PS03B	Diss	Seawater	3106-1421	9/16/2014	--	--	1.42	118	0.423	0.379 J	0.0485	0.141	1.18
AMB16-001	PS03	Total	Seawater	3106-1422	9/16/2014	28.7	1.63	1.60	133	5.01	5.16	0.0501	0.163	2.09
AMB16-001	PS03	Diss	Seawater	3106-1423	9/16/2014	--	--	1.38	115	2.46	0.382 J	0.0519	0.140	1.85
AMB16-DD001	OF021	Total	Freshwater	3106-1424	9/16/2014	0.10	0.41	NA	NA	1.35	7.37	0.004 U	0.768	0.913
AMB16-DD001	OF021	Diss	Freshwater	3106-1425	9/16/2014	--	--	NA	NA	1.04	6.39	0.004 U	0.834	0.850
AMB16-DD002	OF019	Total	Seawater	3106-1426	9/16/2014	20.0	0.57	0.868	72.4	6.21	4.07	0.0770	2.11	1.28
AMB16-DD002	OF019	Diss	Seawater	3106-1427	9/16/2014	--	--	0.963	80.3	3.60	0.410	0.0721	1.03	0.95
AMB16-DD003	OF018	Total	Seawater	3106-1428	9/16/2014	21.9	0.59	0.915	76.3	--	--	--	--	--
AMB16-DD003	OF018	Diss	Seawater	3106-1429	9/16/2014	--	--	0.959	79.9	--	--	--	--	--
AMB16-100	SN03	Total	Seawater	3106-1430	9/17/2014	29.2	1.39	1.43	119	0.623	7.95	0.0526	0.149	0.850
AMB16-100	SN03	Diss	Seawater	3106-1431	9/17/2014	--	--	1.48	124	0.231 J	0.357 J	0.0513	0.132	0.699
AMB16-101	SN05	Total	Seawater	3106-1432	9/17/2014	29.3	2.22	1.66	138	1.14	21.7	0.0526	0.174	0.647
AMB16-101	SN05	Diss	Seawater	3106-1433	9/17/2014	--	--	1.38	115	0.244 J	0.869	0.0416	0.119	0.471
AMB16-102	SN08	Total	Seawater	3106-1434	9/17/2014	26.8	1.60	1.34	112	0.642	13.4	0.0387	0.244	0.718
AMB16-102	SN08	Diss	Seawater	3106-1435	9/17/2014	--	--	1.20	100	0.180 J	0.750	0.0357	0.180	0.535
AMB16-103	SN10	Total	Seawater	3106-1436	9/17/2014	29.3	1.56	1.62	135	0.737	14.9	0.0558	0.152	1.10
AMB16-103	SN10	Diss	Seawater	3106-1437	9/17/2014	--	--	1.26	105	0.185 J	0.405 J	0.0456	0.116	0.834
AMB16-104	SN11	Total	Seawater	3106-1438	9/17/2014	29.0	1.24	1.53	127	0.546	8.46	0.0499	0.138	0.843
AMB16-104	SN11	Diss	Seawater	3106-1439	9/17/2014	--	--	1.53	127	0.184 J	0.333 J	0.0460	0.120	0.651
AMB16-105	SN11DUP	Total	Seawater	3106-1440	9/17/2014	29.2	1.57	1.55	129	0.607	10.8	0.0514	0.144	0.814
AMB16-105	SN11DUP	Diss	Seawater	3106-1441	9/17/2014	--	--	1.67	139	0.202 J	0.492 J	0.0473	0.165	0.698
AMB16-106	M1	Total	Seawater	3106-1442	9/17/2014	29.3	1.04	1.20	100	0.298 J	3.90	0.0656	0.138	0.558
AMB16-106	M1	Diss	Seawater	3106-1443	9/17/2014	--	--	1.18	98.2	0.200 J	0.269 J	0.0661	0.130	0.489

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Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/D OC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB16-107	M1DEEP	Total	Seawater	3106-1444	9/17/2014	29.4	1.16	1.23	102	0.321	5.27	0.0676	0.138	0.633
AMB16-107	M1DEEP	Diss	Seawater	3106-1445	9/17/2014	--	--	1.22	102	0.172 J	0.286 J	0.0642	0.122	0.488
AMB16-108	ILSP	Total	Seawater	3106-1446	9/17/2014	29.6	1.81	1.15	95.9	0.368	8.82	0.0671	0.168	0.509
AMB16-108	ILSP	Diss	Seawater	3106-1447	9/17/2014	--	--	1.25	104	0.163 J	0.6 U	0.0680	0.131	0.428
AMB16-109	WP	Total	Seawater	3106-1448	9/17/2014	29.1	1.88	1.28	107	0.567	13.1	0.0647	0.163	0.595
AMB16-109	WP	Diss	Seawater	3106-1449	9/17/2014	--	--	1.55	129	0.183 J	0.6 U	0.0613	0.124	0.488
AMB16-110	CLMBY	Total	Seawater	3106-1450	9/17/2014	29.3	0.648	1.19	98.8	0.421	9.34	0.0645	0.147	0.481
AMB16-110	CLMBY	Diss	Seawater	3106-1451	9/17/2014	--	--	1.21	101	0.186 J	0.6 U	0.0614	0.126	0.401
AMB16-111	M2	Total	Seawater	3106-1452	9/17/2014	29.4	0.954	1.04	86.8	0.454	13.2	0.0743	0.178	0.455
AMB16-111	M2	Diss	Seawater	3106-1453	9/17/2014	--	--	1.03	85.4	0.170 J	0.805	0.0739	0.183	0.429
AMB16-112	M2DEEP	Total	Seawater	3106-1454	9/17/2014	29.5	1.12	0.976	81.4	0.365	11.9	0.0749	0.189	0.413
AMB16-112	M2DEEP	Diss	Seawater	3106-1455	9/17/2014	--	--	1.07	89.4	0.145 J	0.6 U	0.0725	0.142	0.353
AMB16-113	DYOTS	Total	Seawater	3106-1456	9/17/2014	28.8	1.68	1.63	135	0.540	10.0	0.0526	0.163	0.529
AMB16-113	DYOTS	Diss	Seawater	3106-1457	9/17/2014	--	--	1.69	141	0.280 J	0.825	0.0464	0.145	0.485
AMB16-114	M6	Total	Seawater	3106-1458	9/17/2014	29.4	1.11	1.34	112	0.413	8.01	0.0538	0.143	0.500
AMB16-114	M6	Diss	Seawater	3106-1459	9/17/2014	--	--	1.31	109	0.270 J	0.615	0.0530	0.127	0.484
AMB16-115	M6DEEP	Total	Seawater	3106-1460	9/17/2014	29.3	1.09	1.37	115	0.431	8.94	0.0526	0.150	0.491
AMB16-115	M6DEEP	Diss	Seawater	3106-1461	9/17/2014	--	--	1.27	106	0.208 J	0.789	0.0531	0.136	0.471
AMB16-116	M3.3	Total	Seawater	3106-1462	9/17/2014	29.2	1.27	1.30	108	0.680	7.08	0.0562	0.148	1.13
AMB16-116	M3.3	Diss	Seawater	3106-1463	9/17/2014	--	--	1.27	106	0.284 J	0.6 U	0.0558	0.138	0.971
AMB16-117	PS03C	Total	Seawater	3106-1464	9/17/2014	29.1	0.985	1.59	133	3.88	3.34	0.0586	0.167	2.76
AMB16-117	PS03C	Diss	Seawater	3106-1465	9/17/2014	--	--	1.52	127	2.60	0.6 U	0.0542	0.160	2.34
	EB	Diss	500mL Filt Blank A	3106-1369	08/15/14	--	--	--	--	--	0.2 U	0.004 U	0.301 J	0.0382
	EB	Diss	500mL Filt Blank B	3106-1370	08/15/14	--	--	--	--	0.100 U	0.2 U	0.004 U	0.277 J	0.00655 J
	EB	Diss	500mL Filt Blank C	3106-1371	08/15/14	--	--	--	--	0.100 U	0.357 J	0.004 U	0.257 J	0.00642 J

NOTE: OF21 TOC/DOC bottles cracked in freezer
OF18 Metals reported with DDA003

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ENVVEST Sept 2014
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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.025**	**0.0019**	**0.026**					
Seawater Reporting Limit (MDL* 3.18)					**0.080**	**0.0060**	**0.084**					
Laboratory Achieved Detection Limits (Freshwater)					**0.004**	**0.0022**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.01**	**0.0070**	**0.06**					
AMB16												
AMB16-002	PS04	Total	Seawater	3106-1376	0.397	0.0511	3.10	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-002	PS04	Diss	Seawater	3106-1377	0.399	0.0159	2.93	100914HGA	092914A-DRC	--	101314HTCO	--
AMB16-003	PS05	Total	Seawater	3106-1378	0.434	0.0690	2.68	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-003	PS05	Diss	Seawater	3106-1379	0.390	0.0259	2.21	100914HGA	092914A-DRC	--	101314HTCO	--
AMB16-004	PS14	Total	Seawater	3106-1380	0.485	0.0557	3.08	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-004	PS14	Diss	Seawater	3106-1381	0.494	0.0239	2.89	100914HGA	092914A-DRC	--	101314HTCO	--
AMB16-005	PS06	Total	Seawater	3106-1382	0.570	0.0653	4.50	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-005	PS06	Diss	Seawater	3106-1383	0.475	0.0208	4.50	100914HGA	092914A-DRC	--	101314HTCO	--
AMB16-006	PS07	Total	Seawater	3106-1384	1.04	0.0644	4.54	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-006	PS07	Diss	Seawater	3106-1385	0.488	0.0271	4.82	100914HGA	092914A-DRC	--	101314HTCO	--
AMB16-007	PS08	Total	Seawater	3106-1386	0.466	0.0678	5.22	100914HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-007	PS08	Diss	Seawater	3106-1387	0.423	0.0199	4.78	100914HGA	100814A-DRC	--	101314HTCO	--
AMB16-008	PS15	Total	Seawater	3106-1388	0.395	0.0669	1.44	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-008	PS15	Diss	Seawater	3106-1389	0.384	0.0176	1.20	100914HGA	092914A-DRC	--	101314HTCO	--
AMB16-009	PS09	Total	Seawater	3106-1390	0.479	0.0754	5.98	100914HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-009	PS09	Diss	Seawater	3106-1391	0.509	0.0198	6.15	101014HGA	092914A-DRC	--	101314HTCO	--
AMB16-010	PS09DUP	Total	Seawater	3106-1392	0.506	0.0770	5.38	101014HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-010	PS09DUP	Diss	Seawater	3106-1393	0.493	0.0210	4.84	101014HGA	092914A-DRC	--	101314HTCO	--
AMB16-011	PS10	Total	Seawater	3106-1394	0.445	0.0790	5.45	101014HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-011	PS10	Diss	Seawater	3106-1395	0.437	0.0406	5.19	101014HGA	092914A-DRC	--	101314HTCO	--
AMB16-012	PS10.1	Total	Seawater	3106-1396	0.441	0.0596	5.54	101014HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-012	PS10.1	Diss	Seawater	3106-1397	0.450	0.0202	5.25	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-013	PS11	Total	Seawater	3106-1398	0.462	0.0986	4.35	101014HGA	100114A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-013	PS11	Diss	Seawater	3106-1399	0.435	0.0222	3.86	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-014	PS16	Total	Seawater	3106-1400	0.479	0.0823	1.96	101014HGA	100114A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-014	PS16	Diss	Seawater	3106-1401	0.414	0.0256	1.80	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-015	PS16DUP	Total	Seawater	3106-1402	0.441	0.0855	1.87	101014HGA	100114A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-015	PS16DUP	Diss	Seawater	3106-1403	0.688	0.0275	1.77	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-016	PS01	Total	Seawater	3106-1404	0.541	0.135	2.58	101014HGA	100114A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-016	PS01	Diss	Seawater	3106-1405	0.463	0.0236	2.03	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-017	PS02	Total	Seawater	3106-1406	0.533	0.110	2.91	101014HGA	100114A-DRC	092114Osal	101314HTCO	092214Nu

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB16-017	PS02	Diss	Seawater	3106-1407	0.511	0.0266	2.43	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-018	PS13	Total	Seawater	3106-1408	0.427	0.0796	2.11	101014HGA	100114A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-018	PS13	Diss	Seawater	3106-1409	0.443	0.0252	1.94	101014HGA	100114A-DRC	--	101314HTCO	--
AMB16-019	M4	Total	Seawater	3106-1410	0.510	0.0699	1.07	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-019	M4	Diss	Seawater	3106-1411	0.370	0.0134	0.798	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-020	BJEST	Total	Seawater	3106-1412	0.502	0.104	1.58	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-020	BJEST	Diss	Seawater	3106-1413	0.417	0.0170	1.14	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-021	M3.1	Total	Seawater	3106-1414	0.422	0.0584	1.24	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-021	M3.1	Diss	Seawater	3106-1415	0.414	0.0300	1.05	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-022	M3.1DEEP	Total	Seawater	3106-1416	0.397	0.0616	0.869	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-022	M3.1DEEP	Diss	Seawater	3106-1417	0.385	0.0172	0.695	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-023	PS12	Total	Seawater	3106-1418	0.582	0.0883	4.05	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-023	PS12	Diss	Seawater	3106-1419	0.411	0.0278	3.89	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-024	PS03B	Total	Seawater	3106-1420	0.464	0.123	2.58	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-024	PS03B	Diss	Seawater	3106-1421	0.390	0.0172	1.46	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-001	PS03	Total	Seawater	3106-1422	0.421	0.0645	2.81	101414HGA	092914A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-001	PS03	Diss	Seawater	3106-1423	0.439	0.0151	2.34	101414HGA	092914A-DRC	--	101314HTCO	--
AMB16-DD001	OF021	Total	Freshwater	3106-1424	0.644	0.00887	0.619	101414HGA	092614A-DRC	092114Osal	broken	092214Nu
AMB16-DD001	OF021	Diss	Freshwater	3106-1425	0.604	0.00625 J	0.780	101414HGA	092614A-DRC	--	broken	--
AMB16-DD002	OF019	Total	Seawater	3106-1426	2.20	0.0446	10.4	101414HGA	100814A-DRC	092114Osal	101314HTCO	092214Nu
AMB16-DD002	OF019	Diss	Seawater	3106-1427	2.13	0.0083	9.71	101414HGA	100814A-DRC	--	101314HTCO	--
AMB16-DD003	OF018	Total	Seawater	3106-1428	--	--	--	--	--	092114Osal	101314HTCO	092214Nu
AMB16-DD003	OF018	Diss	Seawater	3106-1429	--	--	--	--	--	--	101314HTCO	--
AMB16-100	SN03	Total	Seawater	3106-1430	0.477	0.0769	1.03	101414HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-100	SN03	Diss	Seawater	3106-1431	0.447	0.0179	0.803	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-101	SN05	Total	Seawater	3106-1432	0.459	0.136	1.20	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-101	SN05	Diss	Seawater	3106-1433	0.397	0.0315	0.807	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-102	SN08	Total	Seawater	3106-1434	0.453	0.0932	0.970	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-102	SN08	Diss	Seawater	3106-1435	0.346	0.0156	0.700	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-103	SN10	Total	Seawater	3106-1436	0.421	0.0996	1.90	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-103	SN10	Diss	Seawater	3106-1437	0.376	0.0212	1.53	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-104	SN11	Total	Seawater	3106-1438	0.415	0.0757	1.71	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-104	SN11	Diss	Seawater	3106-1439	0.371	0.0147	1.03	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-105	SN11DUP	Total	Seawater	3106-1440	0.434	0.0788	1.28	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-105	SN11DUP	Diss	Seawater	3106-1441	0.501	0.0217	0.873	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-106	M1	Total	Seawater	3106-1442	0.420	0.0307	0.561	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-106	M1	Diss	Seawater	3106-1443	0.371	0.0124	0.500	101616HGA	100814A-DRC	--	101314HTCO	--

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB16-107	M1DEEP	Total	Seawater	3106-1444	0.389	0.0400	1.01	101616HGA	100814A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-107	M1DEEP	Diss	Seawater	3106-1445	0.366	0.0136	0.793	101616HGA	100814A-DRC	--	101314HTCO	--
AMB16-108	ILSP	Total	Seawater	3106-1446	0.433	0.0433	0.526 B	101616HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-108	ILSP	Diss	Seawater	3106-1447	0.381	0.0130	0.556 B	101616HGA	100214A-DRC	--	101314HTCO	--
AMB16-109	WP	Total	Seawater	3106-1448	0.429	0.0729	0.688 B	101616HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-109	WP	Diss	Seawater	3106-1449	0.369	0.0213	0.520 B	101616HGA	100214A-DRC	--	101314HTCO	--
AMB16-110	CLMBY	Total	Seawater	3106-1450	0.397	0.0444	0.437 B	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-110	CLMBY	Diss	Seawater	3106-1451	0.376	0.0114	0.407 B	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-111	M2	Total	Seawater	3106-1452	0.424	0.0462	0.482 B	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-111	M2	Diss	Seawater	3106-1453	0.663	0.00937	0.384 B	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-112	M2DEEP	Total	Seawater	3106-1454	0.412	0.0340	0.482 B	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-112	M2DEEP	Diss	Seawater	3106-1455	0.359	0.00618	0.390 B	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-113	DYOTS	Total	Seawater	3106-1456	0.400	0.0593	0.597 B	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-113	DYOTS	Diss	Seawater	3106-1457	0.367	0.0211	0.462 B	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-114	M6	Total	Seawater	3106-1458	0.393	0.0472	0.431 B	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-114	M6	Diss	Seawater	3106-1459	0.357	0.0523	0.359 B	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-115	M6DEEP	Total	Seawater	3106-1460	0.392	0.0488	0.412 B	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-115	M6DEEP	Diss	Seawater	3106-1461	0.382	0.0204	0.379 B	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-116	M3.3	Total	Seawater	3106-1462	0.433	0.0739	2.55	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-116	M3.3	Diss	Seawater	3106-1463	0.435	0.0222	2.33	102216HGA	100214A-DRC	--	101314HTCO	--
AMB16-117	PS03C	Total	Seawater	3106-1464	0.451	0.0556	3.75	102216HGA	100214A-DRC	092114Osal	101314HTCO	092314Nu
AMB16-117	PS03C	Diss	Seawater	3106-1465	0.449	0.0195	3.33	102216HGA	100214A-DRC	--	101314HTCO	--
	EB	Diss	500mL Filt Blank A	3106-1369	0.0914	0.0022 U	0.0440 J	--	092614A-DRC	--	--	--
	EB	Diss	500mL Filt Blank B	3106-1370	0.00735 J	0.0022 U	0.0246 J	100914HGA	092614A-DRC	--	--	--
	EB	Diss	500mL Filt Blank C	3106-1371	0.004 U	0.0022 U	0.145	100914HGA	092614A-DRC	--	--	--

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QC Results for ICP-MS
Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.2**	**0.002**	**0.06**	**0.035**	**0.025**	**0.0019**	**0.026**	
Seawater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.2**	**0.11**	**0.08**	**0.006**	**0.084**	
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**	**0.0022**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.007**	**0.06**	
METHOD BLANKS												
MB		Total	Freshwater	TRM Blank	0.2 U	0.004 U	0.1 U	0.0053 U	0.004 U	0.0022 U	0.02 U	092614A-DRC
MB			Seawater	DI Blank R1	0.155 U	0.0003 U	0.0370 U	0.0634 J	0.0211 U	0.00067 U	0.0992	092914A-DRC
MB			Seawater	DI Blank R2	0.189 U	0.0003 U	0.0310 U	0.0635 J	0.0171 U	0.00058 U	0.0810 J	092914A-DRC
MB			Seawater	DI Blank R3	0.203 U	0.0002 U	0.0299 U	0.0702 J	0.0159 U	0.00045 U	0.0874	092914A-DRC
MB			Seawater	DI Blank R4	0.185 U	0.0001 U	0.0324 U	0.0645 J	0.0142 U	0.00056 U	0.0847 J	092914A-DRC
MB			Seawater	DI Blank R5	0.190 U	0.0001 U	0.0317 U	0.0656 J	0.0147 U	0.00065 U	0.0819 J	092914A-DRC
MB			Seawater	DI Blank R6	0.136 U	0.0003 U	0.0296 U	0.0708 J	0.0150 U	0.00041 U	0.0856	092914A-DRC
MEAN REAGENT BLANK			Seawater	***BMRB_092914***	**0.176** U	**0.0002** U	**0.0319** U	**0.0663** J	**0.0163** U	**0.00055** U	**0.0866**	092914A-DRC
MB			Seawater	DI Blank R7	0.159 U	0.0002 U	0.0258 U	0.0710 J	0.0158 U	0.0008 U	0.0846 J	100214A-DRC
MB			Seawater	DI Blank R8	0.146 U	0.0005 U	0.0311 U	0.0761 J	0.0206 U	0.0009 U	0.0902	100214A-DRC
MB			Seawater	DI Blank R9	0.174 U	0.0001 U	0.0320 U	0.0787 J	0.0154 U	0.0006 U	0.100	100214A-DRC
MEAN REAGENT BLANK			Seawater	***BMRB_100214***	**0.160** U	**0.0003** U	**0.0296** U	**0.075** J	**0.0173** U	**0.0008** U	**0.0916**	100214A-DRC
MB			Seawater	DI Blank R1	0.242 J	0.0001 U	0.0237 U	0.0494 J	0.0969	0.0002 U	0.0495 J	100814A-DRC
MB			Seawater	DI Blank R2	0.158 U	0.0004 U	0.0285 U	0.0319 U	0.0139 U	0.0003 U	0.0450 J	100814A-DRC
MB			Seawater	DI Blank R3	0.206 U	0.0001 U	0.0271 U	0.0415 J	0.0146 U	0.0001 U	0.0722 J	100814A-DRC
MB			Seawater	DI Blank R4	0.149 U	0.0003 U	0.0295 U	0.0234 U	0.0138 U	0.0003 U	0.0465 J	100814A-DRC
MB			Seawater	DI Blank R5	0.135 U	0.0003 U	0.0265 U	0.0210 U	0.0231 U	0.0004 U	0.0462 J	100814A-DRC
MB			Seawater	DI Blank R6	0.149 U	0.0004 U	0.0213 U	0.0297 U	0.0137 U	0.0003 U	0.0538 J	100814A-DRC
MEAN REAGENT BLANK			Seawater	***BMRB_100214***	**0.173** U	**0.0003** U	**0.0261** U	**0.0328** U	**0.0293** J	**0.0003** U	**0.0522** J	100814A-DRC

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QC Results for ICP-MS
Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS			Freshwater	TRM LCS	2.02	2.00	2.06	2.01	2.05	2.05	2.01	092614A-DRC
				Percent Recovery, LCS	**101%**	**100%**	**103%**	**101%**	**103%**	**103%**	**101%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	2.03	0.0539	0.155	0.285	0.318	0.00266 J	0.227	092914A-DRC
LCS		Total	Seawater	SB LCS R1	4.08	2.09	2.13	2.18	2.26	2.06	1.95	092914A-DRC
				Percent Recovery, LCS	**103%**	**102%**	**99%**	**95%**	**97%**	**103%**	**86%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank				SB Blank R2	2.02	0.0523	0.136	0.264	0.305	0.00268 J	0.202	092914A-DRC
LCS				SB LCS R2	3.95	1.96	1.92	2.01	2.09	1.93	1.80	092914A-DRC
				Percent Recovery, LCS	**97%**	**95%**	**89%**	**87%**	**89%**	**96%**	**80%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank				SB Blank R3	2.06	0.0526	0.163	0.309	0.335	0.00330 J	0.232	100214A-DRC
LCS				SB LCS R3	3.66	1.89	2.02	2.03	2.08	1.88	1.78	100214A-DRC
				Percent Recovery, LCS	**80%**	**92%**	**93%**	**86%**	**87%**	**94%**	**77%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank				SB Blank R1	2.01	0.0528	0.152	0.292	0.316	0.00238 J	0.210	100814A-DRC
LCS				SB LCS R1	4.12	2.01	2.15	2.15	2.20	1.93	1.93	100814A-DRC
				Percent Recovery, LCS	**106%**	**98%**	**100%**	**93%**	**94%**	**96%**	**86%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank				SB Blank R2	2.35	0.0548	0.180	0.299	0.348	0.00244 J	0.237	100814A-DRC
LCS				SB LCS R2	4.25	1.97	2.17	2.10	2.16	1.95	1.86	100814A-DRC
				Percent Recovery, LCS	**95%**	**96%**	**100%**	**90%**	**91%**	**97%**	**81%**	

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QC Results for ICP-MS
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ENVVEST Sept 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB16-DD001	OF021	Diss	Freshwater	3106-1425	6.39	0.001	0.83	0.850	0.604	0.0063	0.78	092614A-DRC
MS				3106-1425 MS	15.8	1.04	9.97	1.82	1.53	1.05	10.7	092614A-DRC
MSD				3106-1425 MSD	15.7	1.03	9.95	1.84	1.52	1.07	10.4	092614A-DRC
				Spiking Level	10	1	10	1	1	1	10	
				Percent Recovery, MS	**94%**	**104%**	**91%**	**97%**	**93%**	**104%**	**99%**	
				Percent Recovery, MSD	**93%**	**103%**	**91%**	**99%**	**92%**	**106%**	**96%**	
AMB16-008	PS15	Diss	Seawater	3106-1389	0.271 J	0.0539	0.0948	0.747	0.384	0.0176	1.20	092914A-DRC
MS				3106-1389MS	5.10	1.00	4.77	5.32	5.17	0.982	5.41	092914A-DRC
MSD				3106-1389MSD	4.76	1.01	4.61	5.10	4.79	0.980	5.09	092914A-DRC
				Spiking Level	5	1	5	5	5	1	5	
				Percent Recovery, MS	**97%**	**95%**	**94%**	**91%**	**96%**	**96%**	**84%**	
				Percent Recovery, MSD	**90%**	**96%**	**90%**	**87%**	**88%**	**96%**	**78%**	
AMB16-014	PS16	Total	Seawater	3106-1400	13.0	0.0672	0.191	1.12	0.479	0.0823	1.96	100114A-DRC
MS				3106-1400MS	16.5	1.04	1.26	2.05	1.45	1.08	6.15	100114A-DRC
MSD				3106-1400MSD	16.8	1.05	1.21	2.05	1.44	1.11	6.13	100114A-DRC
				Spiking Level	5	1	1	1	1	1	5	
				Percent Recovery, MS	**70%**	**97%**	**107%**	**93%**	**97%**	**100%**	**84%**	
				Percent Recovery, MSD	**76%**	**98%**	**102%**	**93%**	**96%**	**103%**	**83%**	
AMB16-114	M6	Diss	Seawater	3106-1459	0.615	0.0530	0.127	0.484	0.357	0.0523	0.359	100214A-DRC
MS				3106-1459MS	5.23	1.01	1.14	1.37	1.29	1.03	4.28	100214A-DRC
MSD				3106-1459MSD	5.46	1.04	1.13	1.38	1.25	1.03	4.42	100214A-DRC
				Spiking Level	5	1	1	1	1	1	5	
				Percent Recovery, MS	**92%**	**96%**	**101%**	**89%**	**93%**	**98%**	**78%**	
				Percent Recovery, MSD	**97%**	**99%**	**100%**	**90%**	**89%**	**98%**	**81%**	
AMB16-019	M4	Total	Seawater	3106-1410	8.66	0.0530	0.302	0.874	0.510	0.0699	1.07	100814A-DRC
MS				3106-1410 MS	9.14	1.01	1.19	1.76	1.37	1.03	1.83	100814A-DRC
MSD				3106-1410 MSD	9.42	1.00	1.20	1.77	1.34	1.04	1.77	100814A-DRC
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**NA c**	**96%**	**89%**	**89%**	**86%**	**96%**	**76%**	
				Percent Recovery, MSD	**NA c**	**95%**	**90%**	**90%**	**83%**	**97%**	**70%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB16-020	BJEST	Total	Seawater	3106-1412	38.7	0.0432	0.284	1.13	0.502	0.104	1.58	100814A-DRC
MS				3106-1412 MS	49.2	4.94	5.56	6.05	5.50	5.07	6.20	100814A-DRC
MSD				3106-1412 MSD	44.7	4.66	5.11	5.67	5.07	4.81	5.91	100814A-DRC
				Spiking Level	5	5	5	5	5	5	5	
				Percent Recovery, MS	**NA** c	**98%**	**106%**	**98%**	**100%**	**99%**	**92%**	
				Percent Recovery, MSD	**NA** c	**92%**	**97%**	**91%**	**91%**	**94%**	**87%**	
AMB16-106	M1	Diss	Seawater	3106-1443	0.269 J	0.0661	0.130	0.489	0.371	0.0124	0.500	100814A-DRC
MS				3106-1443 MS	5.41	4.74	5.07	5.00	4.88	4.67	4.27	100814A-DRC
MSD				3106-1443 MSD	5.54	5.09	5.34	5.15	5.13	4.92	4.54	100814A-DRC
				Spiking Level	5	5	5	5	5	5	5	
				Percent Recovery, MS	**103%**	**93%**	**99%**	**90%**	**90%**	**93%**	**75%**	
				Percent Recovery, MSD	**105%**	**100%**	**104%**	**93%**	**95%**	**98%**	**81%**	
AMB16-107	M1DEEP	Diss	Seawater	3106-1445	0.286 J	0.0642	0.122	0.488	0.366	0.0136	0.793	100814A-DRC
MS				3106-1445 MS	1.41	1.06	1.17	1.42	1.32	1.03	1.66	100814A-DRC
MSD				3106-1445 MSD	1.34	1.06	1.15	1.44	1.31	1.03	1.62	100814A-DRC
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**112%**	**100%**	**105%**	**93%**	**95%**	**102%**	**87%**	
				Percent Recovery, MSD	**105%**	**100%**	**103%**	**95%**	**94%**	**102%**	**83%**	

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Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
REPLICATE PRECISION												
AMB16-002	PS04	Total	Seawater	3106-1376	4.94	0.0455	0.114	2.04	0.397	0.0511	3.10	092914A-DRC
DUP				3106-1376r2	4.86	0.0504	0.121	2.18	1.32	0.0551	3.30	092914A-DRC
				Mean	*4.90*	*0.0480*	*0.118*	*2.11*	*0.859*	*0.0531*	*3.20*	092914A-DRC
				RPD	**2%**	**10%**	**6%**	**7%**	**108%** *	**8%**	**6%**	
AMB16-009	PS09	Total	Seawater	3106-1390	10.0	0.0638	0.153	1.67	0.479	0.0754	5.98	092914A-DRC
DUP				3106-1390r2	10.4	0.0629	0.169	1.71	0.518	0.0788	5.95	092914A-DRC
				Mean	*10.2*	*0.0634*	*0.161*	*1.69*	*0.499*	*0.0771*	*5.97*	092914A-DRC
				RPD	**4%**	**1%**	**10%**	**2%**	**8%**	**4%**	**1%**	
AMB16-117	PS03C	Total	Seawater	3106-1464	3.34	0.0586	0.167	2.76	0.451	0.0556	3.75	100214A-DRC
DUP				3106-1464r2	3.51	0.0578	0.157	2.78	0.471	0.0526	3.72	100214A-DRC
				Mean	*3.43*	*0.0582*	*0.162*	*2.77*	*0.461*	*0.0541*	*3.74*	
				RPD	**5%**	**1%**	**6%**	**1%**	**4%**	**6%**	**1%**	
AMB16-007	PS08	Total	Seawater	3106-1386	9.22	0.0592	0.150	1.85	0.466	0.0678	5.22	100814A-DRC
DUP				3106-1386r2	9.16	0.0605	0.151	1.79	0.450	0.0684	5.21	100814A-DRC
				Mean	*9.19*	*0.0599*	*0.151*	*1.82*	*0.458*	*0.0681*	*5.22*	
				RPD	**1%**	**2%**	**1%**	**3%**	**3%**	**1%**	**0%**	
AMB16-103	SN10	Total	Seawater	3106-1436	14.9	0.0558	0.152	1.10	0.421	0.0996	1.90	100814A-DRC
DUP				3106-1436r2	14.7	0.0545	0.150	1.08	0.420	0.0937	1.87	100814A-DRC
				Mean	*14.8*	*0.0552*	*0.151*	*1.09*	*0.421*	*0.0967*	*1.89*	100814A-DRC
				RPD	**1%**	**2%**	**1%**	**2%**	**0%**	**6%**	**2%**	

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Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-5		Total	Seawater	CASS-5 R1	0.744	0.0218	0.124 J	0.364	0.299	0.0129	0.578	092914A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R2	0.752	0.0237	0.128 J	0.370	0.296	0.0132	0.583	092914A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R3	0.779	0.0220	0.145 J	0.391	0.324	0.0156	0.632	100214A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R1	1.37	0.0226	0.145 J	0.410	0.321	0.0170	3.15	100814A-DRC
SRM CASS-5		Total	Seawater	CASS-5 R2	0.864	0.0244	0.149 J	0.405	0.337	0.0134	0.670	100814A-DRC
				Certified Value	NC	**0.0215**	**0.106** c	**0.380**	**0.330**	**0.011** c	**0.719**	
				PD	**--**	**1%**	NA	**4%**	**9%**	**17%**	**20%**	
				PD	**--**	**10%**	NA	**3%**	**10%**	**20%**	**19%**	
				PD	**--**	**2%**	NA	**3%**	**2%**	**42%** c	**12%**	
				PD	**--**	**5%**	NA	**8%**	**3%**	**55%** c	**338%** &	
				PD	**--**	**13%**	NA	**7%**	**2%**	**22%** c	**7%**	
SRM SLEW-3		Total	Seawater	SLEW-3 R1	0.383 J	0.0443	0.192 J	1.44	1.17	0.00719	0.185	092914A-DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R2	0.411 J	0.0492	0.188 J	1.47	1.21	0.00703	0.194	092914A-DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R3	0.371 J	0.0458	0.207	1.45	1.16	0.00805	0.197	100214A-DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R1	0.387 J	0.0420	0.189 J	1.34	1.05	0.00617	0.166	100814A-DRC
SRM SLEW-3		Total	Seawater	SLEW-3 R2	0.412 J	0.0434	0.191 J	1.36	1.08	0.00579 J	0.159	100814A-DRC
				Certified Value	NC	**0.0480**	**0.183** c	**1.55**	**1.23**	**0.009** c	**0.201** c	
				PD	**--**	**8%**	**5%**	**7%**	**5%**	NA	**8%**	
				PD	**--**	**3%**	**3%**	**5%**	**2%**	NA	**3%**	
				PD	**--**	**5%**	**13%**	**6%**	**6%**	NA	**2%**	
				PD	**--**	**13%**	**3%**	**14%**	**15%**	NA	**17%**	
				PD	**--**	**10%**	**4%**	**12%**	**12%**	NA	**21%** c	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Total	Freshwater	TRM 1640a 10x	53.1	4.04	40.0	86.0	25.0	12.0	57.5	092614A-DRC
SRM 1640a		Total	Freshwater	1640a 10x	54.9	4.13	42.8	87.0	26.3	12.6	56.7	100114A-DRC
SRM 1640a		Total	Freshwater	1640a 10x	55.9	4.03	42.0	85.4	26.7	11.7	56.5	100814A-DRC
SRM 1640a		Total	Freshwater	1640a 10x	55.8	4.12	41.1	85.6	26.7	12.0	58.3	100814A-DRC
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**0%**	**1%**	**1%**	**0%**	**1%**	**1%**	**3%**	
				PD	**4%**	**4%**	**6%**	**1%**	**4%**	**4%**	**2%**	
				PD	**5%**	**1%**	**4%**	**0%**	**6%**	**3%**	**2%**	
				PD	**5%**	**3%**	**1%**	**0%**	**6%**	**1%**	**5%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.32**	
METHOD BLANKS						
MB-1	TME	Water	Method Blank1		0.100 U	100914HGA
MB-2	TME	Water	Method Blank2		0.100 U	100914HGA
MB-3	TME	Water	Method Blank3		0.100 U	100914HGA
MB-4	TME	Water	Method Blank1		0.100 U	101014HGA
MB-5	TME	Water	Method Blank2		0.100 U	101014HGA
MB-6	TME	Water	Method Blank3		0.100 U	101014HGA
MB-7	TME	Water	Method Blank1		0.100 U	101414HGA
MB-8	TME	Water	Method Blank2		0.100 U	101414HGA
MB-9	TME	Water	Method Blank3		0.100 U	101414HGA
MB-10	TME	Water	Method Blank1		0.100 U	101616HGA
MB-11	TME	Water	Method Blank2		0.100 U	101616HGA
MB-12	TME	Water	Method Blank3		0.100 U	101616HGA
MB-13	TME	Water	Method Blank1		0.100 U	102216HGA
MB-14	TME	Water	Method Blank2		0.100 U	102216HGA
MB-15	TME	Water	Method Blank3		0.100 U	102216HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 100814 run1		5.07	100914HGA
LCS (2)	TME	Water	OPR 100814 run2		4.96	100914HGA
LCS Blank (1)	TME	Water	BLANK 100814		0.100 U	100914HGA
			Percent Recovery, LCS 1		**102%**	
			Percent Recovery, LCS 2		**100%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 100914 run1		4.98	101014HGA
LCS (2)	TME	Water	OPR 100914 run2		5.11	101014HGA
LCS Blank (1)	TME	Water	BLANK 100914		0.100 U	101014HGA
			Percent Recovery, LCS 1		**100%**	
			Percent Recovery, LCS 2		**103%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 101314 run1		5.09	101414HGA
LCS (2)	TME	Water	OPR 101314 run2		5.26	101414HGA
LCS Blank (1)	TME	Water	BLANK 101314		0.100 U	101414HGA
			Percent Recovery, LCS 1		**103%**	
			Percent Recovery, LCS 2		**106%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 101514 run1		5.25	101616HGA
LCS (2)	TME	Water	OPR 101514 run2		5.35	101616HGA
LCS Blank (1)	TME	Water	BLANK 101514		0.375	101616HGA
			Percent Recovery, LCS 1		**98%**	
			Percent Recovery, LCS 2		**100%**	

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QC Sample Results for CVAF
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ENVVEST Sept 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES (cont)						
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 102114 run1	5.02	102216HGA
LCS (2)		TME	Water	OPR 102114 run2	5.05	102216HGA
LCS Blank (1)		TME	Water	BLANK 102114	0.100 U	102216HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**102%**	
MATRIX SPIKE RESULTS						
AMB16-004	PS14	Total	Seawater	3106-1380	0.747	100914HGA
MS				3106-1380MS	7.39	100914HGA
MSD				3106-1380MSD	7.08	100914HGA
				Spiking Level, MS	5.86	
				Spiking Level, MSD	5.76	
				Percent Recovery, MS	**113%**	
				Percent Recovery, MSD	**110%**	
				RPD	**3.1%**	
AMB16-008	PS15	Diss	Seawater	3106-1389	0.194 J	100914HGA
MS				3106-1389MS	6.83	100914HGA
MSD				3106-1389MSD	6.64	100914HGA
				Spiking Level, MS	5.85	
				Spiking Level, MSD	5.81	
				Percent Recovery, MS	**113%**	
				Percent Recovery, MSD	**111%**	
				RPD	**2.2%**	
AMB16-010	PS09DUP	Diss	Seawater	3106-1393	0.348	101014HGA
MS				3106-1393MS	6.59	101014HGA
MSD				3106-1393MSD	6.63	101014HGA
				Spiking Level, MS	5.89	
				Spiking Level, MSD	5.86	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**107%**	
				RPD	**1.1%**	
AMB16-014	PS16	Total	Seawater	3106-1400	0.708	101014HGA
MS				3106-1400MS	6.87	101014HGA
MSD				3106-1400MSD	6.94	101014HGA
				Spiking Level, MS	5.85	
				Spiking Level, MSD	5.82	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**107%**	
				RPD	**1.8%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB16-019	M4	Total	Seawater	3106-1410	0.600	101414HGA
MS				3106-1410MS	6.73	101414HGA
MSD				3106-1410MSD	6.83	101414HGA
				Spiking Level, MS	5.88	
				Spiking Level, MSD	5.91	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**105%**	
				RPD	**1.0%**	
AMB16-020	BJEST	Total	Seawater	3106-1412	0.805	101414HGA
MS				3106-1412MS	7.00	101414HGA
MSD				3106-1412MSD	7.10	101414HGA
				Spiking Level, MS	5.79	
				Spiking Level, MSD	5.85	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**108%**	
				RPD	**0.7%**	
AMB16-106	M1	Diss	Seawater	3106-1443	0.200 J	101616HGA
MS				3106-1443MS	6.98	101616HGA
MSD				3106-1443MSD	7.30	101616HGA
				Spiking Level, MS	5.96	
				Spiking Level, MSD	6.55	
				Percent Recovery, MS	**114%**	
				Percent Recovery, MSD	**108%**	
				RPD	**4.9%**	
AMB16-107	M1DEEP	Diss	Seawater	3106-1445	0.172 J	101616HGA
MS				3106-1445MS	6.62	101616HGA
MSD				3106-1445MSD	6.78	101616HGA
				Spiking Level, MS	5.92	
				Spiking Level, MSD	6.08	
				Percent Recovery, MS	**109%**	
				Percent Recovery, MSD	**109%**	
				RPD	**0.1%**	
AMB16-114	M6	Diss	Seawater	3106-1459	0.270 J	102216HGA
MS				3106-1459MS	6.45	102216HGA
MSD				3106-1459MSD	6.60	102216HGA
				Spiking Level, MS	5.94	
				Spiking Level, MSD	5.93	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**107%**	
				RPD	**2.5%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB16
ENVVEST Sept 2014
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (cont.)						
AMB16-116	M3.3	Total	Seawater	3106-1462	0.680	102216HGA
MS				3106-1462MS	7.02	102216HGA
MSD				3106-1462MSD	6.97	102216HGA
				Spiking Level, MS	5.86	
				Spiking Level, MSD	5.94	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**106%**	
				RPD	**2.1%**	
REPLICATE PRECISION						
AMB16-002	PS04	Total	Seawater	3106-1376	1.17	100914HGA
DUP				3106-1376r2	1.08	100914HGA
				Mean	*1.12*	
				RPD	**8%**	
AMB16-009	PS09	Total	Seawater	3106-1390	0.902	100914HGA
DUP				3106-1390r2	0.939	100914HGA
				Mean	*0.920*	
				RPD	**4%**	
AMB16-007	PS08	Total	Seawater	3106-1386	0.596	100914HGA
DUP				3106-1386r2	0.689	101414HGA
				Mean	*0.643*	
				RPD	**14%**	
AMB16-103	SN10	Total	Seawater	3106-1436	0.737	101616HGA
DUP				3106-1436r2	0.692	101616HGA
				Mean	*0.714*	
				RPD	**6%**	
AMB16-117	PS03C	Total	Seawater	3106-1464	3.88	102216HGA
DUP				3106-1464r2	3.96	102216HGA
				Mean	*3.92*	
				RPD	**2%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 100814	1636342	100914HGA
SRM 1641 (2)		Total	Freshwater	1641d 100914	1599717	101014HGA
SRM 1641 (3)		Total	Freshwater	1641d 101314	1636342	101414HGA
SRM 1641 (4)		Total	Freshwater	1641d 101514	1662732	101616HGA
SRM 1641 (5)		Total	Freshwater	1641d 102114	1542228	102216HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**5.1%**	
	SRM 1641 (2)			**PD**	**2.7%**	
	SRM 1641 (3)			**PD**	**5.1%**	
	SRM 1641 (4)			**PD**	**6.8%**	
	SRM 1641 (5)			**PD**	**0.9%**	

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB16
ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.032**	**2.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.095**	**8.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.046	3.8	J	101314HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.038	3.2	J	101314HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.032	0.7	U	101314HTCO
MB-4			DIWater	ACIDIFIED_DIW	0.032	2.5	U	101314HTCO
MB-5			DIWater	ACIDIFIED_DIW	0.032	2.5	U	101314HTCO
MB-6			DIWater	ACIDIFIED_DIW	0.055	4.6	J	101314HTCO
MB-7			DIWater	ACIDIFIED_DIW	0.032	2.0	U	101314HTCO
REPLICATE PRECISION								
AMB16-009	PS09	Diss	Seawater	3106-1391	1.39	116		101314HTCO
DUP				3106-1391r2	1.27	106		101314HTCO
				Mean	*1.33*	*111*		101314HTCO
				RPD	**8.6%**	**8.6%**		
AMB16-010	PS09DUP	Diss	Seawater	3106-1393	1.58	131		101314HTCO
DUP				3106-1393r2	1.57	131		101314HTCO
				Mean	*1.57*	*131*		101314HTCO
				RPD	**0.3%**	**0.3%**		
AMB16-011	PS10	Diss	Seawater	3106-1395	1.42	119		101314HTCO
DUP				3106-1395r2	1.31	109		101314HTCO
				Mean	*1.37*	*114*		101314HTCO
				RPD	**8.3%**	**8.3%**		
AMB16-013	PS11	Diss	Seawater	3106-1399	1.37	114		101314HTCO
DUP				3106-1399r2	1.34	112		101314HTCO
				Mean	*1.36*	*113*		101314HTCO
				RPD	**2.1%**	**2.1%**		
AMB16-014	PS16	Diss	Seawater	3106-1401	1.34	111		101314HTCO
DUP				3106-1401r2	1.29	108		101314HTCO
				Mean	*1.31*	*109*		101314HTCO
				RPD	**3.4%**	**3.4%**		
AMB16-015	PS16DUP	Diss	Seawater	3106-1403	1.32	110		101314HTCO
DUP				3106-1403r2	1.32	110		101314HTCO
				Mean	*1.32*	*110*		101314HTCO
				RPD	**0.1%**	**0.1%**		
AMB16-022	M3.1DEEP	Diss	Seawater	3106-1417	1.31	109		101314HTCO
DUP				3106-1417r2	1.21	101		101314HTCO
				Mean	*1.26*	*105*		101314HTCO
				RPD	**8.3%**	**8.3%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB16
ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM	Batch ID
AMB16-023	PS12	Diss	Seawater	3106-1419	1.30	108	101314HTCO
DUP				3106-1419r2	1.24	104	101314HTCO
				Mean	*1.27*	*106*	101314HTCO
				RPD	**4.4%**	**4.4%**	
AMB16-DD003	OF018	Diss	Seawater	3106-1429	1.01	84.3	101314HTCO
DUP				3106-1429r2	0.96	79.9	101314HTCO
				Mean	*0.99*	*82.1*	101314HTCO
				RPD	**5.4%**	**5.4%**	
AMB16-100	SN03	Diss	Seawater	3106-1431	1.48	124	101314HTCO
DUP				3106-1431r2	1.51	125	101314HTCO
				Mean	*1.49*	*124*	101314HTCO
				RPD	**1.6%**	**1.6%**	
AMB16-104	SN11	Diss	Seawater	3106-1439	1.53	127	101314HTCO
DUP				3106-1439r2	1.53	128	101314HTCO
				Mean	*1.53*	*128*	101314HTCO
				RPD	**0.1%**	**0.1%**	
AMB16-105	SN11DUP	Diss	Seawater	3106-1441	1.64	136	101314HTCO
DUP				3106-1441r2	1.67	139	101314HTCO
				Mean	*1.66*	*138*	101314HTCO
				RPD	**2.1%**	**2.1%**	
AMB16-108	ILSP	Diss	Seawater	3106-1447	1.25	104	101314HTCO
DUP				3106-1447r2	1.29	107	101314HTCO
				Mean	*1.27*	*106*	101314HTCO
				RPD	**3.3%**	**3.3%**	
AMB16-110	CLMBY	Diss	Seawater	3106-1451	1.24	104	101314HTCO
DUP				3106-1451r2	1.21	101	101314HTCO
				Mean	*1.23*	*102*	101314HTCO
				RPD	**2.7%**	**2.7%**	
AMB16-111	M2	Diss	Seawater	3106-1453	1.05	87.6	101314HTCO
DUP				3106-1453r2	1.03	85.4	101314HTCO
				Mean	*1.04*	*86.5*	101314HTCO
				RPD	**2.6%**	**2.6%**	
AMB16-112	M2DEEP	Diss	Seawater	3106-1455	1.09	90.6	101314HTCO
DUP				3106-1455r2	1.07	89.4	101314HTCO
				Mean	*1.08*	*90.0*	101314HTCO
				RPD	**1.3%**	**1.3%**	
AMB16-113	DYOTS	Diss	Seawater	3106-1457	1.69	140	101314HTCO
DUP				3106-1457r2	1.69	141	101314HTCO
				Mean	*1.69*	*140*	101314HTCO
				RPD	**0.0%**	**0.0%**	

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB16
ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM	Batch ID
AMB16-114	M6	Diss	Seawater	3106-1459	1.37	114	101314HTCO
DUP				3106-1459r2	1.31	109	101314HTCO
				Mean	*1.34*	*112*	101314HTCO
				RPD	**4.6%**	**4.6%**	
AMB16-002	PS04	Diss	Seawater	3106-1377	1.38	115	101314HTCO
DUP				3106-1377r2	1.48	123	101314HTCO
				Mean	*1.43*	*119*	101314HTCO
				RPD	**6.5%**	**6.5%**	
AMB16-DD002	OF019	Diss	Seawater	3106-1427	1.03	85.7	101314HTCO
DUP				3106-1427r2	1.02	85.1	101314HTCO
				Mean	*1.02*	*85.4*	101314HTCO
				RPD	**0.7%**	**0.7%**	
AMB16-117	PS03C	Diss	Seawater	3106-1465	1.52	127	101314HTCO
DUP				3106-1465r2	1.52	126	101314HTCO
				Mean	*1.52*	*127*	101314HTCO
				RPD	**0.1%**	**0.1%**	
AMB16-009	PS09	Total	Seawater	3106-1390	1.32	110	101314HTCO
DUP				3106-1390r2	1.27	106	101314HTCO
				Mean	*1.30*	*108*	101314HTCO
				RPD	**3.3%**	**3.3%**	
AMB16-010	PS09DUP	Total	Seawater	3106-1392	1.29	107	101314HTCO
DUP				3106-1392r2	1.31	109	101314HTCO
				Mean	*1.30*	*108*	101314HTCO
				RPD	**1.7%**	**1.7%**	
AMB16-011	PS10	Total	Seawater	3106-1394	1.25	104	101314HTCO
DUP				3106-1394r2	1.28	107	101314HTCO
				Mean	*1.27*	*105*	101314HTCO
				RPD	**2.8%**	**2.8%**	
AMB16-013	PS11	Total	Seawater	3106-1398	1.31	109	101314HTCO
DUP				3106-1398r2	1.31	109	101314HTCO
				Mean	*1.31*	*109*	101314HTCO
				RPD	**0.3%**	**0.3%**	
AMB16-014	PS16	Total	Seawater	3106-1400	1.26	105	101314HTCO
DUP				3106-1400r2	1.23	103	101314HTCO
				Mean	*1.24*	*104*	101314HTCO
				RPD	**2.0%**	**2.0%**	
AMB16-015	PS16DUP	Total	Seawater	3106-1402	1.21	101	101314HTCO
DUP				3106-1402r2	1.26	105	101314HTCO
				Mean	*1.24*	*103*	101314HTCO
				RPD	**3.5%**	**3.5%**	

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QC Sample Results for TOC/DOC by HTCO
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ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM	Batch ID
AMB16-022	M3.1DEEP	Total	Seawater	3106-1416	1.27	105	101314HTCO
DUP				3106-1416r2	1.29	108	101314HTCO
			Mean		*1.28*	*107*	101314HTCO
			RPD		**2.2%**	**2.2%**	
AMB16-023	PS12	Total	Seawater	3106-1418	1.22	102	101314HTCO
DUP				3106-1418r2	1.25	104	101314HTCO
			Mean		*1.23*	*103*	101314HTCO
			RPD		**1.9%**	**1.9%**	
AMB16-DD003	OF018	Total	Seawater	3106-1428	0.91	76.0	101314HTCO
DUP				3106-1428r2	0.92	76.3	101314HTCO
			Mean		*0.91*	*76.1*	101314HTCO
			RPD		**0.4%**	**0.4%**	
AMB16-100	SN03	Total	Seawater	3106-1430	1.43	119	101314HTCO
DUP				3106-1430r2	1.41	117	101314HTCO
			Mean		*1.42*	*118*	101314HTCO
			RPD		**1.4%**	**1.4%**	
AMB16-104	SN11	Total	Seawater	3106-1438	1.53	127	101314HTCO
DUP				3106-1438r2	1.49	124	101314HTCO
			Mean		*1.51*	*126*	101314HTCO
			RPD		**2.5%**	**2.5%**	
AMB16-105	SN11DUP	Total	Seawater	3106-1440	1.53	127	101314HTCO
DUP				3106-1440r2	1.55	129	101314HTCO
			Mean		*1.54*	*128*	101314HTCO
			RPD		**1.3%**	**1.3%**	
AMB16-108	ILSP	Total	Seawater	3106-1446	1.14	95.1	101314HTCO
DUP				3106-1446r2	1.15	95.9	101314HTCO
			Mean		*1.15*	*95.5*	101314HTCO
			RPD		**0.8%**	**0.8%**	
AMB16-110	CLMBY	Total	Seawater	3106-1450	1.19	98.8	101314HTCO
DUP				3106-1450r2	1.18	98.2	101314HTCO
			Mean		*1.18*	*98.5*	101314HTCO
			RPD		**0.6%**	**0.6%**	
AMB16-111	M2	Total	Seawater	3106-1452	1.04	86.8	101314HTCO
DUP				3106-1452r2	1.03	85.6	101314HTCO
			Mean		*1.03*	*86.2*	101314HTCO
			RPD		**1.4%**	**1.4%**	
AMB16-112	M2DEEP	Total	Seawater	3106-1454	0.98	81.3	101314HTCO
DUP				3106-1454r2	0.98	81.4	101314HTCO
			Mean		*0.98*	*81.3*	101314HTCO
			RPD		**0.1%**	**0.1%**	

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB16
ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
AMB16-113	DYOTS	Total	Seawater	3106-1456	1.60	133		101314HTCO
DUP				3106-1456r2	1.63	135		101314HTCO
				Mean	*1.61*	*134*		101314HTCO
				RPD	**1.5%**	**1.5%**		
AMB16-114	M6	Total	Seawater	3106-1458	1.36	113		101314HTCO
DUP				3106-1458r2	1.34	112		101314HTCO
				Mean	*1.35*	*112*		101314HTCO
				RPD	**1.3%**	**1.3%**		
AMB16-116	M3.3	Total	Seawater	3106-1462	1.29	107		101314HTCO
DUP				3106-1462r2	1.30	108		101314HTCO
				Mean	*1.29*	*108*		101314HTCO
				RPD	**1.2%**	**1.2%**		
AMB16-002	PS04	Total	Seawater	3106-1376	1.57	131		101314HTCO
DUP				3106-1376r2	1.59	132		101314HTCO
				Mean	*1.58*	*132*		101314HTCO
				RPD	**1.2%**	**1.2%**		
AMB16-DD002	OF019	Total	Seawater	3106-1426	0.84	69.8		101314HTCO
DUP				3106-1426r2	0.87	72.8		101314HTCO
				Mean	*0.86*	*71.3*		101314HTCO
				RPD	**4.2%**	**4.2%**		
AMB16-117	PS03C	Total	Seawater	3106-1464	1.60	133		101314HTCO
DUP				3106-1464r2	1.59	133		101314HTCO
				Mean	*1.59*	*133*		101314HTCO
				RPD	**0.1%**	**0.1%**		
AMB16-116	M3.3	Diss	Seawater	3106-1463	1.27	106		101314HTCO
DUP				3106-1463r2	1.29	107		101314HTCO
				Mean	*1.28*	*107*		101314HTCO
				RPD	**1.0%**	**1.0%**		
AMB16-023	PS12	Diss	Seawater	3106-1419	1.30	108		101314HTCO
DUP				3106-1419r2	1.27	106		101314HTCO
				Mean	*1.28*	*107*		101314HTCO
				RPD	**2.7%**	**2.7%**		
AMB16-013	PS11	Total	Seawater	3106-1398	1.31	109		101314HTCO
DUP				3106-1398r2	1.30	108		101314HTCO
				Mean	*1.31*	*109*		101314HTCO
				RPD	**0.8%**	**0.8%**		

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QC Sample Results for TOC/DOC by HTCO
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ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.515	42.9		101314HTCO
CRM-2		DOC	Seawater	CRM	0.529	44.1		101314HTCO
CRM-3		DOC	Seawater	CRM	0.529	44.1		101314HTCO
CRM-4		DOC	Seawater	CRM	0.519	43.2		101314HTCO
CRM-5		DOC	Seawater	CRM	0.506	42.2		101314HTCO
CRM-6		DOC	Seawater	CRM	0.510	42.5		101314HTCO
CRM-7		DOC	Seawater	CRM	0.516	43.0		101314HTCO
CRM-8		DOC	Seawater	CRM	0.502	41.8		101314HTCO
CRM-9		DOC	Seawater	CRM	0.511	42.6		101314HTCO
CRM-10		DOC	Seawater	CRM	0.509	42.4		101314HTCO
CRM-11		DOC	Seawater	CRM	0.532	44.3		101314HTCO
CRM-12		DOC	Seawater	CRM	0.506	42.2		101314HTCO
CRM-13		DOC	Seawater	CRM	0.523	43.6		101314HTCO
CRM-14		DOC	Seawater	CRM	0.499	41.6		101314HTCO
CRM-15		DOC	Seawater	CRM	0.487	40.6		101314HTCO
CRM-16		DOC	Seawater	CRM	0.510	42.5		101314HTCO
CRM-17		DOC	Seawater	CRM	0.515	42.9		101314HTCO
CRM-18		DOC	Seawater	CRM	0.515	42.9		101314HTCO
CRM-19		DOC	Seawater	CRM	0.533	44.4		101314HTCO
CRM-20		DOC	Seawater	CRM	0.545	45.4		101314HTCO
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**1.0%**	**1.0%**		
CRM-2				**PD**	**3.8%**	**3.8%**		
CRM-3				**PD**	**3.8%**	**3.8%**		
CRM-4				**PD**	**1.7%**	**1.7%**		
CRM-5				**PD**	**0.7%**	**0.7%**		
CRM-6				**PD**	**0.1%**	**0.1%**		
CRM-7				**PD**	**1.2%**	**1.2%**		
CRM-8				**PD**	**1.5%**	**1.5%**		
CRM-9				**PD**	**0.2%**	**0.2%**		
CRM-10				**PD**	**0.3%**	**0.3%**		
CRM-11				**PD**	**4.3%**	**4.3%**		
CRM-12				**PD**	**0.8%**	**0.8%**		
CRM-13				**PD**	**2.5%**	**2.5%**		
CRM-14				**PD**	**2.1%**	**2.1%**		
CRM-15				**PD**	**4.5%**	**4.5%**		
CRM-16				**PD**	**0.1%**	**0.1%**		
CRM-17				**PD**	**0.9%**	**0.9%**		
CRM-18				**PD**	**1.0%**	**1.0%**		
CRM-19				**PD**	**4.5%**	**4.5%**		
CRM-20				**PD**	**6.8%**	**6.8%**		

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QC Sample Results for TOC/DOC by HTCO
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ENVVEST Sept 2014
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				CCV_1PPM	1.077	89.7		101314HTCO
ICV/CCV-2				CCV_1PPM	1.077	89.7		101314HTCO
ICV/CCV-3				CCV_1PPM	1.064	88.7		101314HTCO
ICV/CCV-4				CCV_1PPM	1.080	90.0		101314HTCO
ICV/CCV-5				CCV_1PPM	1.011	84.3		101314HTCO
ICV/CCV-6				CCV_1PPM	1.025	85.4		101314HTCO
ICV/CCV-7				CCV_1PPM	1.023	85.2		101314HTCO
ICV/CCV-8				CCV_1PPM	1.016	84.7		101314HTCO
ICV/CCV-9				CCV_1PPM	0.991	82.6		101314HTCO
ICV/CCV-10				CCV_1PPM	1.014	84.5		101314HTCO
ICV/CCV-11				CCV_1PPM	1.003	83.6		101314HTCO
ICV/CCV-12				CCV_1PPM	0.985	82.1		101314HTCO
ICV/CCV-13				CCV_1PPM	0.987	82.3		101314HTCO
ICV/CCV-14				CCV_1PPM	1.006	83.8		101314HTCO
ICV/CCV-15				CCV_1PPM	1.031	85.9		101314HTCO
ICV/CCV-16				CCV_1PPM	1.059	88.3		101314HTCO
ICV/CCV-17				CCV_1PPM	1.025	85.4		101314HTCO
ICV/CCV-18				ICV_1PPM	0.986	82.2		101314HTCO
ICV/CCV-19				ICV_1PPM	1.034	86.1		101314HTCO
ICV/CCV-20				ICV_1PPM	1.014	84.5		101314HTCO
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**108%**			
ICV/CCV-2				**% RECOVERY**	**108%**			
ICV/CCV-3				**% RECOVERY**	**106%**			
ICV/CCV-4				**% RECOVERY**	**108%**			
ICV/CCV-5				**% RECOVERY**	**101%**			
ICV/CCV-6				**% RECOVERY**	**103%**			
ICV/CCV-7				**% RECOVERY**	**102%**			
ICV/CCV-8				**% RECOVERY**	**102%**			
ICV/CCV-9				**% RECOVERY**	**99%**			
ICV/CCV-10				**% RECOVERY**	**101%**			
ICV/CCV-11				**% RECOVERY**	**100%**			
ICV/CCV-12				**% RECOVERY**	**99%**			
ICV/CCV-13				**% RECOVERY**	**99%**			
ICV/CCV-14				**% RECOVERY**	**101%**			
ICV/CCV-15				**% RECOVERY**	**103%**			
ICV/CCV-16				**% RECOVERY**	**106%**			
ICV/CCV-17				**% RECOVERY**	**102%**			
ICV/CCV-18				**% RECOVERY**	**99%**			
ICV/CCV-19				**% RECOVERY**	**103%**			
ICV/CCV-20				**% RECOVERY**	**101%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB16
ENVVEST Sept 2014
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.15*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank 1	0.15 U	mg/L	092214Nu
MB2		TME	Seawater	Blank 2	0.15 U	mg/L	092214Nu
MB3		TME	Seawater	Blank 3	0.15 U	mg/L	092214Nu
MB4		TME	Seawater	Blank 4	0.15 U	mg/L	092314Nu
MB5		TME	Seawater	Blank 5	0.15 U	mg/L	092314Nu
MB6		TME	Seawater	Blank 6	0.15 U	mg/L	092314Nu
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	40.1	mg/L	092214Nu
LCS-2				LCS r2	38.3	mg/L	092214Nu
LCS-3				LCS r3	38.7	mg/L	092214Nu
LCS-4				LCS r4	39.4	mg/L	092314Nu
LCS-5				LCS r5	40.6	mg/L	092314Nu
LCS-6				LCS r6	41.5	mg/L	092314Nu
				TRUE VALUE	**40**	mg/L	
	LCS-1			**% RECOVERY**	**100%**		
	LCS-2			**% RECOVERY**	**96%**		
	LCS-3			**% RECOVERY**	**97%**		
	LCS-4			**% RECOVERY**	**98%**		
	LCS-5			**% RECOVERY**	**101%**		
	LCS-6			**% RECOVERY**	**104%**		
LABORATORY DUPLICATES							
AMB16-DD003	OF018	Total	Seawater	3106-1428	0.59	mg/L	092214Nu
DUP				3106-1428R2	0.65	mg/L	092214Nu
				Mean	0.62		
	DUP			**RPD**	**9.5%**		
AMB16-DD001	OF021	Total	Freshwater	3106-1424	0.41	mg/L	092214Nu
DUP				3106-1424R2	0.49	mg/L	092214Nu
				Mean	0.45		
	DUP			**RPD**	**17%**		
AMB16-115	M6DEEP	Total	Seawater	3106-1460	1.09	mg/L	092314Nu
DUP				3106-1460R2	1.08	mg/L	092314Nu
				Mean	1.08		
	DUP			**RPD**	**1%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB16
ENVVEST Sept 2014
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492			
Method Blanks							
MB1		Total	Seawater	DIW Blank1	0.01 U	PSU	092114Osal
MB2		Total	Seawater	DIW Blank2	0.01 U	PSU	092114Osal
MB3		Total	Seawater	DIW Blank3	0.01 U	PSU	092114Osal
MB4		Total	Seawater	DIW Blank 4	0.01 U	PSU	092114Osal
MB5		Total	Seawater	DIW Blank 5	0.01 U	PSU	092114Osal
MB6		Total	Seawater	DIW Blank 6	0.01 U	PSU	092114Osal
MB7		Total	Seawater	DIW Blank 7	0.01 U	PSU	092114Osal
STANDARD REFERENCE MATERIAL							
SRM-1		Total	Seawater	Copenhagen Water 1	34.7	PSU	092114Osal
SRM-2		Total	Seawater	Copenhagen Water 2	34.3	PSU	092114Osal
SRM-3		Total	Seawater	Copenhagen Water 3	34.1	PSU	092114Osal
SRM-4		Total	Seawater	Copenhagen Water 4	34.4	PSU	092114Osal
SRM-5		Total	Seawater	Copenhagen Water 5	34.4	PSU	092114Osal
SRM-6		Total	Seawater	Copenhagen Water 6	34.2	PSU	092114Osal
SRM-7		Total	Seawater	Copenhagen Water 7	34.2	PSU	092114Osal
				Certified Value	**34.99**	PSU	
	SRM-1			**PD**	**0.8%**		
	SRM-2			**PD**	**2.0%**		
	SRM-3			**PD**	**2.5%**		
	SRM-4			**PD**	**1.7%**		
	SRM-5			**PD**	**1.7%**		
	SRM-6			**PD**	**2.3%**		
	SRM-7			**PD**	**2.3%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS1	20.8	PSU	092114Osal
LCS-2				LCS2	20.5	PSU	092114Osal
LCS-3				LCS3	20.4	PSU	092114Osal
LCS-4				LCS4	20.5	PSU	092114Osal
LCS-5				LCS5	20.5	PSU	092114Osal
LCS-6				LCS6	20.4	PSU	092114Osal
LCS-7				LCS7	20.4	PSU	092114Osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**104%**		
	LCS-2			**% RECOVERY**	**103%**		
	LCS-3			**% RECOVERY**	**102%**		
	LCS-4			**% RECOVERY**	**103%**		
	LCS-5			**% RECOVERY**	**103%**		
	LCS-6			**% RECOVERY**	**102%**		
	LCS-7			**% RECOVERY**	**102%**		

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QC Sample Results for Salinity
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ENVVEST Sept 2014
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				YSI 50 ms/cm ICV	50.0	mS	092114Osal
CCV-1				YSI 50 ms/cmCCV1	50.0	mS	092114Osal
CCV-2				YSI 50 ms/cmCCV2	50.0	mS	092114Osal
CCV-3				YSI 50 ms/cmCCV3	50.0	mS	092114Osal
CCV-4				YSI 50 ms/cmCCV4	50.0	mS	092114Osal
CCV-5				YSI 50 ms/cmCCV5	50.0	mS	092114Osal
CCV-6				YSI 50 ms/cmCCV6	50.0	mS	092114Osal
CCV-7				YSI 50 ms/cmCCV7	50.0	mS	092114Osal
CCV-8				YSI 50 ms/cmCCV8	50.0	mS	092114Osal
CCV-9				YSI 50 ms/cmCCV9	50.0	mS	092114Osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**100%**		
	CCV-3			**% RECOVERY**	**100%**		
	CCV-4			**% RECOVERY**	**100%**		
	CCV-5			**% RECOVERY**	**100%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**100%**		
	CCV-8			**% RECOVERY**	**100%**		
	CCV-9			**% RECOVERY**	**100%**		

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Data Qualifiers
Ambient Monitoring - AMB16
ENVVEST Sept 2014

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, September 2014 (AMB16)

PARAMETER: Total and Dissolved Metals – Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 9/16/2014 and 09/17/2014. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	09/16/2014 and 09/17/2014 EQP BLKS 08/15/2014
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	09/22/14 and 09/23/14
OSAL analysis dates	09/21/14
CVAF analysis dates (Hg)	10/09/14, 10/10/14, 10/14/14, 10/16/14, and 10/22/14
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/26/14
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/29/14, 10/01/14, 10/08/14
TOC/DOC Analysis Date	10/13/14 through 10/16/14

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.15 mg/L	0.15 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.032 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.035 µg/L	0.11 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.025 µg/L	0.08 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.0060 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.026 µg/L	0.084 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.15 mg/L	0.15 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.032 mg/L	0.095 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by two methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals using a preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and

METHODS (cont): EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The ICP-MS data were reported in units of µg/L. The required preconcentration procedure for seawater samples analyzed by ICP-MS includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method includes a matrix matching procedure that allows the quantification of the small concentrations of metals added to the samples during the Fe/Pd preparation to be subtracted from the sample during the analyses. The correction of the data allows it to be directly compared to all previous AMB events, but does not require the addition of the "b" data qualifier to the ICP-MS data.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:
  1 SRM certified <10x MDL or
  2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals except Zn. The seawater preconcentration procedure required to remove salt interferences prior to ICP-MS analyses includes the addition of chelating agents to induce precipitation of metals under specific conditions, as discussed in the method section above. The Zn data were evaluated and qualified with a "B" if the sample concentration was less than ten times the mean detected blank and the blank was above the RL. Sixteen samples were qualified in the 100214A-DRC batch. The data are not considered impacted as the overall Zn concentration is low and less than 10 times the RL.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the RL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. Sample 3106-1410 and -1412 contained a high native sample concentration for Al and were not spiked at a sufficient level. The data are not flagged as they meet the contingency criteria for the unsufficient spiking level (see "c" flag). Alternate LCS and MS/MSD samples demonstrated acceptable accuracy and precision for Al in this seawater matrix. No additional actions were required.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL except one set for Ni (108%). Acceptable precision was demonstrated throughout the data set; results were flagged and no additional action taken.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

QA/QC NARRATIVE

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion. There is no seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

CASS-5 and SLEW-3 are seawater SRMs analyzed with each ICP-MS batch. The SRMs are only considered for data set evaluation if they are certified greater than 10 times the MDL; data where certified values less than 10 times the MDL are flagged with a "c". The PDs were within the QC criterion for all metals except one replicate of CASS-5 for Zn. The alternate SRM was acceptable and no additional action was taken.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 0.8-2.5% PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 0.1 to 6.8%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Received:**	09/19/14
Sample Matrix:	Ocean Water and Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-four samples were received for analysis at ALS Environmental on 09/19/14. The samples were received in good condition and consistent with the accompanying chain of custody form, except where noted on the cooler receipt and preservation form included in this report. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Phosphorus, Total by Method 365.3:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample AMB16-001/PS03 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by___

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Water	**Date Received:**	09/19/14
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-DD001/OF021	K1410140-025	ND U	5.1	0.8	1	10/01/14 18:45	10/1/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-DD002/OF019	K1410140-026	ND U	5.7	0.8	1	10/01/14 18:45	10/1/14	
AMB16-DD003/OF018	K1410140-027	ND U	5.0	0.8	1	10/01/14 18:45	10/1/14	
Method Blank	K1410140-MB1	ND U	5.0	0.8	1	10/01/14 18:45	10/1/14	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	10/1/14
		Date Extracted:	10/1/14

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1410005-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1410005-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND U	55.0	59.4	92	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	10/01/14
Sample Matrix:	Ocean Water	**Date Extracted:**	10/01/14

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	414210

	Lab Control Sample K1410140-LCS7			Duplicate Lab Control Sample K1410140-DLCS7					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	53.6	60.0	89	56.1	60.0	93	78-114	5	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-001/PS03	K1410140-001	**0.025 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-002/PS04	K1410140-002	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-003/PS05	K1410140-003	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-004/PS14	K1410140-004	**0.028 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-005/PS06	K1410140-005	**0.056**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-006/PS07	K1410140-006	**0.055**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-007/PS08	K1410140-007	**0.035 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-008/PS15	K1410140-008	**0.032 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-009/PS09	K1410140-009	**0.072**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-010/PS09DUP	K1410140-010	**0.071**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-011PS10	K1410140-011	**0.068**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-012/PS10.1	K1410140-012	**0.042 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-013/PS11	K1410140-013	**0.058**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-014/PS16	K1410140-014	**0.074**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-015/PS16DUP	K1410140-015	**0.075**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-016/PS01	K1410140-016	**0.022 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-017/PS02	K1410140-017	**0.034 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-018/PS13	K1410140-018	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-019/M4	K1410140-019	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-020/BJEST	K1410140-020	**0.033 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-021/M3.1	K1410140-021	**0.044 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-022/M3.1DEEP	K1410140-022	**0.086**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-023/PS12	K1410140-023	**0.074**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-024/PS03B	K1410140-024	**0.028 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-DD002/OF019	K1410140-026	**0.164**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-100/SN03	K1410140-028	**0.021 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-101/SN05	K1410140-029	**0.021 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-102/SN08	K1410140-030	**0.047 J**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-103/SN10	K1410140-031	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-104/SN11	K1410140-032	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-106/M1	K1410140-033	**0.070**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-107/M1DEEP	K1410140-034	**0.075**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-108/ILSP	K1410140-035	**0.112**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-109/WP	K1410140-036	**0.078**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-110/CLMBY	K1410140-037	**0.106**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-111/M2	K1410140-038	**0.182**	0.050	0.020	1	09/30/14 13:51	9/30/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-112/M2DEEP	K1410140-039	**0.209**	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-113/DYOTS	K1410140-040	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-114/M6	K1410140-041	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
AMB16-115/M6DEEP	K1410140-042	ND U	0.050	0.020	1	10/01/14 06:37	10/1/14	
AMB16-116/M3.3	K1410140-043	ND U	0.050	0.020	1	10/01/14 06:37	10/1/14	
AMB16-117/PS03C	K1410140-044	**0.052**	0.050	0.020	1	10/01/14 06:37	10/1/14	
Method Blank	K1410140-MB1	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
Method Blank	K1410140-MB2	ND U	0.050	0.020	1	09/30/14 13:51	9/30/14	
Method Blank	K1410140-MB3	ND U	0.050	0.020	1	10/01/14 06:37	10/1/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Water	**Date Received:**	09/19/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-DD001/OF021	K1410140-025	**0.222**	0.050	0.020	1	09/30/14 13:51	9/30/14	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB16-001/PS03	K1410140-001DUP	0.050	0.020	0.025 J	0.025 J	0.0252	2	20	09/30/14
AMB16-011PS10	K1410140-011DUP	0.050	0.020	0.068	0.070	0.0689	3	20	09/30/14
AMB16-021/M3.1	K1410140-021DUP	0.050	0.020	0.044 J	0.044 J	0.0442	<1	20	09/30/14
AMB16-102/SN08	K1410140-030DUP	0.050	0.020	0.047 J	0.048 J	0.0474	<1	20	09/30/14
Batch QC	K1410157-001DUP	0.050	0.020	ND U	ND U	NC	NC	20	10/01/14
Batch QC	K1410620-004DUP	0.050	0.020	ND U	ND U	NC	NC	20	10/01/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/30/14
		Date Extracted:	09/30/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB16-001/PS03	**Units:**	mg/L
Lab Code:	K1410140-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1410140-001MS			Duplicate Matrix Spike K1410140-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.025 J	1.05	1.00	102	1.05	1.00	102	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/30/14
		Date Extracted:	09/30/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB16-011PS10	**Units:**	mg/L
Lab Code:	K1410140-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1410140-011MS			Duplicate Matrix Spike K1410140-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.068	1.09	1.00	102	1.09	1.00	102	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/30/14
		Date Extracted:	09/30/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB16-021/M3.1	**Units:**	mg/L
Lab Code:	K1410140-021	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1410140-021MS			K1410140-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.044 J	1.06	1.00	102	1.04	1.00	100	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/30/14
		Date Extracted:	09/30/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB16-102/SN08	**Units:**	mg/L
Lab Code:	K1410140-030	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1410140-030MS			K1410140-030DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.047 J	1.04	1.00	99	1.07	1.00	102	89-114	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	10/1/14
		Date Extracted:	10/1/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1410157-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1410157-001MS			Duplicate Matrix Spike K1410157-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	0.122	1.00	12 *	0.124	1.00	12 *	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	10/1/14
		Date Extracted:	10/1/14

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1410620-004	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1410620-004MS			Duplicate Matrix Spike K1410620-004DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	1.01	1.00	101	0.975	1.00	98	89-114	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	09/30/14
Sample Matrix:	Ocean Water	**Date Extracted:**	09/30/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	413962

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS1	3.50	3.52	99	90-110
Lab Control Sample	K1410140-LCS2	3.58	3.52	102	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	10/01/14
Sample Matrix:	Ocean Water	**Date Extracted:**	10/01/14

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	414117

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS3	3.52	3.52	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1410140
Project: SEPT 2014 Ambient Monitoring (AMB 16)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413962	KQ1412169-01	09/30/14 13:51	1.00	0.989	99	90-110
CCV2	413962	KQ1412169-02	09/30/14 13:51	1.00	0.987	99	90-110
CCV3	413962	KQ1412169-03	09/30/14 13:51	1.00	0.993	99	90-110
CCV4	413962	KQ1412169-04	09/30/14 13:51	1.00	0.988	99	90-110
CCV5	413962	KQ1412169-05	09/30/14 13:51	1.00	0.984	98	90-110
CCV6	413962	KQ1412169-06	09/30/14 13:51	1.00	0.972	97	90-110
CCV7	413962	KQ1412169-07	09/30/14 13:51	1.00	0.972	97	90-110
CCV8	414117	KQ1412202-01	10/01/14 06:37	1.00	0.979	98	90-110
CCV9	414117	KQ1412202-02	10/01/14 06:37	1.00	0.970	97	90-110
CCV10	414117	KQ1412202-03	10/01/14 06:37	1.00	0.952	95	90-110
CCV11	414117	KQ1412202-04	10/01/14 06:37	1.00	0.974	97	90-110
CCV12	414117	KQ1412202-05	10/01/14 06:37	1.00	0.980	98	90-110
CCV13	414117	KQ1412202-06	10/01/14 06:37	1.00	0.981	98	90-110
CCV14	414117	KQ1412202-07	10/01/14 06:37	1.00	0.985	99	90-110
CCV15	414117	KQ1412202-08	10/01/14 06:37	1.00	0.986	99	90-110
CCV16	414117	KQ1412202-09	10/01/14 06:37	1.00	0.991	99	90-110
CCV17	414117	KQ1412202-10	10/01/14 06:37	1.00	0.987	99	90-110
CCV18	414117	KQ1412202-11	10/01/14 06:37	1.00	0.906	91	90-110
CCV19	414117	KQ1412202-12	10/01/14 06:37	1.00	0.957	96	90-110
CCV20	414117	KQ1412202-13	10/01/14 06:37	1.00	0.970	97	90-110
CCV21	414117	KQ1412202-14	10/01/14 06:37	1.00	1.02	102	90-110
CCV22	414117	KQ1412202-15	10/01/14 06:37	1.00	1.02	102	90-110
CCV23	414117	KQ1412202-16	10/01/14 06:37	1.00	0.955	96	90-110
CCV24	414117	KQ1412202-17	10/01/14 06:37	1.00	1.01	101	90-110
CCV25	414117	KQ1412202-35	10/01/14 06:37	1.00	1.06	106	90-110
CCV26	414117	KQ1412202-36	10/01/14 06:37	1.00	1.04	104	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1410140
Project: SEPT 2014 Ambient Monitoring (AMB 16)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	413962	KQ1412169-08	09/30/14 13:51	0.050	0.020	ND	U
CCB2	413962	KQ1412169-09	09/30/14 13:51	0.050	0.020	ND	U
CCB3	413962	KQ1412169-10	09/30/14 13:51	0.050	0.020	ND	U
CCB4	413962	KQ1412169-11	09/30/14 13:51	0.050	0.020	ND	U
CCB5	413962	KQ1412169-12	09/30/14 13:51	0.050	0.020	ND	U
CCB6	413962	KQ1412169-13	09/30/14 13:51	0.050	0.020	ND	U
CCB7	413962	KQ1412169-14	09/30/14 13:51	0.050	0.020	ND	U
CCB8	414117	KQ1412202-18	10/01/14 06:37	0.050	0.020	ND	U
CCB9	414117	KQ1412202-19	10/01/14 06:37	0.050	0.020	ND	U
CCB10	414117	KQ1412202-20	10/01/14 06:37	0.050	0.020	ND	U
CCB11	414117	KQ1412202-21	10/01/14 06:37	0.050	0.020	ND	U
CCB12	414117	KQ1412202-22	10/01/14 06:37	0.050	0.020	ND	U
CCB13	414117	KQ1412202-23	10/01/14 06:37	0.050	0.020	ND	U
CCB14	414117	KQ1412202-24	10/01/14 06:37	0.050	0.020	ND	U
CCB15	414117	KQ1412202-25	10/01/14 06:37	0.050	0.020	ND	U
CCB16	414117	KQ1412202-26	10/01/14 06:37	0.050	0.020	ND	U
CCB17	414117	KQ1412202-27	10/01/14 06:37	0.050	0.020	ND	U
CCB18	414117	KQ1412202-28	10/01/14 06:37	0.050	0.020	ND	U
CCB19	414117	KQ1412202-29	10/01/14 06:37	0.050	0.020	ND	U
CCB20	414117	KQ1412202-30	10/01/14 06:37	0.050	0.020	ND	U
CCB21	414117	KQ1412202-31	10/01/14 06:37	0.050	0.020	ND	U
CCB22	414117	KQ1412202-32	10/01/14 06:37	0.050	0.020	ND	U
CCB23	414117	KQ1412202-33	10/01/14 06:37	0.050	0.020	ND	U
CCB24	414117	KQ1412202-34	10/01/14 06:37	0.050	0.020	ND	U
CCB25	414117	KQ1412202-37	10/01/14 06:37	0.050	0.020	ND	U
CCB26	414117	KQ1412202-38	10/01/14 06:37	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-001/PS03	K1410140-001	**0.057**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-002/PS04	K1410140-002	**0.068**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-003/PS05	K1410140-003	**0.053**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-004/PS14	K1410140-004	**0.062**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-005/PS06	K1410140-005	**0.078**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-006/PS07	K1410140-006	**0.073**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-007/PS08	K1410140-007	**0.062**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-008/PS15	K1410140-008	**0.063**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-009/PS09	K1410140-009	**0.066**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-010/PS09DUP	K1410140-010	**0.067**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-011PS10	K1410140-011	**0.074**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-012/PS10.1	K1410140-012	**0.064**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-013/PS11	K1410140-013	**0.064**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-014/PS16	K1410140-014	**0.065**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-015/PS16DUP	K1410140-015	**0.071**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-016/PS01	K1410140-016	**0.064**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-017/PS02	K1410140-017	**0.055**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-018/PS13	K1410140-018	**0.069**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-019/M4	K1410140-019	**0.076**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-020/BJEST	K1410140-020	**0.062**	0.010	0.004	1	09/23/14 13:50	9/23/14	
AMB16-021/M3.1	K1410140-021	**0.058**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-022/M3.1DEEP	K1410140-022	**0.062**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-023/PS12	K1410140-023	**0.066**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-024/PS03B	K1410140-024	**0.063**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-DD002/OF019	K1410140-026	**0.181**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-100/SN03	K1410140-028	**0.068**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-101/SN05	K1410140-029	**0.098**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-102/SN08	K1410140-030	**0.072**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-103/SN10	K1410140-031	**0.081**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-104/SN11	K1410140-032	**0.076**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-106/M1	K1410140-033	**0.037**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-107/M1DEEP	K1410140-034	**0.053**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-108/ILSP	K1410140-035	**0.059**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-109/WP	K1410140-036	**0.063**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-110/CLMBY	K1410140-037	**0.052**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-111/M2	K1410140-038	**0.061**	0.010	0.004	1	09/24/14 14:49	9/24/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-112/M2DEEP	K1410140-039	**0.063**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-113/DYOTS	K1410140-040	**0.042**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-114/M6	K1410140-041	**0.037**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-115/M6DEEP	K1410140-042	**0.048**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-116/M3.3	K1410140-043	**0.065**	0.010	0.004	1	09/24/14 14:49	9/24/14	
AMB16-117/PS03C	K1410140-044	**0.073**	0.010	0.004	1	09/24/14 14:49	9/24/14	
Method Blank	K1410140-MB1	ND U	0.010	0.004	1	09/23/14 13:50	9/23/14	
Method Blank	K1410140-MB2	ND U	0.010	0.004	1	09/24/14 14:49	9/24/14	
Method Blank	K1410140-MB3	ND U	0.010	0.004	1	09/24/14 14:49	9/24/14	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Water	**Date Received:**	09/19/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB16-DD001/OF021	K1410140-025	**0.112**	0.010	0.004	1	09/24/14 14:49	9/24/14	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB16-001/PS03	K1410140-001DUP	0.010	0.004	0.057	0.081	0.0691	35 *	20	09/23/14
AMB16-021/M3.1	K1410140-021DUP	0.010	0.004	0.058	0.056	0.0567	3	20	09/24/14
AMB16-108/ILSP	K1410140-035DUP	0.010	0.004	0.059	0.059	0.0588	<1	20	09/24/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/23/14
		Date Extracted:	09/23/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB16-001/PS03	**Units:**	mg/L
Lab Code:	K1410140-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1410140-001MS			K1410140-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.057	0.430	0.500	75	0.415	0.500	72	60-135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/24/14
		Date Extracted:	09/24/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB16-021/M3.1	**Units:**	mg/L
Lab Code:	K1410140-021	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1410140-021MS			K1410140-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.058	0.418	0.500	72	0.399	0.500	68	60-135	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	09/24/14
		Date Extracted:	09/24/14

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB16-108/ILSP	**Units:**	mg/L
Lab Code:	K1410140-035	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1410140-035MS			K1410140-035DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.059	0.397	0.500	68	0.421	0.500	72	60-135	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	09/23/14
Sample Matrix:	Ocean Water	**Date Extracted:**	09/23/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	412709

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS1	3.27	3.46	95	85-115
Lab Control Sample	K1410140-LCS2	3.38	3.46	98	85-115
Lab Control Sample	K1410140-LCS3	3.34	3.46	97	85-115
Lab Control Sample	K1410140-LCS4	3.32	3.46	96	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	09/24/14
Sample Matrix:	Ocean Water	**Date Extracted:**	09/24/14

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	413013

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS5	3.29	3.46	95	85-115
Lab Control Sample	K1410140-LCS6	3.34	3.46	96	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1410140
Project: SEPT 2014 Ambient Monitoring (AMB 16)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	412709	KQ1411766-01	09/23/14 13:50	0.500	0.498	100	90-110
CCV2	412709	KQ1411766-03	09/23/14 13:50	0.500	0.497	99	90-110
CCV3	412709	KQ1411766-05	09/23/14 13:50	0.500	0.502	100	90-110
CCV4	412709	KQ1411766-07	09/23/14 13:50	0.500	0.501	100	90-110
CCV5	413013	KQ1411865-01	09/24/14 14:49	0.500	0.494	99	90-110
CCV6	413013	KQ1411865-02	09/24/14 14:49	0.500	0.496	99	90-110
CCV7	413013	KQ1411865-03	09/24/14 14:49	0.500	0.491	98	90-110
CCV8	413013	KQ1411865-04	09/24/14 14:49	0.500	0.486	97	90-110
CCV9	413013	KQ1411865-05	09/24/14 14:49	0.500	0.491	98	90-110
CCV10	413013	KQ1411865-06	09/24/14 14:49	0.500	0.502	100	90-110
CCV11	413013	KQ1411865-07	09/24/14 14:49	0.500	0.506	101	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1410140
Project: SEPT 2014 Ambient Monitoring (AMB 16)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	412709	KQ1411766-02	09/23/14 13:50	0.010	0.004	0.007	J
CCB2	412709	KQ1411766-04	09/23/14 13:50	0.010	0.004	ND	U
CCB3	412709	KQ1411766-06	09/23/14 13:50	0.010	0.004	0.005	J
CCB4	412709	KQ1411766-08	09/23/14 13:50	0.010	0.004	ND	U
CCB5	413013	KQ1411865-08	09/24/14 14:49	0.010	0.004	ND	U
CCB6	413013	KQ1411865-09	09/24/14 14:49	0.010	0.004	ND	U
CCB7	413013	KQ1411865-10	09/24/14 14:49	0.010	0.004	ND	U
CCB8	413013	KQ1411865-11	09/24/14 14:49	0.010	0.004	ND	U
CCB9	413013	KQ1411865-12	09/24/14 14:49	0.010	0.004	ND	U
CCB10	413013	KQ1411865-13	09/24/14 14:49	0.010	0.004	ND	U
CCB11	413013	KQ1411865-14	09/24/14 14:49	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB16-001/PS03	K1410140-001	**0.084**	0.050	0.009	1	09/30/14 08:00	
AMB16-002/PS04	K1410140-002	**0.052**	0.050	0.009	1	09/30/14 08:00	
AMB16-003/PS05	K1410140-003	**0.058**	0.050	0.009	1	09/30/14 08:00	
AMB16-004/PS14	K1410140-004	**0.056**	0.050	0.009	1	09/30/14 08:00	
AMB16-005/PS06	K1410140-005	**0.101**	0.050	0.009	1	09/30/14 08:00	
AMB16-006/PS07	K1410140-006	**0.114**	0.050	0.009	1	09/30/14 08:00	
AMB16-007/PS08	K1410140-007	**0.055**	0.050	0.009	1	09/30/14 08:00	
AMB16-008/PS15	K1410140-008	**0.035 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-009/PS09	K1410140-009	**0.084**	0.050	0.009	1	10/02/14 07:35	
AMB16-010/PS09DUP	K1410140-010	**0.066**	0.050	0.009	1	10/02/14 07:35	
AMB16-011PS10	K1410140-011	**0.108**	0.050	0.009	1	10/02/14 07:35	
AMB16-012/PS10.1	K1410140-012	**0.048 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-013/PS11	K1410140-013	**0.063**	0.050	0.009	1	10/02/14 07:35	
AMB16-014/PS16	K1410140-014	**0.088**	0.050	0.009	1	10/02/14 07:35	
AMB16-015/PS16DUP	K1410140-015	**0.063**	0.050	0.009	1	10/02/14 07:35	
AMB16-016/PS01	K1410140-016	**0.067**	0.050	0.009	1	10/02/14 07:35	
AMB16-017/PS02	K1410140-017	**0.039 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-018/PS13	K1410140-018	**0.041 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-019/M4	K1410140-019	**0.020 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-020/BJEST	K1410140-020	**0.029 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-021/M3.1	K1410140-021	**0.024 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-022/M3.1DEEP	K1410140-022	**0.033 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-023/PS12	K1410140-023	**0.100**	0.050	0.009	1	10/02/14 07:35	
AMB16-024/PS03B	K1410140-024	**0.100**	0.050	0.009	1	10/02/14 07:35	
AMB16-DD002/OF019	K1410140-026	**0.367**	0.050	0.009	1	10/02/14 07:35	
AMB16-100/SN03	K1410140-028	**0.054**	0.050	0.009	1	10/02/14 07:35	
AMB16-101/SN05	K1410140-029	**0.057**	0.050	0.009	1	10/02/14 07:35	
AMB16-102/SN08	K1410140-030	**0.083**	0.050	0.009	1	10/02/14 07:35	
AMB16-103/SN10	K1410140-031	**0.117**	0.050	0.009	1	10/02/14 07:35	
AMB16-104/SN11	K1410140-032	**0.066**	0.050	0.009	1	10/02/14 07:35	
AMB16-106/M1	K1410140-033	**0.034 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-107/M1DEEP	K1410140-034	**0.030 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-108/ILSP	K1410140-035	**0.056**	0.050	0.009	1	10/02/14 07:35	
AMB16-109/WP	K1410140-036	**0.047 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-110/CLMBY	K1410140-037	**0.033 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-111/M2	K1410140-038	**0.047 J**	0.050	0.009	1	10/02/14 07:35	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB16-112/M2DEEP	K1410140-039	**0.044 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-113/DYOTS	K1410140-040	**0.053**	0.050	0.009	1	10/02/14 07:35	
AMB16-114/M6	K1410140-041	**0.130**	0.050	0.009	1	10/02/14 07:35	
AMB16-115/M6DEEP	K1410140-042	**0.022 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-116/M3.3	K1410140-043	**0.039 J**	0.050	0.009	1	10/02/14 07:35	
AMB16-117/PS03C	K1410140-044	**0.096**	0.050	0.009	1	10/02/14 07:35	
Method Blank	K1410140-MB1	**0.019 J**	0.050	0.009	1	09/30/14 08:00	
Method Blank	K1410140-MB2	ND U	0.050	0.009	1	10/02/14 07:35	
Method Blank	K1410140-MB3	ND U	0.050	0.009	1	10/02/14 07:35	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Water	**Date Received:**	09/19/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB16-DD001/OF021	K1410140-025	**0.029 J**	0.050	0.009	1	10/02/14 07:35	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14 - 09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB16-008/PS15	K1410140-008DUP	0.050	0.009	0.035 J	0.031 J	0.0330	12	20	10/02/14
AMB16-101/SN05	K1410140-029DUP	0.050	0.009	0.057	0.067	0.0620	16	20	10/02/14
Batch QC	K1410553-002DUP	0.050	0.009	1.42	1.39	1.41	2	20	09/30/14

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/16/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	10/2/14
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB16-008/PS15	**Units:**	mg/L
Lab Code:	K1410140-008	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1410140-008MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.035 J	10.5	10.0	105	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	09/17/14
Sample Matrix:	Ocean Water	**Date Received:**	09/19/14
		Date Analyzed:	10/2/14
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB16-101/SN05	**Units:**	mg/L
Lab Code:	K1410140-029	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1410140-029MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.057	10.5	10.0	104	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/30/14
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1410553-002	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1410553-002MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	1.42	9.71	10.0	83	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	09/30/14
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	413952

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS1	15.6	15.1	103	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	10/02/14
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	414246

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS2	14.6	15.1	97	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1410140
Project:	SEPT 2014 Ambient Monitoring (AMB 16)	**Date Analyzed:**	10/02/14
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	414396

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1410140-LCS3	14.8	15.1	98	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1410140
Project: SEPT 2014 Ambient Monitoring (AMB 16)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	413952	KQ1412158-09	09/30/14 08:00	10.0	10.4	104	90-110
CCV2	413952	KQ1412158-10	09/30/14 08:00	10.0	10.3	103	90-110
CCV3	413952	KQ1412158-11	09/30/14 08:00	10.0	10.2	102	90-110
CCV4	413952	KQ1412158-12	09/30/14 08:00	10.0	10.3	103	90-110
CCV5	414246	KQ1412250-13	10/02/14 07:35	10.0	10.1	101	90-110
CCV6	414246	KQ1412250-14	10/02/14 07:35	10.0	10.2	102	90-110
CCV7	414246	KQ1412250-15	10/02/14 07:35	10.0	10.3	103	90-110
CCV8	414246	KQ1412250-16	10/02/14 07:35	10.0	10.3	103	90-110
CCV9	414396	KQ1412328-09	10/02/14 07:35	10.0	10.3	103	90-110
CCV10	414396	KQ1412328-10	10/02/14 07:35	10.0	10.3	103	90-110
CCV11	414396	KQ1412328-11	10/02/14 07:35	10.0	10.1	101	90-110
CCV12	414396	KQ1412328-12	10/02/14 07:35	10.0	9.90	99	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1410140
Project: SEPT 2014 Ambient Monitoring (AMB 16)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	413952	KQ1412158-05	09/30/14 08:00	0.050	0.009	0.027	J
CCB2	413952	KQ1412158-06	09/30/14 08:00	0.050	0.009	0.009	J
CCB3	413952	KQ1412158-07	09/30/14 08:00	0.050	0.009	0.017	J
CCB4	413952	KQ1412158-08	09/30/14 08:00	0.050	0.009	0.015	J
CCB5	414246	KQ1412250-09	10/02/14 07:35	0.050	0.009	0.021	J
CCB6	414246	KQ1412250-10	10/02/14 07:35	0.050	0.009	ND	U
CCB7	414246	KQ1412250-11	10/02/14 07:35	0.050	0.009	0.014	J
CCB8	414246	KQ1412250-12	10/02/14 07:35	0.050	0.009	0.021	J
CCB9	414396	KQ1412328-05	10/02/14 07:35	0.050	0.009	0.014	J
CCB10	414396	KQ1412328-06	10/02/14 07:35	0.050	0.009	0.021	J
CCB11	414396	KQ1412328-07	10/02/14 07:35	0.050	0.009	0.009	J
CCB12	414396	KQ1412328-08	10/02/14 07:35	0.050	0.009	0.037	J

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/16/14, logged in 09/17/14
Batch: 40
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-001	**PS03-TME**	**TME**	**PS03**	**3106-1422**	**Seawater**	**PREP LAB**	**Total Metals, Hg**	**9/16/2014**
AMB16-001	**PS03-DME**	**DME**	**PS03**	**3106-1423**	**Seawater**	**PREP LAB**	**Dissolved Metals, Hg**	**9/16/2014**
AMB16-002	PS04-TME	TME	PS04	3106-1376	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-002	PS04-DME	DME	PS04	3106-1377	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-003	PS05-TME	TME	PS05	3106-1378	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-003	PS05-DME	DME	PS05	3106-1379	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-004	PS14-TME	TME	PS14	3106-1380	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-004	PS14-DME	DME	PS14	3106-1381	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-005	PS06-TME	TME	PS06	3106-1382	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-005	PS06-DME	DME	PS06	3106-1383	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-006	PS07-TME	TME	PS07	3106-1384	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-006	PS07-DME	DME	PS07	3106-1385	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-007	PS08-TME	TME	PS08	3106-1386	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-007	PS08-DME	DME	PS08	3106-1387	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-008	PS15-TME	TME	PS15	3106-1388	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-008	PS15-DME	DME	PS15	3106-1389	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-009	PS09-TME	TME	PS09	3106-1390	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-009	PS09-DME	DME	PS09	3106-1391	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-010	PS09DUP-TME	TME	PS09DUP	3106-1392	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-010	PS09DUP-DME	DME	PS09DUP	3106-1393	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-011	PS10-TME	TME	PS10	3106-1394	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-011	PS10-DME	DME	PS10	3106-1395	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-012	PS10.1-TME	TME	PS10.1	3106-1396	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-012	PS10.1-DME	DME	PS10.1	3106-1397	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-013	PS11-TME	TME	PS11	3106-1398	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-013	PS11-DME	DME	PS11	3106-1399	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-014	PS16-TME	TME	PS16	3106-1400	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-014	PS16-DME	DME	PS16	3106-1401	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-015	PS16DUP-TME	TME	PS16DUP	3106-1402	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-015	PS16DUP-DME	DME	PS16DUP	3106-1403	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-016	PS01-TME	TME	PS01	3106-1404	Seawater	PREP LAB	Total Metals, Hg	9/16/2014

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/16/14, logged in 09/17/14
Batch: 40
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-016	PS01-DME	DME	PS01	3106-1405	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-017	PS02-TME	TME	PS02	3106-1406	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-017	PS02-DME	DME	PS02	3106-1407	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-018	PS13-TME	TME	PS13	3106-1408	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-018	PS13-DME	DME	PS13	3106-1409	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-019	M4-TME	TME	M4	3106-1410	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-019	M4-DME	DME	M4	3106-1411	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-020	BJEST-TME	TME	BJEST	3106-1412	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-020	BJEST-DME	DME	BJEST	3106-1413	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-021	M3.1-TME	TME	M3.1	3106-1414	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-021	M3.1-DME	DME	M3.1	3106-1415	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-022	M3.1DEEP-TME	TME	M3.1DEEP	3106-1416	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-022	M3.1DEEP-DME	DME	M3.1DEEP	3106-1417	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-023	PS12-TME	TME	PS12	3106-1418	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-023	PS12-DME	DME	PS12	3106-1419	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-024	PS03B-TME	TME	PS03B	3106-1420	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-024	PS03B-DME	DME	PS03B	3106-1421	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-DD001	OF021-TME	TME	OF021	3106-1424	Freshwater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-DD001	OF021-DME	DME	OF021	3106-1425	Freshwater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-DD002	OF019-TME	TME	OF019	3106-1426	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-DD002	OF019-DME	DME	OF019	3106-1427	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014
AMB16-DD003	OF018-TME	TME	OF018	3106-1428	Seawater	PREP LAB	Total Metals, Hg	9/16/2014
AMB16-DD003	OF018-DME	DME	OF018	3106-1429	Seawater	PREP LAB	Dissolved Metals, Hg	9/16/2014

NOTES: **PS03 is labeled out of sequence due to overlapped # with Ebs (no longer any overlaps!)**
OF018 collected as part of DDA event #3 - see CF# 3462 for info (sample 3462-93 for total metals/-94 for diss) Sample #s are place holders

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/16/14, logged in 09/17/14
Batch: 40
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1422	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-002	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1376	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-003	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1378	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1380	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-005	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1382	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-006	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1384	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-007	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1386	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-008	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1388	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-009	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1390	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-010	PS09DUP-TSS/OSAL	TSS/OSAL	PS09DUP	3106-1392	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1394	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-012	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1396	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-013	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1398	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-014	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1400	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-015	PS16DUP-TSS/OSAL	TSS/OSAL	PS16DUP	3106-1402	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-016	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1404	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-017	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1406	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-018	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1408	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-019	M4-TSS/OSAL	TSS/OSAL	M4	3106-1410	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-020	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1412	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-021	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1414	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-022	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-1416	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-023	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1418	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-024	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-1420	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-DD001	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1424	Freshwater	MSL	TSS/OSAL	9/16/2014
AMB16-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1426	Seawater	MSL	TSS/OSAL	9/16/2014
AMB16-DD003	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1428	Seawater	MSL	TSS/OSAL	9/16/2014

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/16/14, logged in 09/17/14
Batch: 40
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-001	PS03-TOC	TOC	PS03	3106-1422	Seawater	MSL	TOC	9/16/2014
AMB16-002	PS04-TOC	TOC	PS04	3106-1376	Seawater	MSL	TOC	9/16/2014
AMB16-003	PS05-TOC	TOC	PS05	3106-1378	Seawater	MSL	TOC	9/16/2014
AMB16-004	PS14-TOC	TOC	PS14	3106-1380	Seawater	MSL	TOC	9/16/2014
AMB16-005	PS06-TOC	TOC	PS06	3106-1382	Seawater	MSL	TOC	9/16/2014
AMB16-006	PS07-TOC	TOC	PS07	3106-1384	Seawater	MSL	TOC	9/16/2014
AMB16-007	PS08-TOC	TOC	PS08	3106-1386	Seawater	MSL	TOC	9/16/2014
AMB16-008	PS15-TOC	TOC	PS15	3106-1388	Seawater	MSL	TOC	9/16/2014
AMB16-009	PS09-TOC	TOC	PS09	3106-1390	Seawater	MSL	TOC	9/16/2014
AMB16-010	PS09DUP-TOC	TOC	PS09DUP	3106-1392	Seawater	MSL	TOC	9/16/2014
AMB16-011	PS10-TOC	TOC	PS10	3106-1394	Seawater	MSL	TOC	9/16/2014
AMB16-012	PS10.1-TOC	TOC	PS10.1	3106-1396	Seawater	MSL	TOC	9/16/2014
AMB16-013	PS11-TOC	TOC	PS11	3106-1398	Seawater	MSL	TOC	9/16/2014
AMB16-014	PS16-TOC	TOC	PS16	3106-1400	Seawater	MSL	TOC	9/16/2014
AMB16-015	PS16DUP-TOC	TOC	PS16DUP	3106-1402	Seawater	MSL	TOC	9/16/2014
AMB16-016	PS01-TOC	TOC	PS01	3106-1404	Seawater	MSL	TOC	9/16/2014
AMB16-017	PS02-TOC	TOC	PS02	3106-1406	Seawater	MSL	TOC	9/16/2014
AMB16-018	PS13-TOC	TOC	PS13	3106-1408	Seawater	MSL	TOC	9/16/2014
AMB16-019	M4-TOC	TOC	M4	3106-1410	Seawater	MSL	TOC	9/16/2014
AMB16-020	BJEST-TOC	TOC	BJEST	3106-1412	Seawater	MSL	TOC	9/16/2014
AMB16-021	M3.1-TOC	TOC	M3.1	3106-1414	Seawater	MSL	TOC	9/16/2014
AMB16-022	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-1416	Seawater	MSL	TOC	9/16/2014
AMB16-023	PS12-TOC	TOC	PS12	3106-1418	Seawater	MSL	TOC	9/16/2014
AMB16-024	PS03B-TOC	TOC	PS03B	3106-1420	Seawater	MSL	TOC	9/16/2014
AMB16-DD001	OF021-TOC	TOC	OF021	3106-1424	Freshwater	MSL	TOC	9/16/2014
AMB16-DD002	OF019-TOC	TOC	OF019	3106-1426	Seawater	MSL	TOC	9/16/2014
AMB16-DD003	OF018-TOC	TOC	OF018	3106-1428	Seawater	MSL	TOC	9/16/2014

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/16/14, logged in 09/17/14
Batch: 40
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-001	PS03-DOC	DOC	PS03	3106-1423	Seawater	MSL	DOC	9/16/2014
AMB16-002	PS04-DOC	DOC	PS04	3106-1377	Seawater	MSL	DOC	9/16/2014
AMB16-003	PS05-DOC	DOC	PS05	3106-1379	Seawater	MSL	DOC	9/16/2014
AMB16-004	PS14-DOC	DOC	PS14	3106-1381	Seawater	MSL	DOC	9/16/2014
AMB16-005	PS06-DOC	DOC	PS06	3106-1383	Seawater	MSL	DOC	9/16/2014
AMB16-006	PS07-DOC	DOC	PS07	3106-1385	Seawater	MSL	DOC	9/16/2014
AMB16-007	PS08-DOC	DOC	PS08	3106-1387	Seawater	MSL	DOC	9/16/2014
AMB16-008	PS15-DOC	DOC	PS15	3106-1389	Seawater	MSL	DOC	9/16/2014
AMB16-009	PS09-DOC	DOC	PS09	3106-1391	Seawater	MSL	DOC	9/16/2014
AMB16-010	PS09DUP-DOC	DOC	PS09DUP	3106-1393	Seawater	MSL	DOC	9/16/2014
AMB16-011	PS10-DOC	DOC	PS10	3106-1395	Seawater	MSL	DOC	9/16/2014
AMB16-012	PS10.1-DOC	DOC	PS10.1	3106-1397	Seawater	MSL	DOC	9/16/2014
AMB16-013	PS11-DOC	DOC	PS11	3106-1399	Seawater	MSL	DOC	9/16/2014
AMB16-014	PS16-DOC	DOC	PS16	3106-1401	Seawater	MSL	DOC	9/16/2014
AMB16-015	PS16DUP-DOC	DOC	PS16DUP	3106-1403	Seawater	MSL	DOC	9/16/2014
AMB16-016	PS01-DOC	DOC	PS01	3106-1405	Seawater	MSL	DOC	9/16/2014
AMB16-017	PS02-DOC	DOC	PS02	3106-1407	Seawater	MSL	DOC	9/16/2014
AMB16-018	PS13-DOC	DOC	PS13	3106-1409	Seawater	MSL	DOC	9/16/2014
AMB16-019	M4-DOC	DOC	M4	3106-1411	Seawater	MSL	DOC	9/16/2014
AMB16-020	BJEST-DOC	DOC	BJEST	3106-1413	Seawater	MSL	DOC	9/16/2014
AMB16-021	M3.1-DOC	DOC	M3.1	3106-1415	Seawater	MSL	DOC	9/16/2014
AMB16-022	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-1417	Seawater	MSL	DOC	9/16/2014
AMB16-023	PS12-DOC	DOC	PS12	3106-1419	Seawater	MSL	DOC	9/16/2014
AMB16-024	PS03B-DOC	DOC	PS03B	3106-1421	Seawater	MSL	DOC	9/16/2014
AMB16-DD001	OF021-DOC	DOC	OF021	3106-1425	Freshwater	MSL	DOC	9/16/2014
AMB16-DD002	OF019-DOC	DOC	OF019	3106-1427	Seawater	MSL	DOC	9/16/2014
AMB16-DD003	OF018-DOC	DOC	OF018	3106-1429	Seawater	MSL	DOC	9/16/2014

SOP#: MSL-A-001

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/19/2014
Page: _____ of _____
COC Number: AMB16-2014-09-16

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: DAY 1
Project Name: AMB16
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:
AMB16_2014_09_16

same bottle

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Observations, Instructions

3106 TOT/DISS

Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS/OSAL	Nuts/	DOC	Coal DOC	Oil&Grease			No. of containers	StationID	Comments
1374	1375	AMB16-001	PS03	9/16/2014 0910	NS	X	X	X	X	X	X				5	PS03	
1376	1377	002	PS04	0931	NS	X	X	X	X	X	X				5	PS04	off end of Pier C
1378	1379	003	PS05	0940	NS	X	X	X	X	X	X				5	PS05	discharge from CV74 light sheen
1380	1381	004	PS14	0951	NS	X	X	X	X	X	X				5	PS14	at Barrier
1382	1383	005	PS06	1000	NS	X	X	X	X	X	X				5	PS06	
1384	1385	006	PS07	1020	NS	X	X	X	X	X	X				5	PS07	
1386	1387	007	PS08	1034	NS	X	X	X	X	X	X				5	PS08	
1388	1389	008	PS15	1042	NS	X	X	X	X	X	X				5	PS15	at Barrier
1390	1390 1391	009	PS09	1054	NS	X	X	X	X	X	X				5	PS09	
1392	1393	010	PS09DUP	1055	NS	X	X	X	X	X	X				5	PS09	
1394	1395	013	PS10	1123	NS	X	X	X	X	X	X				5	PS10	crap in water lift station Prob
1396	1397	014	PS10.1	1134	NS	X	X	X	X	X	X				5	PS10.1	
1398	1399	015	PS11	1146	NS	X	X	X	X	X	X				5	PS11	
1400	1401	016	PS16	1155	NS	X	X	X	X	X	X				5	PS16	
1402	1403	017	PS16 DUP	1156	NS	X	X	X	X	X	X				5	PS16 DUP	

Relinquished by: _____ 9/16/14 2000
Signature Date Time
JM Brandenberger PNNL
Printed Name Company

Received by: Hand carried
Signature
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____ 9/17/14
Signature Date Time
C. Sublett PNNL
Printed Name Company

Received by: _____
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

*PS03 relinquished 9/18/14 overlapped EDS.

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/16/14
Page: 2 of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: 54220
Project Name: ERNEST AMB16
Project Manager: Jill Brandenberger
Phone: (360) 681-~~3688~~ 4564

EVENT:
AMB16_2014_09_16

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Save bottle

Testing Parameters

Observations, Instructions

3106 TOT/DISS

6/19/2014

Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS 105°C	Nuts/~~TOC~~ O	DOC	Fuel	Oil&Grease	TOC		No. of containers	StationID	Comments
1404	1405	AMB16-018	PS01	1228	NS	X	X	X	X	X		X	X		5	PS01	Slime layer
1406	1407	019	PS02	1240	NS	X	X	X	X	X		X	X		5	PS02	
1408	1409	020	PS13	1252	NS	X	X	X	X	X					5	PS13	
1410	1411	021	M4	1302	NS	X	X	X	X	X			X		5	M4	Ross Point / BREM WWTP
1412	1413	023	BJEST	1320	NS	X	X	X	X	X			X		5	BJEST	
1414	1415	024	M3.1	1336	M	X	X	X	X	X			X		5	M3.1	Dead bird floated by
1416	1416	025	M3.1 Deep	1354	M	X	X	X	X	X			X		5	M3.1 Deep	trouble getting deep sample 4m
1418	1419	026	PS12	1410	NS	X	X	X	X	X			X		5	PS12	
1420	1421	027	PS03B	1428	NS	X	X	X	X	X			X		5	PS03B	
~~1424~~	~~1425~~	AMB16-OF021	OF021	1200		↓										OF021	24 hr comp
~~1426~~	~~1427~~	001															
1426	1427	002	OF019	1540												OF019	Grab sample 10L
1428	1429	003	OF018													OF018	— see DDA for date

Relinquished by: _____ Signature — 9/16/14 Date — 2000 Time
Jill Brandenberger Printed Name — PNNL Company

Received by: Hand carried Signature
_____ Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by: _____ Signature — Date — Time
_____ Printed Name — Company

Received by: C. SUSICK Signature
MSL 9/17/14 Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

DAY 1

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1374-1429 Batch: 40

Project Name: ENVEST AMB16 Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WAT WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
		✓	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler) 4±2°C
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL? ALL HALF

Samples hand delivered to LAB from field by MSL staff.

Cooler 1: °C
Cooler 2: °C
Cooler 3: °C
Cooler 4: °C

Comment/Remedy:

Samples must be filtered prior to preservation!

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: C. Susuki 9/17/14 @ Login Cooler Receipt Date/Time: 9/16/14 2000

to maintain until login of

SAMPLE PRESERVATION

	Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)			
	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:		
	Complete pH check required for project (use pH meter and record on pH Record form)			
	Sample(s) were preserved at MSL			
Type: X	0.2% HNO3 Metals	Notes:	Lot#	
	0.5% HCl (Hg samples)	Notes:	Lot#	
X	Refrigerate/Freeze TOC DOC	Notes:	Walk-in frig / Deep freezer	
	Other TSS ISA / NOT	Notes:		

Completed By: Preservation Date/Time:

Storage Shelf: Metals: Lab 231 K-5-C, K-5-D,

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/17/14, logged in 09/18/14
Batch: 41
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-100	SN03-TME	TME	SN03	3106-1430	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-100	SN03-DME	DME	SN03	3106-1431	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-101	SN05-TME	TME	SN05	3106-1432	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-101	SN05-DME	DME	SN05	3106-1433	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-102	SN08-TME	TME	SN08	3106-1434	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-102	SN08-DME	DME	SN08	3106-1435	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-103	SN10-TME	TME	SN10	3106-1436	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-103	SN10-DME	DME	SN10	3106-1437	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-104	SN11-TME	TME	SN11	3106-1438	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-104	SN11-DME	DME	SN11	3106-1439	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-105	SN11DUP-TME	TME	SN11DUP	3106-1440	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-105	SN11DUP-DME	DME	SN11DUP	3106-1441	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-106	M1-TME	TME	M1	3106-1442	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-106	M1-DME	DME	M1	3106-1443	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-107	M1DEEP-TME	TME	M1DEEP	3106-1444	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-107	M1DEEP-DME	DME	M1DEEP	3106-1445	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-108	ILSP-TME	TME	ILSP	3106-1446	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-108	ILSP-DME	DME	ILSP	3106-1447	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-109	WP-TME	TME	WP	3106-1448	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-109	WP-DME	DME	WP	3106-1449	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-110	CLMBY-TME	TME	CLMBY	3106-1450	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-110	CLMBY-DME	DME	CLMBY	3106-1451	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-111	M2-TME	TME	M2	3106-1452	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-111	M2-DME	DME	M2	3106-1453	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-112	M2DEEP-TME	TME	M2DEEP	3106-1454	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-112	M2DEEP-DME	DME	M2DEEP	3106-1455	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-113	DYOTS-TME	TME	DYOTS	3106-1456	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-113	DYOTS-DME	DME	DYOTS	3106-1457	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-114	M6-TME	TME	M6	3106-1458	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-114	M6-DME	DME	M6	3106-1459	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-115	M6DEEP-TME	TME	M6DEEP	3106-1460	Seawater	PREP LAB	Total Metals, Hg	9/17/2014

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/17/14, logged in 09/18/14
Batch: 41
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-115	M6DEEP-DME	DME	M6DEEP	3106-1461	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-116	M3.3-TME	TME	M3.3	3106-1462	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-116	M3.3-DME	DME	M3.3	3106-1463	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014
AMB16-117	PS03C-TME	TME	PS03C	3106-1464	Seawater	PREP LAB	Total Metals, Hg	9/17/2014
AMB16-117	PS03C-DME	DME	PS03C	3106-1465	Seawater	PREP LAB	Dissolved Metals, Hg	9/17/2014

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/17/14, logged in 09/18/14
Batch: 41
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-100	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1430	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-101	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1432	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-102	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1434	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-103	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1436	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-104	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1438	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-105	SN11DUP-TSS/OSAL	TSS/OSAL	SN11DUP	3106-1440	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-106	M1-TSS/OSAL	TSS/OSAL	M1	3106-1442	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-107	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1444	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-108	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1446	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-109	WP-TSS/OSAL	TSS/OSAL	WP	3106-1448	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-110	CLMBY-TSS/OSAL	TSS/OSAL	CLMBY	3106-1450	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-111	M2-TSS/OSAL	TSS/OSAL	M2	3106-1452	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-112	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1454	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-113	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1456	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-114	M6-TSS/OSAL	TSS/OSAL	M6	3106-1458	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-115	M6DEEP-TSS/OSAL	TSS/OSAL	M6DEEP	3106-1460	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-116	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1462	Seawater	MSL	TSS/OSAL	9/17/2014
AMB16-117	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-1464	Seawater	MSL	TSS/OSAL	9/17/2014

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/17/14, logged in 09/18/14
Batch: 41
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-100	SN03-TOC	TOC	SN03	3106-1430	Seawater	MSL	TOC	9/17/2014
AMB16-101	SN05-TOC	TOC	SN05	3106-1432	Seawater	MSL	TOC	9/17/2014
AMB16-102	SN08-TOC	TOC	SN08	3106-1434	Seawater	MSL	TOC	9/17/2014
AMB16-103	SN10-TOC	TOC	SN10	3106-1436	Seawater	MSL	TOC	9/17/2014
AMB16-104	SN11-TOC	TOC	SN11	3106-1438	Seawater	MSL	TOC	9/17/2014
AMB16-105	SN11DUP-TOC	TOC	SN11DUP	3106-1440	Seawater	MSL	TOC	9/17/2014
AMB16-106	M1-TOC	TOC	M1	3106-1442	Seawater	MSL	TOC	9/17/2014
AMB16-107	M1DEEP-TOC	TOC	M1DEEP	3106-1444	Seawater	MSL	TOC	9/17/2014
AMB16-108	ILSP-TOC	TOC	ILSP	3106-1446	Seawater	MSL	TOC	9/17/2014
AMB16-109	WP-TOC	TOC	WP	3106-1448	Seawater	MSL	TOC	9/17/2014
AMB16-110	CLMBY-TOC	TOC	CLMBY	3106-1450	Seawater	MSL	TOC	9/17/2014
AMB16-111	M2-TOC	TOC	M2	3106-1452	Seawater	MSL	TOC	9/17/2014
AMB16-112	M2DEEP-TOC	TOC	M2DEEP	3106-1454	Seawater	MSL	TOC	9/17/2014
AMB16-113	DYOTS-TOC	TOC	DYOTS	3106-1456	Seawater	MSL	TOC	9/17/2014
AMB16-114	M6-TOC	TOC	M6	3106-1458	Seawater	MSL	TOC	9/17/2014
AMB16-115	M6DEEP-TOC	TOC	M6DEEP	3106-1460	Seawater	MSL	TOC	9/17/2014
AMB16-116	M3.3-TOC	TOC	M3.3	3106-1462	Seawater	MSL	TOC	9/17/2014
AMB16-117	PS03C-TOC	TOC	PS03C	3106-1464	Seawater	MSL	TOC	9/17/2014

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 09/17/14, logged in 09/18/14
Batch: 41
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB16-100	SN03-DOC	DOC	SN03	3106-1431	Seawater	MSL	DOC	9/17/2014
AMB16-101	SN05-DOC	DOC	SN05	3106-1433	Seawater	MSL	DOC	9/17/2014
AMB16-102	SN08-DOC	DOC	SN08	3106-1435	Seawater	MSL	DOC	9/17/2014
AMB16-103	SN10-DOC	DOC	SN10	3106-1437	Seawater	MSL	DOC	9/17/2014
AMB16-104	SN11-DOC	DOC	SN11	3106-1439	Seawater	MSL	DOC	9/17/2014
AMB16-105	SN11DUP-DOC	DOC	SN11DUP	3106-1441	Seawater	MSL	DOC	9/17/2014
AMB16-106	M1-DOC	DOC	M1	3106-1443	Seawater	MSL	DOC	9/17/2014
AMB16-107	M1DEEP-DOC	DOC	M1DEEP	3106-1445	Seawater	MSL	DOC	9/17/2014
AMB16-108	ILSP-DOC	DOC	ILSP	3106-1447	Seawater	MSL	DOC	9/17/2014
AMB16-109	WP-DOC	DOC	WP	3106-1449	Seawater	MSL	DOC	9/17/2014
AMB16-110	CLMBY-DOC	DOC	CLMBY	3106-1451	Seawater	MSL	DOC	9/17/2014
AMB16-111	M2-DOC	DOC	M2	3106-1453	Seawater	MSL	DOC	9/17/2014
AMB16-112	M2DEEP-DOC	DOC	M2DEEP	3106-1455	Seawater	MSL	DOC	9/17/2014
AMB16-113	DYOTS-DOC	DOC	DYOTS	3106-1457	Seawater	MSL	DOC	9/17/2014
AMB16-114	M6-DOC	DOC	M6	3106-1459	Seawater	MSL	DOC	9/17/2014
AMB16-115	M6DEEP-DOC	DOC	M6DEEP	3106-1461	Seawater	MSL	DOC	9/17/2014
AMB16-116	M3.3-DOC	DOC	M3.3	3106-1463	Seawater	MSL	DOC	9/17/2014
AMB16-117	PS03C-DOC	DOC	PS03C	3106-1465	Seawater	MSL	DOC	9/17/2014

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/17/14
Page: 1 of 2
COC Number:

DAY 2

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:
AMB16_2014_09_17

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3106
DT DISS

AMB16-

9/17/14

Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS ~~0SAL~~	Nuts/~~TOC~~	DOC	~~Oct~~ TOC	Oil&Grease			No. of containers	StationID	Comments
1430	1431	SN03	-100	0940	SeaWater	x	x	x	x	x	x				5	SN03	
1432	1433	SN05	-101	0953												SN05	
1434	1435	SN08	-102	1005												SN08	Scum, lgnp
1436	1437	SN10	-103	1016												SN10	
1438	1439	SN11	-104	1029												SN11	
1440	1441	SN11 Dup	-105	1032					X						4	SN11 Dup	NO NUTRIENTS!
1442	1443	~~CTD WP~~ M1	-106	1101											5	M1	
1444	1445	M1 Deep	-107	1110												M1 Deep	4 meters
1446	1447	ICSP	-108	1133								-				ICSP	
1448	1449	WP	-109	1207												WP	
1450	1451	CLMBY	-110	1225												CLMBY	
1452	1453	M2	-111	1235												M2	
1454	1455	M2 Deep	-112	1236												M2 Deep	5.5 meters
1456	1457	DYOTS	-113	1330												DYOTS	
1458	1459	M6	-114	1401												M6	

Relinquished by: Jon Strivens — 20140917 — 1700
Signature — Date — Time
Printed Name — Company PNNL

Received by: Jon Strivens
Signature
Printed Name

Total # of Containers 89
Shipment Method: Cooler / PNNL Vehicle
Shipment Method:

Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/17/14

Page: 2 of 2

COC Number:

DAY 2

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:
AMB16_2014_09_17

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382

Attention: Jill Brandenberger

Testing Parameters

Observations, Instructions

3104 TOC/DOC

AMB16-

Lab. Use only: Lab ID		Sample ID	Sample Lable	Collection Date/Time	Matrix	Metals (Total/Dissolved)	Total Hg	TS/TSS ~~OSAL~~	Nuts/~~TOC~~	DOC	~~Oeal~~ TOC	Oil&Grease			No. of containers	StationID	Comments
1460	1461	M6 Dup	-115 ~~1403~~ CTC	1403	Sea Water	X	X	X	X	X	X				5	M6 Dup	
1462	1463	M3.3	-116	1433		X	X	X	X	X	X				5	M3.3	
1464	1465	PS03C	-117	No Time Collected 5		✓	✓	✓	✓	✓	✓					PS03C	per JS 9/18/14

Relinquished by:
Jon Strivens
Signature
20140917
Date
1700
Time
Printed Name
Company PNNL

Received by:
Jon Strivens
Signature
Printed Name

Total # of Containers 34
Shipment Method: cooler/PNNL vehicle
Shipment Method:

Relinquished by:
Signature
Date
Time
Printed Name
Company

Received by:
C. SUSHKEVICH
Signature
9/18/14
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

R. Johnston: 360-824-6279

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31002 Sample No(s): 1430-1465 Batch: 41

Project Name: AMB 16a (DAY2) Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Sea Water WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL? ALL HALF TM2

Cooler 1: 4 °C
Cooler 2: °C
Cooler 3: °C
Cooler 4: °C

Comment/Remedy:

Samples must be filtered prior to preservation!

Sample condition(s): Acceptable Other (explain):

Container type: ~~Teflon~~ ~~Poly~~ Glass Cap. Vial Baggie Other:

Notes:

Completed By: STRW Cooler Receipt Date/Time: 20140917 1700

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑ 0.2% HNO3 TM2 Notes: By Jordi Lot# 121200

☐ 0.5% HCl (Hg samples) Notes: Lot#

☑ Refrigerate/Freeze Notes: RCF: Nutrients & OSAL, FR: TOC/DOC

☐ Other Notes:

Completed By: STRW Preservation Date/Time: 20140917 1700

Storage Shelf:

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/15/2014
Batch: 39
Login Designee: Striven/Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2014 (AMB16_EB)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
	500mL Filt Blank A	DME	EB	3106-1369	DI WATER	PREP LAB	Dissolved Metals, Hg	08/15/14
	500mL Filt Blank B	DME	EB	3106-1370	DI WATER	PREP LAB	Dissolved Metals, Hg	08/15/14
	500mL Filt Blank C	DME	EB	3106-1371	DI WATER	PREP LAB	Dissolved Metals, Hg	08/15/14
	GoFlow unfiltered	TME	EB	3106-1372	DI WATER	PREP LAB	Total Metals, Hg	08/15/14
	GoFlow @ 0.45um	DME	EB	3106-1373	DI WATER	PREP LAB	Dissolved Metals, Hg	08/15/14
	Jug A Blank	TME	EB	3106-1374	DI WATER	PREP LAB	Total Metals, Hg	08/14/14
	Jug B Blank	TME	EB	3106-1375	DI WATER	PREP LAB	Total Metals, Hg	08/14/14

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 20140915

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVEST AMB16 EB
Project Manager: Brandenburger
Phone Number:

Shipment Method: Na
Preservation: 0.002% Nitric

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Hg	Test Parameters: Metals				Laboratory ID 1374	Observations/Comments
1	Jug A Blank	20140814	DI WATER	1		X				3106-1360b	25 minutes
2	Jug B Blank	20140914	"	1		X				-1360b 1375	"
3	500mL Filt Blank A	20140815	"	1	X	X				-1369	AMB16
4	500mL Filt Blank B	"	"	1	X	X				-1370	"
5	500mL Filt Blank C	"	"	1	X	X				-1371	"
6	GoFlow unfiltered	"	"	1	X	X				-1372	20 minutes
7	GoFlow @ 0.45µm	"	"	1	X	X				-1373	"
8											All samples were acidified and given to Jardine Gulbransen.
9											
10											
11											
12											
13											
14											
15											

b = (overlapping #s from AMB15) 8/19/14

Relinquished By:	Company:	Received By:	Company:
STRIVI	PNNL	C.SUSLICK	MSL
Signature/Printed Name	20140915 Date/Time	Signature/Printed Name	8/19/14 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

No Login Sheet - Samples Created @ MSL

K1410140

PROJECT ENVVEST																		
Project Name: SEPT 2014 Ambient Monitoring (AMB16)																		
SAMPLE TEAM:	Navy, Battelle																	
DATE:	9/18/2014																	
Laboratory:	ALS Kelso, WA																	

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB16-001	PS03	9/16/2014 0910	Seawater				X					1	
AMB16-002	PS04	9/16/2014 0931	Seawater				X					1	
AMB16-003	PS05	9/16/2014 0940	Seawater				X					1	
AMB16-004	PS14	9/16/2014 0951	Seawater				X					1	
AMB16-005	PS06	9/16/2014 1000	Seawater				X					1	
AMB16-006	PS07	9/16/2014 1020	Seawater				X					1	
AMB16-007	PS08	9/16/2014 1034	Seawater				X					1	
AMB16-008	PS15	9/16/2014 1042	Seawater				X					1	
AMB16-009	PS09	9/16/2014 1054	Seawater				X					1	
AMB16-010	PS09DUP	9/16/2014 1055	Seawater				X					1	
AMB16-011	PS10	9/16/2014 1123	Seawater				X					1	
AMB16-012	PS10.1	9/16/2014 1134	Seawater				X					1	
AMB16-013	PS11	9/16/2014 1146	Seawater				X					1	
AMB16-014	PS16	9/16/2014 1155	Seawater				X					1	
AMB16-015	PS16DUP	9/16/2014 1156	Seawater				X					1	
AMB16-016	PS01	9/16/2014 1228	Seawater				X					1	
AMB16-017	PS02	9/16/2014 1240	Seawater				X					1	
AMB16-018	PS13	9/16/2014 1252	Seawater				X					1	
AMB16-019	M4	9/16/2014 1302	Seawater				X					1	
AMB16-020	BJEST	9/16/2014 1320	Seawater				X					1	
AMB16-021	M3.1	9/16/2014 1336	Seawater				X					1	
AMB16-022	M3.1DEEP	9/16/2014 1354	Seawater				X					1	
AMB16-023	PS12	9/16/2014 1410	Seawater				X					1	
AMB16-024	PS03B	9/16/2014 1428	Seawater				X					1	
AMB16-DD001	OF021	9/16/2014 1200	Freshwater				X		X			2	
AMB16-DD002	OF019	9/16/2014 1540	Seawater				X		X			2	
~~AMB16-DD003~~	~~OF018~~	~~9/16/2014 1540~~	~~Seawater~~										no nut or O&G sample collected
AMB16-100	SN03	9/17/2014 0940	Seawater				X					1	

1C1410140

PROJECT ENVVEST
Project Name: SEPT 2014 Ambient Monitoring (AMB16)
SAMPLE TEAM: Navy, Battelle
DATE: 9/18/2014
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB16-101	SN05	9/17/2014 0953	Seawater				X					1	
AMB16-102	SN08	9/17/2014 1005	Seawater				X					1	
AMB16-103	SN10	9/17/2014 1016	Seawater				X					1	
AMB16-104	SN11	9/17/2014 1029	Seawater				X					1	
~~AMB16-105~~	~~SN11DUP~~	~~9/17/2014 1032~~	~~Seawater~~										No nutrient sample collected
AMB16-106	M1	9/17/2014 1101	Seawater				X					1	
AMB16-107	M1DEEP	9/17/2014 1110	Seawater				X					1	
AMB16-108	ILSP	9/17/2014 1133	Seawater				X					1	
AMB16-109	WP	9/17/2014 1207	Seawater				X					1	
AMB16-110	CLMBY	9/17/2014 1224	Seawater				X					1	
AMB16-111	M2	9/17/2014 1235	Seawater				X					1	
AMB16-112	M2DEEP	9/17/2014 1236	Seawater				X					1	should be labeled DEEP not DUP
AMB16-113	DYOTS	9/17/2014 1330	Seawater				X					1	
AMB16-114	M6	9/17/2014 1401	Seawater				X					1	
AMB16-115	M6DEEP	9/17/2014 1403	Seawater				X					1	
AMB16-116	M3.3	9/17/2014 1433	Seawater				X					1	
AMB16-117	PS03C	9/17/2014	Seawater				X					1	no time was noted on COC
--end													
											Total:	45	(43 Nutrient/ 2 O&G)

Relinquished By:	Company:	Battelle MSL	
C. Suslick		9/18/2014	shipped via Fedex 9/18/14, CS
Signature/Printed Name		Date/Time	
Received By: Sw / SWOF	Company:	ALS	
Signature/Printed Name		9/19/14 0940 Date/Time	

PC HH

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K14* 10142

Received: 9/19/14 Opened: 9/19/14 By: JW Unloaded: 9/19/14 By: JW

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? one, front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
1.0	1.2	2.1	2.2	+0.2	308		7712 0728 2258		
0.5	0.5	3.0	3.0	0	351		" " 2155		
0.8	0.6	0.3	0.1	-0.2	336		" " 2096		
2.1	2.0	0.5	0.4	-0.1	316		" " 1608		

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y (N)
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y (N)
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:
MW DUP	MW DEEP	elimination

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
MW Deep	Cap			X		ALIQUOTED INTO A 500ML PLASTIC.				

Notes, Discrepancies, & Resolutions:

For "OF018" - we recd one Oil+Grease bottle. COC indicates no sample collected.

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring April 2015 (AMB17)

Seawater and Freshwater Chemistry

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 17,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 9
QA/QC Narrative 27

Narrative, Batch K1503659 32
Summary Report, Batch K1503659 33

Narrative, Batch K1503715 37
Summary Report, Batch K1503715 38

Sample Custody Information

Sample Collection, 040715 76
Sample Collection, 040815 87
Equipment Blanks, 020615 96

Chain of Custody, Batch K1503659 98
Chain of Custody, Batch K1503751 100

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB17
ENVVEST MVVEST April 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.15**	**0.018**	**1.5**	**0.10**	**0.2**	**0.006**	**0.06**	**0.02**
Seawater Reporting Limit (MDL* 3.18)								**0.053**	**4.7**	**0.32**	**0.6**	**0.02**	**0.2**	**0.05**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.10**	**0.2**	**0.004**	**0.1**	**0.005**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.32**	**0.6**	**0.01**	**0.3**	**0.02**
AMB17														
AMB17-001	PS07	Total	Seawater	3106-1474	04/07/15	29.2	1.35	1.31	109	0.524	8.82	0.0715	0.173 J	0.748
AMB17-001	PS07	Diss	Seawater	3106-1475	04/07/15	--	--	1.35	113	0.183 J	0.372 J	0.0669	0.113 J	0.546
AMB17-002	PS06	Total	Seawater	3106-1476	04/07/15	27.3	1.09	1.21	101	0.601	10.8	0.0718	0.166 J	0.824
AMB17-002	PS06	Diss	Seawater	3106-1477	04/07/15	--	--	1.19	99.1	0.276 J	0.368 J	0.0677	0.111 J	0.593
AMB17-003	PS06DUP	Total	Seawater	3106-1478	04/07/15	26.9	1.40	1.18	98.1	1.10	15.8	0.0722	0.165 J	1.05
AMB17-003	PS06DUP	Diss	Seawater	3106-1479	04/07/15	--	--	1.25	104	0.459	0.392 J	0.0710	0.117 J	0.676
AMB17-004	PS14	Total	Seawater	3106-1480	04/07/15	28.2	0.781	1.31	109	0.438	6.04	0.0668	0.127 J	1.14
AMB17-004	PS14	Diss	Seawater	3106-1481	04/07/15	--	--	1.27	105	0.185 J	0.349 J	0.0662	0.111 J	0.877
AMB17-005	M4	Total	Seawater	3106-1482	04/07/15	28.0	0.780	1.50	125	0.360	5.15	0.0674	0.132 J	0.685
AMB17-005	M4	Diss	Seawater	3106-1483	04/07/15	--	--	1.30	108	0.194 J	0.315 J	0.0642	0.111 J	0.543
AMB17-006	BJEST	Total	Seawater	3106-1484	04/07/15	27.5	1.54	1.65	137	0.427	7.77	0.0663	0.150 J	0.725
AMB17-006	BJEST	Diss	Seawater	3106-1485	04/07/15	--	--	1.44	120	0.207 J	0.695	0.0654	0.131 J	0.616
AMB17-007	M3.1	Total	Seawater	3106-1486	04/07/15	28.0	2.20	1.60	133	0.447	9.77	0.0682	0.154 J	0.655
AMB17-007	M3.1	Diss	Seawater	3106-1487	04/07/15	--	--	1.40	116	0.310 J	0.515 J	0.0645	0.121 J	0.538
AMB17-008	M3.1DEEP	Total	Seawater	3106-1488	04/07/15	28.0	1.63	1.57	131	0.462	17.4	0.0659	0.139 J	0.635
AMB17-008	M3.1DEEP	Diss	Seawater	3106-1489	04/07/15	--	--	1.29	107	0.227 J	0.382 J	0.0688	0.125 J	0.537
AMB17-009	PS12	Total	Seawater	3106-1490	04/07/15	28.4	1.96	1.27	106	2.37	60.4	0.0751	0.257	1.40
AMB17-009	PS12	Diss	Seawater	3106-1491	04/07/15	--	--	1.23	103	0.312 J	0.618	0.0658	0.111 J	0.598
AMB17-010	PS01	Total	Seawater	3106-1492	04/07/15	27.5	1.19	1.36	114	0.438	6.43	0.0722	0.155 J	0.865
AMB17-010	PS01	Diss	Seawater	3106-1493	04/07/15	--	--	1.32	110	0.207 J	0.534 J	0.0652	0.122 J	0.626
AMB17-011	PS02	Total	Seawater	3106-1494	04/07/15	28.0	1.68	1.36	114	0.685	7.33	0.0759	0.149 J	1.24
AMB17-011	PS02	Diss	Seawater	3106-1495	04/07/15	--	--	1.41	117	0.270 J	1.13	0.0700	0.120 J	0.939
AMB17-012	PS13	Total	Seawater	3106-1496	04/07/15	28.0	1.87	1.59	133	0.444	5.72	0.0688	0.125 J	0.908
AMB17-012	PS13	Diss	Seawater	3106-1497	04/07/15	--	--	1.29	108	0.249 J	0.421 J	0.0698	0.113 J	0.747
AMB17-013	PS03	Total	Seawater	3106-1498	04/07/15	27.4	1.35	1.30	108	46.6	7.39	0.0813	0.224	1.51
AMB17-013	PS03	Diss	Seawater	3106-1499	04/07/15	--	--	1.26	105	26.4	0.475 J	0.0808	0.191 J	1.15
AMB17-014	PS04	Total	Seawater	3106-1500	04/07/15	28.0	1.07	1.37	115	0.572	3.95	0.0687	0.122 J	1.03
AMB17-014	PS04	Diss	Seawater	3106-1501	04/07/15	--	--	1.31	109	0.279 J	0.325 J	0.0685	0.116 J	0.858
AMB17-015	PS05	Total	Seawater	3106-1502	04/07/15	28.0	1.56	1.34	112	0.750	5.52	0.0827	0.140 J	1.18
AMB17-015	PS05	Diss	Seawater	3106-1503	04/07/15	--	--	1.28	107	0.372	0.530 J	0.0768	0.116 J	0.912
AMB17-016	PS08	Total	Seawater	3106-1504	04/07/15	28.0	1.10	1.42	118	0.556	11.2	0.0724	0.167 J	1.14
AMB17-016	PS08	Diss	Seawater	3106-1505	04/07/15	--	--	1.26	105	0.202 J	0.414 J	0.0689	0.124 J	0.811

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB17
ENVVEST MVVEST April 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB17-017	PS15	Total	Seawater	3106-1506	04/07/15	28.0	2.08	1.58	132	0.484	5.26	0.0687	0.135 J	0.755
AMB17-017	PS15	Diss	Seawater	3106-1507	04/07/15	--	--	1.28	107	0.244 J	1.97	0.0661	0.115 J	0.606
AMB17-018	PS09	Total	Seawater	3106-1508	04/07/15	27.5	1.35	1.46	122	0.749	9.55	0.0738	0.146 J	1.35
AMB17-018	PS09	Diss	Seawater	3106-1509	04/07/15	--	--	1.35	112	0.266 J	0.394 J	0.0723	0.122 J	1.00
AMB17-019	PS09DUP	Total	Seawater	3106-1510	04/07/15	28.1	1.39	1.44	120	0.567	12.5	0.0707	0.149 J	0.946
AMB17-019	PS09DUP	Diss	Seawater	3106-1511	04/07/15	--	--	1.49	124	0.215 J	0.353 J	0.0693	0.110 J	0.719
AMB17-020	PS10	Total	Seawater	3106-1512	04/07/15	28.1	1.53	1.42	118	0.504	9.51	0.0688	0.147 J	0.816
AMB17-020	PS10	Diss	Seawater	3106-1513	04/07/15	--	--	1.22	102	0.250 J	0.353 J	0.0709	0.113 J	0.630
AMB17-021	PS10.1	Total	Seawater	3106-1514	04/07/15	28.1	2.40	1.57	131	0.729	15.2	0.0716	0.177 J	3.86
AMB17-021	PS10.1	Diss	Seawater	3106-1515	04/07/15	--	--	1.24	103	0.232 J	0.484 J	0.0695	0.133 J	2.59
AMB17-022	PS11	Total	Seawater	3106-1516	04/07/15	28.1	4.68	1.48	124	3.26	44.4	0.0768	0.225	1.56
AMB17-022	PS11	Diss	Seawater	3106-1517	04/07/15	--	--	1.30	108	0.713	0.505 J	0.0715	0.290	0.929
AMB17-023	PS16	Total	Seawater	3106-1518	04/07/15	27.8	2.13	1.81	151	0.358	7.06	0.0661	0.129 J	0.610
AMB17-023	PS16	Diss	Seawater	3106-1519	04/07/15	--	--	1.45	121	0.254 J	0.529 J	0.0631	0.113 J	0.501
AMB17-024	PS07B	Total	Seawater	3106-1520	04/07/15	27.9	2.18	1.51	126	0.655	15.8	0.0725	0.168 J	0.923
AMB17-024	PS07B	Diss	Seawater	3106-1521	04/07/15	--	--	1.31	109	0.211 J	0.505 J	0.0702	0.127 J	0.626
AMB17-DD001	OF018	Total	Seawater	3106-1522	04/07/15	18.9	3.65	1.32	110	19.1	30.2	0.133	1.54	6.83
AMB17-DD001	OF018	Diss	Seawater	3106-1523	04/07/15	--	--	1.33	111	2.97	7.85	0.119	0.416	1.10
AMB17-DD002	OF019	Total	Seawater	3106-1524	04/07/15	22.6	13.2	3.29	274	14.8	115	0.0966	8.58	8.02
AMB17-DD002	OF019	Diss	Seawater	3106-1525	04/07/15	--	--	3.33	277	2.49	0.457 J	0.0926	1.30	1.31
AMB17-DD003	OF021	Total	Freshwater	3106-1526	04/07/15	0.200	0.118	2.35	196	1.85	5.63	0.004 U	1.55	0.732
AMB17-DD003	OF021	Diss	Freshwater	3106-1527	04/07/15	--	--	1.69	141	1.44	4.70	0.004 U	1.55	0.635
AMB17-101	M6	Total	Seawater	3106-1529	04/08/15	28.1	1.48	1.47	123	0.691	10.2	0.0624	0.134 J	0.496
AMB17-101	M6	Diss	Seawater	3106-1530	04/08/15	--	--	1.28	107	0.303 J	0.470 J	0.0624	0.119 J	0.427
AMB17-102	M8	Total	Seawater	3106-1531	04/08/15	27.8	1.03	1.59	132	0.482	16.0	0.0622	0.141 J	0.505
AMB17-102	M8	Diss	Seawater	3106-1532	04/08/15	--	--	1.48	123	0.202 J	0.504 J	0.0606	0.135 J	0.447
AMB17-103	DYOTS	Total	Seawater	3106-1533	04/08/15	27.9	0.688	1.36	113	0.286 J	3.62	0.0582	0.169 J	0.413
AMB17-103	DYOTS	Diss	Seawater	3106-1534	04/08/15	--	--	1.43	120	0.202 J	0.454 J	0.0621	0.124 J	0.378
AMB17-104	DYOTS DUP	Total	Seawater	3106-1535	04/08/15	28.0	0.357	1.34	111	0.281 J	4.13	0.0655	0.129 J	0.454
AMB17-104	DYOTS DUP	Diss	Seawater	3106-1536	04/08/15	--	--	1.49	124	0.181 J	0.448 J	0.0617	0.119 J	0.385
AMB17-105	WP	Total	Seawater	3106-1537	04/08/15	28.3	0.749	1.35	113	0.368	7.91	0.0636	0.126 J	0.523
AMB17-105	WP	Diss	Seawater	3106-1538	04/08/15	--	--	1.29	107	0.240 J	0.720	0.0647	0.125 J	0.455
AMB17-106	M2 DEEP	Total	Seawater	3106-1539	04/08/15	28.6	1.42	1.21	101	0.405	19.8	0.0685	0.162 J	0.421
AMB17-106	M2 DEEP	Diss	Seawater	3106-1540	04/08/15	--	--	1.21	101	0.177 J	0.841	0.0632	0.115 J	0.383
AMB17-107	M2	Total	Seawater	3106-1541	04/08/15	28.7	1.80	1.27	106	0.538	22.0	0.0672	0.156 J	0.417
AMB17-107	M2	Diss	Seawater	3106-1542	04/08/15	--	--	1.24	103	0.180 J	0.910	0.0682	0.113 J	0.340
AMB17-108	CLMBAY	Total	Seawater	3106-1543	04/08/15	29.1	3.45	1.29	107	0.437	33.5	0.0687	0.170 J	0.465

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Ambient Monitoring - AMB17
ENVVEST MVVEST April 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB17-108	CLMBAY	Diss	Seawater	3106-1544	04/08/15	--	--	1.25	104	0.222 J	0.799	0.0668	0.116 J	0.351
AMB17-109	M1 DEEP	Total	Seawater	3106-1545	04/08/15	28.8	2.90	1.53	127	1.43	8.43	0.0732	0.154 J	0.483
AMB17-109	M1 DEEP	Diss	Seawater	3106-1546	04/08/15	--	--	1.21	101	0.178 J	0.431 J	0.0634	0.107 J	0.338
AMB17-110	M1	Total	Seawater	3106-1547	04/08/15	28.5	3.47	3.36	280	0.322	9.07	0.0637	0.127 J	0.427
AMB17-110	M1	Diss	Seawater	3106-1548	04/08/15	--	--	1.41	117	0.182 J	0.467 J	0.0655	0.119 J	0.383
AMB17-111	ILSP	Total	Seawater	3106-1549	04/08/15	28.5	3.73	3.57	298	0.304 J	8.47	0.0614	0.126 J	0.441
AMB17-111	ILSP	Diss	Seawater	3106-1550	04/08/15	--	--	1.47	122	0.189 J	0.388 J	0.0652	0.113 J	0.363
AMB17-112	SN03	Total	Seawater	3106-1551	04/08/15	27.9	1.00	1.41	117	0.508	9.53	0.0672	0.167 J	0.602
AMB17-112	SN03	Diss	Seawater	3106-1552	04/08/15	--	--	1.44	120	0.421	0.947	0.0648	0.119 J	0.511
AMB17-113	SN05	Total	Seawater	3106-1553	04/08/15	27.6	5.18	1.93	161	1.62	108	0.0573	0.406	0.863
AMB17-113	SN05	Diss	Seawater	3106-1554	04/08/15	--	--	1.35	113	0.277 J	2.09	0.0531	0.205	0.539
AMB17-114	SN08	Total	Seawater	3106-1555	04/08/15	26.8	1.54	1.29	108	0.713	28.6	0.0582	0.227	0.720
AMB17-114	SN08	Diss	Seawater	3106-1556	04/08/15	--	--	1.32	110	0.256 J	1.52	0.0577	0.168 J	0.597
AMB17-115	SN10	Total	Seawater	3106-1557	04/08/15	27.2	2.98	1.29	108	0.569	21.4	0.0611	0.164 J	0.948
AMB17-115	SN10	Diss	Seawater	3106-1558	04/08/15	--	--	1.31	109	0.242 J	1.15	0.0646	0.120 J	0.775
AMB17-116	SN10DUP	Total	Seawater	3106-1559	04/08/15	27.3	1.08	1.29	108	0.474	12.5	0.0633	0.236	0.986
AMB17-116	SN10DUP	Diss	Seawater	3106-1560	04/08/15	--	--	1.34	111	0.247 J	0.976	0.0631	0.127 J	0.820
AMB17-117	SN11	Total	Seawater	3106-1561	04/08/15	27.4	0.552	1.30	108	0.328	6.83	0.0639	0.138 J	1.03
AMB17-117	SN11	Diss	Seawater	3106-1562	04/08/15	--	--	1.27	106	0.194 J	0.992	0.0608	0.129 J	0.830
AMB17-118	M3.3	Total	Seawater	3106-1563	04/08/15	27.6	0.809	1.40	117	0.412	7.99	0.0619	0.137 J	0.670
AMB17-118	M3.3	Diss	Seawater	3106-1564	04/08/15	--	--	1.27	106	0.195 J	1.08	0.0610	0.163 J	0.589
AMB17-119	PS03C	Total	Seawater	3106-1565	04/08/15	28.0	0.453	1.20	100	1.37	4.75	0.0689	0.145 J	1.06
AMB17-119	PS03C	Diss	Seawater	3106-1566	04/08/15	--	--	1.19	99	0.918	0.920	0.0639	0.129 J	0.894
AMB17-120	PS07C	Total	Seawater	3106-1567	04/08/15	28.1	2.89	1.27	106	0.694	11.1	0.0704	0.142 J	0.910
AMB17-120	PS07C	Diss	Seawater	3106-1568	04/08/15	--	--	1.19	99	0.499	0.703	0.0710	0.175 J	0.828
Blanks														
	Equipment	Tube	Freshwater	3106-1466	12/07/14	--	--	--	--	0.10 U	1.22	0.004 U	0.1 U	0.00859 J
	Equipment	Bottle	Freshwater	3106-1466	12/07/14	--	--	--	--	--	1.01	0.004 U	0.1 U	0.0107 J
	Equipment	Tube	Freshwater	3106-1467	02/06/15	--	--	--	--	0.10 U	1.81	0.004 U	0.1 U	0.005 U
	Equipment	Bottle	Freshwater	3106-1467	02/06/15	--	--	--	--	--	0.2 U	0.004 U	0.1 U	0.005 U
	Equipment	Tube	Freshwater	3106-1468	02/06/15	--	--	--	--	0.10 U	0.2 U	0.004 U	0.1 U	0.005 U
	Equipment	Bottle	Freshwater	3106-1468	02/06/15	--	--	--	--	--	0.2 U	0.004 U	0.1 U	0.005 U
	Equipment	Tube	Freshwater	3106-1469	02/06/15	--	--	--	--	0.10 U	0.2 U	0.004 U	0.1 U	0.005 U
	Equipment	Bottle	Freshwater	3106-1469	02/06/15	--	--	--	--	--	0.2 U	0.004 U	0.1 U	0.00918 J

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Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Batch ID	TOC/DOC Batch ID	TSS Batch ID
			Instrument:		*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.05**	**0.004**	**0.1**					
Seawater Reporting Limit (MDL* 3.18)					**0.2**	**0.01**	**0.3**					
Laboratory Achieved Detection Limits (Freshwater)					**0.004**	**0.002**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.01**	**0.007**	**0.06**					
AMB17												
AMB17-001	PS07	Total	Seawater	3106-1474	0.481	0.0551	2.15	050615HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-001	PS07	Diss	Seawater	3106-1475	0.403	0.0139	1.80	050615HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-002	PS06	Total	Seawater	3106-1476	0.486	0.0582	4.32	050615HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-002	PS06	Diss	Seawater	3106-1477	0.419	0.0134	3.93	050615HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-003	PS06DUP	Total	Seawater	3106-1478	0.510	0.0789	4.03	050615HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-003	PS06DUP	Diss	Seawater	3106-1479	0.476	0.0239	3.61	050615HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-004	PS14	Total	Seawater	3106-1480	0.503	0.0372	2.51	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-004	PS14	Diss	Seawater	3106-1481	0.408	0.0109	2.27	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-005	M4	Total	Seawater	3106-1482	0.435	0.0360	1.42	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-005	M4	Diss	Seawater	3106-1483	0.399	0.0101	1.02	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-006	BJEST	Total	Seawater	3106-1484	0.434	0.0310	1.88	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-006	BJEST	Diss	Seawater	3106-1485	0.445	0.00831 J	1.48	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-007	M3.1	Total	Seawater	3106-1486	0.470	0.0379	1.48	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-007	M3.1	Diss	Seawater	3106-1487	0.405	0.0101	1.13	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-008	M3.1DEEP	Total	Seawater	3106-1488	0.424	0.0383	1.61	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-008	M3.1DEEP	Diss	Seawater	3106-1489	0.405	0.0101	1.40	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-009	PS12	Total	Seawater	3106-1490	0.547	0.485	4.45	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-009	PS12	Diss	Seawater	3106-1491	0.409	0.0274	3.16	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-010	PS01	Total	Seawater	3106-1492	0.485	0.0418	2.03	051415HGA	Q052815A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-010	PS01	Diss	Seawater	3106-1493	0.414	0.0113	1.60	051415HGA	Q052815A-ICAPQ		042815HTCO	
AMB17-011	PS02	Total	Seawater	3106-1494	0.440	0.0516	3.31	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-011	PS02	Diss	Seawater	3106-1495	0.400	0.0130	2.82	051515HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-012	PS13	Total	Seawater	3106-1496	0.402	0.0373	3.33	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-012	PS13	Diss	Seawater	3106-1497	0.386	0.0130	2.96	051515HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-013	PS03	Total	Seawater	3106-1498	0.617	0.103	4.62	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-013	PS03	Diss	Seawater	3106-1499	0.537	0.0207	4.29	051515HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-014	PS04	Total	Seawater	3106-1500	0.405	0.0286	3.24	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-014	PS04	Diss	Seawater	3106-1501	0.407	0.0181	2.89	051515HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-015	PS05	Total	Seawater	3106-1502	0.471	0.0632	4.89	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-015	PS05	Diss	Seawater	3106-1503	0.396	0.0216	4.47	051515HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-016	PS08	Total	Seawater	3106-1504	0.541	0.0706	3.32	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-016	PS08	Diss	Seawater	3106-1505	0.455	0.0142	2.94	051515HGA	Q060315A-ICAPQ		042815HTCO	

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Ambient Monitoring - AMB17
ENVVEST April 2015
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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	ICP-MS Batch ID	OSAL Batch ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB17-017	PS15	Total	Seawater	3106-1506	0.415	0.0334	2.08	051515HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-017	PS15	Diss	Seawater	3106-1507	0.409	0.0105	1.68	051515HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-018	PS09	Total	Seawater	3106-1508	0.594	0.0688	8.06	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-018	PS09	Diss	Seawater	3106-1509	0.492	0.0161	7.67	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-019	PS09DUP	Total	Seawater	3106-1510	0.458	0.0690	5.04	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-019	PS09DUP	Diss	Seawater	3106-1511	0.426	0.0139	4.49	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-020	PS10	Total	Seawater	3106-1512	0.439	0.0487	3.67	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-020	PS10	Diss	Seawater	3106-1513	0.420	0.0127	3.41	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-021	PS10.1	Total	Seawater	3106-1514	0.591	0.114	7.31	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-021	PS10.1	Diss	Seawater	3106-1515	0.498	0.0217	6.61	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-022	PS11	Total	Seawater	3106-1516	0.536	0.334	5.59	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-022	PS11	Diss	Seawater	3106-1517	0.971	0.0353	4.57	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-023	PS16	Total	Seawater	3106-1518	0.406	0.0296	1.37	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-023	PS16	Diss	Seawater	3106-1519	0.366	0.00895 J	1.08	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-024	PS07B	Total	Seawater	3106-1520	0.672	0.103	2.54	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-024	PS07B	Diss	Seawater	3106-1521	0.606	0.0190	2.14	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-DD001	OF018	Total	Seawater	3106-1522	3.08	0.680	68.7	051815HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-DD001	OF018	Diss	Seawater	3106-1523	1.79	0.00561 J	45.5	051815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-DD002	OF019	Total	Seawater	3106-1524	7.58	0.689	28.0	052015HGA	Q060315A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-DD002	OF019	Diss	Seawater	3106-1525	6.74	0.0123	16.1	052015HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-DD003	OF021	Total	Freshwater	3106-1526	0.569	0.0222	0.507	052015HGA	Q060515A-ICAPQ	040815Osal	042815HTCO	040815Nu
AMB17-DD003	OF021	Diss	Freshwater	3106-1527	0.535	0.00367 J	0.460	052015HGA	Q060515A-ICAPQ		042815HTCO	
AMB17-101	M6	Total	Seawater	3106-1529	0.471	0.0539	0.532	052015HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-101	M6	Diss	Seawater	3106-1530	0.398	0.0218	0.426	052015HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-102	M8	Total	Seawater	3106-1531	0.411	0.0612	0.559	052015HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-102	M8	Diss	Seawater	3106-1532	0.389	0.0204	0.447	052015HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-103	DYOTS	Total	Seawater	3106-1533	0.424	0.0264	0.467	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-103	DYOTS	Diss	Seawater	3106-1534	0.540	0.0168	0.444	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-104	DYOTS DUP	Total	Seawater	3106-1535	0.408	0.0300	0.521	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-104	DYOTS DUP	Diss	Seawater	3106-1536	0.380	0.0157	0.458	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-105	WP	Total	Seawater	3106-1537	0.376	0.0287	1.06	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-105	WP	Diss	Seawater	3106-1538	0.373	0.0109	1.02	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-106	M2 DEEP	Total	Seawater	3106-1539	0.397	0.0406	1.20	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-106	M2 DEEP	Diss	Seawater	3106-1540	0.365	0.00546 J	0.580	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-107	M2	Total	Seawater	3106-1541	0.407	0.0441	0.626	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-107	M2	Diss	Seawater	3106-1542	0.357	0.00522 J	0.504	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-108	CLMBAY	Total	Seawater	3106-1543	0.416	0.0514	0.679	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	ICP-MS Batch ID	OSAL Batch ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB17-108	CLMBAY	Diss	Seawater	3106-1544	0.364	0.00628 J	0.520	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-109	M1 DEEP	Total	Seawater	3106-1545	0.580	0.0245	0.816	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-109	M1 DEEP	Diss	Seawater	3106-1546	0.357	0.00712 J	0.513	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-110	M1	Total	Seawater	3106-1547	0.390	0.0217	0.517	052115HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-110	M1	Diss	Seawater	3106-1548	0.387	0.00821 J	0.243 J	052115HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-111	ILSP	Total	Seawater	3106-1549	0.471	0.0193	0.489	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-111	ILSP	Diss	Seawater	3106-1550	0.351	0.00662 J	0.229 J	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-112	SN03	Total	Seawater	3106-1551	0.458	0.0426	1.26	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-112	SN03	Diss	Seawater	3106-1552	0.406	0.0148	1.13	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-113	SN05	Total	Seawater	3106-1553	0.564	0.196	1.62	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-113	SN05	Diss	Seawater	3106-1554	0.411	0.0303	0.924	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-114	SN08	Total	Seawater	3106-1555	0.473	0.0799	1.33	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-114	SN08	Diss	Seawater	3106-1556	0.398	0.0186	1.13	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-115	SN10	Total	Seawater	3106-1557	0.421	0.0864	2.91	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-115	SN10	Diss	Seawater	3106-1558	0.411	0.0253	2.79	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-116	SN10DUP	Total	Seawater	3106-1559	0.478	0.0517	2.75	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-116	SN10DUP	Diss	Seawater	3106-1560	0.374	0.0143	2.77	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-117	SN11	Total	Seawater	3106-1561	0.377	0.0301	3.20	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-117	SN11	Diss	Seawater	3106-1562	0.519	0.0108	2.98	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-118	M3.3	Total	Seawater	3106-1563	0.392	0.0316	1.29	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-118	M3.3	Diss	Seawater	3106-1564	0.480	0.00989 J	1.14	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-119	PS03C	Total	Seawater	3106-1565	0.402	0.0310	2.63	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-119	PS03C	Diss	Seawater	3106-1566	0.374	0.0125	2.45	052815HGA	Q060315A-ICAPQ		042815HTCO	
AMB17-120	PS07C	Total	Seawater	3106-1567	0.667	0.0664	3.38	052815HGA	Q060315A-ICAPQ	041015Osal	042815HTCO	041115Nu
AMB17-120	PS07C	Diss	Seawater	3106-1568	0.790	0.0203	3.19	052815HGA	Q060315A-ICAPQ		042815HTCO	
Blanks												
	Equipment	Tube	Freshwater	3106-1466	0.004 U	0.00238 J	0.585	050615HGA	Q020615A-ICAPQ	--	--	--
	Equipment	Bottle	Freshwater	3106-1466	0.0186	0.00269 J	0.517	--	Q020615A-ICAPQ	--	--	--
	Equipment	Tube	Freshwater	3106-1467	0.004 U	0.00287 J	0.676	050615HGA	Q020615A-ICAPQ	--	--	--
	Equipment	Bottle	Freshwater	3106-1467	0.004 U	0.002 U	0.114	--	Q020615A-ICAPQ	--	--	--
	Equipment	Tube	Freshwater	3106-1468	0.004 U	0.002 U	0.02 U	050615HGA	Q020615A-ICAPQ	--	--	--
	Equipment	Bottle	Freshwater	3106-1468	0.004 U	0.002 U	0.108	--	Q020615A-ICAPQ	--	--	--
	Equipment	Tube	Freshwater	3106-1469	0.004 U	0.002 U	0.162	050615HGA	Q020615A-ICAPQ	--	--	--
	Equipment	Bottle	Freshwater	3106-1469	0.0245	0.002 U	0.0540 J	--	Q020615A-ICAPQ	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

QC Results for ICP-MS
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument: ICP-MS	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.2**	**0.006**	**0.06**	**0.02**	**0.05**	**0.004**	**0.1**	
Seawater Reporting Limit (MDL* 3.18)					**0.6**	**0.02**	**0.2**	**0.05**	**0.2**	**0.01**	**0.3**	
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.1**	**0.005**	**0.004**	**0.002**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.02**	**0.01**	**0.007**	**0.06**	
METHOD BLANKS												
MB		Freshwater	TRM Blank		0.2 U	0.004 U	0.1 U	0.005 U	0.004 U	0.002 U	0.02 U	Q060515A-ICAPQ
MB		Seawater	DI Blank R1		0.105 U	0.000524 U	0.0126 U	0.00804 U	0.0150 U	0.000975 U	0.0244 U	Q052815A-ICAPQ
MB		Seawater	DI Blank R2		0.128 U	0.000382 U	0.0164 U	0.00911 U	0.0161 U	0.000711 U	0.0591 U	Q052815A-ICAPQ
MB		Seawater	DI Blank R3		0.125 U	0.0000670 U	0.0183 U	0.0165 U	0.0202 U	0.00129 U	0.0369 U	Q052815A-ICAPQ
MEAN REAGENT BLANK		Seawater	***BMRB_052815***		**0.119** U	**0.000325** U	**0.0158** U	**0.0112** U	**0.0171** U	**0.000991** U	**0.0401** U	Q052815A-ICAPQ
MB		Seawater	DI Blank R4		0.0950 U	0.000269 U	0.0181 U	0.00896 U	0.0234 U	0.000780 U	0.0275 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R5		0.0953 U	0.0000664 U	0.0179 U	0.00673 U	0.0182 U	0.000759 U	0.0278 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R6		0.0912 U	0.0000748 U	0.0154 U	0.00663 U	0.0168 U	0.000656 U	0.0305 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R1 060115		0.135 U	0.000215 U	0.0181 U	0.0188 U	0.0452 U	0.000728 U	0.0617 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R2 060115		0.148 U	0.0000882 U	0.0159 U	0.0163 U	0.0371 U	0.000670 U	0.0281 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R3 060115		0.116 U	0.000154 U	0.0187 U	0.00959 U	0.0307 U	0.000620 U	0.0473 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R4 060115		0.107 U	0.0000810 U	0.0290 U	0.0107 U	0.0325 U	0.000691 U	0.0554 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R5 060115		0.152 U	0.000114 U	0.0371 U	0.00896 U	0.0286 U	0.000838 U	0.0396 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R6 060115		0.166 U	0.0000120 U	0.0185 U	0.00851 U	0.0267 U	0.000564 U	0.0346 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R7 060115		0.102 U	0.000173 U	0.0168 U	0.0131 U	0.0367 U	0.000848 U	0.0344 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R8 060115		0.304 J	0.0000711 U	0.0168 U	0.00969 U	0.0285 U	0.000459 U	0.0279 U	Q060315A-ICAPQ
MB		Seawater	DI Blank R9 060115		0.117 U	0.000104 U	0.0204 U	0.00973 U	0.0294 U	0.000486 U	0.0292 U	Q060315A-ICAPQ
MEAN REAGENT BLANK		Seawater	***BMRB_060315***		**0.136** U	**0.0001185** U	**0.0202** U	**0.0106** U	**0.0295** U	**0.000675** U	**0.0370** U	Q060315A-ICAPQ

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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206/528-3407

QC Results for ICP-MS
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS			Freshwater	TRM LCS	2.13	2.02	2.05	2.05	2.03	2.01	2.01	Q060515A-ICAPQ
				Percent Recovery, LCS	**107%**	**101%**	**103%**	**102%**	**102%**	**100%**	**101%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R1	0.436 J	0.0688	0.274	0.294	0.547	0.00838 J	1.74	Q052815A-ICAPQ
LCS			Seawater	SB LCS R1	2.25	1.91	2.06	2.06	2.30	1.78	3.47	Q052815A-ICAPQ
				Percent Recovery, LCS	**91%**	**92%**	**90%**	**88%**	**87%**	**89%**	**86%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R2	0.467 J	0.0700	0.278	0.277	0.518	0.0110	1.78	Q060315A-ICAPQ
LCS			Seawater	SB LCS R2	2.28	1.94	2.04	1.97	2.22	1.79	3.56	Q060315A-ICAPQ
				Percent Recovery, LCS	**91%**	**94%**	**88%**	**85%**	**85%**	**89%**	**89%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R1 060115	0.497 J	0.0644	0.284	0.277	0.516	0.00766 J	1.55	Q060315A-ICAPQ
LCS			Seawater	SB LCS R1 060115	2.45	1.93	2.08	1.93	2.14	1.76	3.25	Q060315A-ICAPQ
				Percent Recovery, LCS	**98%**	**93%**	**90%**	**83%**	**81%**	**88%**	**85%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R2 060115	0.489 J	0.0680	0.283	0.273	0.502	0.00801 J	1.64	Q060315A-ICAPQ
LCS			Seawater	SB LCS R2 060115	2.41	1.85	1.96	1.83	2.02	1.72	3.08	Q060315A-ICAPQ
				Percent Recovery, LCS	**96%**	**89%**	**84%**	**78%**	**76%**	**85%**	**72%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R3 060115	0.542 J	0.0666	0.268	0.272	0.486	0.00806 J	1.66	Q060315A-ICAPQ
LCS			Seawater	SB LCS R3 060115	2.41	1.93	2.01	1.85	2.06	1.76	3.35	Q060315A-ICAPQ
				Percent Recovery, LCS	**93%**	**93%**	**87%**	**79%**	**79%**	**87%**	**84%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB17-DD001	OF021	Diss	Freshwater	3106-1527	4.70	0.000862 U	1.55	0.635	0.535	0.00367 U	0.460	Q060515A-ICAPQ
MS				3106-1527 MS1	5.69	0.998	2.55	1.59	1.50	0.948	1.44	Q060515A-ICAPQ
MSD				3106-1527 MS1D	5.70	0.986	2.57	1.59	1.50	0.937	1.43	Q060515A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**98%**	**100%**	**100%**	**96%**	**97%**	**95%**	**98%**	
				Percent Recovery, MSD	**100%**	**99%**	**101%**	**96%**	**97%**	**94%**	**97%**	
AMB17-DD001	OF021	Diss	Seawater	3106-1527	4.70	0.000862 U	1.55	0.635	0.535	0.00367 U	0.460	Q060515A-ICAPQ
MS				3106-1527 MS2	14.7	9.88	11.8	10.1	10.2	9.29	10.2	Q060515A-ICAPQ
MSD				3106-1527 MS2D	14.6	9.84	11.7	10.1	10.1	9.28	10.2	Q060515A-ICAPQ
				Spiking Level	10	10	10	10	10	10	10	
				Percent Recovery, MS	**100%**	**99%**	**102%**	**95%**	**96%**	**93%**	**97%**	
				Percent Recovery, MSD	**99%**	**98%**	**102%**	**95%**	**96%**	**93%**	**97%**	
AMB17-003	PS06DUP	Diss	Seawater	3106-1479	0.392	0.0710	0.117 J	0.676	0.476	0.0239	3.61	Q052815A-ICAPQ
MS				3106-1479 MS1	1.29	1.02	1.04	1.60	1.40	0.953	4.60	Q052815A-ICAPQ
MSD				3106-1479 MS1D	1.20	1.03	1.04	1.60	1.39	0.924	4.64	Q052815A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**90%**	**95%**	**92%**	**93%**	**92%**	**93%**	**99%**	
				Percent Recovery, MSD	**80%**	**96%**	**93%**	**92%**	**91%**	**90%**	**103%**	
AMB17-016	PS08	Total	Seawater	3106-1504	11.2	0.0724	0.167 J	1.14	0.541	0.0706	3.32	Q060315A-ICAPQ
MS				3106-1504 MS1	23.2	1.04	1.04	2.01	1.39	0.968	4.24	Q060315A-ICAPQ
MSD				3106-1504 MS1D	22.3	1.04	1.04	2.00	1.40	0.979	4.29	Q060315A-ICAPQ
				Spiking Level	10	1	1	1	1	1	1	
				Percent Recovery, MS	**120%**	**96%**	**88%**	**87%**	**85%**	**90%**	**92%**	
				Percent Recovery, MSD	**111%**	**97%**	**87%**	**86%**	**86%**	**91%**	**97%**	
AMB17-024	PS07B	Diss	Seawater	3106-1521	0.505	0.0702	0.127 J	0.626	0.606	0.0190	2.14	Q060315A-ICAPQ
MS				3106-1521 MS1	1.53	1.04	1.05	1.47	1.45	0.926	3.01	Q060315A-ICAPQ
MSD				3106-1521 MS1D	1.53	1.03	1.03	1.47	1.45	0.910	2.95	Q060315A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**102%**	**97%**	**92%**	**84%**	**84%**	**91%**	**87%**	
				Percent Recovery, MSD	**102%**	**96%**	**90%**	**84%**	**84%**	**89%**	**80%**	

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1529 West Sequim Bay Road
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QC Results for ICP-MS
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument: ICP-MS	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB17-109	M1 DEEP	Total	Seawater	3106-1545	8.43	0.0732	0.154 J	0.483	0.580	0.0245	0.816	Q060315A-ICAPQ
MS				3106-1545 MS1	13.5	0.982	1.00	1.26	1.33	0.904	1.59	Q060315A-ICAPQ
MSD				3106-1545 MS1D	13.6	0.995	1.02	1.26	1.33	0.905	1.60	Q060315A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**102%**	**91%**	**84%**	**78%**	**75%**	**88%**	**77%**	
				Percent Recovery, MSD	**104%**	**92%**	**86%**	**78%**	**75%**	**88%**	**79%**	
AMB17-118	M3.3	Total	Seawater	3106-1563	7.99	0.0619	0.137 J	0.670	0.392	0.0316	1.29	Q060315A-ICAPQ
MS				3106-1563 MS1	14.6	0.947	0.987	1.42	1.15	0.897	1.98	Q060315A-ICAPQ
MSD				3106-1563 MS1D	13.8	0.981	1.02	1.45	1.18	0.927	2.09	Q060315A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**133%** N	**89%**	**85%**	**75%**	**76%**	**87%**	**69%** N	
				Percent Recovery, MSD	**116%**	**92%**	**88%**	**78%**	**78%**	**90%**	**80%**	
REPLICATE PRECISION												
AMB17-DD003	OF021	Total	Freshwater	3106-1526 R1	5.63	0.004 U	1.55	0.732	0.569	0.0222	0.507	Q060515A-ICAPQ
DUP				3106-1526 R2	5.62	0.004 U	1.56	0.731	0.591	0.0226	0.472	Q060515A-ICAPQ
				Mean	*5.62*	*0.004 U*	*1.56*	*0.731*	*0.580*	*0.0224*	*0.489*	Q060515A-ICAPQ
				RPD	**0%**	**NA**	**1%**	**0%**	**4%**	**2%**	**7%**	
AMB17-002	PS06	Total	Seawater	3106-1476 R1	10.8	0.0718	0.166 J	0.824	0.486	0.0582	4.32	Q052815A-ICAPQ
DUP				3106-1476 R2	11.2	0.0728	0.151 J	0.832	0.484	0.0574	4.45	Q052815A-ICAPQ
				Mean	*11.0*	*0.0723*	*0.159 J*	*0.828*	*0.485*	*0.0578*	*4.39*	Q052815A-ICAPQ
				RPD	**3%**	**1%**	**10%**	**1%**	**0%**	**1%**	**3%**	
AMB17-013	PS03	Total	Seawater	3106-1498 R1	7.39	0.0813	0.224	1.51	0.617	0.103	4.62	Q060315A-ICAPQ
DUP				3106-1498 R2	6.74	0.0774	0.220	1.45	0.592	0.0989	4.42	Q060315A-ICAPQ
				Mean	*7.06*	*0.0794*	*0.222*	*1.48*	*0.605*	*0.101*	*4.52*	Q060315A-ICAPQ
				RPD	**9%**	**5%**	**2%**	**4%**	**4%**	**4%**	**4%**	
AMB17-023	PS16	Total	Seawater	3106-1518 R1	7.06	0.0661	0.129 J	0.610	0.406	0.0296	1.37	Q060315A-ICAPQ
DUP				3106-1518 R2	7.16	0.0685	0.128 J	0.616	0.403	0.0300	1.40	Q060315A-ICAPQ
				Mean	*7.11*	*0.0673*	*0.128 J*	*0.613*	*0.405*	*0.0298*	*1.39*	Q060315A-ICAPQ
				RPD	**1%**	**3%**	**0%**	**1%**	**1%**	**1%**	**2%**	
AMB17-105	WP	Total	Seawater	3106-1537 R1	7.91	0.0636	0.126 J	0.523	0.376	0.0287	1.06	Q060315A-ICAPQ
DUP				3106-1537 R2	8.30	0.0662	0.132 J	0.536	0.388	0.0301	1.15	Q060315A-ICAPQ
				Mean	*8.10*	*0.0649*	*0.129 J*	*0.529*	*0.382*	*0.0294*	*1.10*	Q060315A-ICAPQ
				RPD	**5%**	**4%**	**5%**	**2%**	**3%**	**4%**	**8%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument: ICP-MS	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB17-117	SN11	Total	Seawater	3106-1561 R1	6.83	0.0639	0.138 J	1.03	0.377	0.0301	3.20	Q060315A-ICAPQ
DUP				3106-1561 R2	6.64	0.0646	0.140 J	1.03	0.378	0.0296	3.45	Q060315A-ICAPQ
				Mean	*6.74*	*0.0643*	*0.139 J*	*1.03*	*0.377*	*0.0298*	*3.33*	Q060315A-ICAPQ
				RPD	**3%**	**1%**	**1%**	**0%**	**0%**	**2%**	**8%**	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-5		Total	Seawater	CASS-5 R1	0.924	0.0203	0.118 J	0.340	0.294	0.0102	0.649	Q052815A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R2	1.00	0.0209	0.117 J	0.336	0.292	0.00906 J	0.660	Q060315A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R1 060115	1.02	0.0214	0.123 J	0.343	0.308	0.00908 J	0.617	Q060315A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R2 060115	1.00	0.0187 J	0.111 J	0.326	0.292	0.00828 J	0.551	Q060315A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R3 060115	0.957	0.0201	0.116 J	0.326	0.293	0.00871 J	0.609	Q060315A-ICAPQ
				Certified Value	NC	**0.0215** c	**0.106** c	**0.380**	**0.330** c	**0.011** c	**0.719** c	
				PD	**--**	**6%**	**11%**	**11%**	**11%**	**7%**	**10%**	
				PD	**--**	**3%**	**11%**	**12%**	**12%**	**18%**	**8%**	
				PD	**--**	**0%**	**16%**	**10%**	**7%**	**17%**	**14%**	
				PD	**--**	**13%**	**5%**	**14%**	**11%**	**25%** c	**23%** c	
				PD	**--**	**6%**	**10%**	**14%**	**11%**	**21%** c	**15%**	
STANDARD REFERENCE MATERIAL INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Total	Freshwater	TRM 1640a 10x	55.3	3.95	40.2	86.1	25.1	12.0	56.8	Q060515A-ICAPQ
SRM 1640a		Total	Freshwater	1640a 10x	70.6	3.75	39.3	83.8	24.1	12.0	56.8	Q052815A-ICAPQ
SRM 1640a		Total	Freshwater	1640a	80.4	3.98	38.0	75.9	22.3	12.1	59.6	Q060315A-ICAPQ
SRM 1640a		Total	Freshwater	1640a	56.8	3.92	37.1	74.5	21.7	12.0	54.1	Q060315A-ICAPQ
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**4%**	**1%**	**1%**	**0%**	**1%**	**1%**	**2%**	
				PD	**33%** &	**6%**	**3%**	**2%**	**5%**	**1%**	**2%**	
				PD	**52%** &	**0%**	**6%**	**12%**	**12%**	**0%**	**7%**	
				PD	**7%**	**2%**	**8%**	**13%**	**14%**	**1%**	**3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME	Water	Method Blank1		0.100 U	050615HGA
MB-2	TME	Water	Method Blank2		0.100 U	050615HGA
MB-3	TME	Water	Method Blank3		0.100 U	050615HGA
MB-4	TME	Water	Method Blank1		0.100 U	051415HGA
MB-5	TME	Water	Method Blank2		0.100 U	051415HGA
MB-6	TME	Water	Method Blank3		0.100 U	051415HGA
MB-7	TME	Water	Method Blank1		0.100 U	051515HGA
MB-8	TME	Water	Method Blank2		0.100 U	051515HGA
MB-9	TME	Water	Method Blank3		0.100 U	051515HGA
MB-10	TME	Water	Method Blank1		0.100 U	051815HGA
MB-11	TME	Water	Method Blank2		0.100 U	051815HGA
MB-12	TME	Water	Method Blank3		0.100 U	051815HGA
MB-13	TME	Water	Method Blank1		0.100 U	052015HGA
MB-14	TME	Water	Method Blank2		0.100 U	052015HGA
MB-15	TME	Water	Method Blank3		0.100 U	052015HGA
MB-16	TME	Water	Method Blank1		0.100 U	052115HGA
MB-17	TME	Water	Method Blank2		0.100 U	052115HGA
MB-18	TME	Water	Method Blank3		0.100 U	052115HGA
MB-19	TME	Water	Method Blank1		0.100 U	052815HGA
MB-20	TME	Water	Method Blank2		0.100 U	052815HGA
MB-21	TME	Water	Method Blank3		0.100 U	052815HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 050515 run1		5.08	050615HGA
LCS (2)	TME	Water	OPR 050515 run2		5.21	050615HGA
LCS Blank (1)	TME	Water	BLANK 052715		0.100 U	050615HGA
			Percent Recovery, LCS 1		**102%**	
			Percent Recovery, LCS 2		**105%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 051315 run1		5.18	051415HGA
LCS (2)	TME	Water	OPR 051315 run2		5.49	051415HGA
LCS Blank (1)	TME	Water	BLANK 051315		0.100 U	051415HGA
			Percent Recovery, LCS 1		**104%**	
			Percent Recovery, LCS 2		**111%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 051415 run1		5.13	051515HGA
LCS (2)	TME	Water	OPR 051415 run2		5.08	051515HGA
LCS Blank (1)	TME	Water	BLANK 051415		0.100 U	051515HGA
			Percent Recovery, LCS 1		**103%**	
			Percent Recovery, LCS 2		**102%**	

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ENVVEST April 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 051515 run1	5.06	051815HGA
LCS (2)		TME	Water	OPR 051515 run2	4.97	051815HGA
LCS Blank (1)		TME	Water	BLANK 051515	0.142 J	051815HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**97%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 051915 run1	5.19	052015HGA
LCS (2)		TME	Water	OPR 051915 run2	5.31	052015HGA
LCS Blank (1)		TME	Water	BLANK 051915	0.274 J	052015HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 052015 run1	4.98	052115HGA
LCS (2)		TME	Water	OPR 052015 run1	4.98	052115HGA
LCS Blank (1)		TME	Water	BLANK 052015	0.132 J	052115HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**98%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 052715 run1	5.08	052815HGA
LCS (2)		TME	Water	OPR 052715 run2	5.15	052815HGA
LCS Blank (1)		TME	Water	BLANK 052715	0.100 U	052815HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**104%**	
MATRIX SPIKE RESULTS						
AMB17-001	PS07	Total	Seawater	3106-1474	0.524	050615HGA
MS				3106-1474 MS	8.05	050615HGA
MSD				3106-1474 MSD	8.22	050615HGA
				Spiking Level, MS	6.83	
				Spiking Level, MSD	6.80	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**113%**	
				RPD	**3%**	
AMB17-003	PS06DUP	Diss	Seawater	3106-1479	0.276	050615HGA
MS				3106-1479 MS	7.46	050615HGA
MSD				3106-1479 MSD	7.37	050615HGA
				Spiking Level, MS	6.93	
				Spiking Level, MSD	6.81	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**104%**	
				RPD	**1%**	

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ENVVEST April 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
AMB17-006	BJEST	Total	Seawater	3106-1484	0.427	051415HGA
MS				3106-1484 MS	7.23	051415HGA
MSD				3106-1484 MSD	7.30	051415HGA
				Spiking Level, MS	6.90	
				Spiking Level, MSD	6.74	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**102%**	
				RPD	**3%**	
AMB17-010	PS01	Diss	Seawater	3106-1493	0.207	051415HGA
MS				3106-1493 MS	7.09	051415HGA
MSD				3106-1493 MSD	7.03	051415HGA
				Spiking Level, MS	6.67	
				Spiking Level, MSD	6.86	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**100%**	
				RPD	**4%**	
AMB17-012	PS13	Total	Seawater	3106-1496	0.444	051515HGA
MS				3106-1496 MS	7.73	051515HGA
MSD				3106-1496 MSD	7.83	051515HGA
				Spiking Level, MS	6.96	
				Spiking Level, MSD	6.88	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**107%**	
				RPD	**3%**	
AMB17-015	PS05	Diss	Seawater	3106-1503	0.372	051515HGA
MS				3106-1503 MS	7.57	051515HGA
MSD				3106-1503 MSD	7.46	051515HGA
				Spiking Level, MS	6.84	
				Spiking Level, MSD	6.69	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**106%**	
				RPD	**1%**	
AMB17-020	PS10	Total	Seawater	3106-1512	0.504 J	051815HGA
MS				3106-1512 MS	7.40	051815HGA
MSD				3106-1512 MSD	7.41	051815HGA
				Spiking Level, MS	6.76	
				Spiking Level, MSD	6.54	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**106%**	
				RPD	**4%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
AMB17-024	PS07B	Diss	Seawater	3106-1521	0.211 J	051815HGA
MS				3106-1521 MS	6.65	051815HGA
MSD				3106-1521 MSD	7.39	051815HGA
				Spiking Level, MS	6.56	
				Spiking Level, MSD	6.77	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**106%**	
				RPD	**8%**	
AMB17-DD003	OF021	Diss	Freshwater	3106-1527	1.44 J	052015HGA
MS				3106-1527 MS	8.74	052015HGA
MSD				3106-1527 MSD	7.28	052015HGA
				Spiking Level, MS	6.75	
				Spiking Level, MSD	6.80	
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**86%**	
				RPD	**23%**	
AMB17-104	DYOTS DUP	Total	Seawater	3106-1535	0.281	052115HGA
MS				3106-1535 MS	6.88	052115HGA
MSD				3106-1535 MSD	7.35	052115HGA
				Spiking Level, MS	6.92	
				Spiking Level, MSD	6.90	
				Percent Recovery, MS	**95%**	
				Percent Recovery, MSD	**103%**	
				RPD	**7%**	
AMB17-108	CLMBAY	Diss	Seawater	3106-1544	0.222	052115HGA
MS				3106-1544 MS	6.54	052115HGA
MSD				3106-1544 MSD	7.29	052115HGA
				Spiking Level, MS	6.94	
				Spiking Level, MSD	6.90	
				Percent Recovery, MS	**91%**	
				Percent Recovery, MSD	**103%**	
				RPD	**12%**	
AMB17-112	SN03	Total	Seawater	3106-1551	0.508	052815HGA
MS				3106-1551 MS	7.94	052815HGA
MSD				3106-1551 MSD	7.54	052815HGA
				Spiking Level, MS	6.96	
				Spiking Level, MSD	6.77	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**104%**	
				RPD	**3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB17-118	M3.3	Diss	Seawater	3106-1564	0.195	052815HGA
MS				3106-1564 MS	7.32	052815HGA
MSD				3106-1564 MSD	7.43	052815HGA
				Spiking Level, MS	6.83	
				Spiking Level, MSD	6.86	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**106%**	
				RPD	**1%**	
REPLICATE PRECISION						
AMB17-002	PS06	Total	Seawater	3106-1476	0.601	050615HGA
DUP				3106-1476r2	0.592	050615HGA
				Mean	*0.597*	
				RPD	**2%**	
AMB17-010	PS01	Total	Seawater	3106-1492	0.438	051415HGA
DUP				3106-1492r2	0.479	051415HGA
				Mean	*0.459*	
				RPD	**9%**	
AMB17-013	PS03	Total	Seawater	3106-1498	46.6	051515HGA
DUP				3106-1498r2	47.1	051515HGA
				Mean	*46.8*	
				RPD	**1%**	
AMB17-023	PS16	Total	Seawater	3106-1518	0.358	051815HGA
DUP				3106-1518r2	0.379	051815HGA
				Mean	*0.368*	
				RPD	**6%**	
AMB17-DD003	OF021	Total	Freshwater	3106-1526	1.85	052015HGA
DUP				3106-1526r2	2.03	052015HGA
				Mean	*1.94*	
				RPD	**10%**	
AMB17-105	WP	Total	Seawater	3106-1537	0.368	052115HGA
DUP				3106-1537r2	0.356	052115HGA
				Mean	*0.362*	
				RPD	**3%**	
AMB17-115	SN10	Total	Seawater	3106-1557	0.569	052815HGA
DUP				3106-1557r2	0.583	052815HGA
				Mean	*0.576*	
				RPD	**2%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB17
ENVVEST April 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 050515	1621506	050615HGA
SRM 1641 (2)		Total	Freshwater	1641d 051315	1722778	051415HGA
SRM 1641 (3)		Total	Freshwater	1641d 051415	1626792	051515HGA
SRM 1641 (4)		Total	Freshwater	1641d 051515	1597015	051815HGA
SRM 1641 (5)		Total	Freshwater	1641d 051915	1643386	052015HGA
SRM 1641 (6)		Total	Freshwater	1641d 052015	1539966	052115HGA
SRM 1641 (7)		Total	Freshwater	1641d 052715	1610411	052815HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**4%**	
	SRM 1641 (2)			**PD**	**11%**	
	SRM 1641 (3)			**PD**	**4%**	
	SRM 1641 (4)			**PD**	**3%**	
	SRM 1641 (5)			**PD**	**6%**	
	SRM 1641 (6)			**PD**	**1%**	
	SRM 1641 (7)			**PD**	**3%**	

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QC Sample Results for Salinity
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492AD			
Method Blanks							
MB1		Total	Seawater	DIW Blank1	0.01 U	PSU	040815Osal
MB2		Total	Seawater	DIW Blank2	0.01 U	PSU	040815Osal
MB3		Total	Seawater	DIW Blank3	0.01 U	PSU	040815Osal
MB4		Total	Seawater	DIW Blank 4	0.01 U	PSU	040815Osal
MB5		Total	Seawater	DIW Blank 5	0.01 U	PSU	041015Osal
MB6		Total	Seawater	DIW Blank 6	0.01 U	PSU	041015Osal
MB7		Total	Seawater	DIW Blank 7	0.01 U	PSU	041015Osal
STANDARD REFERENCE MATERIAL							
SRM-1		Total	Seawater	Copenhagen Water 1	36.0	PSU	040815Osal
SRM-2		Total	Seawater	Copenhagen Water 2	35.6	PSU	040815Osal
SRM-3		Total	Seawater	Copenhagen Water 3	34.6	PSU	040815Osal
SRM-4		Total	Seawater	Copenhagen Water 4	34.5	PSU	040815Osal
SRM-5		Total	Seawater	Copenhagen Water 5	34.2	PSU	041015Osal
SRM-6		Total	Seawater	Copenhagen Water 6	34.2	PSU	041015Osal
SRM-7		Total	Seawater	Copenhagen Water 7	34.2	PSU	041015Osal
				Certified Value	**35.00**	PSU	
	SRM-1			**PD**	**2.9%**		
	SRM-2			**PD**	**1.7%**		
	SRM-3			**PD**	**1.1%**		
	SRM-4			**PD**	**1.4%**		
	SRM-5			**PD**	**2.3%**		
	SRM-6			**PD**	**2.3%**		
	SRM-7			**PD**	**2.3%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS1	22.0	PSU	040815Osal
LCS-2				LCS2	21.9	PSU	040815Osal
LCS-3				LCS3	20.6	PSU	040815Osal
LCS-4				LCS4	20.6	PSU	040815Osal
LCS-5				LCS5	20.3	PSU	041015Osal
LCS-6				LCS6	20.3	PSU	041015Osal
LCS-7				LCS7	20.2	PSU	041015Osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**110%**		
	LCS-2			**% RECOVERY**	**110%**		
	LCS-3			**% RECOVERY**	**103%**		
	LCS-4			**% RECOVERY**	**103%**		
	LCS-5			**% RECOVERY**	**102%**		
	LCS-6			**% RECOVERY**	**102%**		
	LCS-7			**% RECOVERY**	**101%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				YSI 50 ms/cm ICV	49.8	mS	040815Osal
CCV-1				YSI 50 ms/cmCCV1	49.5	mS	040815Osal
CCV-2				YSI 50 ms/cmCCV2	49.5	mS	040815Osal
CCV-3				YSI 50 ms/cmCCV3	49.5	mS	040815Osal
CCV-4				YSI 50 ms/cmCCV4	49.6	mS	040815Osal
CCV-5				YSI 50 ms/cmCCV5	50.0	mS	040815Osal
CCV-6				YSI 50 ms/cmCCV6	50.0	mS	041015Osal
CCV-7				YSI 50 ms/cmCCV7	50.0	mS	041015Osal
CCV-8				YSI 50 ms/cmCCV8	49.7	mS	041015Osal
CCV-9				YSI 50 ms/cmCCV9	49.6	mS	041015Osal
CCV-10				YSI 50 ms/cmCCV10	49.5	mS	041015Osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**99%**		
	CCV-2			**% RECOVERY**	**99%**		
	CCV-3			**% RECOVERY**	**99%**		
	CCV-4			**% RECOVERY**	**99%**		
	CCV-5			**% RECOVERY**	**100%**		
	CCV-6			**% RECOVERY**	**100%**		
	CCV-7			**% RECOVERY**	**100%**		
	CCV-8			**% RECOVERY**	**99%**		
	CCV-9			**% RECOVERY**	**99%**		
	CCV-10			**% RECOVERY**	**99%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.018**	**1.5**		
Seawater Reporting Limit (MDL* 3.18)					**0.053**	**4.7**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-4			DIWater	ACIDIFIED_DIW	0.0303	2.53	J	042815HTCO
MB-5			DIWater	ACIDIFIED_DIW	0.0548	4.56	J	042815HTCO
MB-6			DIWater	ACIDIFIED_DIW	0.0787	6.55		042815HTCO
MB-7			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-8			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-9			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-10			DIWater	ACIDIFIED_DIW	0.0229	1.91	J	042815HTCO
MB-11			DIWater	ACIDIFIED_DIW	0.0311	2.59	J	042815HTCO
MB-12			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-13			DIWater	ACIDIFIED_DIW	0.0202	1.69	J	042815HTCO
MB-14			DIWater	ACIDIFIED_DIW	0.0214	1.78	J	042815HTCO
MB-15			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-16			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-17			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-18			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO
MB-19			DIWater	ACIDIFIED_DIW	0.0195	1.62	J	042815HTCO
MB-20			DIWater	ACIDIFIED_DIW	0.018	1.5	U	042815HTCO

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
REPLICATE PRECISION								
AMB17-015	PS05	Tot	Seawater	3106-1502	1.34	112		042815HTCO
DUP				3106-1502C2	1.33	111		042815HTCO
				Mean	*1.34*	*111*		
				RPD	**1%**	**1%**		
AMB17-103	DYOTS	Tot	Seawater	3106-1533	1.36	113		042815HTCO
DUP				3106-1533C2	1.32	110		042815HTCO
				Mean	*1.34*	*111*		
				RPD	**3%**	**3%**		
AMB17-118	M3.3	Tot	Seawater	3106-1563	1.40	117		042815HTCO
DUP				3106-1563C2	1.39	116		042815HTCO
				Mean	*1.40*	*116*		
				RPD	**1%**	**1%**		
AMB17-015	PS05	Diss	Seawater	3106-1503	1.28	107		042815HTCO
DUP				3106-1503C2	1.26	105		042815HTCO
				Mean	*1.27*	*106*		
				RPD	**1%**	**1%**		
AMB17-103	DYOTS	Diss	Seawater	3106-1534	1.46	122		042815HTCO
DUP				3106-1534C2	1.50	125		042815HTCO
				Mean	*1.48*	*123*		
				RPD	**2%**	**2%**		
AMB17-118	M3.3	Diss	Seawater	3106-1564	1.27	106		042815HTCO
DUP				3106-1564C2	1.22	102		042815HTCO
				Mean	*1.25*	*104*		
				RPD	**4%**	**4%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.53	43.8		042815HTCO
CRM-2		DOC	Seawater	CRM	0.54	45.2		042815HTCO
CRM-3		DOC	Seawater	CRM	0.54	44.8		042815HTCO
CRM-4		DOC	Seawater	CRM	0.55	45.7		042815HTCO
CRM-5		DOC	Seawater	CRM	0.56	46.4		042815HTCO
CRM-6		DOC	Seawater	CRM	0.54	45.2		042815HTCO
CRM-7		DOC	Seawater	CRM	0.54	45.2		042815HTCO
CRM-8		DOC	Seawater	CRM	0.55	45.7		042815HTCO
CRM-9		DOC	Seawater	CRM	0.53	44.3		042815HTCO
CRM-10		DOC	Seawater	CRM	0.53	44.2		042815HTCO
CRM-11		DOC	Seawater	CRM	0.55	45.5		042815HTCO
CRM-12		DOC	Seawater	CRM	0.53	44.2		042815HTCO
CRM-13		DOC	Seawater	CRM	0.53	44.5		042815HTCO
CRM-14		DOC	Seawater	CRM	0.52	43.6		042815HTCO
CRM-15		DOC	Seawater	CRM	0.53	43.8		042815HTCO
CRM-16		DOC	Seawater	CRM	0.53	44.5		042815HTCO
CRM-17		DOC	Seawater	CRM	0.55	45.5		042815HTCO
CRM-18		DOC	Seawater	CRM	0.54	44.6		042815HTCO
CRM-19		DOC	Seawater	CRM	0.53	44.2		042815HTCO
CRM-20		DOC	Seawater	CRM	0.54	44.7		042815HTCO
				Average Consensus Value	0.522	43.5		
				Range	0.504-0.540	42-45		
CRM-1				**PD**	**0.8%**	**0.8%**		
CRM-2				**PD**	**3.9%**	**3.9%**		
CRM-3				**PD**	**2.9%**	**2.9%**		
CRM-4				**PD**	**5.0%**	**5.0%**		
CRM-5				**PD**	**6.8%**	**6.8%**		
CRM-6				**PD**	**4.0%**	**4.0%**		
CRM-7				**PD**	**3.9%**	**3.9%**		
CRM-8				**PD**	**5.0%**	**5.0%**		
CRM-9				**PD**	**1.7%**	**1.7%**		
CRM-10				**PD**	**1.6%**	**1.6%**		
CRM-11				**PD**	**4.6%**	**4.6%**		
CRM-12				**PD**	**1.6%**	**1.6%**		
CRM-13				**PD**	**2.3%**	**2.3%**		
CRM-14				**PD**	**0.1%**	**0.1%**		
CRM-15				**PD**	**0.7%**	**0.7%**		
CRM-16				**PD**	**2.2%**	**2.2%**		
CRM-17				**PD**	**4.5%**	**4.5%**		
CRM-18				**PD**	**2.6%**	**2.6%**		
CRM-19				**PD**	**1.6%**	**1.6%**		
CRM-20				**PD**	**2.7%**	**2.7%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	1.08	90.0		042815HTCO
ICV/CCV-2				CCV_1PPM	1.10	91.5		042815HTCO
ICV/CCV-3				CCV_1PPM	1.11	92.2		042815HTCO
ICV/CCV-4				CCV_1PPM	1.09	90.6		042815HTCO
ICV/CCV-5				CCV_1PPM	1.09	91.2		042815HTCO
ICV/CCV-6				CCV_1PPM	1.07	88.9		042815HTCO
ICV/CCV-7				CCV_1PPM	1.08	90.0		042815HTCO
ICV/CCV-8				ICV_1PPM	1.03	86.1		042815HTCO
ICV/CCV-9				CCV_1PPM	1.10	91.3		042815HTCO
ICV/CCV-10				CCV_1PPM	1.07	89.4		042815HTCO
ICV/CCV-11				CCV_1PPM	1.08	89.9		042815HTCO
ICV/CCV-12				CCV_1PPM	1.10	91.4		042815HTCO
ICV/CCV-13				CCV_1PPM	1.08	89.9		042815HTCO
ICV/CCV-14				CCV_1PPM	1.09	90.5		042815HTCO
ICV/CCV-15				CCV_1PPM	1.06	88.3		042815HTCO
ICV/CCV-16				CCV_1PPM	1.03	85.8		042815HTCO
ICV/CCV-17				CCV_1PPM	1.04	86.6		042815HTCO
ICV/CCV-18				CCV_1PPM	1.06	88.3		042815HTCO
ICV/CCV-19				CCV_1PPM	1.01	84.5		042815HTCO

	TRUE VALUE	**1.0**
ICV/CCV-1	**% RECOVERY**	**108%**
ICV/CCV-2	**% RECOVERY**	**110%**
ICV/CCV-3	**% RECOVERY**	**111%**
ICV/CCV-4	**% RECOVERY**	**109%**
ICV/CCV-5	**% RECOVERY**	**109%**
ICV/CCV-6	**% RECOVERY**	**107%**
ICV/CCV-7	**% RECOVERY**	**108%**
ICV/CCV-8	**% RECOVERY**	**103%**
ICV/CCV-9	**% RECOVERY**	**110%**
ICV/CCV-10	**% RECOVERY**	**107%**
ICV/CCV-11	**% RECOVERY**	**108%**
ICV/CCV-12	**% RECOVERY**	**110%**
ICV/CCV-13	**% RECOVERY**	**108%**
ICV/CCV-14	**% RECOVERY**	**109%**
ICV/CCV-15	**% RECOVERY**	**106%**
ICV/CCV-16	**% RECOVERY**	**103%**
ICV/CCV-17	**% RECOVERY**	**104%**
ICV/CCV-18	**% RECOVERY**	**106%**
ICV/CCV-19	**% RECOVERY**	**101%**

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QC Sample Results for TSS
Ambient Monitoring - AMB17
ENVVEST April 2015
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TSS	Units	Batch ID
				Method:	SM2540D		
				MDL	*0.15*	mg/L	
Method Blanks							
MB1		TME	Seawater	Blank 1	0.15 U	mg/L	040815Nu
MB2		TME	Seawater	Blank 2	0.15 U	mg/L	040815Nu
MB3		TME	Seawater	Blank 3	0.15 U	mg/L	040815Nu
MB4		TME	Seawater	Blank 4	0.20	mg/L	041115Nu
MB5		TME	Seawater	Blank 5	0.39	mg/L	041115Nu
MB6		TME	Seawater	Blank 6	0.15 U	mg/L	041115Nu
LABORATORY CONTROL SAMPLES							
LCS-1				LCS r1	36.5	mg/L	040815Nu
LCS-2				LCS r2	42.9	mg/L	040815Nu
LCS-3				LCS r3	35.2	mg/L	040815Nu
LCS-4				LCS r4	38.2	mg/L	041115Nu
LCS-5				LCS r5	46.6	mg/L	041115Nu
LCS-6				LCS r6	38.3	mg/L	041115Nu
				TRUE VALUE	**40**	mg/L	
LCS-1				**% RECOVERY**	**91%**		
LCS-2				**% RECOVERY**	**107%**		
LCS-3				**% RECOVERY**	**88%**		
LCS-4				**% RECOVERY**	**95%**		
LCS-5				**% RECOVERY**	**116%**		
LCS-6				**% RECOVERY**	**96%**		
				RSD	**11%**		

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, April 2015 (AMB17)

PARAMETER: Total and Dissolved Metals – Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 04/07/2015 and 04/08/2015. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	04/07/15 and 04/08/15
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	04/08/15 and 04/11/15
OSAL analysis dates	04/08/15 and 04/10/15
CVAF analysis dates (Hg)	05/06/15, 05/14/15, 05/15/15, 05/18/15, 05/20/15, 05/21/15, and 05/28/15
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	06/05/15
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	05/28/15 and 06/03/15
TOC/DOC Analysis Date	04/28/15 through 05/04/15

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.15 mg/L	0.15 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.018 mg/L	0.053 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.006 µg/L	0.02 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.05 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.05 µg/L	0.2 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.15 mg/L	0.15 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.018 mg/L	0.053 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.005 µg/L	0.02 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.007 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by two methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals using a preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and

METHODS (cont): EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The ICP-MS data were reported in units of µg/L. The required preconcentration procedure for seawater samples analyzed by ICP-MS includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Required reagents have trace impurities of these metals; therefore, the data are blank corrected for these elements. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method includes a matrix matching procedure that allows the quantification of the small concentrations of metals added to the samples during the Fe/Pd preparation to be subtracted from the sample during the analyses. The correction of the data allows it to be directly compared to all previous AMB events, but does not require the addition of the "b" data qualifier to the ICP-MS data.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD

* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:
  1 SRM certified <10x MDL or
  2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were less than the MDL with the exception of two values, both less than three times the MDL.

The method blanks for TOC and DOC were deionized water and nineteen out of twenty results were below the RL. One result (MB6) was greater than the RL however field sample concentrations were more than 10x the detected blank; it is believed this elevated blank has no impact to reported field results. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. The matrix spike for 3106-1563 was outside the QC criteria for Al and Zn. The data are flagged. No additional actions were required.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021) and seawater SRM CASS-5. Percent recoveries were within the QC acceptance criterion. There is no seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy.

CASS-5 SRM was only considered for data set evaluation if the certified value was greater than 10 times the MDL. If the QC sample exceeded the criteria and the certified value for that element was less than 10 times the MDL then the data were

flagged with a “c”. The PDs were within the QC criterion for all metals except two replicate of CASS-5 for Pb and one for Zn. Accuracy for these elements was demonstrated by the alternate freshwater SRM, LCS and MS/MSD samples. Since the certified values for these elements are less than 10x the MDL, no further corrective actions were required.

The SRM Copenhagen Water was used to verify the accuracy of the salinity measurements. The accuracy was 1.1 to 2.9% PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 0.1 to 6.8%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1503659
Project:	April 2015 Ambient Monitoring (AMB17)	**Date Received:**	04/09/15
Sample Matrix:	Ocean Water and Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three samples were received for analysis at ALS Environmental on 04/09/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503659
Project:	April 2015 Ambient Monitoring (AMB17)	**Date Collected:**	04/7/15
Sample Matrix:	Ocean Water	**Date Received:**	04/9/15
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB17-DD001/OF018	K1503659-001	**3**	**J**	12	2	1	04/21/15 11:35	4/21/15	
AMB17-DD002/OF019	K1503659-002	ND	U	5.6	0.8	1	04/21/15 11:35	4/21/15	
Method Blank	K1503659-MB	ND	U	5.0	0.8	1	04/21/15 11:35	4/21/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503659
Project:	April 2015 Ambient Monitoring (AMB17)	**Date Collected:**	04/7/15
Sample Matrix:	Water	**Date Received:**	04/9/15
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB17-DD003/OF021	K1503659-003	ND U	5.6	0.8	1	04/21/15 11:35	4/21/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503659
Project:	April 2015 Ambient Monitoring (AMB17)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	04/21/15
		Date Extracted:	04/21/15

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1503621-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1503621-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND U	54.2	56.6	96	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503659
Project:	April 2015 Ambient Monitoring (AMB17)	**Date Analyzed:**	04/21/15
Sample Matrix:	Ocean Water	**Date Extracted:**	04/21/15

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	441372

	Lab Control Sample K1503659-LCS			Duplicate Lab Control Sample K1503659-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	51.7	60.0	86	51.4	60.0	86	78-114	<1	20

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1503715
Project:	ENVVEST AMB17	**Date Received:**	04/10/15
Sample Matrix:	Ocean Water and Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-six ocean water and two water samples were received for analysis at ALS Environmental on 04/10/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Ammonia as Nitrogen by Standard Method 4500-NH3 E:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample M3.1 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
PS07	K1503715-001	**0.098**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS06	K1503715-002	**0.153**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS06DUP	K1503715-003	**0.157**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS14	K1503715-004	**0.132**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M4	K1503715-005	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
BJEST	K1503715-006	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
M3.1	K1503715-007	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
M3.1 DEEP	K1503715-008	**0.054**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS12	K1503715-009	**0.166**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS01	K1503715-010	**0.127**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS02	K1503715-011	**0.084**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS03	K1503715-012	**0.109**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS13	K1503715-013	**0.032 J**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS04	K1503715-014	**0.049 J**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS05	K1503715-015	**0.096**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS08	K1503715-016	**0.095**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS15	K1503715-017	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS09	K1503715-018	**0.167**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS09 DUP	K1503715-019	**0.140**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS10	K1503715-020	**0.118**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS10.1	K1503715-021	**0.101**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS11	K1503715-022	**0.143**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS16	K1503715-023	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS07B	K1503715-024	**0.085**	0.050	0.020	1	04/14/15 13:44	4/14/15	
OF018	K1503715-025	**0.686**	0.050	0.020	1	04/14/15 13:44	4/14/15	
OF019	K1503715-026	**0.271**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M6	K1503715-028	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
M8	K1503715-029	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
DYOTS	K1503715-030	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
DYOTS-DUP	K1503715-031	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
WP	K1503715-032	**0.102**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M2 DEEP	K1503715-033	**0.220**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M2	K1503715-034	**0.239**	0.050	0.020	1	04/14/15 13:44	4/14/15	
CLMBAY	K1503715-035	**0.226**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M1 DEEP	K1503715-036	**0.162**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M1	K1503715-037	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
ILSP	K1503715-038	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
SN03	K1503715-039	**0.134**	0.050	0.020	1	04/14/15 13:44	4/14/15	
SN05	K1503715-040	**0.048 J**	0.050	0.020	1	04/14/15 13:44	4/14/15	
SN08	K1503715-041	**0.030 J**	0.050	0.020	1	04/14/15 13:44	4/14/15	
SN10	K1503715-042	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
SN10-DUP	K1503715-043	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
SN11	K1503715-044	**0.021 J**	0.050	0.020	1	04/14/15 13:44	4/14/15	
M3.3	K1503715-045	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS03 C	K1503715-046	**0.065**	0.050	0.020	1	04/14/15 13:44	4/14/15	
PS07 C	K1503715-047	**0.096**	0.050	0.020	1	04/14/15 13:44	4/14/15	
Method Blank	K1503715-MB1	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
Method Blank	K1503715-MB2	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
Method Blank	K1503715-MB3	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	
Method Blank	K1503715-MB4	ND U	0.050	0.020	1	04/14/15 13:44	4/14/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/7/15
Sample Matrix:	Water	**Date Received:**	04/10/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
OF021	K1503715-027	**0.626**	0.050	0.020	1	04/14/15 13:44	4/14/15	
OF021 DUP	K1503715-048	**0.622**	0.050	0.020	1	04/14/15 13:44	4/14/15	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
PS07	K1503715-001DUP	0.050	0.020	0.098	0.096	0.0972	2	20	04/14/15
M4	K1503715-005DUP	0.050	0.020	ND U	ND U	NC	NC	20	04/14/15
PS05	K1503715-015DUP	0.050	0.020	0.096	0.098	0.0969	2	20	04/14/15
OF019	K1503715-026DUP	0.050	0.020	0.271	0.269	0.270	<1	20	04/14/15
CLMBAY	K1503715-035DUP	0.050	0.020	0.226	0.226	0.226	<1	20	04/14/15
M3.3	K1503715-045DUP	0.050	0.020	ND U	ND U	NC	NC	20	04/14/15
Batch QC	KQ1503684-09DUP	0.050	0.020	0.034 J	0.034 J	0.0338	<1	20	04/14/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	PS07	**Units:**	mg/L
Lab Code:	K1503715-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1503715-001MS			Duplicate Matrix Spike K1503715-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.098	1.13	1.00	103	1.10	1.00	100	89-114	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	M4	**Units:**	mg/L
Lab Code:	K1503715-005	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1503715-005MS			Duplicate Matrix Spike K1503715-005DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	0.998	1.00	100	0.975	1.00	98	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	PS05	**Units:**	mg/L
Lab Code:	K1503715-015	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1503715-015MS			Duplicate Matrix Spike K1503715-015DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.096	1.11	1.00	101	1.09	1.00	99	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	OF019	**Units:**	mg/L
Lab Code:	K1503715-026	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1503715-026MS			Duplicate Matrix Spike K1503715-026DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.271	1.20	1.00	93	1.19	1.00	92	89-114	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	CLMBAY	**Units:**	mg/L
Lab Code:	K1503715-035	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1503715-035MS			K1503715-035DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.226	1.25	1.00	102	1.16	1.00	93	89-114	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	M3.3	**Units:**	mg/L
Lab Code:	K1503715-045	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1503715-045MS			Duplicate Matrix Spike K1503715-045DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	0.939	1.00	94	1.04	1.00	104	89-114	10	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	KQ1503684-09	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike KQ1503684-09MS			Duplicate Matrix Spike KQ1503684-09DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.034 J	0.959	1.00	93	0.964	1.00	93	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/14/15
Sample Matrix:	Ocean Water	**Date Extracted:**	04/14/15

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	440603

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS1	15.0	15.1	99	90-110
Lab Control Sample	K1503715-LCS2	15.2	15.1	101	90-110
Lab Control Sample	K1503715-LCS3	15.0	15.1	99	90-110
Lab Control Sample	K1503715-LCS4	14.8	15.1	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1503715
Project: ENVVEST AMB17

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	440603	KQ1503690-01	04/14/15 13:44	1.00	0.974	97	90-110
CCV2	440603	KQ1503690-03	04/14/15 13:44	1.00	0.955	96	90-110
CCV3	440603	KQ1503690-05	04/14/15 13:44	1.00	0.957	96	90-110
CCV4	440603	KQ1503690-07	04/14/15 13:44	1.00	0.994	99	90-110
CCV5	440603	KQ1503690-09	04/14/15 13:44	1.00	0.997	100	90-110
CCV6	440603	KQ1503690-11	04/14/15 13:44	1.00	0.987	99	90-110
CCV7	440603	KQ1503690-13	04/14/15 13:44	1.00	0.979	98	90-110
CCV8	440603	KQ1503690-15	04/14/15 13:44	1.00	0.980	98	90-110
CCV9	440603	KQ1503690-17	04/14/15 13:44	1.00	0.974	97	90-110
CCV10	440603	KQ1503690-19	04/14/15 13:44	1.00	0.966	97	90-110
CCV11	440603	KQ1503690-21	04/14/15 13:44	1.00	0.951	95	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1503715
Project: ENVVEST AMB17

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	440603	KQ1503690-02	04/14/15 13:44	0.050	0.020	ND	U
CCB2	440603	KQ1503690-04	04/14/15 13:44	0.050	0.020	ND	U
CCB3	440603	KQ1503690-06	04/14/15 13:44	0.050	0.020	ND	U
CCB4	440603	KQ1503690-08	04/14/15 13:44	0.050	0.020	ND	U
CCB5	440603	KQ1503690-10	04/14/15 13:44	0.050	0.020	ND	U
CCB6	440603	KQ1503690-12	04/14/15 13:44	0.050	0.020	ND	U
CCB7	440603	KQ1503690-14	04/14/15 13:44	0.050	0.020	ND	U
CCB8	440603	KQ1503690-16	04/14/15 13:44	0.050	0.020	ND	U
CCB9	440603	KQ1503690-18	04/14/15 13:44	0.050	0.020	ND	U
CCB10	440603	KQ1503690-20	04/14/15 13:44	0.050	0.020	ND	U
CCB11	440603	KQ1503690-22	04/14/15 13:44	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
PS07	K1503715-001	**0.056**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS06	K1503715-002	**0.068**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS06DUP	K1503715-003	**0.070**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS14	K1503715-004	**0.055**	0.010	0.004	1	04/14/15 16:12	4/14/15	
M4	K1503715-005	**0.030**	0.010	0.004	1	04/14/15 16:12	4/14/15	
BJEST	K1503715-006	**0.028**	0.010	0.004	1	04/14/15 16:12	4/14/15	
M3.1	K1503715-007	**0.040**	0.010	0.004	1	04/14/15 16:12	4/14/15	
M3.1 DEEP	K1503715-008	**0.042**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS12	K1503715-009	**0.063**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS01	K1503715-010	**0.053**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS02	K1503715-011	**0.046**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS03	K1503715-012	**0.048**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS13	K1503715-013	**0.043**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS04	K1503715-014	**0.032**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS05	K1503715-015	**0.046**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS08	K1503715-016	**0.048**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS15	K1503715-017	**0.034**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS09	K1503715-018	**0.066**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS09 DUP	K1503715-019	**0.061**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS10	K1503715-020	**0.060**	0.010	0.004	1	04/14/15 16:12	4/14/15	
PS10.1	K1503715-021	**0.055**	0.010	0.004	1	04/15/15 16:04	4/15/15	
PS11	K1503715-022	**0.069**	0.010	0.004	1	04/15/15 16:04	4/15/15	
PS16	K1503715-023	**0.036**	0.010	0.004	1	04/15/15 16:04	4/15/15	
PS07B	K1503715-024	**0.053**	0.010	0.004	1	04/15/15 16:04	4/15/15	
OF018	K1503715-025	**0.310**	0.010	0.004	1	04/15/15 16:04	4/15/15	
OF019	K1503715-026	**0.210**	0.010	0.004	1	04/15/15 16:04	4/15/15	
M6	K1503715-028	**0.021**	0.010	0.004	1	04/15/15 16:04	4/15/15	
M8	K1503715-029	**0.018**	0.010	0.004	1	04/15/15 16:04	4/15/15	
DYOTS	K1503715-030	**0.019**	0.010	0.004	1	04/15/15 16:04	4/15/15	
DYOTS-DUP	K1503715-031	**0.016**	0.010	0.004	1	04/15/15 16:04	4/15/15	
WP	K1503715-032	**0.043**	0.010	0.004	1	04/15/15 16:04	4/15/15	
M2 DEEP	K1503715-033	**0.058**	0.010	0.004	1	04/15/15 16:04	4/15/15	
M2	K1503715-034	**0.059**	0.010	0.004	1	04/15/15 16:04	4/15/15	
CLMBAY	K1503715-035	**0.063**	0.010	0.004	1	04/15/15 16:04	4/15/15	
M1 DEEP	K1503715-036	**0.064**	0.010	0.004	1	04/15/15 16:04	4/15/15	
M1	K1503715-037	**0.030**	0.010	0.004	1	04/15/15 16:04	4/15/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
ILSP	K1503715-038	**0.037**	0.010	0.004	1	04/15/15 16:04	4/15/15	
SN03	K1503715-039	**0.073**	0.010	0.004	1	04/15/15 16:04	4/15/15	
SN05	K1503715-040	**0.062**	0.010	0.004	1	04/15/15 16:04	4/15/15	
SN08	K1503715-041	**0.036**	0.010	0.004	1	04/17/15 12:29	4/17/15	
SN10	K1503715-042	**0.029**	0.010	0.004	1	04/17/15 12:29	4/17/15	
SN10-DUP	K1503715-043	**0.028**	0.010	0.004	1	04/17/15 12:29	4/17/15	
SN11	K1503715-044	**0.028**	0.010	0.004	1	04/17/15 12:29	4/17/15	
M3.3	K1503715-045	**0.022**	0.010	0.004	1	04/17/15 12:29	4/17/15	
PS03 C	K1503715-046	**0.035**	0.010	0.004	1	04/17/15 12:29	4/17/15	
PS07 C	K1503715-047	**0.051**	0.010	0.004	1	04/17/15 12:29	4/17/15	
Method Blank	K1503715-MB1	ND U	0.010	0.004	1	04/14/15 16:12	4/14/15	
Method Blank	K1503715-MB2	ND U	0.010	0.004	1	04/15/15 16:04	4/15/15	
Method Blank	K1503715-MB3	ND U	0.010	0.004	1	04/17/15 12:29	4/17/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/7/15
Sample Matrix:	Water	**Date Received:**	04/10/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
OF021	K1503715-027	**0.222**	0.010	0.004	1	04/15/15 16:04	4/15/15	
OF021 DUP	K1503715-048	**0.238**	0.010	0.004	1	04/17/15 12:29	4/17/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
PS07	K1503715-001DUP	0.010	0.004	0.056	0.052	0.0540	8	20	04/14/15
PS10.1	K1503715-021DUP	0.010	0.004	0.055	0.055	0.0550	<1	20	04/15/15
SN08	K1503715-041DUP	0.010	0.004	0.036	0.031	0.0338	15	20	04/17/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/14/15
		Date Extracted:	04/14/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	PS07	**Units:**	mg/L
Lab Code:	K1503715-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1503715-001MS			K1503715-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.056	0.444	0.500	78	0.404	0.500	70	60-135	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/15/15
		Date Extracted:	04/15/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	PS10.1	**Units:**	mg/L
Lab Code:	K1503715-021	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1503715-021MS			K1503715-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.055	0.415	0.500	72	0.395	0.500	68	60-135	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/17/15
		Date Extracted:	04/17/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	SN08	**Units:**	mg/L
Lab Code:	K1503715-041	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1503715-041MS			K1503715-041DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.036	0.395	0.500	72	0.380	0.500	69	60-135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/14/15
Sample Matrix:	Ocean Water	**Date Extracted:**	04/14/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	440455

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS1	5.19	5.00	104	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/15/15
Sample Matrix:	Ocean Water	**Date Extracted:**	04/15/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	440643

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS2	5.19	5.00	104	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/17/15
Sample Matrix:	Ocean Water	**Date Extracted:**	04/17/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	440994

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS3	5.39	5.00	108	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1503715
Project: ENVVEST AMB17

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	440455	KQ1503658-01	04/14/15 16:12	0.500	0.520	104	90-110
CCV2	440455	KQ1503658-02	04/14/15 16:12	0.500	0.530	106	90-110
CCV3	440455	KQ1503658-03	04/14/15 16:12	0.500	0.524	105	90-110
CCV4	440455	KQ1503658-04	04/14/15 16:12	0.500	0.525	105	90-110
CCV5	440643	KQ1503701-01	04/15/15 16:04	0.500	0.523	105	90-110
CCV6	440643	KQ1503701-02	04/15/15 16:04	0.500	0.529	106	90-110
CCV7	440643	KQ1503701-03	04/15/15 16:04	0.500	0.524	105	90-110
CCV8	440643	KQ1503701-04	04/15/15 16:04	0.500	0.514	103	90-110
CCV9	440994	KQ1503799-01	04/17/15 12:29	0.500	0.531	106	90-110
CCV10	440994	KQ1503799-02	04/17/15 12:29	0.500	0.533	107	90-110
CCV11	440994	KQ1503799-03	04/17/15 12:29	0.500	0.539	108	90-110
CCV12	440994	KQ1503799-04	04/17/15 12:29	0.500	0.540	108	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1503715
Project: ENVVEST AMB17

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	440455	KQ1503658-05	04/14/15 16:12	0.010	0.004	ND	U
CCB2	440455	KQ1503658-06	04/14/15 16:12	0.010	0.004	ND	U
CCB3	440455	KQ1503658-07	04/14/15 16:12	0.010	0.004	ND	U
CCB4	440455	KQ1503658-08	04/14/15 16:12	0.010	0.004	ND	U
CCB5	440643	KQ1503701-05	04/15/15 16:04	0.010	0.004	ND	U
CCB6	440643	KQ1503701-06	04/15/15 16:04	0.010	0.004	ND	U
CCB7	440643	KQ1503701-07	04/15/15 16:04	0.010	0.004	ND	U
CCB8	440643	KQ1503701-08	04/15/15 16:04	0.010	0.004	ND	U
CCB9	440994	KQ1503799-05	04/17/15 12:29	0.010	0.004	0.008	J
CCB10	440994	KQ1503799-06	04/17/15 12:29	0.010	0.004	ND	U
CCB11	440994	KQ1503799-07	04/17/15 12:29	0.010	0.004	0.005	J
CCB12	440994	KQ1503799-08	04/17/15 12:29	0.010	0.004	0.005	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
PS07	K1503715-001	**0.079**	0.050	0.009	1	04/28/15 08:20	
PS06	K1503715-002	**0.101**	0.050	0.009	1	04/28/15 08:20	
PS06DUP	K1503715-003	**0.103**	0.050	0.009	1	04/28/15 08:20	
PS14	K1503715-004	**0.053**	0.050	0.009	1	04/28/15 08:20	
M4	K1503715-005	**0.057**	0.050	0.009	1	04/28/15 08:20	
BJEST	K1503715-006	**0.068**	0.050	0.009	1	04/28/15 08:20	
M3.1	K1503715-007	**0.038 J**	0.050	0.009	1	04/28/15 08:20	
M3.1 DEEP	K1503715-008	**0.032 J**	0.050	0.009	1	04/28/15 08:20	
PS12	K1503715-009	**0.050**	0.050	0.009	1	04/28/15 08:20	
PS01	K1503715-010	**0.040 J**	0.050	0.009	1	04/28/15 08:20	
PS02	K1503715-011	**0.079**	0.050	0.009	1	04/28/15 08:20	
PS03	K1503715-012	**0.039 J**	0.050	0.009	1	04/28/15 08:20	
PS13	K1503715-013	**0.040 J**	0.050	0.009	1	04/28/15 08:20	
PS04	K1503715-014	**0.064**	0.050	0.009	1	04/28/15 08:20	
PS05	K1503715-015	**0.071**	0.050	0.009	1	04/28/15 08:20	
PS08	K1503715-016	**0.053**	0.050	0.009	1	04/28/15 08:20	
PS15	K1503715-017	**0.058**	0.050	0.009	1	04/28/15 08:20	
PS09	K1503715-018	**0.181**	0.050	0.009	1	04/28/15 08:20	
PS09 DUP	K1503715-019	**0.098**	0.050	0.009	1	04/28/15 08:20	
PS10	K1503715-020	**0.043 J**	0.050	0.009	1	04/28/15 08:20	
PS10.1	K1503715-021	**0.052**	0.050	0.009	1	04/28/15 08:20	
PS11	K1503715-022	**0.080**	0.050	0.009	1	04/28/15 08:20	
PS16	K1503715-023	**0.019 J**	0.050	0.009	1	04/28/15 08:20	
PS07B	K1503715-024	**0.080**	0.050	0.009	1	04/28/15 08:20	
OF018	K1503715-025	**0.286**	0.050	0.009	1	04/28/15 08:20	
OF019	K1503715-026	**0.207**	0.050	0.009	1	04/28/15 08:20	
M6	K1503715-028	**0.027 J**	0.050	0.009	1	04/28/15 08:20	
M8	K1503715-029	**0.038 J**	0.050	0.009	1	04/28/15 08:20	
DYOTS	K1503715-030	**0.032 J**	0.050	0.009	1	04/28/15 08:20	
DYOTS-DUP	K1503715-031	**0.032 J**	0.050	0.009	1	04/28/15 08:20	
WP	K1503715-032	**0.040 J**	0.050	0.009	1	04/28/15 08:20	
M2 DEEP	K1503715-033	**0.046 J**	0.050	0.009	1	04/28/15 08:20	
M2	K1503715-034	**0.043 J**	0.050	0.009	1	04/28/15 08:20	
CLMBAY	K1503715-035	**0.052**	0.050	0.009	1	04/28/15 08:20	
M1 DEEP	K1503715-036	**0.049 J**	0.050	0.009	1	04/28/15 08:20	
M1	K1503715-037	**0.052**	0.050	0.009	1	04/28/15 08:20	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
ILSP	K1503715-038	**0.021 J**	0.050	0.009	1	04/28/15 08:20	
SN03	K1503715-039	**0.298**	0.050	0.009	1	04/28/15 08:20	
SN05	K1503715-040	**0.087**	0.050	0.009	1	04/28/15 08:20	
SN08	K1503715-041	**0.070**	0.050	0.009	1	04/28/15 08:20	
SN10	K1503715-042	**0.059**	0.050	0.009	1	04/28/15 08:20	
SN10-DUP	K1503715-043	**0.055**	0.050	0.009	1	04/28/15 08:20	
SN11	K1503715-044	**0.061**	0.050	0.009	1	04/28/15 08:20	
M3.3	K1503715-045	**0.049 J**	0.050	0.009	1	04/28/15 08:20	
PS03 C	K1503715-046	**0.150**	0.050	0.009	1	04/28/15 08:20	
PS07 C	K1503715-047	**0.098**	0.050	0.009	1	04/28/15 08:20	
Method Blank	K1503715-MB1	ND U	0.050	0.009	1	04/28/15 08:20	
Method Blank	K1503715-MB2	**0.014 J**	0.050	0.009	1	04/28/15 08:20	
Method Blank	K1503715-MB3	**0.010 J**	0.050	0.009	1	04/28/15 08:20	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/7/15
Sample Matrix:	Water	**Date Received:**	04/10/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
OF021	K1503715-027	**0.020 J**	0.050	0.009	1	04/28/15 08:20	
OF021 DUP	K1503715-048	**0.024 J**	0.050	0.009	1	04/28/15 08:20	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project	ENVVEST AMB17	**Date Collected:**	04/07/15 - 04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
M3.1	K1503715-007DUP	0.050	0.009	0.038 J	0.057	0.0475	40 *	20	04/28/15
PS10.1	K1503715-021DUP	0.050	0.009	0.052	0.045 J	0.0485	14	20	04/28/15
SN08	K1503715-041DUP	0.050	0.009	0.070	0.068	0.0690	3	20	04/28/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/28/15
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	M3.1	**Units:**	mg/L
Lab Code:	K1503715-007	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1503715-007MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.038 J	10.7	10.0	107	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/07/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/28/15
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	PS10.1	**Units:**	mg/L
Lab Code:	K1503715-021	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1503715-021MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.052	10.7	10.0	106	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Collected:**	04/08/15
Sample Matrix:	Ocean Water	**Date Received:**	04/10/15
		Date Analyzed:	04/28/15
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	SN08	**Units:**	mg/L
Lab Code:	K1503715-041	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1503715-041MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.070	10.4	10.0	103	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/28/15
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	441525

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS1	4.84	5.11	95	80-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/28/15
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	442376

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS2	4.79	5.11	94	80-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1503715
Project:	ENVVEST AMB17	**Date Analyzed:**	04/28/15
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	442439

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1503715-LCS3	4.79	5.11	94	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1503715
Project: ENVVEST AMB17

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	441525	KQ1504200-09	04/28/15 08:20	10.0	10.3	103	90-110
CCV2	441525	KQ1504200-10	04/28/15 08:20	10.0	9.75	98	90-110
CCV3	441525	KQ1504200-11	04/28/15 08:20	10.0	9.62	96	90-110
CCV4	441525	KQ1504200-12	04/28/15 08:20	10.0	10.0	100	90-110
CCV5	442376	KQ1504230-09	04/28/15 08:20	10.0	9.62	96	90-110
CCV6	442376	KQ1504230-10	04/28/15 08:20	10.0	10.0	100	90-110
CCV7	442376	KQ1504230-11	04/28/15 08:20	10.0	9.96	100	90-110
CCV8	442376	KQ1504230-12	04/28/15 08:20	10.0	9.82	98	90-110
CCV9	442439	KQ1504250-09	04/28/15 08:20	10.0	9.96	100	90-110
CCV10	442439	KQ1504250-10	04/28/15 08:20	10.0	9.82	98	90-110
CCV11	442439	KQ1504250-11	04/28/15 08:20	10.0	10.4	104	90-110
CCV12	442439	KQ1504250-12	04/28/15 08:20	10.0	10.2	102	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1503715
Project: ENVVEST AMB17

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	441525	KQ1504200-05	04/28/15 08:20	0.050	0.009	0.011	J
CCB2	441525	KQ1504200-06	04/28/15 08:20	0.050	0.009	ND	U
CCB3	441525	KQ1504200-07	04/28/15 08:20	0.050	0.009	ND	U
CCB4	441525	KQ1504200-08	04/28/15 08:20	0.050	0.009	ND	U
CCB5	442376	KQ1504230-05	04/28/15 08:20	0.050	0.009	ND	U
CCB6	442376	KQ1504230-06	04/28/15 08:20	0.050	0.009	ND	U
CCB7	442376	KQ1504230-07	04/28/15 08:20	0.050	0.009	0.011	J
CCB8	442376	KQ1504230-08	04/28/15 08:20	0.050	0.009	ND	U
CCB9	442439	KQ1504250-05	04/28/15 08:20	0.050	0.009	0.011	J
CCB10	442439	KQ1504250-06	04/28/15 08:20	0.050	0.009	ND	U
CCB11	442439	KQ1504250-07	04/28/15 08:20	0.050	0.009	ND	U
CCB12	442439	KQ1504250-08	04/28/15 08:20	0.050	0.009	0.015	J

SAMPLE CHAIN OF CUSTODY FORM AMB17_2015_04_06

Date: 4/7/15
Page: 1 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name: Jon Strivens
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB17
Metals includes Hg & Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID (AMB17-)	Sample Label (AMB17-)	Collection Date/Time (4/7/15)	Matrix	Metals (Total/Diss)	~~Total Hg~~	TS/TSS/dSAL	Nuts/~~TOC~~	DOC	~~Dock~~ TOC	Oil&Grease			No. of containers	StationID	Comments (3106 - Total/Diss)	
	~~PS07-001~~	PS07	0931	NS	✓		✓	✓	✓	✓				5	PS07	1474	1475
	~~PS06 002~~	PS06	0945	NS	✓		✓	✓	✓	✓				5	PS06	1476	1477
	~~PS06Dup003~~	PS06Dup	0946	NS	✓		✓	✓	✓	✓				5	PS06Dup	1478	1479
	-004	PS14	1001	WS	✓		✓	✓	✓	✓				5	PS14	1480	1481
	-005	M4	1018	M	✓		✓	✓	✓	✓				5	M4	1482	1483
	-006	BJEST	1044	NS	✓		✓	✓	✓	✓				5	BJEST	1484	1485
	-007	M3.1	1122	M	✓		✓	✓	✓	✓				5	M3.1	1486	1487
	-008	M3.1 Dup	1120	M	✓		✓	✓	✓	✓				5	M3.1D	2.5 M 1488	1489
	009	PS12	1140	NS	✓		✓	✓	✓	✓				5	PS12	1490	1491
	010	PS01	1203	NS	✓		✓	✓	✓	✓				5	PS01	1492	1493
	011	PS02	1213	NS	✓		✓	✓	✓	✓				5	PS 02	1494	1495
	012	PS13	1230	NS	✓		✓	✓	✓	✓				5	PS13	1496	1497
	013	PS03	1244	NS	✓		✓	✓	✓	✓				5	PS03	1498	1499
	014	PS04	1254	NS	✓		✓	✓	✓	✓				5	PS04	1500	1501
	015	PS05	1302	NS	✓		✓	✓	✓	✓				5	PS05	1502	1503
	016	PS08	1314	NS	✓		✓	✓	✓	✓				5	PS08	1504	1505
	017	PS15	1324	NS	✓		✓	✓	✓	✓				5	PS15	1506	1507
	018	PS09	1336	NS	✓		✓	✓	✓	✓				5	PS09	1508	1509
	019	PS09 Dup	1337	NS	✓		✓	✓	✓	✓				5	PS09Dup	1510	1511
	020	PS10	1357	NS	✓		✓	✓	✓	✓				5	PS10	1512	1513

Relinquished by: Strivens — Signature — 20150407 Date — 2000 Time
Printed Name — Company PNNL

Received by: — Signature — 4/8/15
C. Sullivan 10:06
Printed Name

Total # of Containers
Shipment Method: hand delivered to MSL from field &

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM AMB17_2015_04_06

Date: 4/7/15
Page: 2 of 2
COC Number:

"_" = no analysis &

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB17
metals includes Hg &

Testing Parameters

Observations, Instructions

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Metals (Total/Diss)	~~Total Hg~~	TS/TSS/OSAL	Nuts/~~TOC~~	DOC	Oeal TOC	~~Oil&Grease~~ SKIP		No. of containers	StationID	Comments	3106 TOT	3106 DISS
	AMB17 021	PS 10.1	1408	NS	✓		✓	✓	✓	✓	–		5	PS10.1		1514	1515
	022	PS11	1416	NS	✓		✓	✓	✓	✓	–		5	PS11		1516	1517
	023	PS16	1426	NS	✓		✓	✓	✓	✓	–		5	PS07B		1518	1519
	024	PS07B	1441	NS	✓		✓	✓	✓	✓	–		5	PS07B		1520	1521
	AMB0017-25	OF018	1655	SW	x		x	x	x	x	x		6	OF018	Composites?	1522	1523
	26	OF019	1655	SW	x		x	x	x	x	x		6	OF019		1524	1525
	27	OF021	1655	SW	x		x	x	x	x	x		6	OF021		1526	1527
	28	OF021 Dup	1655	SW	–	–	x	–	–	–	–		2	OF021		1528	1529 NO DISS

all others are grabs? &

OF21
Seawater or Freshwater?

Relinquished by: STRICKLAND	20150407	2000	Received by: 4/8/15
Signature	Date	Time	Signature
Printed Name	Company PNNL		C. SUSHAN 10:00 Printed Name

Total # of Containers
Shipment Method:
Shipment Method: hand delivered to MSL from field &
Sample Disposition:

Relinquished by:			Received by:
Signature	Date	Time	Signature
Printed Name	Company		Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Collector	Johnston, Gebhart, ~~Aylward~~, Rosen, Strivens, Johnson	Page__1_ of _1___
Sampling Team		AMB17_2015_04_06
Organization	PSNS&IMF c/106.32	Bremerton Tides

Use pre-assigned id | m/dd/yy hh:mm | m/dd/yy hh:mm | Weather:

StationID	04/7/15 Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
PS07	0927	0935	NS	47.55611	W 122.64142	0922 troll in
PS06	0944	0957	NS	47.55314	122.64248	
PS14	0959	1006	NS	47.55206	122.64357	
M4	1017	1023	M	47.54322	122.64611	
M3.3	1031	1037	M	47.54684	122.64403	
BJEST	1043	1048	NS	47.54603	122.63011	
M3.2	1108	1132	M	47.55692	122.61456	
PS12	1137	1145	NS	47.56053	122.68822	
PS01	1200	1208	NS	47.55388	W 122.65702	
PS02	1213	1225	NS	47.55433	122.65413	
PS13	1228	1238	NS	47.55212	122.65401	
PS03	1242	1250	NS	47.55548	122165210	
PS04	1253	1258	NS	47.55455	122.69751	
PS05	1300	1305	NS	47.55602	122.64567	
PS08	1313	1319	NS	47.55786	122.63863	
PS15	1321	1329	NS	47.55545	122.63625	
PS09	1334	1345	NS	47.55999	122.63625	
PS10	1354	1400	NS	47.56049	122.63255	
PS10.1	1405	1412	NS	47.56128	122.63107	
PS11	1416	1420	NS	47.56056	122.62947	
PS16	1424	1430	NS	47.55887	122.62894	
PS07B	1438	1445	NS	47.55605	122.64141	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

04/07/2015 16:41 FAX 3604768550 PSNS&IMF ESH CODE 106 002/006

Water Quality Log

Sample Logger:										PSNS Project ENVVEST					
Sampling Team:	Johnston, Gebhart, Nyward, Rosen, Strivens, Johnson														AMB17_2015_04_06
Organization:	PSNS&IMF c/106.32									Instrument:					
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	YSI EC300							Micro		Secchi	Bottom		
SampleID	StationID	Date/Time	Cond	units	Spec. Cond	units	TempC	Sal ppt	TDS g/L	Turb NTU	pH	ft	ft		Remarks/ Comments
	PS07	0931	32.12	mS	41.64	mS	10.7	28.4	27.06	0.32	8.15	14	33.7		931 Troll in
	PS06	0944	31.94		40.80		10.7	27.8	26.55	.52	7.99	15	49		Profile start 0951 up 0957
	PS14	1001	32.06		41.72		10.6	28.4	27.12	.19	8.14	13	47.5		
	M4	1017	32.06		41.42		10.9	28.2	26.93	.00	8.42	11	37.5		
	M3.3	1032	32.01		41.49		10.8	28.3	26.97	.02	8.32	13	43		
	BJEST	1044	31.06		40.40		10.6	27.4	26.24	.19	8.46	bottom			
	M3.1	1110	32.08		41.69		10.6	28.4	27.07	.68	8.15	12	10ft		3.1 Depp 2.5m
	M3.1D		31.86		41.52		11.3	28.3	26.99	.89	8.22				~~3.1D~~ 2.5m
	PS12	1138	32.08		41.80		10.5	28.5	27.17	.01	7.95	bottom	5		
	PS01	1201	32.09		41.66		10.7	28.4	27.17	00	8.15	18	23.5		
	PS02	1213	32.20		41.58		10.9	28.3	27.02	.01	8.25	13	21		
	PS13	1228	32.09		41.61		10.7	28.4	27.04	.42	8.44	12	45		
	PS03	1244	32.08		41.66		10.6	28.4	27.07	.46	8.08	17	38.5		
	PS04	1255	32.13		41.62		10.7	28.4	27.07	0	8.28	14	37.2		
	PS05	1301	32.16		41.72		10.7	28.5	27.11	0	8.15	17	19		
	PS08	1313	32.29		41.69		10.8	28.4	27.12	0	8.19	17	20		
	PS15	1321	32.23		41.58		10.9	28.3	27.03	0	8.37	13	45		
	PS09	1335	32.28		41.43		11.0	28.3	26.93	.25	8.10	17	40		5meter temp 11.11 Profile start 1340 9m 10.9° bottom 10m 10.8° 1345 up
	PS10	1356	32.37		41.76		10.9	28.5	27.14	.48	8.14	18	29		
	PS10.1	~~1406~~	~~32.33~~	~~41.78~~	32.33	41.76		10.9	28.5	27.16	0	8.28	15	21	1405 time
	PS11	1416	32.27		41.62		11	28.4	27.03	1.01	8.08	14	31.3		Visible Sheen Small
	PS16	1425	32.17		41.45		11	28.2	26.93	.14	8.37	12	40.5		
	PS07B	1439	32.45		41.68		11.1	28.4	27.09	.55	8.22	17	26.7		

003/006
PSNS&IMF ESH CODE 106
04/07/2015 16:41 FAX 3604768550

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 4/7/2015
Batch: 45
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-001	PS07-TME	TME	PS07	3106-1474	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-001	PS07-DME	DME	PS07	3106-1475	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-002	PS06-TME	TME	PS06	3106-1476	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-002	PS06-DME	DME	PS06	3106-1477	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-003	PS06DUP-TME	TME	PS06DUP	3106-1478	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-003	PS06DUP-DME	DME	PS06DUP	3106-1479	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-004	PS14-TME	TME	PS14	3106-1480	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-004	PS14-DME	DME	PS14	3106-1481	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-005	M4-TME	TME	M4	3106-1482	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-005	M4-DME	DME	M4	3106-1483	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-006	BJEST-TME	TME	BJEST	3106-1484	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-006	BJEST-DME	DME	BJEST	3106-1485	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-007	M3.1-TME	TME	M3.1	3106-1486	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-007	M3.1-DME	DME	M3.1	3106-1487	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-008	M3.1DEEP-TME	TME	M3.1DEEP	3106-1488	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-008	M3.1DEEP-DME	DME	M3.1DEEP	3106-1489	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-009	PS12-TME	TME	PS12	3106-1490	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-009	PS12-DME	DME	PS12	3106-1491	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-010	PS01-TME	TME	PS01	3106-1492	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-010	PS01-DME	DME	PS01	3106-1493	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-011	PS02-TME	TME	PS02	3106-1494	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-011	PS02-DME	DME	PS02	3106-1495	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-012	PS13-TME	TME	PS13	3106-1496	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-012	PS13-DME	DME	PS13	3106-1497	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-013	PS03-TME	TME	PS03	3106-1498	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-013	PS03-DME	DME	PS03	3106-1499	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-014	PS04-TME	TME	PS04	3106-1500	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-014	PS04-DME	DME	PS04	3106-1501	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-015	PS05-TME	TME	PS05	3106-1502	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-015	PS05-DME	DME	PS05	3106-1503	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-016	PS08-TME	TME	PS08	3106-1504	Seawater	PREP LAB	Total Metals, Hg	04/07/15

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 4/7/2015
Batch: 45
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-016	PS08-DME	DME	PS08	3106-1505	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-017	PS15-TME	TME	PS15	3106-1506	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-017	PS15-DME	DME	PS15	3106-1507	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-018	PS09-TME	TME	PS09	3106-1508	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-018	PS09-DME	DME	PS09	3106-1509	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-019	PS09DUP-TME	TME	PS09DUP	3106-1510	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-019	PS09DUP-DME	DME	PS09DUP	3106-1511	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-020	PS10-TME	TME	PS10	3106-1512	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-020	PS10-DME	DME	PS10	3106-1513	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-021	PS10.1-TME	TME	PS10.1	3106-1514	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-021	PS10.1-DME	DME	PS10.1	3106-1515	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-022	PS11-TME	TME	PS11	3106-1516	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-022	PS11-DME	DME	PS11	3106-1517	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-023	PS16-TME	TME	PS16	3106-1518	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-023	PS16-DME	DME	PS16	3106-1519	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-024	PS07B-TME	TME	PS07B	3106-1520	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-024	PS07B-DME	DME	PS07B	3106-1521	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-DD001	OF018-TME	TME	OF018	3106-1522	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-DD001	OF018-DME	DME	OF018	3106-1523	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-DD002	OF019-TME	TME	OF019	3106-1524	Seawater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-DD002	OF019-DME	DME	OF019	3106-1525	Seawater	PREP LAB	Dissolved Metals, Hg	04/07/15
AMB17-DD003	OF021-TME	TME	OF021	3106-1526	Freshwater	PREP LAB	Total Metals, Hg	04/07/15
AMB17-DD003	OF021-DME	DME	OF021	3106-1527	Freshwater	PREP LAB	Dissolved Metals, Hg	04/07/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 4/7/2015
Batch: 45
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-001	PS07-DOC	DOC	PS07	3106-1475	Seawater	MSL	DOC	04/07/15
AMB17-002	PS06-DOC	DOC	PS06	3106-1477	Seawater	MSL	DOC	04/07/15
AMB17-003	PS06DUP-DOC	DOC	PS06DUP	3106-1479	Seawater	MSL	DOC	04/07/15
AMB17-004	PS14-DOC	DOC	PS14	3106-1481	Seawater	MSL	DOC	04/07/15
AMB17-005	M4-DOC	DOC	M4	3106-1483	Seawater	MSL	DOC	04/07/15
AMB17-006	BJEST-DOC	DOC	BJEST	3106-1485	Seawater	MSL	DOC	04/07/15
AMB17-007	M3.1-DOC	DOC	M3.1	3106-1487	Seawater	MSL	DOC	04/07/15
AMB17-008	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-1489	Seawater	MSL	DOC	04/07/15
AMB17-009	PS12-DOC	DOC	PS12	3106-1491	Seawater	MSL	DOC	04/07/15
AMB17-010	PS01-DOC	DOC	PS01	3106-1493	Seawater	MSL	DOC	04/07/15
AMB17-011	PS02-DOC	DOC	PS02	3106-1495	Seawater	MSL	DOC	04/07/15
AMB17-012	PS13-DOC	DOC	PS13	3106-1497	Seawater	MSL	DOC	04/07/15
AMB17-013	PS03-DOC	DOC	PS03	3106-1499	Seawater	MSL	DOC	04/07/15
AMB17-014	PS04-DOC	DOC	PS04	3106-1501	Seawater	MSL	DOC	04/07/15
AMB17-015	PS05-DOC	DOC	PS05	3106-1503	Seawater	MSL	DOC	04/07/15
AMB17-016	PS08-DOC	DOC	PS08	3106-1505	Seawater	MSL	DOC	04/07/15
AMB17-017	PS15-DOC	DOC	PS15	3106-1507	Seawater	MSL	DOC	04/07/15
AMB17-018	PS09-DOC	DOC	PS09	3106-1509	Seawater	MSL	DOC	04/07/15
AMB17-019	PS09DUP-DOC	DOC	PS09DUP	3106-1511	Seawater	MSL	DOC	04/07/15
AMB17-020	PS10-DOC	DOC	PS10	3106-1513	Seawater	MSL	DOC	04/07/15
AMB17-021	PS10.1-DOC	DOC	PS10.1	3106-1515	Seawater	MSL	DOC	04/07/15
AMB17-022	PS11-DOC	DOC	PS11	3106-1517	Seawater	MSL	DOC	04/07/15
AMB17-023	PS16-DOC	DOC	PS16	3106-1519	Seawater	MSL	DOC	04/07/15
AMB17-024	PS07B-DOC	DOC	PS07B	3106-1521	Seawater	MSL	DOC	04/07/15
AMB17-DD001	OF018-DOC	DOC	OF018	3106-1523	Seawater	MSL	DOC	04/07/15
AMB17-DD002	OF019-DOC	DOC	OF019	3106-1525	Seawater	MSL	DOC	04/07/15
AMB17-DD003	OF021-DOC	DOC	OF021	3106-1527	Freshwater	MSL	DOC	04/07/15

SAMPLE LOGIN

Project Manager: Brandenberger
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Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-001	PS07-TOC	TOC	PS07	3106-1474	Seawater	MSL	TOC	04/07/15
AMB17-002	PS06-TOC	TOC	PS06	3106-1476	Seawater	MSL	TOC	04/07/15
AMB17-003	PS06DUP-TOC	TOC	PS06DUP	3106-1478	Seawater	MSL	TOC	04/07/15
AMB17-004	PS14-TOC	TOC	PS14	3106-1480	Seawater	MSL	TOC	04/07/15
AMB17-005	M4-TOC	TOC	M4	3106-1482	Seawater	MSL	TOC	04/07/15
AMB17-006	BJEST-TOC	TOC	BJEST	3106-1484	Seawater	MSL	TOC	04/07/15
AMB17-007	M3.1-TOC	TOC	M3.1	3106-1486	Seawater	MSL	TOC	04/07/15
AMB17-008	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-1488	Seawater	MSL	TOC	04/07/15
AMB17-009	PS12-TOC	TOC	PS12	3106-1490	Seawater	MSL	TOC	04/07/15
AMB17-010	PS01-TOC	TOC	PS01	3106-1492	Seawater	MSL	TOC	04/07/15
AMB17-011	PS02-TOC	TOC	PS02	3106-1494	Seawater	MSL	TOC	04/07/15
AMB17-012	PS13-TOC	TOC	PS13	3106-1496	Seawater	MSL	TOC	04/07/15
AMB17-013	PS03-TOC	TOC	PS03	3106-1498	Seawater	MSL	TOC	04/07/15
AMB17-014	PS04-TOC	TOC	PS04	3106-1500	Seawater	MSL	TOC	04/07/15
AMB17-015	PS05-TOC	TOC	PS05	3106-1502	Seawater	MSL	TOC	04/07/15
AMB17-016	PS08-TOC	TOC	PS08	3106-1504	Seawater	MSL	TOC	04/07/15
AMB17-017	PS15-TOC	TOC	PS15	3106-1506	Seawater	MSL	TOC	04/07/15
AMB17-018	PS09-TOC	TOC	PS09	3106-1508	Seawater	MSL	TOC	04/07/15
AMB17-019	PS09DUP-TOC	TOC	PS09DUP	3106-1510	Seawater	MSL	TOC	04/07/15
AMB17-020	PS10-TOC	TOC	PS10	3106-1512	Seawater	MSL	TOC	04/07/15
AMB17-021	PS10.1-TOC	TOC	PS10.1	3106-1514	Seawater	MSL	TOC	04/07/15
AMB17-022	PS11-TOC	TOC	PS11	3106-1516	Seawater	MSL	TOC	04/07/15
AMB17-023	PS16-TOC	TOC	PS16	3106-1518	Seawater	MSL	TOC	04/07/15
AMB17-024	PS07B-TOC	TOC	PS07B	3106-1520	Seawater	MSL	TOC	04/07/15
AMB17-DD001	OF018-TOC	TOC	OF018	3106-1522	Seawater	MSL	TOC	04/07/15
AMB17-DD002	OF019-TOC	TOC	OF019	3106-1524	Seawater	MSL	TOC	04/07/15
AMB17-DD003	OF021-TOC	TOC	OF021	3106-1526	Freshwater	MSL	TOC	04/07/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 4/7/2015
Batch: 45
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1474	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-002	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1476	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-003	PS06DUP-TSS/OSAL	TSS/OSAL	PS06DUP	3106-1478	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-004	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1480	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-005	M4-TSS/OSAL	TSS/OSAL	M4	3106-1482	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-006	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1484	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-007	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1486	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-008	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-1488	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-009	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1490	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-010	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1492	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-011	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1494	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-012	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1496	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-013	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1498	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-014	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1500	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-015	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1502	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-016	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1504	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-017	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1506	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-018	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1508	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-019	PS09DUP-TSS/OSAL	TSS/OSAL	PS09DUP	3106-1510	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-020	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1512	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-021	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1514	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-022	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1516	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-023	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1518	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-024	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-1520	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-DD001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1522	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1524	Seawater	MSL	TSS/OSAL	04/07/15
AMB17-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1526	Freshwater	MSL	TSS/OSAL	04/07/15
AMB17-DD004	OF021DUP-TSS/OSAL	TSS/OSAL	OF021DUP	3106-1528	Freshwater	MSL	TSS/OSAL	04/07/15

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1474 - 1529 Batch: 43

Project Name: ENVVEST AMB 17 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: SeaWater WP# N427161

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
✓			Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL? ALL HALF TIME *Samples must be filtered prior to preservation!*

Cooler 1: 4 °C
Cooler 2: 4 °C
Cooler 3: 4 °C
Cooler 4: 4 °C

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) (Cap. Vial) Baggie Other:

Notes:

Completed By: STRUSZ Cooler Receipt Date/Time: 20150407 2000

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [x] Sample(s) were preserved at MSL

Type:
- [x] 0.2% HNO3 Notes: TMS - Lab Lot# 1214010
- [ ] 0.5% HCl (Hg samples) Notes: Lot#
- [x] Refrigerate/Freeze Notes: Refrig: TSS/OSAL, Nutr., O.I/grease 20150407 2000
- [ ] Other Notes: Freeze: TOC, DOC

Completed By: Preservation Date/Time: 4-8-15 8:00 AM

Storage Shelf:

Comments/Observations:

SAMPLE CHAIN OF CUSTODY FORM AMB17_2015_04_08

Date: 4/8/2015
Page: _____ of _____
COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

M - marine
NS - Nearshore

EVENT: AMB17

Testing Parameters

3106 TOT/DISS Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Metals (Total/Diss)	TS/TSS/Osal	Nuts	DOC	TOC				No. of containers	StationID	Comments
1529 1530	AMB17-100	A	4/8/2015												
1529 1530	-101	MK	0936	M	✓	✓	✓	✓	✓				5	MB	Pollen on surface
1531 1532	102	M8	0954	M	✓	✓	✓	✓	✓				5	MB	
1533 1534	103	DYBTS	1022	NS	✓	✓	✓	✓	✓				5	DYOTS	
1535 1536	104	DYOTS-DUP	1024	NS	✓	✓	✓	✓	✓				5	DYOTS	
1537 1538	105	WP	1110	NS	✓	✓	✓	✓	✓				5	WP	
1539 1540	106	M2 Deep	1126	M	✓	✓	✓	✓	✓					M2	Rich Pass
1541 1542	107	M2 ~~Surface~~	1136	M	✓	✓	✓	✓	✓					M2	
1543 1544	108	CLMBAY	1150	NS	✓	✓	✓	✓	✓					CLMBAY	CLM BAY
1545 1546	109	M1 Deep	1217	M	✓	✓	✓	✓	✓					M1	
1547 1548	110	M1	1221	M	✓	✓	✓	✓	✓					M1	Port Orchard Pass
1549 1550	111	ILSP	1245	NS	✓	✓	✓	✓	✓					ILSP	Illahee State Park
1551 1552	112	SNO3	1331	NS	✓	✓	✓	✓	✓					SNO3	Sewer Plant
1553 1554	113	SNO5	1342	NS	✓	✓	✓	✓	✓					SNO5	Gorst
1555 1556	114	SNO8	1354	NS	✓	✓	✓	✓	✓					SNO8	Ross Pt. Jellies!
1557 1558	115	SN10	1409	NS	✓	✓	✓	✓	✓					SN10	PO Boat Ramp/Sinclair
1559 1560	116	SN10DUP	1411	NS	✓	✓	✓	✓	✓					SN10	" " " Marina
1561 1562	117	SN11	1423	NS	✓	✓	✓	✓	✓					SN11	
1563 1564	118	~~SB~~ M3.3	1430	M	✓	✓	✓	✓	✓					M3.3	
1565 1566	119	PS03C	1445	NS	✓	✓	✓	✓	✓					PS03	Toms Dock
1567 1568	120	PS07C	1456	NS	✓	✓	✓	✓	✓					PS07	Finger Pier/Scum

Observations, Instructions

Relinquished by: STRIDSNO Signature 20150408 Date 1900 Time
Printed Name Company PNNL

Received by: Signature 4/8/15
CASUSLICK MSL Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered

Relinquished by: Signature Date Time
Printed Name Company

Received by: Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

Sample Collector		Page__1_ of _1___
Sampling Team	Johnston, Gebhart, Aylward, Strivens, Johnson	AMB17_2015_04_08
Organization	PSNS&IMF c/106.32	Bremerton Tides

Use pre-assigned id | 04/08/2015 m/dd/yy hh:mm | m/dd/yy hh:mm | Weather: Partly Sunny

StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
1 M6	0932		M	47.60007	122.68011	Ostrich Bay
2 M9	0952	0957	M	47.57260	122.67645	Oyster Bay
3 DYOTS	1018	1027	NS	47.64092	122.69431	old town Silverdale
4 DYOTSDUP			NS			
5 WP	1107		~~M~~ NS	47.58382	122.57171	Waterman Point
6 M2Deep	1126		M	47.57491	122.53690	Rich Passage Deep
7 M2	1130		M	"	"	Went Back to Navy Point
8 CIMBay	1149	1155	NS	47.57220	122.54749	Clam Bay
9 M1Deep	1217		M	47.63145	122.58572	PO Passage
10 M1	1221	1234	M	"	"	Same
11 ILSP	1243		NS	47.60040	122.59386	Illahee State Park
12 SN03	1328		NS	47.54649	122.67081	Sewer Plant
13 SN05	1340		NS	47.53293	122.68216	Gas St
14 SN08	1351		NS	47.53953	122.66491	Jelly fish
15 SN10	1406		NS	47.54699	122.64265	Port Orchard Boat dock
16 SN10DUP			NS			
17 SN11	1421		NS	47.54354	122.63549	PO Marina Foot Ferry
18 M3.3	1428		M	47.54794	122.64332	middle of Sinclair Inlet
19 PS03C	1442		NS	47.55548	122.65179	Toms Dock
20 PS07C	1455		NS	47.55605	122.64143	Finger Pier

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

002/005
PSNS&IMF ESH CODE 106
04/08/2015 15:17 FAX 3604768550

Water Quality Log

Sample Collector											PSNS Project ENVVEST			AMB 17 2015-04-08
Sampling Team			Johnston, Gebhart, Aylward, Stevens								Ambient Monitoring:			
Organization			TROLL											From Troll Downloaded 1545
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	F	ft	FNU	Volts		mg/L	%		mS/cm	ft	ft	
SampleID	StationID	Date/Time	Temp	Pressure	Turb	ORP	pH	DO	DO SAT		COND	secchi dish	tom depth	Remarks/ Comments
	M6	9:36:22	53.96	2.46	6.4	0.27	8.4	16.28	178.6		30426.3			Ostrich Bay
	M8	9:54:54	54.22	2.64	0.7	.28	8.39	16.27	178.32		30318.31			Oyster Bay
	DYOTS	10:22:42	53.34	2.9	0.3	.29	8.38	15.73	170.93		29770.21			Old Town Silverdale
	INP	11:10:12	52.66	2.67	0.7	.31	8.19	13.54	146.5		30245			Interman Pt
	MZDEEP	11:26:12	52.09	11.3	1.4	.52	8.03	11.49	123.59		30227.71			Rich Passage Deep
	MZ	11:36:42	51.98				8.01							
	CLMBAY	11:50:12	52.49	2.9	0.8	.32	8.03	11.64	125.88		30485.32			Clam Bay
	MIDeep	12:20:02	52.11	55.3	1.5	.32	7.98							PO Passage
	MISurf	12:29:02	53.28	7.4	0.9	.29	8.49	11.25	155.6		30758.13			
	ILSP	12:47:42	54.27	2.9	.8	.29	8.7	20.35	224.88		31218.57			Illahee State Park
	SN03	13:34:12	54.1	3.0	.4	.28	8.19	13.17	144.96		30777.53			WWTP
	SN05	13:41:32	55.1	3	2.6	.27	8.29	15.41	171.82		31038.51			Gorst
	SN08	13:54:42	55.91	3.16	1.2	.29	8.33	14.67	164.47		30397.03			Ross Pt
	SN10	14:08:52	54.22	2.99	1	.31	8.38	15.49			30494.91			
	SN10													
	SN11	14:23:02	54.64	2.8	1.4	.32	8.36	15.48			30786.28			PO Boat launch Foot ferry
	M3.3	14:28:22	56.07	2.4	0.5	.32	9.46	12.76			31449.56			Sinclair Middle
	PS03C	14:45:02	55.72	~~3.1~~ 3.0	0.1	.29	8.26	14.07			31539.13			
	PS07C	14:58:22	55.85	3.1	0.4	.29	8.22	13.56			31703.07			Finger Pier

003/005 PSNS&IMF ESH CODE 106 04/08/2015 15:18 FAX 3604768550

Water Quality Log

Sample Logger: PSNS Project ENVVEST

Sampling Team: Johnston, Gebhart, Aylward, Strivens, Johnson

Organization: PSNS&IMF c/106.32

Instrument: YSI EC300 / Micro

AMB17_2015_04_08

From Troll Downloaded 1545

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	YSI EC300							Micro		Secchi	Bottom	
SampleID	StationID	Date/Time	Cond	units	Spec. Cond	units	TempC	Sal ppt	TDS g/L	Turb NTU	pH	ft	ft	Remarks/ Comments
1	M6	0936	32.35		41.34		11.3	28.2	26.88	0	8.4	17	35	
2	M8	0954	32.27		41.11		11.4	28.0	26.71	0	8.39	13	21	
3	DYOT3	1022	32.05		41.34		10.9	28.2	26.87	0	8.38	17	22	Troll in during Head Break
4	DYOT3 Dup											~~17~~	~~27~~	
5	WP	1110	32.14		41.78		10.6	28.5	27.19	.07		17	27	
6	M2Deep	1126	32.47		42.23		10.7	28.8	27.45	.16	8.03			
7	M2	1136	32.13		42.24		10.2	28.8	27.41	.31	8.01	17		
8	CLMBAY	1150	32.36		42.22		10.5	28.8	24.945	.01	8.03	Bottom		bottom 6 ft
9	M1Deep	1217	33.15		42.04		10.6	28.7	27.3	.00	7.98	~~10~~		
10	M1	1221	33.07		41.81		11.8	28.5	27.18	.04	8.49	10		
11	LSP	1245	32.79		41.85		11.3	28.5	27.23	.34	8.7	7		troll in for break
12	SN03	1331	32.39		41.27		11.24	28.1	26.82	.0	8.19	16	26	
13	SN05	1342	32.65		41.23		12.2	27.2	26.29	1.97	8.29	12		(2.69 for NTU) Gorst
14	SN08	1354	32.02		39.84		12.5	27.0	25.86	.56	8.33	16	17	Jelly fish
15	SN10	1409	32.24		40.42		12.2	27.5	26.24	.01	8.38	10		Bottom at 10 ft
16	SN10DUP													
17	SNW	1423	32.40		40.96		11.8	27.9	26.63	0	8.36	~~B~~		20ft bottom Secchi
18	M3.3	1430	32.59		40.10		12.8	27.2	26.11	0.10	8.46	13	40	
19	PS03C	1445	33.06		41.41		12.2	28.2	26.89	0.02	8.26	23	38	Toms Dock
20	PS07C	1458	33.1		41.34		12.2	28.1	26.86	0.01	8.22	19	21	Scum layer

PSNS&IMF ESH CODE 106 04/08/2015 15:19 FAX 3604768550 004/005

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 4/8/2015
Batch: 46
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-101	M6-TME	TME	M6	3106-1529	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-101	M6-DME	DME	M6	3106-1530	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-102	M8-TME	TME	M8	3106-1531	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-102	M8-DME	DME	M8	3106-1532	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-103	DYOTS-TME	TME	DYOTS	3106-1533	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-103	DYOTS-DME	DME	DYOTS	3106-1534	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-104	DYOTS DUP-TME	TME	DYOTS DUP	3106-1535	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-104	DYOTS DUP-DME	DME	DYOTS DUP	3106-1536	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-105	WP-TME	TME	WP	3106-1537	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-105	WP-DME	DME	WP	3106-1538	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-106	M2 DEEP-TME	TME	M2 DEEP	3106-1539	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-106	M2 DEEP-DME	DME	M2 DEEP	3106-1540	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-107	M2-TME	TME	M2	3106-1541	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-107	M2-DME	DME	M2	3106-1542	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-108	CLMBAY-TME	TME	CLMBAY	3106-1543	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-108	CLMBAY-DME	DME	CLMBAY	3106-1544	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-109	M1 DEEP-TME	TME	M1 DEEP	3106-1545	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-109	M1 DEEP-DME	DME	M1 DEEP	3106-1546	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-110	M1-TME	TME	M1	3106-1547	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-110	M1-DME	DME	M1	3106-1548	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-111	ILSP-TME	TME	ILSP	3106-1549	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-111	ILSP-DME	DME	ILSP	3106-1550	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-112	SN03-TME	TME	SN03	3106-1551	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-112	SN03-DME	DME	SN03	3106-1552	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-113	SN05-TME	TME	SN05	3106-1553	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-113	SN05-DME	DME	SN05	3106-1554	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-114	SN08-TME	TME	SN08	3106-1555	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-114	SN08-DME	DME	SN08	3106-1556	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-115	SN10-TME	TME	SN10	3106-1557	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-115	SN10-DME	DME	SN10	3106-1558	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-116	SN10DUP-TME	TME	SN10DUP	3106-1559	Seawater	PREP LAB	Total Metals, Hg	04/08/15

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
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Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-116	SN10DUP-DME	DME	SN10DUP	3106-1560	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-117	SN11-TME	TME	SN11	3106-1561	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-117	SN11-DME	DME	SN11	3106-1562	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-118	M3.3-TME	TME	M3.3	3106-1563	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-118	M3.3-DME	DME	M3.3	3106-1564	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-119	PS03C-TME	TME	PS03C	3106-1565	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-119	PS03C-DME	DME	PS03C	3106-1566	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15
AMB17-120	PS07C-TME	TME	PS07C	3106-1567	Seawater	PREP LAB	Total Metals, Hg	04/08/15
AMB17-120	PS07C-DME	DME	PS07C	3106-1568	Seawater	PREP LAB	Dissolved Metals, Hg	04/08/15

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Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-101	M6-TOC	TOC	M6	3106-1529	Seawater	MSL	TOC	04/08/15
AMB17-102	M8-TOC	TOC	M8	3106-1531	Seawater	MSL	TOC	04/08/15
AMB17-103	DYOTS-TOC	TOC	DYOTS	3106-1533	Seawater	MSL	TOC	04/08/15
AMB17-104	DYOTS DUP-TOC	TOC	DYOTS DUP	3106-1535	Seawater	MSL	TOC	04/08/15
AMB17-105	WP-TOC	TOC	WP	3106-1537	Seawater	MSL	TOC	04/08/15
AMB17-106	M2 DEEP-TOC	TOC	M2 DEEP	3106-1539	Seawater	MSL	TOC	04/08/15
AMB17-107	M2-TOC	TOC	M2	3106-1541	Seawater	MSL	TOC	04/08/15
AMB17-108	CLMBAY-TOC	TOC	CLMBAY	3106-1543	Seawater	MSL	TOC	04/08/15
AMB17-109	M1 DEEP-TOC	TOC	M1 DEEP	3106-1545	Seawater	MSL	TOC	04/08/15
AMB17-110	M1-TOC	TOC	M1	3106-1547	Seawater	MSL	TOC	04/08/15
AMB17-111	ILSP-TOC	TOC	ILSP	3106-1549	Seawater	MSL	TOC	04/08/15
AMB17-112	SN03-TOC	TOC	SN03	3106-1551	Seawater	MSL	TOC	04/08/15
AMB17-113	SN05-TOC	TOC	SN05	3106-1553	Seawater	MSL	TOC	04/08/15
AMB17-114	SN08-TOC	TOC	SN08	3106-1555	Seawater	MSL	TOC	04/08/15
AMB17-115	SN10-TOC	TOC	SN10	3106-1557	Seawater	MSL	TOC	04/08/15
AMB17-116	SN10DUP-TOC	TOC	SN10DUP	3106-1559	Seawater	MSL	TOC	04/08/15
AMB17-117	SN11-TOC	TOC	SN11	3106-1561	Seawater	MSL	TOC	04/08/15
AMB17-118	M3.3-TOC	TOC	M3.3	3106-1563	Seawater	MSL	TOC	04/08/15
AMB17-119	PS03C-TOC	TOC	PS03C	3106-1565	Seawater	MSL	TOC	04/08/15
AMB17-120	PS07C-TOC	TOC	PS07C	3106-1567	Seawater	MSL	TOC	04/08/15

SAMPLE LOGIN

Project Manager: Brandenberger
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Marine Sciences Laboratory
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-101	M6-DOC	DOC	M6	3106-1530	Seawater	MSL	DOC	04/08/15
AMB17-102	M8-DOC	DOC	M8	3106-1532	Seawater	MSL	DOC	04/08/15
AMB17-103	DYOTS-DOC	DOC	DYOTS	3106-1534	Seawater	MSL	DOC	04/08/15
AMB17-104	DYOTS DUP-DOC	DOC	DYOTS DUP	3106-1536	Seawater	MSL	DOC	04/08/15
AMB17-105	WP-DOC	DOC	WP	3106-1538	Seawater	MSL	DOC	04/08/15
AMB17-106	M2 DEEP-DOC	DOC	M2 DEEP	3106-1540	Seawater	MSL	DOC	04/08/15
AMB17-107	M2-DOC	DOC	M2	3106-1542	Seawater	MSL	DOC	04/08/15
AMB17-108	CLMBAY-DOC	DOC	CLMBAY	3106-1544	Seawater	MSL	DOC	04/08/15
AMB17-109	M1 DEEP-DOC	DOC	M1 DEEP	3106-1546	Seawater	MSL	DOC	04/08/15
AMB17-110	M1-DOC	DOC	M1	3106-1548	Seawater	MSL	DOC	04/08/15
AMB17-111	ILSP-DOC	DOC	ILSP	3106-1550	Seawater	MSL	DOC	04/08/15
AMB17-112	SN03-DOC	DOC	SN03	3106-1552	Seawater	MSL	DOC	04/08/15
AMB17-113	SN05-DOC	DOC	SN05	3106-1554	Seawater	MSL	DOC	04/08/15
AMB17-114	SN08-DOC	DOC	SN08	3106-1556	Seawater	MSL	DOC	04/08/15
AMB17-115	SN10-DOC	DOC	SN10	3106-1558	Seawater	MSL	DOC	04/08/15
AMB17-116	SN10DUP-DOC	DOC	SN10DUP	3106-1560	Seawater	MSL	DOC	04/08/15
AMB17-117	SN11-DOC	DOC	SN11	3106-1562	Seawater	MSL	DOC	04/08/15
AMB17-118	M3.3-DOC	DOC	M3.3	3106-1564	Seawater	MSL	DOC	04/08/15
AMB17-119	PS03C-DOC	DOC	PS03C	3106-1566	Seawater	MSL	DOC	04/08/15
AMB17-120	PS07C-DOC	DOC	PS07C	3106-1568	Seawater	MSL	DOC	04/08/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 4/8/2015
Batch: 46
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
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Project: **ENVVEST Ambient Monitoring, APRIL 2015 (AMB17, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB17-101	M6-TSS/OSAL	TSS/OSAL	M6	3106-1529	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-102	M8-TSS/OSAL	TSS/OSAL	M8	3106-1531	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-103	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1533	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-104	DYOTS DUP-TSS/OSAL	TSS/OSAL	DYOTS DUP	3106-1535	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-105	WP-TSS/OSAL	TSS/OSAL	WP	3106-1537	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-106	M2 DEEP-TSS/OSAL	TSS/OSAL	M2 DEEP	3106-1539	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-107	M2-TSS/OSAL	TSS/OSAL	M2	3106-1541	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-108	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1543	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-109	M1 DEEP-TSS/OSAL	TSS/OSAL	M1 DEEP	3106-1545	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-110	M1-TSS/OSAL	TSS/OSAL	M1	3106-1547	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-111	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1549	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-112	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1551	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-113	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1553	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-114	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1555	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-115	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1557	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-116	SN10DUP-TSS/OSAL	TSS/OSAL	SN10DUP	3106-1559	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-117	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1561	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-118	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1563	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-119	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-1565	Seawater	MSL	TSS/OSAL and pH	04/08/15
AMB17-120	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-1567	Seawater	MSL	TSS/OSAL and pH	04/08/15

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1529-1548 Batch: 46

Project Name: ENVVEST AMB 17 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Sea Water WP# N427(e)

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box		
		X	Custody seal present	Seal intact? YES NO	Cooler 1: 4 °C
X			Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)		Cooler 2: 4 °C Cooler 3: 4 °C Cooler 4: 4 °C
		X	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)		

Comment/Remedy:

X			Were all chain of custody forms signed and dated?	
X			Were samples filtered at MSL?	ALL HALF TMT — *Samples must be filtered prior to preservation!*

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: [signature] Cooler Receipt Date/Time: 20150708 1300

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [X] Sample(s) were preserved at MSL

Type:		Notes:	Lot#
[X]	0.2% HNO3	TMT	1214010
[ ]	0.5% HCl (Hg samples)		
[X]	Refrigerate/Freeze	TSS/OSAL, Nutrients to refer	20150708 1300
[ ]	Other	TOC/DOC to deepfreeze	

Completed By: [signature] Preservation Date/Time: 4-9-15 8 AM

Storage Shelf:

Comments/Observations:

SS KYD

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 2/6/2015
Batch: 42
Login Designee: McGahan
Project: **Envvest**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
Go Flow Blank	na	3106-1466	DI water	Lab 227	TME, Hg	12/07/14
TME Filter Blank 1	na	3106-1467	DI water	Lab 227	TME, Hg	02/06/15
TME Filter Blank 2	na	3106-1468	DI water	Lab 227	TME, Hg	02/06/15
TME Filter Blank 3	na	3106-1469	DI water	Lab 227	TME, Hg	02/06/15

SOP#: MSL-A-001

NO Login Checklist - Blanks Created in Lab

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 2/6/15

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVEST
Project Manager: Brandenburger
Phone Number: Kisley

Shipment Method: NA
Preservation: 0.2% HNO_3

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TMS	Test Parameters: Mercury	Test Parameters	Test Parameters	Test Parameters	Laboratory ID	Observations/Comments
1	GOFlow Blank	12/17/14	DI WATER	2	X	X				~~3402-198~~	31062-14660
2	TMS Filter Blank1	2/6/15	"	2	X	X				~~3402-199~~	31062-14667
3	TMS Filter Blank2	"	"	2	X	X				~~3402-200~~	31062-14668
4	TMS Filter Blank 3	"	"	2	X	X				~~3402-201~~	31062-14669
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By: [signature] Company: PNNL
Signature/Printed Name: [signature] Date/Time: 20150206

Received By: [signature] Company: MSL
Signature/Printed Name: [signature] MLFMcGahan Date/Time: 02/06/15 1200

Relinquished By: Company:
Signature/Printed Name: Date/Time:

Received By: Company:
Signature/Printed Name: Date/Time:

K1503659

PROJECT ENVVEST																
Project Name: APRIL 2015 Ambient Monitoring (AMB17)																
SAMPLE TEAM:		Navy, Battelle														
DATE:	4/8/2015															
Laboratory:	ALS Kelso, WA															

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB17-DD001	OF018	4/7/2015 16:55:00 PM	Seawater						X			1	
AMB17-DD002	OF019	4/7/2015 16:55:00 PM	Seawater						X			1	
AMB17-DD003	OF021	4/7/2015 16:55:00 PM	Freshwater						X			1	
--end													

Total: 3

Relinquished By: C. Suslick — Company: Battelle MSL — 4/8/2015
Signature/Printed Name — Date/Time

shipped via Fedex 4/8/15, CS

Received By: — Company: ALS
Signature/Printed Name — 4/9/15 0940 — Date/Time

PC H2

Cooler Receipt and Preservation Form

Client Battelle Service Request *K15* 63659

Received: 4/9/15 Opened: 4/9/15 By: KO Unloaded: 4/9/15 By: KO

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
.6	.4	—	—	-.2	352		773323309308	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* paper
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page _____ *of* _____

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

K1503715

Date: 4/9/15

Battelle

The Business of Innovation

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST AMBI7
Project Manager: J. Brandenberger
Phone Number:

Shipment Method: Fedex / Blue Ice
Preservation:

SHIPPED TO ALS

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: DOC					Laboratory ID	Observations/Comments
1	PS07	4/7/15	Seawater	1	X						
2	PS06			1							
3	PS06 DUP			1							
4	PS14			1							
5	M4			1							
6	BJEST			1							
7	M3.1			1							
8	M3.1 DEEP			1							
9	PS12			1							
10	PS01			1							
11	PS02			1							
12	PS03			1							
13	PS13			1							
14	PS04			1							
15	PS05	↓	↓	1	↓						

Relinquished By:	Company:	Received By:	Company:
C. SUSLICK	BATTELLE MSL	ALS 4/10/15 0930	
Signature/Printed Name	4/9/15 Date/Time	Signature/Printed Name	Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

K1503715

Date: 4/9/15

Battelle
The Business of Innovation
Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST AMB 17
Project Manager: J. Brandenberger
Phone Number:

Shipment Method: FedEx / Blue Ice
Preservation:

SHIPPED TO ALS

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Nut					Laboratory ID	Observations/Comments
1	PS08	4/7/15	Seawater	1	X						
2	PS15	"	"	1	"						
3	PS09	"	"	1	"						
4	PS09 DUP	"	"	1	"						
5	PS10	"	"	1	"						
6	PS10.1	"	"	1	"						
7	PS11	"	"	1	"						
8	PS16	"	"	1	"						
9	PS07B	"	"	1	"						
10	OF01B	"	"	1	"						
11	OF019	"	"	1	"						
12	OF021	4/7/15	Freshwater	1	"						
13	M6	4/8/15	Seawater		"						
14	M8	"	"		"						
15	DIOTS	"	"		↓						

Relinquished By:	Company:	Received By:	Company:
C. Suslick	Battelle MSL	ALS	ALS
Signature/Printed Name	4/9/15 Date/Time	Signature/Printed Name	4/10/15 0930 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

K1503715

Date: 4/9/15

Battelle
The Business of Innovation
Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST AMB 17
Project Manager: J. Brandon Berger
Phone Number:

Shipment Method: FedEx / Blue Ice
Preservation:

SHIPPED TO ALS

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: 2VT					Laboratory ID	Observations/Comments
1	DYOTS-DUP	4/8/15	Seawater	1	X						
2	WP			1							
3	M2 DEEP			1							
4	M2			1							
5	CLMBAY			1							
6	M1 DEEP			1							
7	M1			1							
8	ILGP			1							
9	SND3			1							
10	SND5			1							
11	SND8			1							
12	SN10			1							
13	SN10-DUP			1							
14	SN11			1							
15	M3.3	↓	↓	1	↓						

Relinquished By:	Company:	Received By:	Company:
C. Sousa	Battelle MSL	ALS	
Signature/Printed Name	4/9/15 Date/Time	Signature/Printed Name	4/10/15 0930 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

K1503715

Date: 4/9/15

Battelle

The Business of Innovation

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST AMB17
Project Manager: J Brandenberger
Phone Number:

Shipment Method: FED EX / BLUE ICE
Preservation:

SHIPPED TO ALS

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: VOC 2					Laboratory ID	Observations/Comments
1	PS03 C	4/8/15	Seawater	1	X						
2	PS07 C	"	"	1	X						
3	~~END~~										
4											
5											
6	OF021 DUP	4/7/15	FRESH WATER	1	X						
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
C. SUSLICK	Battelle MSL	MS	
Signature/Printed Name	4/9/15 Date/Time	Signature/Printed Name	4/10/15 0930 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

PC #2

Cooler Receipt and Preservation Form

Client BATTELLE Service Request K15 03715

Received: 4/10/15 Opened: 4/10/15 By: [illegible] Unloaded: 4/10/15 By: [illegible]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
4.6	4.5	N/P	—	-0.1	334		773331543226	
3.3	3.4	N/P	—	0.1	342		773331543330	
3.5	3.5	N/P	—	0	327		773331543097	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:_____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring June 2015 (AMB18)

Seawater and Freshwater Chemistry

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 18,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 10
QA/QC Narrative 26

Summary Report, Batch K1506595 31

Narrative, Batch K1506671 34
Summary Report, Batch K1506671 35

Sample Custody Information

Sample Collection, 061615 68
Sample Collection, 061715 78
Equipment Blanks, 060515 85

Chain of Custody, Batch K1506595 87
Chain of Custody, Batch K1506671 89

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/D OC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.049**	**4.1**	**0.10**	**0.2**	**0.006**	**0.06**	**0.020**
Seawater Reporting Limit (MDL* 3.18)								**0.16**	**13**	**0.32**	**0.6**	**0.02**	**0.2**	**0.06**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.10**	**0.2**	**0.004**	**0.1**	**0.0053**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.32**	**0.6**	**0.01**	**0.3**	**0.017**
AMB18														
AMB18-001	PS07	Total	Seawater	3106-1574	06/16/15	28.5	1.65	1.31	109	6.82	6.87	0.0645	0.162 J	1.43
AMB18-001	PS07	Diss	Seawater	3106-1575	06/16/15	--	--	1.13	93.8	3.75	1.10	0.0619	0.135 J	1.16
AMB18-002	PS06	Total	Seawater	3106-1576	06/16/15	28.5	1.50	1.47	122	2.05	19.8	0.0607	0.187 J	1.51
AMB18-002	PS06	Diss	Seawater	3106-1577	06/16/15	--	--	1.15	96.2	0.768	0.698	0.0590	0.126 J	1.11
AMB18-003	PS14	Total	Seawater	3106-1578	06/16/15	29.1	1.20	1.56	129.8	0.700	7.37	0.0549	0.129 J	1.00
AMB18-003	PS14	Diss	Seawater	3106-1579	06/16/15	--	--	1.19	99.3	0.340	0.388 J	0.0515	0.115 J	0.819
AMB18-004	PS05	Total	Seawater	3106-1580	06/16/15	28.9	0.42 U	1.47	123	1.19	2.56	0.0532	0.146 J	1.57
AMB18-004	PS05	Diss	Seawater	3106-1581	06/16/15	--	--	1.26	105	0.575	0.524 J	0.0525	0.120 J	1.38
AMB18-005	PS04	Total	Seawater	3106-1582	06/16/15	29.0	0.803	1.50	125	0.875	3.15	0.0525	0.132 J	1.68
AMB18-005	PS04	Diss	Seawater	3106-1583	06/16/15	--	--	1.20	100	0.442	0.377 J	0.0528	0.135 J	1.50
AMB18-006	PS03	Total	Seawater	3106-1584	06/16/15	29.0	1.07	1.47	123	1.28	3.74	0.0530	0.153 J	1.62
AMB18-006	PS03	Diss	Seawater	3106-1585	06/16/15	--	--	1.24	103	0.955	0.418 J	0.0538	0.129 J	1.40
AMB18-007	PS08	Total	Seawater	3106-1586	06/16/15	29.1	1.61	1.41	118	0.659	5.31	0.0580	0.137 J	1.33
AMB18-007	PS08	Diss	Seawater	3106-1587	06/16/15	--	--	1.45	121	0.349	0.339 J	0.0571	0.114 J	1.09
AMB18-008	PS15	Total	Seawater	3106-1588	06/16/15	29.2	1.06	1.50	125	0.738	8.41	0.0532	0.152 J	1.09
AMB18-008	PS15	Diss	Seawater	3106-1589	06/16/15	--	--	1.17	97.5	0.324	0.469 J	0.0516	0.122 J	0.883
AMB18-009	PS09	Total	Seawater	3106-1590	06/16/15	28.4	0.788	1.26	105	1.45	4.77	0.0592	0.154 J	2.45
AMB18-009	PS09	Diss	Seawater	3106-1591	06/16/15	--	--	1.06	88.7	0.379	0.654	0.0592	0.139 J	1.83
AMB18-010	PS10	Total	Seawater	3106-1592	06/16/15	29.0	1.10	1.35	112	1.21	6.63	0.0579	0.142 J	1.92
AMB18-010	PS10	Diss	Seawater	3106-1593	06/16/15	--	--	1.09	90.9	0.375	0.455 J	0.0566	0.113 J	1.52
AMB18-011	PS10.1	Total	Seawater	3106-1594	06/16/15	29.1	2.42	1.40	117	0.900	8.55	0.0595	0.163 J	1.92
AMB18-011	PS10.1	Diss	Seawater	3106-1595	06/16/15	--	--	1.17	97.3	0.360	0.561 J	0.0579	0.125 J	1.51
AMB18-012	PS11	Total	Seawater	3106-1596	06/16/15	29.2	0.985	1.30	108	1.38	9.94	0.0682	0.148 J	2.86
AMB18-012	PS11	Diss	Seawater	3106-1597	06/16/15	--	--	1.14	94.7	0.347	0.489 J	0.0711	0.155 J	2.34
AMB18-013	PS11DUP	Total	Seawater	3106-1598	06/16/15	29.1	0.516	1.32	110	0.720	7.31	0.0559	0.133 J	1.13
AMB18-013	PS11DUP	Diss	Seawater	3106-1599	06/16/15	--	--	1.12	93.5	0.319 J	0.452 J	0.0546	0.125 J	0.956
AMB18-014	PS16	Total	Seawater	3106-1600	06/16/15	29.3	1.42	1.39	116	1.32	9.58	0.0698	0.160 J	2.77
AMB18-014	PS16	Diss	Seawater	3106-1601	06/16/15	--	--	1.11	92.4	0.397	0.507 J	0.0694	0.122 J	2.08
AMB18-015	PS01	Total	Seawater	3106-1602	06/16/15	28.0	1.45	1.44	120	2.62	11.1	0.0548	0.214	1.18
AMB18-015	PS01	Diss	Seawater	3106-1603	06/16/15	--	--	1.12	93.4	1.40	0.462 J	0.0549	0.219	0.974
AMB18-016	PS01DUP	Total	Seawater	3106-1604	06/16/15	28.0	1.40	1.45	121	2.73	12.5	0.0577	0.238	1.39
AMB18-016	PS01DUP	Diss	Seawater	3106-1605	06/16/15	--	--	1.14	94.7	1.43	0.515 J	0.0556	0.212	1.20

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
						Units		HTCO	HTCO					
				Instrument:		(PSU)	mg/L	(mg/L)	(µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB18-017	PS02	Total	Seawater	3106-1606	06/16/15	28.8	1.09	1.66	138	1.99	10.4	0.0613	0.214	2.35
AMB18-017	PS02	Diss	Seawater	3106-1607	06/16/15	--	--	1.28	107	0.923	0.422 J	0.0603	0.170 J	1.92
AMB18-018	PS13	Total	Seawater	3106-1608	06/16/15	29.1	1.03	1.60	134	0.614	5.20	0.0529	0.151 J	1.48
AMB18-018	PS13	Diss	Seawater	3106-1609	06/16/15	--	--	1.21	101	0.377	0.851	0.0526	0.151 J	1.28
AMB18-019	M4	Total	Seawater	3106-1610	06/16/15	29.0	3.27	1.87	156	1.09	31.8	0.0479	0.214	0.685
AMB18-019	M4	Diss	Seawater	3106-1611	06/16/15	--	--	1.23	103	0.373	0.600 J	0.0456	0.124 J	0.528
AMB18-020	BJEST	Total	Seawater	3106-1612	06/16/15	29.1	1.79	1.92	160	1.12	24.4	0.0470	0.191 J	0.888
AMB18-020	BJEST	Diss	Seawater	3106-1613	06/16/15	--	--	1.41	118	0.266 J	0.754	0.0436	0.117 J	0.690
AMB18-021	M3.1	Total	Seawater	3106-1614	06/16/15	29.2	1.36	1.36	114	0.805	17.6	0.0564	0.187 J	0.600
AMB18-021	M3.1	Diss	Seawater	3106-1615	06/16/15	--	--	1.08	89.8	0.357	0.375 J	0.0528	0.114 J	0.461
AMB18-022	M3.1DEEP	Total	Seawater	3106-1616	06/16/15	29.2	1.75	1.39	116	0.779	15.4	0.0574	0.164 J	0.564
AMB18-022	M3.1DEEP	Diss	Seawater	3106-1617	06/16/15	--	--	1.12	93.2	0.523	0.546 J	0.0528	0.109 J	0.411
AMB18-023	PS12	Total	Seawater	3106-1618	06/16/15	28.9	2.36	1.79	149	1.19	17.8	0.0538	0.178 J	0.964
AMB18-023	PS12	Diss	Seawater	3106-1619	06/16/15	--	--	1.16	96.5	0.321	0.416 J	0.0495	0.119 J	0.721
AMB18-024	PS07B	Total	Seawater	3106-1620	06/16/15	29.0	1.11	1.34	112	1.24	10.9	0.0602	0.169 J	1.47
AMB18-024	PS07B	Diss	Seawater	3106-1621	06/16/15	--	--	1.11	92.7	0.368	0.500 J	0.0590	0.119 J	1.16
AMB18-DD001	OF096	Total	Seawater	3106-1622	06/16/15	27.6	0.557	1.10	91.8	5.05	7.11	0.0721	0.234	2.72
AMB18-DD001	OF096	Diss	Seawater	3106-1623	06/16/15	--	--	0.949	79.1	1.23	0.457 J	0.0684	0.158 J	1.76
AMB18-DD002	OF018	Total	Seawater	3106-1624	06/16/15	19.2	0.42 U	0.730	60.8	10.3	1.99	0.104	0.491	1.69
AMB18-DD002	OF018	Diss	Seawater	3106-1625	06/16/15	--	--	0.676	56.3	5.45	0.755	0.111	0.530	1.28
AMB18-DD003	OF021	Total	Freshwater	3106-1626	06/16/15	0.600	0.42 U	3.66	305	1.62	6.94	0.006 U	1.59	1.40
AMB18-DD003	OF021	Diss	Freshwater	3106-1627	06/16/15	--	--	3.52	293	1.31	5.82	0.006 U	1.59	1.35
AMB18-100	M8	Total	Seawater	3106-1628	06/17/15	28.9	1.55	1.57	131	0.936	15.4	0.0402	0.146 J	0.483
AMB18-100	M8	Diss	Seawater	3106-1629	06/17/15	--	--	1.33	111	0.313 J	0.486 J	0.0375	0.104 J	0.381
AMB18-101	M6	Total	Seawater	3106-1630	06/17/15	29.2	1.35	1.46	122	0.702	11.2	0.0477	0.164 J	0.491
AMB18-101	M6	Diss	Seawater	3106-1631	06/17/15	--	--	1.30	109	0.340	0.539 J	0.0447	0.110 J	0.384
AMB18-102	DYOTS	Total	Seawater	3106-1632	06/17/15	29.3	1.68	1.89	158	0.652	10.6	0.0448	0.157 J	0.461
AMB18-102	DYOTS	Diss	Seawater	3106-1633	06/17/15	--	--	1.26	105	0.609	0.506 J	0.0433	0.121 J	0.425
AMB18-103	SN03	Total	Seawater	3106-1634	06/17/15	29.1	2.03	1.90	159	1.06	14.7	0.0486	0.157 J	0.675
AMB18-103	SN03	Diss	Seawater	3106-1635	06/17/15	--	--	1.23	102	0.349	0.400 J	0.0452	0.116 J	0.528
AMB18-104	SN05	Total	Seawater	3106-1636	06/17/15	28.0	6.75	1.99	166	3.04	201	0.0420	0.574	1.15
AMB18-104	SN05	Diss	Seawater	3106-1637	06/17/15	--	--	1.38	115	0.382	2.24	0.0328	0.187 J	0.474
AMB18-105	SN08	Total	Seawater	3106-1638	06/17/15	28.8	2.29	1.83	152	1.11	30.2	0.0435	0.208	0.785
AMB18-105	SN08	Diss	Seawater	3106-1639	06/17/15	--	--	1.24	103	0.373	0.635	0.0400	0.118 J	0.583
AMB18-106	SN10	Total	Seawater	3106-1640	06/17/15	28.6	1.70	1.86	155	0.905	14.0	0.0467	0.228	0.941
AMB18-106	SN10	Diss	Seawater	3106-1641	06/17/15	--	--	1.28	107	0.302 J	0.454 J	0.0450	0.127 J	0.721
AMB18-107	SN11	Total	Seawater	3106-1642	06/17/15	29.1	2.81	1.95	163	0.893	14.7	0.0453	0.180 J	0.905

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Ambient Monitoring - AMB18
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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/D OC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	*CVAF*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
AMB18-107	SN11	Diss	Seawater	3106-1643	06/17/15	--	--	1.23	103	0.286 J	0.408 J	0.0455	0.138 J	0.690
AMB18-108	ILSP	Total	Seawater	3106-1644	06/17/15	29.5	0.851	1.65	137	0.309 J	4.50	0.0575	0.125 J	0.446
AMB18-108	ILSP	Diss	Seawater	3106-1645	06/17/15	--	--	1.17	97.1	0.253 J	0.347 J	0.0558	0.123 J	0.397
AMB18-109	M1	Total	Seawater	3106-1646	06/17/15	29.3	1.55	1.97	164	0.473	6.16	0.0455	0.461	0.439
AMB18-109	M1	Diss	Seawater	3106-1647	06/17/15	--	--	1.20	100	0.215 J	0.430 J	0.0523	0.197 J	0.462
AMB18-110	M1DEEP	Total	Seawater	3106-1648	06/17/15	29.4	0.964	1.51	126	0.463	7.35	0.0602	0.131 J	0.473
AMB18-110	M1DEEP	Diss	Seawater	3106-1649	06/17/15	--	--	1.17	97.7	0.193 J	0.641	0.0561	0.114 J	0.378
AMB18-111	WP	Total	Seawater	3106-1650	06/17/15	29.3	2.07	1.41	118	0.691	23.9	0.0584	0.178 J	0.591
AMB18-111	WP	Diss	Seawater	3106-1651	06/17/15	--	--	1.03	85.7	0.325	0.370 J	0.0541	0.120 J	0.470
AMB18-112	M2	Total	Seawater	3106-1652	06/17/15	29.5	1.06	1.13	93.8	0.508	19.8	0.0660	0.189 J	0.547
AMB18-112	M2	Diss	Seawater	3106-1653	06/17/15	--	--	0.963	80.3	0.243 J	0.517 J	0.0625	0.134 J	0.406
AMB18-113	M2DEEP	Total	Seawater	3106-1654	06/17/15	29.6	1.82	1.19	99.2	0.549	20.6	0.0662	0.196 J	0.615
AMB18-113	M2DEEP	Diss	Seawater	3106-1655	06/17/15	--	--	1.11	92.3	0.264 J	0.367 J	0.0609	0.440	0.388
AMB18-114	CLMBAY	Total	Seawater	3106-1656	06/17/15	29.5	3.09	1.27	106	0.830	75.0	0.0667	0.255	0.645
AMB18-114	CLMBAY	Diss	Seawater	3106-1657	06/17/15	--	--	1.02	85.1	0.331	0.83	0.0633	0.128 J	0.440
AMB18-115	CLMBAYDUP	Total	Seawater	3106-1658	06/17/15	29.6	2.38	1.20	100	0.909	79.1	0.0664	0.248	0.613
AMB18-115	CLMBAYDUP	Diss	Seawater	3106-1659	06/17/15	--	--	1.01	84.5	0.254 J	0.794	0.0636	0.205	0.596
AMB18-116	M3.3	Total	Seawater	3106-1660	06/17/15	29.1	2.80	2.19	183	0.834	11.7	0.0462	0.170 J	0.705
AMB18-116	M3.3	Diss	Seawater	3106-1661	06/17/15	--	--	1.26	105	0.318 J	0.328 J	0.0488	0.123 J	0.621
AMB18-117	M3.3DUP	Total	Seawater	3106-1662	06/17/15	29.1	2.80	2.22	185	0.862	11.5	0.0510	0.149 J	0.768
AMB18-117	M3.3DUP	Diss	Seawater	3106-1663	06/17/15	--	--	1.22	102	0.300 J	0.352 J	0.0477	0.113 J	0.641
AMB18-118	PS07C	Total	Seawater	3106-1664	06/17/15	29.0	2.70	2.12	177	0.881	14.5	0.0498	0.160 J	0.897
AMB18-118	PS07C	Diss	Seawater	3106-1665	06/17/15	--	--	1.23	102	0.334	0.327 J	0.0508	0.128 J	0.723
Equipment Blanks	0.45µm filter blank 1		Freshwater	3106-1569	06/05/15	--	--	--	--	0.100 U	0.200 U	0.004 U	0.1 U	0.0053 U
	0.45µm filter blank 2		Freshwater	3106-1570	06/05/15	--	--	--	--	0.100 U	0.200 U	0.004 U	0.1 U	0.0053 U
	0.45µm filter blank 3		Freshwater	3106-1571	06/05/15	--	--	--	--	0.100 U	0.200 U	0.004 U	0.1 U	0.0053 U
	Tank 5 Feed		Seawater	3106-1572	06/05/15	--	--	--	--	0.390	--	--	--	--
	Go-Flo 20 min blank		Seawater	3106-1573	06/05/15	--	--	--	--	0.100 U	--	--	--	--

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
Laboratory Achieved Detection Limits (Seawater)					**0.050**	**0.0040**	**0.100**					
Seawater Reporting Limit (MDL* 3.18)					**0.159**	**0.0127**	**0.318**					
Laboratory Achieved Detection Limits (Freshwater)					**0.004**	**0.0022**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.01**	**0.0070**	**0.06**					
AMB18												
AMB18-001	PS07	Total	Seawater	3106-1574	0.539	0.120	4.62	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-001	PS07	Diss	Seawater	3106-1575	0.494	0.0442	4.43	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-002	PS06	Total	Seawater	3106-1576	0.518	0.110	5.02	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-002	PS06	Diss	Seawater	3106-1577	0.465	0.0365	4.52	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-003	PS14	Total	Seawater	3106-1578	0.406	0.0689	1.77	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-003	PS14	Diss	Seawater	3106-1579	0.373	0.0314	1.44	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-004	PS05	Total	Seawater	3106-1580	0.491	0.0539	3.34	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-004	PS05	Diss	Seawater	3106-1581	0.410	0.0294	2.98	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-005	PS04	Total	Seawater	3106-1582	0.388	0.0522	3.28	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-005	PS04	Diss	Seawater	3106-1583	0.596	0.0357	3.21	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-006	PS03	Total	Seawater	3106-1584	0.472	0.0565	2.79	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-006	PS03	Diss	Seawater	3106-1585	0.626	0.0311	2.32	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-007	PS08	Total	Seawater	3106-1586	0.516	0.0626	3.15	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-007	PS08	Diss	Seawater	3106-1587	0.399	0.0316	2.85	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-008	PS15	Total	Seawater	3106-1588	0.453	0.0756	2.13	072115HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-008	PS15	Diss	Seawater	3106-1589	0.482	0.0553	2.01	072115HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-009	PS09	Total	Seawater	3106-1590	0.580	0.101	11.8	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-009	PS09	Diss	Seawater	3106-1591	0.474	0.0581	11.8	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-010	PS10	Total	Seawater	3106-1592	0.460	0.101	5.72	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-010	PS10	Diss	Seawater	3106-1593	0.417	0.0360	5.26	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-011	PS10.1	Total	Seawater	3106-1594	0.474	0.0970	12.8	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-011	PS10.1	Diss	Seawater	3106-1595	0.429	0.0332	12.1	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-012	PS11	Total	Seawater	3106-1596	0.411	0.120	26.9	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-012	PS11	Diss	Seawater	3106-1597	0.911	0.0388	27.0	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-013	PS11DUP	Total	Seawater	3106-1598	0.433	0.069	2.43	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-013	PS11DUP	Diss	Seawater	3106-1599	0.430	0.0324	2.27	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-014	PS16	Total	Seawater	3106-1600	0.599	0.121	19.3	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-014	PS16	Diss	Seawater	3106-1601	0.400	0.0386	18.6	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-015	PS01	Total	Seawater	3106-1602	0.445	0.105	2.11	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-015	PS01	Diss	Seawater	3106-1603	0.546	0.0445	1.79	072215HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-016	PS01DUP	Total	Seawater	3106-1604	0.493	0.111	2.67	072215HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-016	PS01DUP	Diss	Seawater	3106-1605	0.742	0.0470	2.31	072215HGA	Q071615A-ICAPQ		070815HTCO	

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB18-017	PS02	Total	Seawater	3106-1606	0.519	0.0972	3.66	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-017	PS02	Diss	Seawater	3106-1607	0.421	0.0374	3.19	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-018	PS13	Total	Seawater	3106-1608	0.407	0.0688	2.52	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-018	PS13	Diss	Seawater	3106-1609	0.463	0.0385	2.30	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-019	M4	Total	Seawater	3106-1610	0.449	0.138	1.12	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-019	M4	Diss	Seawater	3106-1611	0.391	0.0476	0.781	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-020	BJEST	Total	Seawater	3106-1612	0.469	0.116	1.61	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-020	BJEST	Diss	Seawater	3106-1613	0.389	0.0353	1.09	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-021	M3.1	Total	Seawater	3106-1614	0.506	0.0865	0.811	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-021	M3.1	Diss	Seawater	3106-1615	0.374	0.0356	0.670	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-022	M3.1DEEP	Total	Seawater	3106-1616	0.431	0.0984	0.882	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-022	M3.1DEEP	Diss	Seawater	3106-1617	0.349	0.0316	0.620	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-023	PS12	Total	Seawater	3106-1618	0.455	0.122	1.89	072315HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-023	PS12	Diss	Seawater	3106-1619	0.375	0.0377	1.48	072315HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-024	PS07B	Total	Seawater	3106-1620	0.587	0.118	4.13	072815HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-024	PS07B	Diss	Seawater	3106-1621	0.562	0.0451	3.79	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-DD001	OF096	Total	Seawater	3106-1622	1.12	0.159	34.4	072815HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-DD001	OF096	Diss	Seawater	3106-1623	1.05	0.0278	32.2	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-DD002	OF018	Total	Seawater	3106-1624	1.64	0.0816	28.0	072815HGA	Q071615A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-DD002	OF018	Diss	Seawater	3106-1625	2.25	0.00759 J	28.6	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-DD003	OF021	Total	Freshwater	3106-1626	0.590	0.0142	0.821	072815HGA	Q081315A-ICAPQ	061815Osal	063015HTCO	061815Nu
AMB18-DD003	OF021	Diss	Freshwater	3106-1627	0.565	0.00709 J	0.804	072815HGA	Q081315A-ICAPQ		070815HTCO	
AMB18-100	M8	Total	Seawater	3106-1628	0.458	0.123	0.629	072815HGA	Q071615A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-100	M8	Diss	Seawater	3106-1629	0.364	0.0639	0.410	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-101	M6	Total	Seawater	3106-1630	0.509	0.0910	0.491	072815HGA	Q071615A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-101	M6	Diss	Seawater	3106-1631	0.373	0.0415	0.346	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-102	DYOTS	Total	Seawater	3106-1632	0.396	0.0710	0.420	072815HGA	Q071615A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-102	DYOTS	Diss	Seawater	3106-1633	0.396	0.0327	0.316 J	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-103	SN03	Total	Seawater	3106-1634	0.423	0.0913	1.12	072815HGA	Q071615A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-103	SN03	Diss	Seawater	3106-1635	0.358	0.0326	0.712	072815HGA	Q071615A-ICAPQ		070815HTCO	
AMB18-104	SN05	Total	Seawater	3106-1636	0.742	0.481	1.78	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-104	SN05	Diss	Seawater	3106-1637	0.489	0.0876	0.765	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-105	SN08	Total	Seawater	3106-1638	0.449	0.127	1.37	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-105	SN08	Diss	Seawater	3106-1639	0.370	0.0371	1.01	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-106	SN10	Total	Seawater	3106-1640	0.536	0.0905	1.47	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-106	SN10	Diss	Seawater	3106-1641	0.409	0.0326	1.06	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-107	SN11	Total	Seawater	3106-1642	0.555	0.0879	1.79	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu

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Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*					
AMB18-107	SN11	Diss	Seawater	3106-1643	0.463	0.0282	1.28	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-108	ILSP	Total	Seawater	3106-1644	0.400	0.0324	0.395	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-108	ILSP	Diss	Seawater	3106-1645	0.359	0.0173	0.341	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-109	M1	Total	Seawater	3106-1646	0.560	0.0272	3.45	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-109	M1	Diss	Seawater	3106-1647	0.421	0.0167	0.440	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-110	M1DEEP	Total	Seawater	3106-1648	0.408	0.0470	0.557	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-110	M1DEEP	Diss	Seawater	3106-1649	0.357	0.0315	0.453	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-111	WP	Total	Seawater	3106-1650	0.503	0.0921	0.698	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-111	WP	Diss	Seawater	3106-1651	0.400	0.0269	0.434	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-112	M2	Total	Seawater	3106-1652	0.583	0.0612	0.642	072915HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-112	M2	Diss	Seawater	3106-1653	0.392	0.0134	0.507	072915HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-113	M2DEEP	Total	Seawater	3106-1654	0.611	0.0651	0.770	081015HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-113	M2DEEP	Diss	Seawater	3106-1655	0.537	0.0116 J	2.41	081015HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-114	CLMBAY	Total	Seawater	3106-1656	0.474	0.112	1.13	081015HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-114	CLMBAY	Diss	Seawater	3106-1657	0.413	0.0188	0.679	081015HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-115	CLMBAYDUP	Total	Seawater	3106-1658	0.518	0.120	0.861	081015HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-115	CLMBAYDUP	Diss	Seawater	3106-1659	0.441	0.0180	0.885	081015HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-116	M3.3	Total	Seawater	3106-1660	0.484	0.0736	1.30	081015HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-116	M3.3	Diss	Seawater	3106-1661	0.459	0.0287	0.956	081015HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-117	M3.3DUP	Total	Seawater	3106-1662	0.420	0.0839	1.50	081015HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-117	M3.3DUP	Diss	Seawater	3106-1663	0.388	0.0286	1.08	081015HGA	Q071715A-ICAPQ		070815HTCO	
AMB18-118	PS07C	Total	Seawater	3106-1664	0.447	0.136	1.65	081015HGA	Q071715A-ICAPQ	061915Osal	063015HTCO	061915Nu
AMB18-118	PS07C	Diss	Seawater	3106-1665	0.470	0.0357	1.11	081015HGA	Q071715A-ICAPQ		070815HTCO	
Equipment Blanks	0.45µm filter blank 1		Freshwater	3106-1569	0.004 U	0.0022 U	0.02 U	060915HGA	Q060515A-ICAPQ	--	--	--
	0.45µm filter blank 2		Freshwater	3106-1570	0.004 U	0.0022 U	0.02 U	060915HGA	Q060515A-ICAPQ	--	--	--
	0.45µm filter blank 3		Freshwater	3106-1571	0.004 U	0.0022 U	0.0725	060915HGA	Q060515A-ICAPQ	--	--	--
	Tank 5 Feed		Seawater	3106-1572	--	--	--	060915HGA	--	--	--	--
	Go-Flo 20 min blank		Seawater	3106-1573	--	--	--	060915HGA	--	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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QC Results for ICP-MS
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.2**	**0.006**	**0.06**	**0.020**	**0.050**	**0.0040**	**0.100**	
Seawater Reporting Limit (MDL* 3.18)					**0.6**	**0.02**	**0.2**	**0.06**	**0.159**	**0.0127**	**0.318**	
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**	**0.0022**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**	
METHOD BLANKS												
MB		Freshwater		TRM Blank	0.2 U	0.004 U	0.1 U	0.0053 U	0.004 U	0.0022 U	0.138 J	Q081315A-ICAPQ
MB		Seawater		DI Blank R1 071315	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q0071615A-ICAPQ
MB		Seawater		DI Blank R2 071315	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q0071615A-ICAPQ
MB		Seawater		DI Blank R3 071315	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q0071615A-ICAPQ
MB		Seawater		DI Blank R4 071315	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q0071615A-ICAPQ
MB		Seawater		DI Blank R5 071315	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q0071615A-ICAPQ
MB		Seawater		DI Blank R6 071315	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q0071615A-ICAPQ
MEAN REAGENT BLANK		Seawater		***BMRB_0713/15***	**0.2 U**	**0.006 U**	**0.06** U	**0.02 U**	**0.05 U**	**0.004 U**	**0.1 U**	Q0071615A-ICAPQ
MB		Seawater		DI Blank R1 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R2 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R3 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R4 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R5 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R6 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R7 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MB		Seawater		DI Blank R8 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.111 J	Q071715A-ICAPQ
MB		Seawater		DI Blank R9 071415	0.2 U	0.006 U	0.06 U	0.02 U	0.05 U	0.004 U	0.1 U	Q071715A-ICAPQ
MEAN REAGENT BLANK		Seawater		***BMRB_071415***	**0.2 U**	**0.006 U**	**0.06**	**0.02 U**	**0.05 U**	**0.004 U**	**0.1 U**	Q071715A-ICAPQ

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QC Results for ICP-MS
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**4**	**4**	**4**	**4**	**4**	**4**	**4**	
LCS Blank			Freshwater	TRM Blank	0.0301	0.0002	0.0187	0.0003	0.0004	0.0006	0.1377	Q081315A-ICAPQ
LCS			Freshwater	TRM LCS	4.19	4.07	4.11	4.14	4.09	4.13	4.44	Q081315A-ICAPQ
				Percent Recovery, LCS	**104%**	**102%**	**102%**	**104%**	**102%**	**103%**	**108%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Seawater	SB Blank R1	0.490	0.0693	0.311	0.274	0.594	0.00607	1.74	Q0071615A-ICAPQ
LCS		Total	Seawater	SB LCS R1	2.49	1.98	2.24	2.04	2.34	1.82	3.43	Q0071615A-ICAPQ
				Percent Recovery, LCS	**100%**	**95%**	**96%**	**88%**	**87%**	**91%**	**84%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R2	0.487	0.0662	0.318	0.264	0.558	0.0055	1.64	Q0071615A-ICAPQ
LCS			Seawater	SB LCS R2	2.36	1.96	2.20	1.99	2.28	1.80	3.39	Q0071615A-ICAPQ
				Percent Recovery, LCS	**94%**	**95%**	**94%**	**86%**	**86%**	**90%**	**87%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R1 071415	0.392	0.0602	0.305	0.245	0.508	0.00413	1.43	Q0071615A-ICAPQ
LCS			Seawater	SB LCS R1 071415	2.22	1.89	2.17	1.92	2.19	1.75	3.14	Q0071615A-ICAPQ
				Percent Recovery, LCS	**92%**	**92%**	**93%**	**84%**	**84%**	**87%**	**86%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R2 071415	0.461	0.0604	0.296	0.249	0.528	0.00524	1.47	Q071715A-ICAPQ
LCS			Seawater	SB LCS R2 071415	2.27	1.79	2.04	1.87	2.15	1.73	2.96	Q071715A-ICAPQ
				Percent Recovery, LCS	**91%**	**86%**	**87%**	**81%**	**81%**	**86%**	**74%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R3 071415	0.431	0.0620	0.304	0.250	0.534	0.00464	1.46	Q071715A-ICAPQ
LCS			Seawater	SB LCS R3 071415	2.33	1.83	2.10	1.91	2.20	1.73	3.05	Q071715A-ICAPQ
				Percent Recovery, LCS	**95%**	**88%**	**90%**	**83%**	**83%**	**86%**	**79%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB18-DD003	OF021	Diss	Freshwater	3106-1627	5.82	0.006 U	1.59	1.35	0.565	0.00709 J	0.804	Q081315A-ICAPQ
MS				3106-1627 MS1	15.3	1.04	2.60	2.33	1.54	1.00	1.84	Q081315A-ICAPQ
MSD				3106-1627 MS1D	15.2	1.03	2.60	2.33	1.54	1.00	1.86	Q081315A-ICAPQ
				Spiking Level	10	1	1	1	1	1	1	
				Percent Recovery, MS	**95%**	**104%**	**101%**	**98%**	**97%**	**100%**	**103%**	
				Percent Recovery, MSD	**94%**	**99%**	**101%**	**98%**	**98%**	**100%**	**106%**	
AMB18-007	PS08	Total	Seawater	3106-1586	5.31	0.0580	0.137	1.33	0.516	0.0626	3.15	Q071615A-ICAPQ
MS				3106-1586 MS1	10.9	1.00	1.10	2.21	1.39	0.972	3.99	Q071615A-ICAPQ
MSD				3106-1586 MS1D	10.7	1.00	1.10	2.19	1.38	0.966	3.95	Q071615A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**111%**	**94%**	**97%**	**87%**	**87%**	**91%**	**84%**	
				Percent Recovery, MSD	**107%**	**94%**	**96%**	**86%**	**86%**	**90%**	**80%**	
AMB18-017	PS02	Diss	Seawater	3106-1607	0.422 J	0.0603	0.170 J	1.92	0.421	0.0374	3.19	Q071615A-ICAPQ
MS				3106-1607 MS1	1.31	0.988	1.07	2.73	1.27	0.901	3.90	Q071615A-ICAPQ
MSD				3106-1607 MS1D	1.35	1.02	1.13	2.79	1.30	0.930	4.04	Q071615A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**89%**	**93%**	**90%**	**80%**	**85%**	**86%**	**70%**	
				Percent Recovery, MSD	**92%**	**96%**	**96%**	**87%**	**88%**	**89%**	**85%**	
AMB18-102	DYOTS	Total	Seawater	3106-1632	10.6	0.0448	0.157 J	0.461	0.396	0.0710	0.420	Q071615A-ICAPQ
MS				3106-1632 MS1	17.5	0.840	1.00	1.17	1.10	0.862	4.26	Q071615A-ICAPQ
MSD				3106-1632 MS1D	16.1	0.945	1.12	1.29	1.21	0.956	4.20	Q071615A-ICAPQ
				Spiking Level	5	1	1	1	1	1	5	
				Percent Recovery, MS	**138% c**	**80%**	**85%**	**71%**	**71%**	**79%**	**77%**	
				Percent Recovery, MSD	**111%**	**90%**	**97%**	**83%**	**81%**	**89%**	**76%**	
AMB18-104	SN05	Diss	Seawater	3106-1637	2.24	0.0328	0.187 J	0.474	0.489	0.0876	0.765	Q071715A-ICAPQ
MS				3106-1637 MS1	7.62	1.03	1.12	1.38	1.39	1.03	1.68	Q071715A-ICAPQ
MSD				3106-1637 MS1D	6.77	1.00	1.16	1.39	1.42	1.02	1.71	Q071715A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**108%**	**99%**	**93%**	**90%**	**90%**	**95%**	**91%**	
				Percent Recovery, MSD	**91%**	**97%**	**97%**	**92%**	**93%**	**94%**	**94%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB18-117	M3.3DUP	Diss	Seawater	3106-1663	0.352 J	0.0477	0.113 J	0.641	0.388	0.0286	1.08	Q071715A-ICAPQ
MS				3106-1663 MS1	1.29	0.988	1.07	1.50	1.26	0.960	1.93	Q071715A-ICAPQ
MSD				3106-1663 MS1D	1.30	0.994	1.08	1.50	1.27	0.949	1.92	Q071715A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**94%**	**94%**	**95%**	**86%**	**88%**	**93%**	**85%**	
				Percent Recovery, MSD	**95%**	**95%**	**97%**	**86%**	**88%**	**92%**	**84%**	
REPLICATE PRECISION												
AMB18-DD003	OF021	Total	Freshwater	3106-1626 R1	6.94	0.004 U	1.59	1.40	0.590	0.0142	0.821	Q081315A-ICAPQ
DUP				3106-1626 R2	7.03	0.004 U	1.62	1.43	0.606	0.0140	0.830	Q081315A-ICAPQ
				Mean	*6.98*	*0.004 U*	*1.61*	*1.42*	*0.598*	*0.0141*	*0.826*	Q081315A-ICAPQ
				RPD	**1%**	**NA**	**2%**	**2%**	**3%**	**1%**	**1%**	
AMB18-006	PS03	Total	Seawater	3106-1584 R1	3.74	0.0530	0.153	1.62	0.472	0.0565	2.79	Q071615A-ICAPQ
DUP				3106-1584 R2	3.83	0.0555	0.175	1.65	0.497	0.0569	2.81	Q071615A-ICAPQ
				Mean	*3.78*	*0.0543*	*0.164*	*1.64*	*0.485*	*0.0567*	*2.80*	Q071615A-ICAPQ
				RPD	**2%**	**5%**	**13%**	**2%**	**5%**	**1%**	**1%**	
AMB18-014	PS16	Total	Seawater	3106-1600 R1	9.58	0.0698	0.160 J	2.77	0.599	0.121	19.3	Q071615A-ICAPQ
DUP				3106-1600 R2	9.42	0.0715	0.151 J	2.82	0.469	0.123	19.3	Q071615A-ICAPQ
				Mean	*9.50*	*0.0706*	*0.155 J*	*2.80*	*0.534*	*0.122*	*19.3*	Q071615A-ICAPQ
				RPD	**2%**	**2%**	**6%**	**2%**	**24%**	**2%**	**0%**	
AMB18-021	M3.1	Total	Seawater	3106-1614 R1	17.6	0.0564	0.187 J	0.600	0.506	0.0865	0.811	Q071615A-ICAPQ
DUP				3106-1614 R2	16.7	0.0564	0.171 J	0.601	0.507	0.0868	0.799	Q071615A-ICAPQ
				Mean	*17.2*	*0.0564*	*0.179 J*	*0.600*	*0.506*	*0.0866*	*0.805*	Q071615A-ICAPQ
				RPD	**5%**	**0%**	**9%**	**0%**	**0%**	**0%**	**1%**	
AMB18-111	WP	Total	Seawater	3106-1650 R1	23.9	0.0584	0.178 J	0.591	0.503	0.0921	0.698	Q071715A-ICAPQ
DUP				3106-1650 R2	24.5	0.0581	0.222	0.596	0.536	0.0941	0.713	Q071715A-ICAPQ
				Mean	*24.2*	*0.0583*	*0.1998*	*0.593*	*0.520*	*0.0931*	*0.706*	Q071715A-ICAPQ
				RPD	**2%**	**1%**	**22%**	**1%**	**6%**	**2%**	**2%**	
AMB18-116	M3.3	Total	Seawater	3106-1660 R1	11.7	0.0462	0.170 J	0.705	0.484	0.0736	1.30	Q071715A-ICAPQ
DUP				3106-1660 R2	12.6	0.0489	0.164 J	0.746	0.512	0.0788	1.39	Q071715A-ICAPQ
				Mean	*12.2*	*0.0475*	*0.167 J*	*0.725*	*0.498*	*0.0762*	*1.34*	Q071715A-ICAPQ
				RPD	**7%**	**6%**	**3%**	**6%**	**6%**	**7%**	**6%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-5		Total	Seawater	CASS-5 R1 071315	0.979	0.0209	0.123 J	0.349	0.303	0.00694 J	0.704	Q071615A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R2 071315	0.95	0.0211	0.118 J	0.340	0.292	0.00676 J	0.656	Q071615A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R1 071415	0.89	0.0197 J	0.123 J	0.332	0.282	0.00693 J	0.615	Q071615A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R2 071415	0.97	0.0190 J	0.116 J	0.332	0.290	0.00633 J	0.595	Q071715A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R3 071415	0.905	0.0197 J	0.119 J	0.344	0.305	0.00707 J	0.626	Q071715A-ICAPQ
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**	
				PD	--	**3%** c	**16%** c	**8%**	**8%** c	**37%** c	**2%** c	
				PD	--	**2%** c	**11%** c	**10%**	**12%** c	**39%** c	**9%** c	
				PD	--	**9%** c	**16%** c	**13%**	**14%** c	**37%** c	**14%** c	
				PD	--	**11%** c	**9%** c	**13%**	**12%** c	**42%** c	**17%** c	
				PD	--	**8%** c	**12%** c	**9%**	**8%** c	**36%** c	**13%** c	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Total	Freshwater	1640a 10X	58.3	4.05	40.6	87.2	25.5	12.5	59.1	Q081315A-ICAPQ
SRM 1640a		Total	Freshwater	1640 10X	50.5	3.99	40.1	85.3	24.4	11.8	58.1	Q071615A-ICAPQ
SRM 1640a		Total	Freshwater	1640 10x	55.4	4.09	39.8	83.8	24.9	12.1	57.3	Q071715A-ICAPQ
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**10%**	**2%**	**0%**	**2%**	**1%**	**3%**	**6%**	
				PD	**5%**	**0%**	**1%**	**1%**	**3%**	**2%**	**5%**	
				PD	**5%**	**3%**	**2%**	**2%**	**2%**	**0%**	**3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME		Water	Method Blank1	0.100 U	060915HGA
MB-2	TME		Water	Method Blank2	0.100 U	060915HGA
MB-3	TME		Water	Method Blank3	0.100 U	060915HGA
MB-4	TME		Water	Method Blank1	0.100 U	072115HGA
MB-5	TME		Water	Method Blank2	0.100 U	072115HGA
MB-6	TME		Water	Method Blank3	0.100 U	072115HGA
MB-7	TME		Water	Method Blank1	0.100 U	072215HGA
MB-8	TME		Water	Method Blank2	0.100 U	072215HGA
MB-9	TME		Water	Method Blank3	0.100 U	072215HGA
MB-10	TME		Water	Method Blank1	0.100 U	072315HGA
MB-11	TME		Water	Method Blank2	0.100 U	072315HGA
MB-12	TME		Water	Method Blank3	0.100 U	072315HGA
MB-13	TME		Water	Method Blank1	0.100 U	072815HGA
MB-14	TME		Water	Method Blank2	0.100 U	072815HGA
MB-15	TME		Water	Method Blank3	0.100 U	072815HGA
MB-16	TME		Water	Method Blank1	0.100 U	072915HGA
MB-17	TME		Water	Method Blank2	0.100 U	072915HGA
MB-18	TME		Water	Method Blank3	0.100 U	072915HGA
MB-19	TME		Water	Method Blank1	0.100 U	081015HGA
MB-20	TME		Water	Method Blank2	0.100 U	081015HGA
MB-21	TME		Water	Method Blank3	0.100 U	081015HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 071915 run1	5.58	060915HGA
LCS (2)	TME		Water	OPR 071915 run2	5.00	060915HGA
LCS Blank (1)	TME		Water	BLANK 071915	0.362	060915HGA
				Percent Recovery, LCS 1	**105%**	
				Percent Recovery, LCS 2	**94%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 071915 run1	5.34	072115HGA
LCS (2)	TME		Water	OPR 071915 run2	4.99	072115HGA
LCS Blank (1)	TME		Water	BLANK 071915	0.350	072115HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**93%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072115 run1	5.46	072215HGA
LCS (2)	TME		Water	OPR 072115 run2	5.66	072215HGA
LCS Blank (1)	TME		Water	BLANK 072115	0.130 J	072215HGA
				Percent Recovery, LCS 1	**107%**	
				Percent Recovery, LCS 2	**112%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 072215 run1	5.18	072315HGA
LCS (2)	TME		Water	OPR 072215 run2	5.18	072315HGA
LCS Blank (1)	TME		Water	BLANK 072215	0.218 J	072315HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**100%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		CVAF Batch ID
				Instrument:	*CVAF*		
Spiking Level					4.96		
LCS (1)		TME	Water	OPR 072715 run1	4.49		072815HGA
LCS (2)		TME	Water	OPR 072715 run2	5.01		072815HGA
LCS Blank (1)		TME	Water	BLANK 072715	0.135	J	072815HGA
				Percent Recovery, LCS 1	**88%**		
				Percent Recovery, LCS 2	**98%**		
Spiking Level					4.96		
LCS (1)		TME	Water	OPR 072815 run1	5.78		072915HGA
LCS (2)		TME	Water	OPR 072815 run2	5.69		072915HGA
LCS Blank (1)		TME	Water	BLANK 072815	0.817		072915HGA
				Percent Recovery, LCS 1	**100%**		
				Percent Recovery, LCS 2	**98%**		
Spiking Level					4.96		
LCS (1)		TME	Water	OPR 080715 run1	4.92		081015HGA
LCS (2)		TME	Water	OPR 080715 run2	5.04		081015HGA
LCS Blank (1)		TME	Water	BLANK 080715	0.100	U	081015HGA
				Percent Recovery, LCS 1	**99%**		
				Percent Recovery, LCS 2	**102%**		
MATRIX SPIKE RESULTS							
AMB18	Equipment blank		Freshwater	3106-1572	0.390		060915HGA
MS				3106-1572 MS	6.94		060915HGA
MSD				3106-1572 MSD	7.19		060915HGA
				Spiking Level, MS	6.97		
				Spiking Level, MSD	6.82		
				Percent Recovery, MS	**94%**		
				Percent Recovery, MSD	**100%**		
				RPD	**5.9%**		
AMB18-002	PS06	Total	Seawater	3106-1576	2.05		072115HGA
MS				3106-1576 MS	8.45		072115HGA
MSD				3106-1576 MSD	7.83		072115HGA
				Spiking Level, MS	6.72		
				Spiking Level, MSD	6.75		
				Percent Recovery, MS	**95%**		
				Percent Recovery, MSD	**86%**		
				RPD	**10.5%**		
AMB18-007	PS08	Diss	Seawater	3106-1587	0.349		072115HGA
MS				3106-1587 MS	7.42		072115HGA
MSD				3106-1587 MSD	7.75		072115HGA
				Spiking Level, MS	6.57		
				Spiking Level, MSD	6.82		
				Percent Recovery, MS	**108%**		
				Percent Recovery, MSD	**109%**		
				RPD	**0.8%**		

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QC Sample Results for CVAF
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
AMB18-010	PS10	Total	Seawater	3106-1592	1.213	072215HGA
MS				3106-1592 MS	8.29	072215HGA
MSD				3106-1592 MSD	7.81	072215HGA
				Spiking Level, MS	6.83	
				Spiking Level, MSD	6.77	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**97%**	
				RPD	**6.2%**	
AMB18-014	PS16	Diss	Seawater	3106-1601	0.397	072215HGA
MS				3106-1601 MS	7.87	072215HGA
MSD				3106-1601 MSD	7.68	072215HGA
				Spiking Level, MS	6.81	
				Spiking Level, MSD	6.74	
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**108%**	
				RPD	**1.6%**	
AMB18-017	PS02	Diss	Seawater	3106-1607	0.923	072315HGA
MS				3106-1607 MS	8.16	072315HGA
MSD				3106-1607 MSD	8.15	072315HGA
				Spiking Level, MS	6.80	
				Spiking Level, MSD	6.74	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**107%**	
				RPD	**0.8%**	
AMB18-023	PS12	Total	Seawater	3106-1618	1.19	072315HGA
MS				3106-1618 MS	8.44	072315HGA
MSD				3106-1618 MSD	8.62	072315HGA
				Spiking Level, MS	6.81	
				Spiking Level, MSD	6.83	
				Percent Recovery, MS	**106%**	
				Percent Recovery, MSD	**109%**	
				RPD	**2.2%**	
AMB18-DD003	OF021	Diss	Freshwater	3106-1627	1.31	072815HGA
MS				3106-1627 MS	7.86	072815HGA
MSD				3106-1627 MSD	8.00	072815HGA
				Spiking Level, MS	6.80	
				Spiking Level, MSD	6.72	
				Percent Recovery, MS	**96%**	
				Percent Recovery, MSD	**100%**	
				RPD	**3.3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB18-102	DYOTS	Total	Seawater	3106-1632	0.652	072815HGA
MS				3106-1632 MS	7.43	072815HGA
MSD				3106-1632 MSD	7.59	072815HGA
				Spiking Level, MS	6.93	
				Spiking Level, MSD	6.84	
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**101%**	
				RPD	**3.6%**	
AMB18-104	SN05	Diss	Seawater	3106-1637	0.382	072915HGA
MS				3106-1637 MS	7.61	072915HGA
MSD				3106-1637 MSD	7.49	072915HGA
				Spiking Level, MS	6.76	
				Spiking Level, MSD	6.75	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**105%**	
				RPD	**1.6%**	
AMB18-110	M1DEEP	Total	Seawater	3106-1648	0.463	072915HGA
MS				3106-1648 MS	7.12	072915HGA
MSD				3106-1648 MSD	7.41	072915HGA
				Spiking Level, MS	6.60	
				Spiking Level, MSD	6.56	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**106%**	
				RPD	**4.8%**	
AMB18-117	M3.3DUP	Diss	Seawater	3106-1663	0.300 J	081015HGA
MS				3106-1663 MS	7.66	081015HGA
MSD				3106-1663 MSD	7.70	081015HGA
				Spiking Level, MS	6.90	
				Spiking Level, MSD	6.85	
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**108%**	
				RPD	**1.3%**	
REPLICATE PRECISION						
AMB18-006	PS03	Total	Seawater	3106-1584 r1	1.28	072115HGA
DUP				3106-1584 r2	1.30	072115HGA
				Mean	*1.29*	
				RPD	**2%**	
AMB18-012	PS11	Total	Seawater	3106-1596 r1	1.38	072215HGA
DUP				3106-1596 r2	1.30	072215HGA
				Mean	*1.34*	
				RPD	**6%**	
AMB18-021	M3.1	Total	Seawater	3106-1614 r1	0.805	072315HGA
DUP				3106-1614 r2	0.874	072315HGA
				Mean	*0.840*	
				RPD	**8%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB18
ENVVEST June 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB18-DD002	OF018	Total	Seawater	3106-1624 r1	10.3	072815HGA
DUP				3106-1624 r2	9.79	072815HGA
				Mean	*10.0*	
				RPD	**5%**	
AMB18-111	WP	Total	Seawater	3106-1650 r1	0.691	072915HGA
DUP				3106-1650 r2	0.644	072915HGA
				Mean	*0.667*	
				RPD	**7%**	
AMB18-116	M3.3	Total	Seawater	3106-1660 r1	0.834	081015HGA
DUP				3106-1660 r2	0.857	081015HGA
				Mean	*0.846*	
				RPD	**3%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 060815	1562388	060915HGA
SRM 1641 (2)		Total	Freshwater	1641d 071915	1629483	072115HGA
SRM 1641 (3)		Total	Freshwater	1641d 072115	1553653	072215HGA
SRM 1641 (4)		Total	Freshwater	1641d 072215	1659803	072315HGA
SRM 1641 (5)		Total	Freshwater	1641d 072715	1521449	072815HGA
SRM 1641 (6)		Total	Freshwater	1641d 072815	1630560	072915HGA
SRM 1641 (7)		Total	Freshwater	1641d 080715	1640882	081015HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**0.3%**	
	SRM 1641 (2)			**PD**	**4.7%**	
	SRM 1641 (3)			**PD**	**0.2%**	
	SRM 1641 (4)			**PD**	**6.6%**	
	SRM 1641 (5)			**PD**	**2.3%**	
	SRM 1641 (6)			**PD**	**4.7%**	
	SRM 1641 (7)			**PD**	**5.4%**	

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QC Sample Results for Salinity
Ambient Monitoring - AMB18
ENVVEST June 2015
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492AD			
Method Blanks							
MB1		Total	Seawater	DIW Blank 1	0.01 U	PSU	061815Osal
MB2		Total	Seawater	DIW Blank 2	0.01 U	PSU	061815Osal
MB3		Total	Seawater	DIW Blank 3	0.01 U	PSU	061815Osal
MB4		Total	Seawater	DIW Blank 4	0.01 U	PSU	061815Osal
MB5		Total	Seawater	DIW Blank 5	0.01 U	PSU	061815Osal
MB6		Total	Seawater	DIW Blank 6	0.01 U	PSU	061915Osal
MB7		Total	Seawater	DIW Blank 7	0.01 U	PSU	061915Osal
MB8		Total	Seawater	DIW Blank 8	0.01 U	PSU	061915Osal
STANDARD REFERENCE MATERIAL							
SRM-1		Total	Seawater	Salinity Standard 1	34.9	PSU	061815Osal
SRM-2		Total	Seawater	Salinity Standard 2	34.9	PSU	061815Osal
SRM-3		Total	Seawater	Salinity Standard 3	34.8	PSU	061815Osal
SRM-4		Total	Seawater	Salinity Standard 4	34.5	PSU	061815Osal
SRM-5		Total	Seawater	Salinity Standard 5	34.4	PSU	061815Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.0	PSU	061915Osal
SRM-7		Total	Seawater	Salinity Standard 7	35.0	PSU	061915Osal
SRM-8		Total	Seawater	Salinity Standard 8	34.8	PSU	061915Osal
				Certified Value	**35.00**	PSU	
	SRM-1			**PD**	**0.3%**		
	SRM-2			**PD**	**0.3%**		
	SRM-3			**PD**	**0.6%**		
	SRM-4			**PD**	**1.4%**		
	SRM-5			**PD**	**1.7%**		
	SRM-6			**PD**	**0.0%**		
	SRM-7			**PD**	**0.0%**		
	SRM-8			**PD**	**0.6%**		
LABORATORY CONTROL SAMPLES							
LCS-1				LCS1	20.7	PSU	061815Osal
LCS-2				LCS2	20.6	PSU	061815Osal
LCS-3				LCS3	20.1	PSU	061815Osal
LCS-4				LCS4	19.9	PSU	061815Osal
LCS-5				LCS5	19.8	PSU	061815Osal
LCS-6				LCS6	20.6	PSU	061915Osal
LCS-7				LCS7	20.5	PSU	061915Osal
LCS-8				LCS8	20.5	PSU	061915Osal
				TRUE VALUE	**20.0**	PSU	
	LCS-1			**% RECOVERY**	**104%**		
	LCS-2			**% RECOVERY**	**103%**		
	LCS-3			**% RECOVERY**	**101%**		
	LCS-4			**% RECOVERY**	**100%**		
	LCS-5			**% RECOVERY**	**99%**		
	LCS-6			**% RECOVERY**	**103%**		
	LCS-7			**% RECOVERY**	**103%**		
	LCS-8			**% RECOVERY**	**103%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB18
ENVVEST June 2015
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity	Units	Batch ID
CALIBRATION RESULTS							
ICV-1				YSI 50 ms/cm ICV	50.0	mS	061815Osal
CCV-1				YSI 50 ms/cmCCV1	49.9	mS	061815Osal
CCV-2				YSI 50 ms/cmCCV2	49.6	mS	061815Osal
CCV-3				YSI 50 ms/cmCCV3	49.4	mS	061815Osal
CCV-4				YSI 50 ms/cmCCV4	49.3	mS	061815Osal
CCV-5				YSI 50 ms/cmCCV5	49.1	mS	061815Osal
CCV-6				YSI 50 ms/cmCCV6	48.9	mS	061815Osal
CCV-7				YSI 50 ms/cmCCV7	50.0	mS	061915Osal
CCV-8				YSI 50 ms/cmCCV8	49.9	mS	061915Osal
CCV-9				YSI 50 ms/cmCCV9	49.9	mS	061915Osal
CCV-10				YSI 50 ms/cmCCV10	49.7	mS	061915Osal
CCV-11				YSI 50 ms/cmCCV11	49.7	mS	061915Osal
				TRUE VALUE	**50.0**	mS	
	ICV-1			**% RECOVERY**	**100%**		
	CCV-1			**% RECOVERY**	**100%**		
	CCV-2			**% RECOVERY**	**99%**		
	CCV-3			**% RECOVERY**	**99%**		
	CCV-4			**% RECOVERY**	**99%**		
	CCV-5			**% RECOVERY**	**98%**		
	CCV-6			**% RECOVERY**	**98%**		
	CCV-7			**% RECOVERY**	**100%**		
	CCV-8			**% RECOVERY**	**100%**		
	CCV-9			**% RECOVERY**	**100%**		
	CCV-10			**% RECOVERY**	**99%**		
	CCV-11			**% RECOVERY**	**99%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB18
ENVVEST June 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.049**	**4.1**		
Seawater Reporting Limit (MDL* 3.18)					**0.16**	**13**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.067	5.6	J	063015HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.049	4.1	U	063015HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.049	4.1	U	063015HTCO
MB-4			DIWater	ACIDIFIED_DIW	0.049	4.1	U	063015HTCO
MB-5			DIWater	ACIDIFIED_DIW	0.049	4.1	U	070815HTCO
MB-6			DIWater	ACIDIFIED_DIW	0.049	4.1	U	070815HTCO
MB-7			DIWater	ACIDIFIED_DIW	0.049	4.1	U	070815HTCO
MB-8			DIWater	ACIDIFIED_DIW	0.049	4.1	U	070815HTCO
REPLICATE PRECISION								
AMB18-015	PS01	Total	Seawater	3106-1602	1.44	120		063015HTCO
DUP				3106-1602R2	1.40	117		063015HTCO
				Mean	*1.42*	*118*		
				RPD	**2.5%**	**2.5%**		
AMB18-102	DYOTS	Total	Seawater	3106-1632	1.89	158		063015HTCO
DUP				3106-1632R2	1.86	155		063015HTCO
				Mean	*1.88*	*156*		
				RPD	**1.8%**	**1.8%**		
AMB18-118	PS07C	Total	Seawater	3106-1664	2.12	177		063015HTCO
DUP				3106-1664R2	2.03	169		063015HTCO
				Mean	*2.07*	*173*		
				RPD	**4.3%**	**4.3%**		
AMB18-015	PS01	Diss	Seawater	3106-1603	1.12	93		070815HTCO
DUP				3106-1603R2	1.11	92		070815HTCO
				Mean	*1.11*	*93*		
				RPD	**1.0%**	**1.0%**		
AMB18-102	DYOTS	Diss	Seawater	3106-1633	1.26	105		070815HTCO
DUP				3106-1633R2	1.28	107		070815HTCO
				Mean	*1.27*	*106*		
				RPD	**1.4%**	**1.4%**		
AMB18-118	PS07C	Diss	Seawater	3106-1665	1.23	102		070815HTCO
DUP				3106-1665R2	1.36	113		070815HTCO
				Mean	*1.29*	*108*		
				RPD	**9.9%**	**9.9%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB18
ENVVEST June 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.562	46.9		063015HTCO
CRM-2		DOC	Seawater	CRM	0.569	47.4		063015HTCO
CRM-3		DOC	Seawater	CRM	0.547	45.6		063015HTCO
CRM-4		DOC	Seawater	CRM	0.516	43.0		063015HTCO
CRM-5		DOC	Seawater	CRM	0.504	42.0		063015HTCO
CRM-6		DOC	Seawater	CRM	0.502	41.8		063015HTCO
CRM-7		DOC	Seawater	CRM	0.501	41.8		063015HTCO
CRM-8		DOC	Seawater	CRM	0.478	39.8		063015HTCO
CRM-9		DOC	Seawater	CRM	0.521	43.4		070815HTCO
CRM-10		DOC	Seawater	CRM	0.484	40.4		070815HTCO
CRM-11		DOC	Seawater	CRM	0.500	41.7		070815HTCO
CRM-12		DOC	Seawater	CRM	0.477	39.8		070815HTCO
CRM-13		DOC	Seawater	CRM	0.465	38.8		070815HTCO
CRM-14		DOC	Seawater	CRM	0.487	40.6		070815HTCO
CRM-15		DOC	Seawater	CRM	0.451	37.6		070815HTCO
CRM-16		DOC	Seawater	CRM	0.464	38.6		070815HTCO
				Average Consensus Value	0.522	43.5		
				Range	0.504-0.540	42-45		
CRM-1				**PD**	**7.8%**	**7.7%**		
CRM-2				**PD**	**9.0%**	**9.0%**		
CRM-3				**PD**	**4.8%**	**4.8%**		
CRM-4				**PD**	**1.2%**	**1.2%**		
CRM-5				**PD**	**3.4%**	**3.4%**		
CRM-6				**PD**	**3.8%**	**3.8%**		
CRM-7				**PD**	**4.0%**	**4.0%**		
CRM-8				**PD**	**8.5%**	**8.5%**		
CRM-9				**PD**	**0.1%**	**0.1%**		
CRM-10				**PD**	**7.2%**	**7.2%**		
CRM-11				**PD**	**4.2%**	**4.2%**		
CRM-12				**PD**	**8.6%**	**8.6%**		
CRM-13				**PD**	**10.8%**	**10.8%**		
CRM-14				**PD**	**6.7%**	**6.7%**		
CRM-15				**PD**	**13.6%**	**13.6%**		
CRM-16				**PD**	**11.2%**	**11.2%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB18
ENVVEST June 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	0.973	81.1		063015HTCO
ICV/CCV-2				CCV_1PPM	1.04	86.8		063015HTCO
ICV/CCV-3				CCV_1PPM	1.05	87.6		063015HTCO
ICV/CCV-4				CCV_1PPM	1.02	85.0		063015HTCO
ICV/CCV-5				CCV_1PPM	1.03	86.2		063015HTCO
ICV/CCV-6				CCV_1PPM	1.03	85.8		063015HTCO
ICV/CCV-7				CCV_1PPM	0.988	82.4		063015HTCO
ICV/CCV-8				CCV_1PPM	0.993	82.8		063015HTCO
ICV/CCV-9				ICV_1PPM	0.965	80.4		070815HTCO
ICV/CCV-10				CCV_1PPM	0.959	79.9		070815HTCO
ICV/CCV-11				CCV_1PPM	0.985	82.1		070815HTCO
ICV/CCV-12				CCV_1PPM	0.980	81.6		070815HTCO
ICV/CCV-13				CCV_1PPM	0.997	83.1		070815HTCO
ICV/CCV-14				CCV_1PPM	0.997	83.0		070815HTCO
ICV/CCV-15				CCV_1PPM	0.956	79.6		070815HTCO
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**97%**			
ICV/CCV-2				**% RECOVERY**	**104%**			
ICV/CCV-3				**% RECOVERY**	**105%**			
ICV/CCV-4				**% RECOVERY**	**102%**			
ICV/CCV-5				**% RECOVERY**	**103%**			
ICV/CCV-6				**% RECOVERY**	**103%**			
ICV/CCV-7				**% RECOVERY**	**99%**			
ICV/CCV-8				**% RECOVERY**	**99%**			
ICV/CCV-9				**% RECOVERY**	**96%**			
ICV/CCV-10				**% RECOVERY**	**96%**			
ICV/CCV-11				**% RECOVERY**	**99%**			
ICV/CCV-12				**% RECOVERY**	**98%**			
ICV/CCV-13				**% RECOVERY**	**100%**			
ICV/CCV-14				**% RECOVERY**	**100%**			
ICV/CCV-15				**% RECOVERY**	**96%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB18
ENVVEST June 2015
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	061815Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	061815Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	061815Nu
MB4		TME	Seawater	Blank 4		0.42 U	mg/L	061915Nu
MB5		TME	Seawater	Blank 5		0.42 U	mg/L	061915Nu
MB6		TME	Seawater	Blank 6		0.42 U	mg/L	061915Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		39.0	mg/L	061815Nu
LCS-2				LCS r2		38.4	mg/L	061815Nu
LCS-3				LCS r3		40.3	mg/L	061815Nu
LCS-4				LCS r4		37.2	mg/L	061915Nu
LCS-5				LCS r5		40.0	mg/L	061915Nu
LCS-6				LCS r6		39.5	mg/L	061915Nu
					TRUE VALUE	**40**	mg/L	
	LCS-1				**% RECOVERY**	**98%**		
	LCS-2				**% RECOVERY**	**96%**		
	LCS-3				**% RECOVERY**	**101%**		
	LCS-4				**% RECOVERY**	**93%**		
	LCS-5				**% RECOVERY**	**100%**		
	LCS-6				**% RECOVERY**	**99%**		
LABORATORY DUPLICATES								
AMB18-104	SN05	Total	Seawater	3106-1636		6.75	mg/L	061915Nu
DUP				3106-1636R2		7.45	mg/L	061915Nu
					Mean	7.10		
					RPD	**9.9%**		
AMB18-107	SN11	Total	Seawater	3106-1642		2.81	mg/L	061915Nu
DUP				3106-1642R2		2.42	mg/L	061915Nu
					Mean	2.61		
					RPD	**15.3%**		
AMB18-112	M2	Total	Seawater	3106-1652		1.06	mg/L	061915Nu
DUP				3106-1652R2		1.25	mg/L	061915Nu
					Mean	1.16		
					RPD	**16.26%**		
AMB18-115	CLMBAYDUP	Total	Seawater	3106-1658		2.38	mg/L	061915Nu
DUP				3106-1658R2		2.15	mg/L	061915Nu
					Mean	2.265		
					RPD	**9.8%**		

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Data Qualifiers
Ambient Monitoring - AMB18
ENVVEST June 2015

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, June 2015 (AMB18)

PARAMETER: Total and Dissolved Metals – Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 06/16/2015 and 06/17/2015. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	06/16/15 and 06/17/15 EQP BLKS 06/05/15
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	06/18/15 and 06/19/15
OSAL analysis dates	06/18/15 and 06/19/15
CVAF analysis dates (Hg)	06/09/15, 07/21/15, 07/22/15, 07/23/15, 07/28/15, 07/29/15, and 08/10/15
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	08/13/15
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	07/16/15 and 07/17/15
TOC/DOC Analysis Date	06/30/15 through 07/10/15

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.16 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.006 µg/L	0.02 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.020 µg/L	0.06 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.050 µg/L	0.159 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0040 µg/L	0.0127 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.100 µg/L	0.318 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.16 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.20 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.10 µg/L	0.30 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by two methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals using a preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and

QA/QC NARRATIVE

METHODS (cont): EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The ICP-MS data were reported in units of µg/L. The required preconcentration procedure for seawater samples analyzed by ICP-MS includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Therefore the ICP-MS method includes a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method includes a matrix matching procedure that allows the quantification and correction of the trace impurities added to the samples during the Fe/Pd preparation. This approach is comparable to the reagent corrected data previously reported and flagged as "b" data qualifier to the ICP-MS data. No flags are required for this data set.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:
1 SRM certified <10x MDL or
2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the RL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. Sample 3106-1632 contained a high native sample concentration for Al and was not spiked at a sufficient level. The data are not flagged as they meet the contingency criteria for the unsufficient spiking level (see “c” flag). Alternate LCS and MS/MSD samples demonstrated acceptable accuracy and precision for Al in this seawater matrix. No additional actions were required.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion.

CASS-5 is a seawater SRM analyzed with each ICP-MS batch. There is no seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy. The SRM is considered for data set evaluation only if it is not certified greater than 10 times the MDL. The CASS-5 certified values for Cd, Cr, Ni, Pb, and Zn are certified values less than 10 times the MDL. The results are flagged with a “c” and considered for data set evaluation only and not for QC certification. The

PDs were within the QC criterion for all metals except Pb. The alternate SRM, seawater LCS and high purity standards provide acceptable QC confirmation for the metals.

A salinity standard was used to verify the accuracy of the salinity measurements. The accuracy range was 0.0-1.7% PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 0.1 to 13.6%.

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506595
Project:	ENVVEST June 2015 Ambient Monitoring (AMB18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/18/15
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-DD001/OF096	K1506595-001	ND U	4.7	0.8	1	06/26/15 15:00	6/25/15	
AMB18-DD002/OF018	K1506595-002	ND U	4.7	0.8	1	06/26/15 15:00	6/25/15	
Method Blank	K1506595-MB	ND U	5.0	0.8	1	06/26/15 15:00	6/25/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506595
Project:	ENVVEST June 2015 Ambient Monitoring (AMB18)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	06/26/15
		Date Extracted:	06/25/15

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1506538-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1506538-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND U	54.8	56.6	97	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506595
Project:	ENVVEST June 2015 Ambient Monitoring (AMB18)	**Date Analyzed:**	06/26/15
Sample Matrix:	Ocean Water	**Date Extracted:**	06/25/15

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	450896

	Lab Control Sample K1506595-LCS			Duplicate Lab Control Sample K1506595-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	52.2	60.0	87	54.1	60.0	90	78-114	4	20

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB18)	**Date Received:**	06/19/15
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-four ocean water samples were received for analysis at ALS Environmental on 06/19/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-001/PS07	K1506671-001	**0.136**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-002/PS06	K1506671-002	**0.081**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-003/PS14	K1506671-003	**0.071**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-004/PS05	K1506671-004	**0.067**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-005/PS04	K1506671-005	**0.063**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-006/PS03	K1506671-006	**0.072**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-007/PS08	K1506671-007	**0.079**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-008/PS15	K1506671-008	**0.073**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-009/PS09	K1506671-009	**0.123**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-010/PS10	K1506671-010	**0.104**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-011/PS10.1	K1506671-011	**0.086**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-012/PS11	K1506671-012	**0.091**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-013/PS11DUP	K1506671-013	**0.092**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-014/PS16	K1506671-014	**0.086**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-015/PS01	K1506671-015	**0.141**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-016/PS01DUP	K1506671-016	**0.143**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-017/PS02	K1506671-017	**0.092**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-018/PS13	K1506671-018	**0.062**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-019/M4	K1506671-019	**0.053**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-020/BJEST	K1506671-020	**0.024 J**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-021/M3.1	K1506671-021	**0.089**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-022/M3.1DEEP	K1506671-022	**0.082**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-023/PS12	K1506671-023	**0.060**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-024/PS07B	K1506671-024	**0.095**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-DD001/OF096	K1506671-025	**0.274**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-100/M8	K1506671-026	**0.040 J**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-101/M6	K1506671-027	**0.036 J**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-102/DYOTS	K1506671-028	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-103/SN03	K1506671-029	**0.033 J**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-104/SN05	K1506671-030	**0.052**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-105/SN08	K1506671-031	**0.043 J**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-106/SN10	K1506671-032	**0.030 J**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-107/SN11	K1506671-033	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-108/ILSP	K1506671-034	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-109/M1	K1506671-035	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-110/M1DEEP	K1506671-036	**0.056**	0.050	0.020	1	07/01/15 10:03	7/1/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-111/WP	K1506671-037	**0.090**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-112/M2	K1506671-038	**0.143**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-113/M2DEEP	K1506671-039	**0.145**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-114/CLMBAY	K1506671-040	**0.124**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-115/CLMBAYDUP	K1506671-041	**0.123**	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-116/M3.3	K1506671-042	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-117/M3.3DUP	K1506671-043	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
AMB18-118/PS07C	K1506671-044	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
Method Blank	K1506671-MB1	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
Method Blank	K1506671-MB2	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	
Method Blank	K1506671-MB3	ND U	0.050	0.020	1	07/01/15 10:03	7/1/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB18-001/PS07	K1506671-001DUP	0.050	0.020	0.136	0.132	0.134	3	20	07/01/15
AMB18-011/PS10.1	K1506671-011DUP	0.050	0.020	0.086	0.090	0.0880	5	20	07/01/15
AMB18-021/M3.1	K1506671-021DUP	0.050	0.020	0.089	0.088	0.0885	<1	20	07/01/15
AMB18-105/SN08	K1506671-031DUP	0.050	0.020	0.043 J	0.042 J	0.0424	4	20	07/01/15
AMB18-115/CLMBAYDUP	K1506671-041DUP	0.050	0.020	0.123	0.123	0.123	<1	20	07/01/15
Batch QC	K1506924-001DUP	0.050	0.020	1.02	1.02	1.02	<1	20	07/01/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	07/1/15
		Date Extracted:	07/1/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB18-001/PS07	**Units:**	mg/L
Lab Code:	K1506671-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1506671-001MS			Duplicate Matrix Spike K1506671-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.136	1.23	1.00	109	1.24	1.00	110	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	07/1/15
		Date Extracted:	07/1/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB18-011/PS10.1	**Units:**	mg/L
Lab Code:	K1506671-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1506671-011MS			Duplicate Matrix Spike K1506671-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.086	1.16	1.00	107	1.17	1.00	108	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	07/1/15
		Date Extracted:	07/1/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB18-021/M3.1	**Units:**	mg/L
Lab Code:	K1506671-021	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1506671-021MS			Duplicate Matrix Spike K1506671-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.089	1.13	1.00	104	1.15	1.00	106	89-114	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	07/1/15
		Date Extracted:	07/1/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB18-105/SN08	**Units:**	mg/L
Lab Code:	K1506671-031	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506671-031MS			K1506671-031DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.043 J	1.06	1.00	102	1.10	1.00	106	89-114	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	07/1/15
		Date Extracted:	07/1/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB18-115/CLMBAYDUP	**Units:**	mg/L
Lab Code:	K1506671-041	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1506671-041MS			Duplicate Matrix Spike K1506671-041DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.123	1.15	1.00	103	1.15	1.00	103	89-114	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	07/1/15
		Date Extracted:	07/1/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1506924-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1506924-001MS			Duplicate Matrix Spike K1506924-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	1.02	5.70	5.00	94	6.10	5.00	102	89-114	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Analyzed:**	07/01/15
Sample Matrix:	Ocean Water	**Date Extracted:**	07/01/15

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	451518

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1506671-LCS1	8.05	8.00	101	90-110
Lab Control Sample	K1506671-LCS2	7.80	8.00	98	90-110
Lab Control Sample	K1506671-LCS3	7.85	8.00	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1506671
Project: ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	451518	KQ1507188-01	07/01/15 10:03	1.00	1.03	103	90-110
CCV2	451518	KQ1507188-03	07/01/15 10:03	1.00	1.05	105	90-110
CCV3	451518	KQ1507188-05	07/01/15 10:03	1.00	1.03	103	90-110
CCV4	451518	KQ1507188-07	07/01/15 10:03	1.00	0.987	99	90-110
CCV5	451518	KQ1507188-09	07/01/15 10:03	1.00	0.994	99	90-110
CCV6	451518	KQ1507188-11	07/01/15 10:03	1.00	0.994	99	90-110
CCV7	451518	KQ1507188-13	07/01/15 10:03	1.00	0.967	97	90-110
CCV8	451518	KQ1507188-15	07/01/15 10:03	1.00	0.974	97	90-110
CCV9	451518	KQ1507188-17	07/01/15 10:03	1.00	0.997	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1506671
Project: ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	451518	KQ1507188-02	07/01/15 10:03	0.050	0.020	ND	U
CCB2	451518	KQ1507188-04	07/01/15 10:03	0.050	0.020	ND	U
CCB3	451518	KQ1507188-06	07/01/15 10:03	0.050	0.020	ND	U
CCB4	451518	KQ1507188-08	07/01/15 10:03	0.050	0.020	ND	U
CCB5	451518	KQ1507188-10	07/01/15 10:03	0.050	0.020	ND	U
CCB6	451518	KQ1507188-12	07/01/15 10:03	0.050	0.020	ND	U
CCB7	451518	KQ1507188-14	07/01/15 10:03	0.050	0.020	ND	U
CCB8	451518	KQ1507188-16	07/01/15 10:03	0.050	0.020	ND	U
CCB9	451518	KQ1507188-18	07/01/15 10:03	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-001/PS07	K1506671-001	**0.069**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-002/PS06	K1506671-002	**0.063**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-003/PS14	K1506671-003	**0.060**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-004/PS05	K1506671-004	**0.062**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-005/PS04	K1506671-005	**0.057**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-006/PS03	K1506671-006	**0.057**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-007/PS08	K1506671-007	**0.060**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-008/PS15	K1506671-008	**0.061**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-009/PS09	K1506671-009	**0.063**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-010/PS10	K1506671-010	**0.060**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-011/PS10.1	K1506671-011	**0.062**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-012/PS11	K1506671-012	**0.059**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-013/PS11DUP	K1506671-013	**0.060**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-014/PS16	K1506671-014	**0.060**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-015/PS01	K1506671-015	**0.066**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-016/PS01DUP	K1506671-016	**0.063**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-017/PS02	K1506671-017	**0.065**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-018/PS13	K1506671-018	**0.055**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-019/M4	K1506671-019	**0.067**	0.010	0.004	1	06/23/15 16:37	6/23/15	
AMB18-020/BJEST	K1506671-020	**0.068**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-021/M3.1	K1506671-021	**0.058**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-022/M3.1DEEP	K1506671-022	**0.057**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-023/PS12	K1506671-023	**0.063**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-024/PS07B	K1506671-024	**0.068**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-DD001/OF096	K1506671-025	**0.122**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-100/M8	K1506671-026	**0.068**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-101/M6	K1506671-027	**0.052**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-102/DYOTS	K1506671-028	**0.049**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-103/SN03	K1506671-029	**0.056**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-104/SN05	K1506671-030	**0.087**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-105/SN08	K1506671-031	**0.056**	0.010	0.004	1	06/26/15 15:09	6/26/15	
AMB18-106/SN10	K1506671-032	**0.056**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-107/SN11	K1506671-033	**0.061**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-108/ILSP	K1506671-034	**0.039**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-109/M1	K1506671-035	**0.039**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-110/M1DEEP	K1506671-036	**0.052**	0.010	0.004	1	06/25/15 14:12	6/25/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-111/WP	K1506671-037	**0.057**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-112/M2	K1506671-038	**0.053**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-113/M2DEEP	K1506671-039	**0.056**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-114/CLMBAY	K1506671-040	**0.057**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-115/CLMBAYDUP	K1506671-041	**0.056**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-116/M3.3	K1506671-042	**0.057**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-117/M3.3DUP	K1506671-043	**0.057**	0.010	0.004	1	06/25/15 14:12	6/25/15	
AMB18-118/PS07C	K1506671-044	**0.050**	0.010	0.004	1	06/25/15 14:12	6/25/15	
Method Blank	K1506671-MB1	ND U	0.010	0.004	1	06/23/15 16:37	6/23/15	
Method Blank	K1506671-MB2	ND U	0.010	0.004	1	06/25/15 14:12	6/25/15	
Method Blank	K1506671-MB3	ND U	0.010	0.004	1	06/26/15 15:09	6/26/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/23/15
		Date Extracted:	06/23/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB18-001/PS07	**Units:**	mg/L
Lab Code:	K1506671-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506671-001MS			K1506671-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.069	0.389	0.500	64	0.393	0.500	65	60-135	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/26/15
		Date Extracted:	06/26/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB18-020/BJEST	**Units:**	mg/L
Lab Code:	K1506671-020	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506671-020MS			K1506671-020DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.068	0.379	0.500	62	0.366	0.500	60	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	06/25/15
		Date Extracted:	06/25/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1506834-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506834-001MS			K1506834-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	ND U	0.530	0.500	106	0.543	0.500	109	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Analyzed:**	06/23/15
Sample Matrix:	Ocean Water	**Date Extracted:**	06/23/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	450402

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1506671-LCS1	4.99	5.00	100	85-115

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Analyzed:**	06/25/15
Sample Matrix:	Ocean Water	**Date Extracted:**	06/25/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	450700

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1506671-LCS2	4.89	5.00	98	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Analyzed:**	06/26/15
Sample Matrix:	Ocean Water	**Date Extracted:**	06/26/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	450901

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1506671-LCS3	4.80	5.00	96	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1506671
Project: ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	450402	KQ1506849-01	06/23/15 16:37	0.500	0.519	104	90-110
CCV2	450402	KQ1506849-02	06/23/15 16:37	0.500	0.516	103	90-110
CCV3	450402	KQ1506849-03	06/23/15 16:37	0.500	0.525	105	90-110
CCV4	450402	KQ1506849-04	06/23/15 16:37	0.500	0.504	101	90-110
CCV5	450700	KQ1506936-01	06/25/15 14:12	0.500	0.508	102	90-110
CCV6	450700	KQ1506936-02	06/25/15 14:12	0.500	0.517	103	90-110
CCV7	450700	KQ1506936-03	06/25/15 14:12	0.500	0.522	104	90-110
CCV8	450700	KQ1506936-04	06/25/15 14:12	0.500	0.500	100	90-110
CCV9	450700	KQ1506936-05	06/25/15 14:12	0.500	0.507	101	90-110
CCV10	450901	KQ1507019-10	06/26/15 15:09	0.500	0.514	103	90-110
CCV11	450901	KQ1507019-11	06/26/15 15:09	0.500	0.523	105	90-110
CCV12	450901	KQ1507019-12	06/26/15 15:09	0.500	0.524	105	90-110
CCV13	450901	KQ1507019-13	06/26/15 15:09	0.500	0.512	102	90-110
CCV14	450901	KQ1507019-14	06/26/15 15:09	0.500	0.514	103	90-110
CCV15	450901	KQ1507019-15	06/26/15 15:09	0.500	0.514	103	90-110
CCV16	450901	KQ1507019-16	06/26/15 15:09	0.500	0.524	105	90-110
CCV17	450901	KQ1507019-17	06/26/15 15:09	0.500	0.526	105	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1506671
Project: ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	450402	KQ1506849-05	06/23/15 16:37	0.010	0.004	ND	U
CCB2	450402	KQ1506849-06	06/23/15 16:37	0.010	0.004	ND	U
CCB3	450402	KQ1506849-07	06/23/15 16:37	0.010	0.004	ND	U
CCB4	450402	KQ1506849-08	06/23/15 16:37	0.010	0.004	ND	U
CCB5	450700	KQ1506936-06	06/25/15 14:12	0.010	0.004	ND	U
CCB6	450700	KQ1506936-07	06/25/15 14:12	0.010	0.004	ND	U
CCB7	450700	KQ1506936-08	06/25/15 14:12	0.010	0.004	ND	U
CCB8	450700	KQ1506936-09	06/25/15 14:12	0.010	0.004	ND	U
CCB9	450700	KQ1506936-10	06/25/15 14:12	0.010	0.004	ND	U
CCB10	450901	KQ1507019-01	06/26/15 15:09	0.010	0.004	ND	U
CCB11	450901	KQ1507019-02	06/26/15 15:09	0.010	0.004	ND	U
CCB12	450901	KQ1507019-03	06/26/15 15:09	0.010	0.004	ND	U
CCB13	450901	KQ1507019-04	06/26/15 15:09	0.010	0.004	ND	U
CCB14	450901	KQ1507019-05	06/26/15 15:09	0.010	0.004	ND	U
CCB15	450901	KQ1507019-06	06/26/15 15:09	0.010	0.004	ND	U
CCB16	450901	KQ1507019-07	06/26/15 15:09	0.010	0.004	ND	U
CCB17	450901	KQ1507019-08	06/26/15 15:09	0.010	0.004	ND	U
CCB18	450901	KQ1507019-09	06/26/15 15:09	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	SM 4500-NH3 G	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Ammonium

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-001/PS07	K1506671-001	**0.095**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-002/PS06	K1506671-002	**0.061**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-003/PS14	K1506671-003	**0.060**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-004/PS05	K1506671-004	**0.059**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-005/PS04	K1506671-005	**0.046 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-006/PS03	K1506671-006	**0.050**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-007/PS08	K1506671-007	**0.060**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-008/PS15	K1506671-008	**0.051**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-009/PS09	K1506671-009	**0.087**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-010/PS10	K1506671-010	**0.080**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-011/PS10.1	K1506671-011	**0.062**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-012/PS11	K1506671-012	**0.070**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-013/PS11DUP	K1506671-013	**0.070**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-014/PS16	K1506671-014	**0.059**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-015/PS01	K1506671-015	**0.086**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-016/PS01DUP	K1506671-016	**0.086**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-017/PS02	K1506671-017	**0.049 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-018/PS13	K1506671-018	**0.057**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-019/M4	K1506671-019	**0.059**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-020/BJEST	K1506671-020	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-021/M3.1	K1506671-021	**0.049 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-022/M3.1DEEP	K1506671-022	**0.051**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-023/PS12	K1506671-023	**0.036 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-024/PS07B	K1506671-024	**0.077**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-DD001/OF096	K1506671-025	**0.234**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-100/M8	K1506671-026	**0.049 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-101/M6	K1506671-027	**0.031 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-102/DYOTS	K1506671-028	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-103/SN03	K1506671-029	**0.026 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-104/SN05	K1506671-030	**0.078**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-105/SN08	K1506671-031	**0.044 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-106/SN10	K1506671-032	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-107/SN11	K1506671-033	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-108/ILSP	K1506671-034	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-109/M1	K1506671-035	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-110/M1DEEP	K1506671-036	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	SM 4500-NH3 G	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Ammonium

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB18-111/WP	K1506671-037	**0.041 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-112/M2	K1506671-038	**0.043 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-113/M2DEEP	K1506671-039	**0.045 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-114/CLMBAY	K1506671-040	**0.038 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-115/CLMBAYDUP	K1506671-041	**0.038 J**	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-116/M3.3	K1506671-042	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-117/M3.3DUP	K1506671-043	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
AMB18-118/PS07C	K1506671-044	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
Method Blank	K1506671-MB1	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
Method Blank	K1506671-MB2	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	
Method Blank	K1506671-MB3	ND U	0.050	0.020	1	06/29/15 10:33	6/29/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15 - 06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
Analysis Method:	SM 4500-NH3 G	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Ammonium

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB18-001/PS07	K1506671-001DUP	0.050	0.020	0.095	0.094	0.0944	<1	20	06/29/15
AMB18-011/PS10.1	K1506671-011DUP	0.050	0.020	0.062	0.061	0.0615	<1	20	06/29/15
AMB18-021/M3.1	K1506671-021DUP	0.050	0.020	0.049 J	0.048 J	0.0484	<1	20	06/29/15
AMB18-105/SN08	K1506671-031DUP	0.050	0.020	0.044 J	0.046 J	0.0449	3	20	06/29/15
AMB18-115/CLMBAYDUP	K1506671-041DUP	0.050	0.020	0.038 J	0.038 J	0.0375	<1	20	06/29/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/29/15
		Date Extracted:	06/29/15

Duplicate Matrix Spike Summary
Ammonium

Sample Name:	AMB18-001/PS07	**Units:**	mg/L
Lab Code:	K1506671-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 G		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506671-001MS			K1506671-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonium	0.095	0.305	0.200	105	0.303	0.200	104	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/29/15
		Date Extracted:	06/29/15

Duplicate Matrix Spike Summary
Ammonium

Sample Name:	AMB18-011/PS10.1	**Units:**	mg/L
Lab Code:	K1506671-011	**Basis:**	NA
Analysis Method:	SM 4500-NH3 G		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506671-011MS			K1506671-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonium	0.062	0.259	0.200	99	0.259	0.200	99	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/16/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/29/15
		Date Extracted:	06/29/15

Duplicate Matrix Spike Summary
Ammonium

Sample Name:	AMB18-021/M3.1	**Units:**	mg/L
Lab Code:	K1506671-021	**Basis:**	NA
Analysis Method:	SM 4500-NH3 G		
Prep Method:	Method		

		Matrix Spike			**Duplicate Matrix Spike**					
		K1506671-021MS			K1506671-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonium	0.049 J	0.266	0.200	109	0.256	0.200	104	90-110	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/29/15
		Date Extracted:	06/29/15

Duplicate Matrix Spike Summary
Ammonium

Sample Name:	AMB18-105/SN08	**Units:**	mg/L
Lab Code:	K1506671-031	**Basis:**	NA
Analysis Method:	SM 4500-NH3 G		
Prep Method:	Method		

		Matrix Spike			**Duplicate Matrix Spike**					
		K1506671-031MS			K1506671-031DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonium	0.044 J	0.246	0.200	101	0.247	0.200	101	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Collected:**	06/17/15
Sample Matrix:	Ocean Water	**Date Received:**	06/19/15
		Date Analyzed:	06/29/15
		Date Extracted:	06/29/15

Duplicate Matrix Spike Summary
Ammonium

Sample Name:	AMB18-115/CLMBAYDUP	**Units:**	mg/L
Lab Code:	K1506671-041	**Basis:**	NA
Analysis Method:	SM 4500-NH3 G		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1506671-041MS			K1506671-041DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonium	0.038 J	0.239	0.200	101	0.238	0.200	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1506671
Project:	ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)	**Date Analyzed:**	06/29/15
Sample Matrix:	Ocean Water	**Date Extracted:**	06/29/15

Lab Control Sample Summary
Ammonium

Analysis Method:	SM 4500-NH3 G	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	451259

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1506671-LCS1	9.24	9.6	97	90-110
Lab Control Sample	K1506671-LCS2	9.24	9.6	97	90-110
Lab Control Sample	K1506671-LCS3	9.23	9.6	97	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1506671
Project: ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)

Continuing Calibration Verification (CCV) Summary

Ammonium

Analysis Method: SM 4500-NH3 G **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	451259	KQ1507161-01	06/29/15 10:33	0.250	0.250	100	90-110
CCV2	451259	KQ1507161-02	06/29/15 10:33	0.250	0.248	99	90-110
CCV3	451259	KQ1507161-03	06/29/15 10:33	0.250	0.250	100	90-110
CCV4	451259	KQ1507161-04	06/29/15 10:33	0.250	0.250	100	90-110
CCV5	451259	KQ1507161-05	06/29/15 10:33	0.250	0.249	100	90-110
CCV6	451259	KQ1507161-06	06/29/15 10:33	0.250	0.250	100	90-110
CCV7	451259	KQ1507161-07	06/29/15 10:33	0.250	0.249	100	90-110
CCV8	451259	KQ1507161-08	06/29/15 10:33	0.250	0.249	99	90-110
CCV9	451259	KQ1507161-09	06/29/15 10:33	0.250	0.248	99	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1506671
Project: ENVVEST JUNE 2015 Ambient Monitoring (AMB 18)

Continuing Calibration Blank (CCB) Summary

Ammonium

Analysis Method: SM 4500-NH3 G **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	451259	KQ1507161-10	06/29/15 10:33	0.050	0.020	ND	U
CCB2	451259	KQ1507161-11	06/29/15 10:33	0.050	0.020	ND	U
CCB3	451259	KQ1507161-12	06/29/15 10:33	0.050	0.020	ND	U
CCB4	451259	KQ1507161-13	06/29/15 10:33	0.050	0.020	ND	U
CCB5	451259	KQ1507161-14	06/29/15 10:33	0.050	0.020	ND	U
CCB6	451259	KQ1507161-15	06/29/15 10:33	0.050	0.020	ND	U
CCB7	451259	KQ1507161-16	06/29/15 10:33	0.050	0.020	ND	U
CCB8	451259	KQ1507161-17	06/29/15 10:33	0.050	0.020	ND	U
CCB9	451259	KQ1507161-18	06/29/15 10:33	0.050	0.020	ND	U

SAMPLE CHAIN OF CUSTODY FORM

Date: 6/16/15

Page: 1 of ~~2~~

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB18

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Testing Parameters: Metals (Total/Diss)	~~Total Hg~~ TOC	TS/TSS	Nuts/~~TOC~~	DOC	Osal	Oil&Grease			No. of containers	StationID	Observations, Instructions: Comments
3104 TOT/DISS	AMB18 JMS	6/16/15														Cloudy
1574/1575	~~PS07~~-001	~~PPC~~ PS07	6/16/15 8:58	M	X	X	X	X	X						PS07	
1576 1577	-002	PS06	0906	M	x	x	x	x	x						PS06	
1578 ~~PT~~ 1579	-003	PS14	0916												PS14	
1580 1581	-004	PS05	0930												PS05	
1582 1583	-005	PS04	0938												PS04	
1584 1585	-006	PS03	0951												PS03	
1586 1587	-007	PS08	1005												PS08	
1588 1589	-008	PS15	1016												PS16	
1590 1591	-009	PS09	1028												PS09	
1592 1593	-010	PS10	1040												PS10	
1594 1595	-011	PS10.1	1050												PS10.1	
1596 1597	-012	PS11	1100												PS11	
1598 1599	-013	PS11DUP	1100												PS11	
1600 1601	-014	PS16	1107												PS16	
1602 1603	-015	PS01	1125												PS01	
1604 1605	-016	PS01DUP	1125												PS01	
1606 1607	-017	PS02	1155												PS02	
1608 1609	-018	PS13	1204												PS13	
1610 1611	-019	M4	1215												M4	
1612 1613	-020	BJEST	~~17~~ 1234												BJEST	

Relinquished by: STRICKLAND Signature — 6/16/2015 Date — 1645 Time — RUNDLE Printed Name — Company

Received by: Signature — NICK SCHLAFER Printed Name

Total # of Containers

Shipment Method: on ice

Shipment Method: Hand delivered by staff

Sample Disposition:

Relinquished by: Signature — Date — Time — Printed Name — Company

Received by: Signature — Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM ~~AMB17_2015_04_08~~

Date: 6/16/2015 2

Page: 2 of _____

COC Number: _____

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: ENVVEST AMB18
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB~~17~~ 18

Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Testing Parameters: Metals (Total/Diss)	TS/TSS/Osal	Nuts	DOC	TOC	Oil & Grease				No. of containers	StationID	Observations, Instructions: Comments
3106 TDS/DISS		AMB18		6/16/2015													
1614	1615	-021	~~PS12~~ M3.1	1250	M												
1616	1617	-022	M3.1 Deep	1250	M												4 meters depth
1618	~~1618~~ 1619	-023	PS12	1318	NS												
1620	~~1619~~ 1621	-024	PS67B	1336	NS												
1622	1623	AMB18 DDOOB ~~024~~	DF096	0900		X	X	X	X	X	X						Resample at Dock grab from pump 5
1624	1625	-DDOOA ~~026~~	DF018	0945		X	X	X	X	X	X					pump1	grab / fuse blown pump 4
1626	1627	-DDOOB ~~027~~	DF021	1015		X	X	X	X	X							
		~~-028~~															
		~~-029~~															

JMB
6/16/15

NOTE: DF019 Collected with DDA 011 (Composite Sample) ES
OF Sample IDs = AMB18-DDOOX

Relinquished by: STUDENTS — Signature — 2015 ocean PNNL — Date — Time 1645 — Printed Name — Company

Received by: Nick Schlafer — Signature — Printed Name

Total # of Containers

Shipment Method: On ice

Shipment Method: Hand Delivered by Staff

Sample Disposition:

Relinquished by: _____ Signature — Date — Time ~~1620~~ — Printed Name — Company

Received by: _____ Signature — Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31062 Sample No(s): (~~15~~ 5 1574-1627) Batch: (48)

Project Name: ENVVEST AMB 18 Project Manager: Brandenburger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box		
☐	☐	☑	Custody seal present	Seal intact? YES NO	
☑	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)		
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)		
☑	☐	☐	Were all chain of custody forms signed and dated?		
☑	☐	☐	Were samples filtered at MSL?	ALL ~~HALF~~ TMF	

Cooler 1: 4 °C
Cooler 2: 4 °C
Cooler 3: 4 °C
Cooler 4: 4 °C

Comment/Remedy:

Samples must be filtered prior to preservation!

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: STRICKLAND Cooler Receipt Date/Time: 20150616 1645

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type:
- ☑ 0.2% HNO3 Notes: Metals Lot# 1214010
- ☐ 0.5% HCl (Hg samples) Notes: Lot#
- ☑ (Refrigerate)/Freeze Notes: Outside Walkin - DIG/NUTES
- ☐ Other Notes:

TOC/DOC in Freezer 8

Completed By: Nikki Sokol Preservation Date/Time: 20150616 1800

Storage Shelf:

Comments/Observations:

Jordi

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/17/2015 (samples arrived 6/16, logge
Batch: 48
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-001	PS07-TME	TME	PS07	3106-1574	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-001	PS07-DME	DME	PS07	3106-1575	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-002	PS06-TME	TME	PS06	3106-1576	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-002	PS06-DME	DME	PS06	3106-1577	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-003	PS14-TME	TME	PS14	3106-1578	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-003	PS14-DME	DME	PS14	3106-1579	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-004	PS05-TME	TME	PS05	3106-1580	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-004	PS05-DME	DME	PS05	3106-1581	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-005	PS04-TME	TME	PS04	3106-1582	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-005	PS04-DME	DME	PS04	3106-1583	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-006	PS03-TME	TME	PS03	3106-1584	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-006	PS03-DME	DME	PS03	3106-1585	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-007	PS08-TME	TME	PS08	3106-1586	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-007	PS08-DME	DME	PS08	3106-1587	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-008	PS15-TME	TME	PS15	3106-1588	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-008	PS15-DME	DME	PS15	3106-1589	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-009	PS09-TME	TME	PS09	3106-1590	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-009	PS09-DME	DME	PS09	3106-1591	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-010	PS10-TME	TME	PS10	3106-1592	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-010	PS10-DME	DME	PS10	3106-1593	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-011	PS10.1-TME	TME	PS10.1	3106-1594	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-011	PS10.1-DME	DME	PS10.1	3106-1595	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-012	PS11-TME	TME	PS11	3106-1596	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-012	PS11-DME	DME	PS11	3106-1597	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-013	PS11DUP-TME	TME	PS11DUP	3106-1598	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-013	PS11DUP-DME	DME	PS11DUP	3106-1599	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-014	PS16-TME	TME	PS16	3106-1600	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-014	PS16-DME	DME	PS16	3106-1601	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-015	PS01-TME	TME	PS01	3106-1602	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-015	PS01-DME	DME	PS01	3106-1603	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-016	PS01DUP-TME	TME	PS01DUP	3106-1604	Seawater	PREP LAB	Total Metals, Hg	06/16/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/17/2015 (samples arrived 6/16, logged
Batch: 48
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-016	PS01DUP-DME	DME	PS01DUP	3106-1605	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-017	PS02-TME	TME	PS02	3106-1606	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-017	PS02-DME	DME	PS02	3106-1607	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-018	PS13-TME	TME	PS13	3106-1608	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-018	PS13-DME	DME	PS13	3106-1609	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-019	M4-TME	TME	M4	3106-1610	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-019	M4-DME	DME	M4	3106-1611	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-020	BJEST-TME	TME	BJEST	3106-1612	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-020	BJEST-DME	DME	BJEST	3106-1613	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-021	M3.1-TME	TME	M3.1	3106-1614	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-021	M3.1-DME	DME	M3.1	3106-1615	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-022	M3.1DEEP-TME	TME	M3.1DEEP	3106-1616	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-022	M3.1DEEP-DME	DME	M3.1DEEP	3106-1617	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-023	PS12-TME	TME	PS12	3106-1618	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-023	PS12-DME	DME	PS12	3106-1619	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-024	PS07B-TME	TME	PS07B	3106-1620	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-024	PS07B-DME	DME	PS07B	3106-1621	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-DD001	OF096-TME	TME	OF096	3106-1622	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-DD001	OF096-DME	DME	OF096	3106-1623	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-DD002	OF018-TME	TME	OF018	3106-1624	Seawater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-DD002	OF018-DME	DME	OF018	3106-1625	Seawater	PREP LAB	Dissolved Metals, Hg	06/16/15
AMB18-DD003	OF021-TME	TME	OF021	3106-1626	Freshwater	PREP LAB	Total Metals, Hg	06/16/15
AMB18-DD003	OF021-DME	DME	OF021	3106-1627	Freshwater	PREP LAB	Dissolved Metals, Hg	06/16/15

NOTE: OF19 collected as part of DDA011 (DDA011-019 TME, DDA011-024 DME), CF#3462; PLEASE ANALYZE with AMB18

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/17/2015 (samples arrived 6/16, logge
Batch: 48
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-001	PS07-DOC	DOC	PS07	3106-1575	Seawater	MSL	DOC	06/16/15
AMB18-002	PS06-DOC	DOC	PS06	3106-1577	Seawater	MSL	DOC	06/16/15
AMB18-003	PS14-DOC	DOC	PS14	3106-1579	Seawater	MSL	DOC	06/16/15
AMB18-004	PS05-DOC	DOC	PS05	3106-1581	Seawater	MSL	DOC	06/16/15
AMB18-005	PS04-DOC	DOC	PS04	3106-1583	Seawater	MSL	DOC	06/16/15
AMB18-006	PS03-DOC	DOC	PS03	3106-1585	Seawater	MSL	DOC	06/16/15
AMB18-007	PS08-DOC	DOC	PS08	3106-1587	Seawater	MSL	DOC	06/16/15
AMB18-008	PS15-DOC	DOC	PS15	3106-1589	Seawater	MSL	DOC	06/16/15
AMB18-009	PS09-DOC	DOC	PS09	3106-1591	Seawater	MSL	DOC	06/16/15
AMB18-010	PS10-DOC	DOC	PS10	3106-1593	Seawater	MSL	DOC	06/16/15
AMB18-011	PS10.1-DOC	DOC	PS10.1	3106-1595	Seawater	MSL	DOC	06/16/15
AMB18-012	PS11-DOC	DOC	PS11	3106-1597	Seawater	MSL	DOC	06/16/15
AMB18-013	PS11DUP-DOC	DOC	PS11DUP	3106-1599	Seawater	MSL	DOC	06/16/15
AMB18-014	PS16-DOC	DOC	PS16	3106-1601	Seawater	MSL	DOC	06/16/15
AMB18-015	PS01-DOC	DOC	PS01	3106-1603	Seawater	MSL	DOC	06/16/15
AMB18-016	PS01DUP-DOC	DOC	PS01DUP	3106-1605	Seawater	MSL	DOC	06/16/15
AMB18-017	PS02-DOC	DOC	PS02	3106-1607	Seawater	MSL	DOC	06/16/15
AMB18-018	PS13-DOC	DOC	PS13	3106-1609	Seawater	MSL	DOC	06/16/15
AMB18-019	M4-DOC	DOC	M4	3106-1611	Seawater	MSL	DOC	06/16/15
AMB18-020	BJEST-DOC	DOC	BJEST	3106-1613	Seawater	MSL	DOC	06/16/15
AMB18-021	M3.1-DOC	DOC	M3.1	3106-1615	Seawater	MSL	DOC	06/16/15
AMB18-022	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-1617	Seawater	MSL	DOC	06/16/15
AMB18-023	PS12-DOC	DOC	PS12	3106-1619	Seawater	MSL	DOC	06/16/15
AMB18-024	PS07B-DOC	DOC	PS07B	3106-1621	Seawater	MSL	DOC	06/16/15
AMB18-DD001	OF096-DOC	DOC	OF096	3106-1623	Seawater	MSL	DOC	06/16/15
AMB18-DD002	OF018-DOC	DOC	OF018	3106-1625	Seawater	MSL	DOC	06/16/15
AMB18-DD003	OF021-DOC	DOC	OF021	3106-1627	Freshwater	MSL	DOC	06/16/15

NOTE: OF19 collected as part of DDA011 (DDA011-021 DOC), CF#3462; PLEASE ANALYZE with AMB18

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/17/2015 (samples arrived 6/16, logge
Batch: 48
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-001	PS07-TOC	TOC	PS07	3106-1574	Seawater	MSL	TOC	06/16/15
AMB18-002	PS06-TOC	TOC	PS06	3106-1576	Seawater	MSL	TOC	06/16/15
AMB18-003	PS14-TOC	TOC	PS14	3106-1578	Seawater	MSL	TOC	06/16/15
AMB18-004	PS05-TOC	TOC	PS05	3106-1580	Seawater	MSL	TOC	06/16/15
AMB18-005	PS04-TOC	TOC	PS04	3106-1582	Seawater	MSL	TOC	06/16/15
AMB18-006	PS03-TOC	TOC	PS03	3106-1584	Seawater	MSL	TOC	06/16/15
AMB18-007	PS08-TOC	TOC	PS08	3106-1586	Seawater	MSL	TOC	06/16/15
AMB18-008	PS15-TOC	TOC	PS15	3106-1588	Seawater	MSL	TOC	06/16/15
AMB18-009	PS09-TOC	TOC	PS09	3106-1590	Seawater	MSL	TOC	06/16/15
AMB18-010	PS10-TOC	TOC	PS10	3106-1592	Seawater	MSL	TOC	06/16/15
AMB18-011	PS10.1-TOC	TOC	PS10.1	3106-1594	Seawater	MSL	TOC	06/16/15
AMB18-012	PS11-TOC	TOC	PS11	3106-1596	Seawater	MSL	TOC	06/16/15
AMB18-013	PS11DUP-TOC	TOC	PS11DUP	3106-1598	Seawater	MSL	TOC	06/16/15
AMB18-014	PS16-TOC	TOC	PS16	3106-1600	Seawater	MSL	TOC	06/16/15
AMB18-015	PS01-TOC	TOC	PS01	3106-1602	Seawater	MSL	TOC	06/16/15
AMB18-016	PS01DUP-TOC	TOC	PS01DUP	3106-1604	Seawater	MSL	TOC	06/16/15
AMB18-017	PS02-TOC	TOC	PS02	3106-1606	Seawater	MSL	TOC	06/16/15
AMB18-018	PS13-TOC	TOC	PS13	3106-1608	Seawater	MSL	TOC	06/16/15
AMB18-019	M4-TOC	TOC	M4	3106-1610	Seawater	MSL	TOC	06/16/15
AMB18-020	BJEST-TOC	TOC	BJEST	3106-1612	Seawater	MSL	TOC	06/16/15
AMB18-021	M3.1-TOC	TOC	M3.1	3106-1614	Seawater	MSL	TOC	06/16/15
AMB18-022	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-1616	Seawater	MSL	TOC	06/16/15
AMB18-023	PS12-TOC	TOC	PS12	3106-1618	Seawater	MSL	TOC	06/16/15
AMB18-024	PS07B-TOC	TOC	PS07B	3106-1620	Seawater	MSL	TOC	06/16/15
AMB18-DD001	OF096-TOC	TOC	OF096	3106-1622	Seawater	MSL	TOC	06/16/15
AMB18-DD002	OF018-TOC	TOC	OF018	3106-1624	Seawater	MSL	TOC	06/16/15
AMB18-DD003	OF021-TOC	TOC	OF021	3106-1626	Freshwater	MSL	TOC	06/16/15

NOTE: OF19 collected as part of DDA011 (DDA011-020 TOC), CF#3462; PLEASE ANALYZE with AMB18

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/17/2015 (samples arrived 6/16, logged
Batch: 48
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1574	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-002	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1576	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-003	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1578	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-004	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1580	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-005	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1582	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-006	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1584	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-007	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1586	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-008	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1588	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-009	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1590	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-010	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1592	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-011	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1594	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-012	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1596	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-013	PS11DUP-TSS/OSAL	TSS/OSAL	PS11DUP	3106-1598	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-014	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1600	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-015	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1602	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-016	PS01DUP-TSS/OSAL	TSS/OSAL	PS01DUP	3106-1604	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-017	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1606	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-018	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1608	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-019	M4-TSS/OSAL	TSS/OSAL	M4	3106-1610	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-020	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1612	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-021	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1614	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-022	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-1616	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-023	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1618	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-024	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-1620	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-DD001	OF096-TSS/OSAL	TSS/OSAL	OF096	3106-1622	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-DD002	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1624	Seawater	MSL	TSS/OSAL	06/16/15
AMB18-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1626	Freshwater	MSL	TSS/OSAL	06/16/15

NOTE: OF19 collected as part of DDA011 (DDA011-018 TSS/OSAL), CF#3462; PLEASE ANALYZE with AMB18

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 6/16/15 (Logged in 6/17/15
Batch: 13
Login Designee: Jon Strivens/CS

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST - Dry Dock DDA011 (OF019 - AMB18)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
DDA011-01	Autosampler	3462-230	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-02	Autosampler	3462-231	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-03	Autosampler	3462-232	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-04	Autosampler	3462-233	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-05	Autosampler	3462-234	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-06	Autosampler	3462-235	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-07	Autosampler	3462-236	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-08	Autosampler	3462-237	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-09	Autosampler	3462-238	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-10	Autosampler	3462-239	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-11	Autosampler	3462-240	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-12	Autosampler	3462-241	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-13	Autosampler	3462-242	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-14	Autosampler	3462-243	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-15	Autosampler	3462-244	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-16	Autosampler	3462-245	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-17	Autosampler	3462-246	Seawater	walkin cooler	Sal, Turb	06/16/15
DDA011-18	Composite	3462-247	Seawater	walkin cooler	Turb, Sal, TSS, pH	06/16/15
DDA011-19	Composite	3462-248	Seawater	Lab 231	TME	06/16/15
DDA011-20	Composite	3462-249	Seawater	Walkin Freezer	TOC	06/16/15
DDA011-21	Composite	3462-250	Seawater	Walkin Freezer	DOC	06/16/15

OF 019 for AMB18 ✓

SOP#: MSL-A-001

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle *The Business of Innovation*

Project Manager: Brandenberger
Date Received: 6/16/15 (Logged in 6/17/15
Batch: 13
Login Designee: Jon Strivens/CS

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST - Dry Dock DDA011 (OF019 - AMB18)**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
DDA011-22	Composite	3462-251	Seawater	Ship to ALS 6/17/15	~~Oil & Grease (sent to ALS)~~	06/16/15
DDA011-23	Composite	3462-252	Seawater	Ship to ALS 6/18/15	Nutrients (sent to ALS)	06/16/15
DDA011-24	Composite	3462-253	Seawater	Lab 231	DME	06/16/15

OF019 for AMB18 ~~GS~~

No O:G Collected for OF 019 Per J. Strivens GS 6/18/15

SAMPLE CHAIN OF CUSTODY FORM

Date: _____
Page: 1 of 1
COC Number: _____

SMS 6/17/15

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB18

3106 TOT/Diss Lab. Use only: ID	Lab ID	Sample ID	Sample Label	6/17/15 Collection Date/Time	Matrix	Testing Parameters: Metals (~~Total~~/Diss)	Total Hg	TS/TSS/OSAV	Nuts/~~TOC~~	DOC	~~Osat~~	Oil&Grease	TOC	No. of containers	StationID	Comments
1628	1629	AMB00	M8	0853	Sea Water	X		X	X	X			X	5	M8	
1630	1631	-101	M6	0912											M6	
1632	1633	-102	DYOTS	~~0926~~											DYOTS	
1634	1635	-103	SNO3	~~0926~~ 1108											SNO3	
1636	1637	-104	SNO5	1123											SNO5	algae bloom
1638	1639	105	SNO8	1136											SNO8	
1640	1641	106	SNIO	1150											SNIO	
1642	1643	107	SN11	1204											SN11	Foot ferry leaving
1644	1645	108	~~WP~~ ILSP	1236											ILSP	
1646	1647	109	M1	1313											M1	
1648	1649	110	M1Deep	1318											M1Deep	4 meters
1650	1651	111	WP	1333											WP	
1652	1653	112	M2	1355											M2	~~5 meters~~ OTC
1654	1655	113	M2 Deep	1353											M2Deep	5 meters
1656	1657	114	CLMBAY	1407											CLMBAY	
1658	1659	115	CLMBAYDup	1409											CLMBAY Dup	
1660	1661	116	M3.3	1432											M3.3	
1662	1663	117	M3.3 Dup	1433											M3.3 Dup	
1664	1665	118	PSO7C	1448	↓										PSO7C	
end		119														

Relinquished by:
Jan Stevens — Signature
20150617 — Date
1500 PDT — Time
Printed Name — Company

Received by:
Signature
C. Sublett — Printed Name
6/18/15

Total # of Containers
Shipment Method: On ice
Shipment Method: Hand delivery by staff
Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31062 Sample No(s): (1128 - 1165) Batch: (49)

Project Name: ENVEST AMB 18 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Sea Water WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		✓	Custody seal present Seal intact? YES NO
✓			Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
		✓	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL? ALL (HALF) TMB

Cooler 1: 4 °C
Cooler 2: 4 °C
Cooler 3: 4 °C
Cooler 4: 4 °C

Comment/Remedy:

Samples must be filtered prior to preservation!

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: STRUSOSS Cooler Receipt Date/Time: 20150617 1645

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [✓] Sample(s) were preserved at MSL

Type:
- [✓] 0.2% HNO3 Notes: TME, DME Lot# 1214010
- [ ] 0.5% HCl (Hg samples) Notes: Lot#
- [✓] Refrigerate/Freeze Notes: TOC/DOC to Deep freezer, All others to Ref.
- [ ] Other Notes:

Completed By: STRUSOSS Preservation Date/Time: 20150617 1802

Storage Shelf: K-3-B

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2015 (samples arrived 6/17, logge
Batch: 49
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-100	M8-TME	TME	M8	3106-1628	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-100	M8-DME	DME	M8	3106-1629	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-101	M6-TME	TME	M6	3106-1630	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-101	M6-DME	DME	M6	3106-1631	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-102	DYOTS-TME	TME	DYOTS	3106-1632	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-102	DYOTS-DME	DME	DYOTS	3106-1633	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-103	SN03-TME	TME	SN03	3106-1634	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-103	SN03-DME	DME	SN03	3106-1635	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-104	SN05-TME	TME	SN05	3106-1636	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-104	SN05-DME	DME	SN05	3106-1637	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-105	SN08-TME	TME	SN08	3106-1638	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-105	SN08-DME	DME	SN08	3106-1639	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-106	SN10-TME	TME	SN10	3106-1640	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-106	SN10-DME	DME	SN10	3106-1641	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-107	SN11-TME	TME	SN11	3106-1642	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-107	SN11-DME	DME	SN11	3106-1643	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-108	ILSP-TME	TME	ILSP	3106-1644	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-108	ILSP-DME	DME	ILSP	3106-1645	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-109	M1-TME	TME	M1	3106-1646	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-109	M1-DME	DME	M1	3106-1647	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-110	M1DEEP-TME	TME	M1DEEP	3106-1648	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-110	M1DEEP-DME	DME	M1DEEP	3106-1649	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-111	WP-TME	TME	WP	3106-1650	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-111	WP-DME	DME	WP	3106-1651	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-112	M2-TME	TME	M2	3106-1652	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-112	M2-DME	DME	M2	3106-1653	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-113	M2DEEP-TME	TME	M2DEEP	3106-1654	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-113	M2DEEP-DME	DME	M2DEEP	3106-1655	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-114	CLMBAY-TME	TME	CLMBAY	3106-1656	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-114	CLMBAY-DME	DME	CLMBAY	3106-1657	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-115	CLMBAYDUP-TME	TME	CLMBAYDUP	3106-1658	Seawater	PREP LAB	Total Metals, Hg	06/17/15

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2015 (samples arrived 6/17, logge
Batch: 49
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-115	CLMBAYDUP-DME	DME	CLMBAYDUP	3106-1659	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-116	M3.3-TME	TME	M3.3	3106-1660	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-116	M3.3-DME	DME	M3.3	3106-1661	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-117	M3.3DUP-TME	TME	M3.3DUP	3106-1662	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-117	M3.3DUP-DME	DME	M3.3DUP	3106-1663	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15
AMB18-118	PS07C-TME	TME	PS07C	3106-1664	Seawater	PREP LAB	Total Metals, Hg	06/17/15
AMB18-118	PS07C-DME	DME	PS07C	3106-1665	Seawater	PREP LAB	Dissolved Metals, Hg	06/17/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2015 (samples arrived 6/17, logged
Batch: 49
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-100	M8-DOC	DOC	M8	3106-1629	Seawater	MSL	DOC	06/17/15
AMB18-101	M6-DOC	DOC	M6	3106-1631	Seawater	MSL	DOC	06/17/15
AMB18-102	DYOTS-DOC	DOC	DYOTS	3106-1633	Seawater	MSL	DOC	06/17/15
AMB18-103	SN03-DOC	DOC	SN03	3106-1635	Seawater	MSL	DOC	06/17/15
AMB18-104	SN05-DOC	DOC	SN05	3106-1637	Seawater	MSL	DOC	06/17/15
AMB18-105	SN08-DOC	DOC	SN08	3106-1639	Seawater	MSL	DOC	06/17/15
AMB18-106	SN10-DOC	DOC	SN10	3106-1641	Seawater	MSL	DOC	06/17/15
AMB18-107	SN11-DOC	DOC	SN11	3106-1643	Seawater	MSL	DOC	06/17/15
AMB18-108	ILSP-DOC	DOC	ILSP	3106-1645	Seawater	MSL	DOC	06/17/15
AMB18-109	M1-DOC	DOC	M1	3106-1647	Seawater	MSL	DOC	06/17/15
AMB18-110	M1DEEP-DOC	DOC	M1DEEP	3106-1649	Seawater	MSL	DOC	06/17/15
AMB18-111	WP-DOC	DOC	WP	3106-1651	Seawater	MSL	DOC	06/17/15
AMB18-112	M2-DOC	DOC	M2	3106-1653	Seawater	MSL	DOC	06/17/15
AMB18-113	M2DEEP-DOC	DOC	M2DEEP	3106-1655	Seawater	MSL	DOC	06/17/15
AMB18-114	CLMBAY-DOC	DOC	CLMBAY	3106-1657	Seawater	MSL	DOC	06/17/15
AMB18-115	CLMBAYDUP-DOC	DOC	CLMBAYDUP	3106-1659	Seawater	MSL	DOC	06/17/15
AMB18-116	M3.3-DOC	DOC	M3.3	3106-1661	Seawater	MSL	DOC	06/17/15
AMB18-117	M3.3DUP-DOC	DOC	M3.3DUP	3106-1663	Seawater	MSL	DOC	06/17/15
AMB18-118	PS07C-DOC	DOC	PS07C	3106-1665	Seawater	MSL	DOC	06/17/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2015 (samples arrived 6/17, logge
Batch: 49
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-100	M8-TOC	TOC	M8	3106-1628	Seawater	MSL	TOC	06/17/15
AMB18-101	M6-TOC	TOC	M6	3106-1630	Seawater	MSL	TOC	06/17/15
AMB18-102	DYOTS-TOC	TOC	DYOTS	3106-1632	Seawater	MSL	TOC	06/17/15
AMB18-103	SN03-TOC	TOC	SN03	3106-1634	Seawater	MSL	TOC	06/17/15
AMB18-104	SN05-TOC	TOC	SN05	3106-1636	Seawater	MSL	TOC	06/17/15
AMB18-105	SN08-TOC	TOC	SN08	3106-1638	Seawater	MSL	TOC	06/17/15
AMB18-106	SN10-TOC	TOC	SN10	3106-1640	Seawater	MSL	TOC	06/17/15
AMB18-107	SN11-TOC	TOC	SN11	3106-1642	Seawater	MSL	TOC	06/17/15
AMB18-108	ILSP-TOC	TOC	ILSP	3106-1644	Seawater	MSL	TOC	06/17/15
AMB18-109	M1-TOC	TOC	M1	3106-1646	Seawater	MSL	TOC	06/17/15
AMB18-110	M1DEEP-TOC	TOC	M1DEEP	3106-1648	Seawater	MSL	TOC	06/17/15
AMB18-111	WP-TOC	TOC	WP	3106-1650	Seawater	MSL	TOC	06/17/15
AMB18-112	M2-TOC	TOC	M2	3106-1652	Seawater	MSL	TOC	06/17/15
AMB18-113	M2DEEP-TOC	TOC	M2DEEP	3106-1654	Seawater	MSL	TOC	06/17/15
AMB18-114	CLMBAY-TOC	TOC	CLMBAY	3106-1656	Seawater	MSL	TOC	06/17/15
AMB18-115	CLMBAYDUP-TOC	TOC	CLMBAYDUP	3106-1658	Seawater	MSL	TOC	06/17/15
AMB18-116	M3.3-TOC	TOC	M3.3	3106-1660	Seawater	MSL	TOC	06/17/15
AMB18-117	M3.3DUP-TOC	TOC	M3.3DUP	3106-1662	Seawater	MSL	TOC	06/17/15
AMB18-118	PS07C-TOC	TOC	PS07C	3106-1664	Seawater	MSL	TOC	06/17/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 6/18/2015 (samples arrived 6/17, logge
Batch: 49
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, JUNE 2015 (AMB18, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB18-100	M8-TSS/OSAL	TSS/OSAL	M8	3106-1628	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-101	M6-TSS/OSAL	TSS/OSAL	M6	3106-1630	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-102	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1632	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-103	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1634	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-104	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1636	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-105	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1638	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-106	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1640	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-107	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1642	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-108	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1644	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-109	M1-TSS/OSAL	TSS/OSAL	M1	3106-1646	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-110	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1648	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-111	WP-TSS/OSAL	TSS/OSAL	WP	3106-1650	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-112	M2-TSS/OSAL	TSS/OSAL	M2	3106-1652	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-113	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1654	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-114	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1656	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-115	CLMBAYDUP-TSS/OSAL	TSS/OSAL	CLMBAYDUP	3106-1658	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-116	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1660	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-117	M3.3DUP-TSS/OSAL	TSS/OSAL	M3.3DUP	3106-1662	Seawater	MSL	TSS/OSAL	06/17/15
AMB18-118	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-1664	Seawater	MSL	TSS/OSAL	06/17/15

Batch 47

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 20150605

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: AMB 18 ENVIRES T
Project Manager: BRANDON BOEHNER
Phone Number: 1495 Ext 4

Shipment Method: created @ MSL
Preservation: 0.2% HNO3 12/4/010
MSL 5 12 C0

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TMC	Test Parameters: mercury	Test Parameters	Test Parameters	Test Parameters	Laboratory ID	Observations/Comments
1	0.45µm Filter Blank 1	20150605 1000	water	1	x	x				31066-1569	
2	" Blank 2	"	"	1	x	x				31066-1570	
3	" Blank 3	"	"	1	x	x				31066-1571	
4	TANK 5 FEED	"	Sea water	1	x	x				31066-1572	
5	Go-Flo 20-min blank	"	"	1	x	x				31066-1573	
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name: STEVENS	Date/Time: 20150605	Signature/Printed Name: NA (Created @ MSL)	Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

NO Blue Sheet - Samples Created in Lab. S

Rev. 020102COC *Distribution: White - Laboratory, Project Files Yellow - Laboratory, Client Pink - Sampler*

Page 1 of 1

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 6/5/2015
Batch: 47
Login Designee: Suslick/JS
Project: **ENVVEST AMB 18 Equip Blanks**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
0.45µm filter blank 1	NA	3106-1569	DI water	MSL 5 126	TME, Hg	6/5/15 10:00 AM
0.45µm filter blank 2	NA	3106-1570	DI water	MSL 5 126	TME, Hg	6/5/15 10:00 AM
0.45µm filter blank 3	NA	3106-1571	DI water	MSL 5 126	TME, Hg	6/5/15 10:00 AM
Tank 5 Feed	NA	3106-1572	seawater	MSL 5 126	TME, Hg	6/5/15 10:00 AM
Go-Flo 20 min blank	NA	3106-1573	seawater	MSL 5 126	TME, Hg	6/5/15 10:00 AM

SOP#: MSL-A-001

7150595

PROJECT ENVVEST															
Project Name: JUNE 2015 Ambient Monitoring (AMB18)															
SAMPLE TEAM:	Navy, Battelle														
DATE:	6/17/2015														
Laboratory:	ALS Kelso, WA														

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACIT	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB18-DD001	OF096	6/16/2015 9:00:00 AM	Seawater						X			1	
AMB18-DD002	OF018	6/16/2015 9:45:00 AM	Seawater						X			1	
~~DDA011-022~~	~~OE019~~	~~6/16/2015 10:30:00 AM~~	Seawater						X			1	Not included at this time
--end													
											Total:	52	

6/17/15

Relinquished By:		Company:	Battelle MSL
C. Suslick			6/17/2015
Signature/Printed Name			Date/Time
Received By:		Company:	ALS
Signature/Printed Name	SWOLF	6/18/15 1600	Date/Time

shipped via Fedex 6/17/15, CS

PC H2

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K15* 06595

Received: 6/18/15 Opened: 6/18/15 By: [signature] Unloaded: 6/18/15 By: [signature]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.3	—	—	0	338		7738 5496 6954	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

K1506671

PROJECT ENVVEST														
Project Name: JUNE 2015 Ambient Monitoring (AMB18)														
SAMPLE TEAM:	Navy, Battelle													
DATE:	6/18/2015													
Laboratory:	ALS Kelso, WA													

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB18-001	PS07	6/16/2015 8:58:00 AM	Seawater				X					1	
2	AMB18-002	PS06	6/16/2015 9:06:00 AM	Seawater				X					1	
3	AMB18-003	PS14	6/16/2015 9:16:00 AM	Seawater				X					1	
4	AMB18-004	PS05	6/16/2015 9:30:00 AM	Seawater				X					1	
5	AMB18-005	PS04	6/16/2015 9:38:00 AM	Seawater				X					1	
6	AMB18-006	PS03	6/16/2015 9:51:00 AM	Seawater				X					1	
7	AMB18-007	PS08	6/16/2015 10:05:00 AM	Seawater				X					1	
8	AMB18-008	PS15	6/16/2015 10:16:00 AM	Seawater				X					1	
9	AMB18-009	PS09	6/16/2015 10:28:00 AM	Seawater				X					1	
10	AMB18-010	PS10	6/16/2015 10:40:00 AM	Seawater				X					1	
11	AMB18-011	PS10.1	6/16/2015 10:50:00 AM	Seawater				X					1	
12	AMB18-012	PS11	6/16/2015 11:00:00 AM	Seawater				X					1	
13	AMB18-013	PS11DUP	6/16/2015 11:00:00 AM	Seawater				X					1	
14	AMB18-014	PS16	6/16/2015 11:07:00 AM	Seawater				X					1	
15	AMB18-015	PS01	6/16/2015 11:25:00 AM	Seawater				X					1	
16	AMB18-016	PS01DUP	6/16/2015 11:25:00 AM	Seawater				X					1	
17	AMB18-017	PS02	6/16/2015 11:55:00 AM	Seawater				X					1	
18	AMB18-018	PS13	6/16/2015 12:04:00 PM	Seawater				X					1	
19	AMB18-019	M4	6/16/2015 12:15:00 PM	Seawater				X					1	
20	AMB18-020	BJEST	6/16/2015 12:34:00 PM	Seawater				X					1	
21	AMB18-021	M3.1	6/16/2015 12:50:00 PM	Seawater				X					1	
22	AMB18-022	M3.1DEEP	6/16/2015 12:50:00 PM	Seawater				X					1	
23	AMB18-023	PS12	6/16/2015 13:18:00 PM	Seawater				X					1	
24	AMB18-024	PS07B	6/16/2015 13:36:00 PM	Seawater				X					1	
25	AMB18-DD001	OF096	6/16/2015 9:00:00 AM	Seawater				X					1	
26	AMB18-100	M8	6/17/2015 8:53:00 AM	Seawater				X					1	
27	AMB18-101	M6	6/17/2015 9:12:00 AM	Seawater				X					1	
28	AMB18-102	DYOTS	6/17/2015 9:26:00 AM	Seawater				X					1	

K1506471

PROJECT ENVVEST
Project Name: JUNE 2015 Ambient Monitoring (AMB18)
SAMPLE TEAM: Navy, Battelle
DATE: 6/18/2015
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
29	AMB18-103	SN03	6/17/2015 11:08:00 AM	Seawater				X					1	
30	AMB18-104	SN05	6/17/2015 11:23:00 AM	Seawater				X					1	
31	AMB18-105	SN08	6/17/2015 11:36:00 AM	Seawater				X					1	
32	AMB18-106	SN10	6/17/2015 11:50:00 AM	Seawater				X					1	
33	AMB18-107	SN11	6/17/2015 12:04:00 PM	Seawater				X					1	
34	AMB18-108	ILSP	6/17/2015 12:36:00 PM	Seawater				X					1	
35	AMB18-109	M1	6/17/2015 13:13:00 PM	Seawater				X					1	
36	AMB18-110	M1DEEP	6/17/2015 13:18:00 PM	Seawater				X					1	
37	AMB18-111	WP	6/17/2015 13:33:00 PM	Seawater				X					1	
38	AMB18-112	M2	6/17/2015 13:55:00 PM	Seawater				X					1	
39	AMB18-113	M2DEEP	6/17/2015 13:53:00 PM	Seawater				X					1	
40	AMB18-114	CLMBAY	6/17/2015 14:07:00 PM	Seawater				X					1	
41	AMB18-115	CLMBAYDUP	6/17/2015 14:09:00 PM	Seawater				X					1	
42	AMB18-116	M3.3	6/17/2015 14:32:00 PM	Seawater				X					1	
43	AMB18-117	M3.3DUP	6/17/2015 14:33:00 PM	Seawater				X					1	
44	AMB18-118	PS07C	6/17/2015 14:48:00 PM	Seawater				X					1	
	--end													
												Total:	44	

Relinquished By: C. Suslick — Company: Battelle MSL — 6/18/2015 — Signature/Printed Name — Date/Time

shipped via Fedex 6/18/15, CS

Received By: — Company: ALS

Signature/Printed Name — 6/19/15 0940 — Date/Time

PC 412

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K15 A0671

Received: 6/19/15 Opened: 6/19/15 By: [signature] Unloaded: 6/19/15 By: [signature]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.2	-0.1	1.9	2.0	+0.1	328		7738 6783 3364		
3.4	3.4	1.4	1.4	0	298		" " 2493		
1.2	1.1	4.7	4.6	-0.1	316		" " 2769		

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring September 2015 (AMB19)

Seawater and Freshwater Chemistry

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 19,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 9
QA/QC Narrative 25

Narrative, Batch K1510393 30
Summary Report, Batch K1510393 31

Sample Custody Information

Sample Collection, 091515 68
Sample Collection, 091615 76
Equipment Blanks, 091815 83

Chain of Custody, Batch K1510393 86

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.049**	**4.1**	**0.10**	**0.2**	**0.006**	**0.06**	**0.020**
Seawater Reporting Limit (MDL* 3.18)								**0.16**	**13**	**0.32**	**0.6**	**0.02**	**0.2**	**0.06**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.10**	**0.2**	**0.004**	**0.10**	**0.0053**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.32**	**0.6**	**0.01**	**0.3**	**0.017**
AMB19														
AMB19-001	PS07	Total	Seawater	3106-1671	09/15/15	31.0	0.60	1.28	107	0.564	4.42	0.0600	0.118 J	2.15
AMB19-001	PS07	Diss	Seawater	3106-1672	09/15/15			1.19	98.8	0.294 J	0.684	0.0594	0.106 J	1.81
AMB19-002	PS06	Total	Seawater	3106-1673	09/15/15	31.1	1.33	1.19	98.8	0.897	10.9	0.0593	0.141 J	1.26
AMB19-002	PS06	Diss	Seawater	3106-1674	09/15/15			1.29	107	0.289 J	0.441 J	0.0577	0.0974 J	0.957
AMB19-003	PS14	Total	Seawater	3106-1675	09/15/15	31.1	0.53	1.37	114	0.608	3.41	0.0543	0.108 J	1.98
AMB19-003	PS14	Diss	Seawater	3106-1676	09/15/15			1.45	121	0.300 J	0.351 J	0.0544	0.110 J	1.68
AMB19-004	PS05	Total	Seawater	3106-1677	09/15/15	30.8	0.75	1.38	115	0.664	5.27	0.0701	0.130 J	1.85
AMB19-004	PS05	Diss	Seawater	3106-1678	09/15/15			1.17	97.9	0.325	0.209 J	0.0617	0.0905 J	1.34
AMB19-005	PS04	Total	Seawater	3106-1679	09/15/15	31.0	1.50	1.43	119	0.836	5.25	0.0564	0.120 J	1.58
AMB19-005	PS04	Diss	Seawater	3106-1680	09/15/15			1.28	106	0.383	0.229 J	0.0559	0.110 J	1.30
AMB19-006	PS03	Total	Seawater	3106-1681	09/15/15	31.0	0.63	1.39	116	2.10	6.60	0.0557	0.135 J	1.77
AMB19-006	PS03	Diss	Seawater	3106-1682	09/15/15			1.23	102	0.990	0.276 J	0.0550	0.113 J	1.47
AMB19-007	PS03 DUP	Total	Seawater	3106-1683	09/15/15	30.9	0.50	1.38	115	2.54	4.71	0.0516	0.129 J	1.59
AMB19-007	PS03 DUP	Diss	Seawater	3106-1684	09/15/15			1.33	111	1.12	0.379 J	0.0548	0.122 J	1.51
AMB19-008	PS08	Total	Seawater	3106-1685	09/15/15	31.3	1.18	1.27	106	0.424	3.62	0.0578	0.110 J	2.56
AMB19-008	PS08	Diss	Seawater	3106-1686	09/15/15			1.15	95.4	0.207 J	0.223 J	0.0572	0.100 J	2.14
AMB19-009	PS15	Total	Seawater	3106-1687	09/15/15	31.3	2.02	1.30	108	0.475	6.43	0.0597	0.119 J	0.778
AMB19-009	PS15	Diss	Seawater	3106-1688	09/15/15			1.08	90.4	0.200 J	0.215 J	0.0584	0.0954 J	0.610
AMB19-010	PS09	Total	Seawater	3106-1689	09/15/15	30.0	0.69	1.14	95.2	1.83	2.55	0.0606	0.121 J	2.07
AMB19-010	PS09	Diss	Seawater	3106-1690	09/15/15			1.05	87.1	0.302 J	0.220 J	0.0574	0.0983 J	1.68
AMB19-011	PS10	Total	Seawater	3106-1691	09/15/15	31.2	0.49	1.18	98.2	0.697	3.85	0.0613	0.119 J	1.89
AMB19-011	PS10	Diss	Seawater	3106-1692	09/15/15			1.10	91.8	0.625	0.258 J	0.0587	0.111 J	1.54
AMB19-012	PS10PLUME	Total	Seawater	3106-1693	09/15/15	--	--	--	--	0.508	3.10	0.0593	0.329	17.0
AMB19-012	PS10PLUME	Diss	Seawater	3106-1694	09/15/15			--	--	0.137 J	0.236 J	0.0579	0.100 J	10.0
AMB19-013	PS01	Total	Seawater	3106-1695	09/15/15	30.8	2.19	1.39	115	1.17	8.47	0.0576	0.147 J	1.12
AMB19-013	PS01	Diss	Seawater	3106-1696	09/15/15			1.14	94.9	0.550	0.361 J	0.0730	0.149 J	0.957
AMB19-014	PS02	Total	Seawater	3106-1697	09/15/15	31.2	2.26	1.46	122	1.13	6.43	0.0575	0.153 J	1.49
AMB19-014	PS02	Diss	Seawater	3106-1698	09/15/15			1.24	103	0.577	0.305 J	0.0540	0.159 J	1.30
AMB19-015	PS13	Total	Seawater	3106-1699	09/15/15	30.8	0.67	1.49	124	0.757	4.67	0.0570	0.125 J	2.08
AMB19-015	PS13	Diss	Seawater	3106-1700	09/15/15			1.19	99.3	0.384	0.263 J	0.0576	0.109 J	1.80
AMB19-016	M4	Total	Seawater	3106-1701	09/15/15	31.3	1.88	1.49	124	0.492	6.68	0.0588	0.110 J	0.719

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB19-016	M4	Diss	Seawater	3106-1702	09/15/15			1.09	90.9	0.204 J	0.220 J	0.0536	0.115 J	0.581
AMB19-017	BJEST	Total	Seawater	3106-1703	09/15/15	30.7	1.64	1.75	146	0.543	7.58	0.0495	0.113 J	0.842
AMB19-017	BJEST	Diss	Seawater	3106-1704	09/15/15			1.19	99.5	0.300 J	0.241 J	0.0499	0.0950 J	0.723
AMB19-018	M3.1	Total	Seawater	3106-1705	09/15/15	31.5	1.54	1.15	95.5	0.465	9.18	0.0642	0.113 J	0.438
AMB19-018	M3.1	Diss	Seawater	3106-1706	09/15/15			1.01	84.3	0.198 J	0.292 J	0.0608	0.0954 J	0.351
AMB19-019	M3.1 DUP	Total	Seawater	3106-1707	09/15/15	31.5	1.75	1.15	96.0	0.455	9.32	0.0594	0.120 J	0.388
AMB19-019	M3.1 DUP	Diss	Seawater	3106-1708	09/15/15			0.981	81.8	0.177 J	0.275 J	0.0617	0.105 J	0.358
AMB19-020	M3.1DEEP	Total	Seawater	3106-1709	09/15/15	31.5	1.38	1.16	96.9	0.469	5.46	0.0610	0.110 J	0.398
AMB19-020	M3.1DEEP	Diss	Seawater	3106-1710	09/15/15			1.10	91.7	0.176 J	0.276 J	0.0612	0.100 J	0.340
AMB19-021	PS12	Total	Seawater	3106-1711	09/15/15	31.3	1.00	--	--	1.31	6.54	0.0620	0.147 J	1.37
AMB19-021	PS12	Diss	Seawater	3106-1712	09/15/15			--	--	0.291 J	14.6	0.0604	0.115 J	1.10
AMB19-DD001	OF096	Total	Seawater	3106-1713	09/15/15	29.5	1.47	1.02	85.2	4.33	7.19	0.0654	0.240	5.72
AMB19-DD001	OF096	Diss	Seawater	3106-1714	09/15/15			1.06	88.1	1.47	0.325 J	0.0662	0.113 J	4.07
AMB19-DD002	OF018	Total	Seawater	3106-1715	09/15/15	23.5	0.63	0.811	67.6	6.87	3.25	0.0973	0.458	3.83
AMB19-DD002	OF018	Diss	Seawater	3106-1716	09/15/15			0.815	67.9	3.06	0.262 J	0.0967	0.383	3.26
AMB19-DD003	OF019	Total	Seawater	3106-1717	09/15/15	21.1	1.01	1.00	82.9	4.92	1.15	0.0784	0.729	1.43
AMB19-DD003	OF019	Diss	Seawater	3106-1718	09/15/15			1.02	84.8	2.32	0.419 J	0.0734	0.179 J	0.855
AMB19-DD004	OF021	Total	Fresh Water	3106-1719	09/15/15	0.2	1.31	2.57	214	2.00	7.63	0.004 U	1.79	1.00
AMB19-DD004	OF021	Diss	Fresh Water	3106-1720	09/15/15			2.47	205	1.77	6.32	0.004 U	1.66	0.908
AMB19-101	PS07B	Total	Seawater	3106-1721	09/16/15	31.2	0.49	1.19	99.0	0.614	5.84	0.0593	0.109 J	1.21
AMB19-101	PS07B	Diss	Seawater	3106-1722	09/16/15			1.11	92.7	0.266 J	1.28	0.0602	0.107 J	1.02
AMB19-102	M6	Total	Seawater	3106-1723	09/16/15	31.5	1.00	1.32	110	0.387	4.42	0.0517	0.100 J	0.404
AMB19-102	M6	Diss	Seawater	3106-1724	09/16/15			1.19	98.9	0.202 J	0.271 J	0.0497	0.127 J	0.351
AMB19-103	M8	Total	Seawater	3106-1725	09/16/15	31.2	0.95	1.63	136	0.556	9.13	0.0467	0.118 J	0.411
AMB19-103	M8	Diss	Seawater	3106-1726	09/16/15			1.39	116	0.225 J	0.446 J	0.0427	0.0916 J	0.349
AMB19-104	DYOTS	Total	Seawater	3106-1727	09/16/15	30.9	2.14	1.44	120	0.686	27.1	0.0460	0.179 J	0.451
AMB19-104	DYOTS	Diss	Seawater	3106-1728	09/16/15			1.43	119	0.240 J	0.768	0.0421	0.101 J	0.351
AMB19-105	WP	Total	Seawater	3106-1729	09/16/15	31.2	1.16	1.19	98.7	0.379	5.49	0.0633	0.122 J	0.428
AMB19-105	WP	Diss	Seawater	3106-1730	09/16/15			1.02	85.2	0.204 J	0.247 J	0.0595	0.0941 J	0.381
AMB19-106	M2	Total	Seawater	3106-1731	09/16/15	31.6	0.72	1.08	89.8	0.428	13.1	0.0664	0.146 J	0.371
AMB19-106	M2	Diss	Seawater	3106-1732	09/16/15			1.12	92.9	0.196 J	0.379 J	0.0651	0.110 J	0.352
AMB19-107	M2DEEP	Total	Seawater	3106-1733	09/16/15	31.6	0.75	1.03	86.2	0.411	10.4	0.0692	0.133 J	0.447
AMB19-107	M2DEEP	Diss	Seawater	3106-1734	09/16/15			1.00	83.2	0.188 J	0.337 J	0.0647	0.115 J	0.367
AMB19-108	CLMBAY	Total	Seawater	3106-1735	09/16/15	31.7	1.21	1.14	94.7	1.60	8.37	0.0627	0.114 J	0.378
AMB19-108	CLMBAY	Diss	Seawater	3106-1736	09/16/15			1.12	93.2	0.193 J	0.418 J	0.0617	0.0986 J	0.313
AMB19-109	ILSP	Total	Seawater	3106-1737	09/16/15	31.5	1.04	1.14	95.2	0.346	7.20	0.0629	0.106 J	0.435
AMB19-109	ILSP	Diss	Seawater	3106-1738	09/16/15			1.10	92.0	0.196 J	0.451 J	0.0615	0.112 J	0.368

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB19-110	M1	Total	Seawater	3106-1739	09/16/15	31.5	1.14	1.38	115	0.325	2.36	0.0637	0.105 J	0.442
AMB19-110	M1	Diss	Seawater	3106-1740	09/16/15			1.13	94.4	0.182 J	0.231 J	0.0601	0.101 J	0.377
AMB19-111	M1DEEP	Total	Seawater	3106-1741	09/16/15	31.5	1.18	1.24	103	0.334	3.68	0.0609	0.0980 J	0.397
AMB19-111	M1DEEP	Diss	Seawater	3106-1742	09/16/15			1.04	86.7	0.176 J	0.301 J	0.0605	0.0992 J	0.333
AMB19-112	M3.3	Total	Seawater	3106-1743	09/16/15	31.2	0.52	1.36	113	0.647	6.96	0.0517	0.106 J	0.958
AMB19-112	M3.3	Diss	Seawater	3106-1744	09/16/15			1.24	103	0.271 J	0.414 J	0.0523	0.0953 J	0.811
AMB19-113	M3.3 DUP	Total	Seawater	3106-1745	09/16/15	31.2	0.60	1.39	116	0.581	5.04	0.0528	0.126 J	1.15
AMB19-113	M3.3 DUP	Diss	Seawater	3106-1746	09/16/15			1.08	89.6	0.271 J	0.351 J	0.0509	0.109 J	1.03
AMB19-114	PS10.1	Total	Seawater	3106-1747	09/16/15	31.3	0.53	1.23	103	0.699	4.76	0.0562	0.124 J	1.88
AMB19-114	PS10.1	Diss	Seawater	3106-1748	09/16/15			1.15	95.6	0.293 J	0.399 J	0.0573	0.106 J	1.52
AMB19-115	PS11	Total	Seawater	3106-1749	09/16/15	31.5	1.39	1.26	105	0.637	3.75	0.0575	0.104 J	1.73
AMB19-115	PS11	Diss	Seawater	3106-1750	09/16/15			1.20	99.7	0.263 J	0.326 J	0.0568	0.0964 J	1.47
AMB19-116	PS16	Total	Seawater	3106-1751	09/16/15	31.4	1.10	1.30	108	0.455	5.00	0.0582	0.110 J	0.947
AMB19-116	PS16	Diss	Seawater	3106-1752	09/16/15			1.18	98.2	0.224 J	0.316 J	0.0565	0.157 J	0.800
AMB19-117	PS07C	Total	Seawater	3106-1753	09/16/15	31.3	0.64	1.41	117	0.830	4.68	0.0608	0.120 J	1.21
AMB19-117	PS07C	Diss	Seawater	3106-1754	09/16/15			1.20	99.9	0.464	0.566 J	0.0583	0.123 J	1.05
AMB19-106.1	M2 DUP	Total	Seawater	3106-1755	09/16/15	31.6	0.75	1.09	90.5	0.426	11.7	0.0663	0.134 J	0.421
AMB19-106.1	M2 DUP	Diss	Seawater	3106-1756	09/16/15			1.03	86.2	0.176 J	0.335 J	0.0619	0.0983 J	0.335
Equipment Blanks			Freshwater	3106-1757	--	--	--	--	--	0.10 U	--	0.004 U	0.10 U	0.0053 U
			Freshwater	3106-1758	--	--	--	--	--	0.10 U	--	0.004 U	0.10 U	0.0053 U
			Freshwater	3106-1759	--	--	--	--	--	0.10 U	--	0.004 U	0.10 U	0.0053 U

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Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	ICP-MS	ICP-MS	ICP-MS					
Laboratory Achieved Detection Limits (Seawater)					**0.050**	**0.0040**	**0.10**					
Seawater Reporting Limit (MDL* 3.18)					**0.159**	**0.0127**	**0.318**					
Laboratory Achieved Detection Limits (Freshwater)					**0.004**	**0.0022**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.01**	**0.0070**	**0.06**					
AMB19												
AMB19-001	PS07	Total	Seawater	3106-1671	0.415	0.0598	3.03	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-001	PS07	Diss	Seawater	3106-1672	0.389	0.0230	2.83	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-002	PS06	Total	Seawater	3106-1673	0.413	0.0877	3.02	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-002	PS06	Diss	Seawater	3106-1674	0.363	0.0266	2.86	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-003	PS14	Total	Seawater	3106-1675	0.359	0.0448	3.56	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-003	PS14	Diss	Seawater	3106-1676	0.344	0.0177	2.89	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-004	PS05	Total	Seawater	3106-1677	0.470	0.0564	13.5	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-004	PS05	Diss	Seawater	3106-1678	0.371	0.0139	11.3	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-005	PS04	Total	Seawater	3106-1679	0.389	0.0567	2.39	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-005	PS04	Diss	Seawater	3106-1680	0.454	0.0173	2.08	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-006	PS03	Total	Seawater	3106-1681	0.382	0.0715	2.28	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-006	PS03	Diss	Seawater	3106-1682	0.396	0.0177	1.91	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-007	PS03 DUP	Total	Seawater	3106-1683	0.351	0.0484	2.14	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-007	PS03 DUP	Diss	Seawater	3106-1684	0.372	0.0171	2.11	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-008	PS08	Total	Seawater	3106-1685	0.401	0.0482	6.30	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-008	PS08	Diss	Seawater	3106-1686	0.410	0.0191	5.94	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-009	PS15	Total	Seawater	3106-1687	0.368	0.0605	1.36	100715HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-009	PS15	Diss	Seawater	3106-1688	0.330	0.0206	1.17	100715HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-010	PS09	Total	Seawater	3106-1689	0.437	0.0515	8.27	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-010	PS09	Diss	Seawater	3106-1690	0.396	0.0207	7.79	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-011	PS10	Total	Seawater	3106-1691	0.424	0.0673	5.16	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-011	PS10	Diss	Seawater	3106-1692	0.406	0.0255	4.54	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-012	PS10PLUME	Total	Seawater	3106-1693	0.508	0.0497	5.88	100815HGA	Q100715A-ICAPQ	--	--	--
AMB19-012	PS10PLUME	Diss	Seawater	3106-1694	0.426	0.0179	3.61	100815HGA	Q100715A-ICAPQ		--	
AMB19-013	PS01	Total	Seawater	3106-1695	0.384	0.0836	1.96	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-013	PS01	Diss	Seawater	3106-1696	0.474	0.0257	3.80	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-014	PS02	Total	Seawater	3106-1697	0.407	0.0663	2.65	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-014	PS02	Diss	Seawater	3106-1698	0.637	0.0186	2.33	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-015	PS13	Total	Seawater	3106-1699	0.361	0.0578	3.81	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-015	PS13	Diss	Seawater	3106-1700	0.351	0.0203	3.62	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-016	M4	Total	Seawater	3106-1701	0.365	0.0592	0.998	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu

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Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	ICP-MS	ICP-MS	ICP-MS					
AMB19-016	M4	Diss	Seawater	3106-1702	0.375	0.0181	0.757	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-017	BJEST	Total	Seawater	3106-1703	0.327	0.0509	1.70	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-017	BJEST	Diss	Seawater	3106-1704	0.321	0.0112 J	1.40	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-018	M3.1	Total	Seawater	3106-1705	0.355	0.0552	0.504	100815HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-018	M3.1	Diss	Seawater	3106-1706	0.318	0.0179	0.443	100815HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-019	M3.1 DUP	Total	Seawater	3106-1707	0.343	0.0503	0.460	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-019	M3.1 DUP	Diss	Seawater	3106-1708	0.324	0.0171	0.402	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-020	M3.1DEEP	Total	Seawater	3106-1709	0.352	0.0459	0.620	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-020	M3.1DEEP	Diss	Seawater	3106-1710	0.336	0.0187	0.546	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-021	PS12	Total	Seawater	3106-1711	0.463	0.0907	3.65	101415HGA	Q100715A-ICAPQ	091715Osal	--	091715Nu
AMB19-021	PS12	Diss	Seawater	3106-1712	0.427	0.0300	3.45	101415HGA	Q100715A-ICAPQ		--	
AMB19-DD001	OF096	Total	Seawater	3106-1713	1.41	0.154	20.9	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-DD001	OF096	Diss	Seawater	3106-1714	1.35	0.0332	20.3	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-DD002	OF018	Total	Seawater	3106-1715	2.52	0.0724	21.0	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-DD002	OF018	Diss	Seawater	3106-1716	3.10	0.00984 J	20.6	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-DD003	OF019	Total	Seawater	3106-1717	1.04	0.0546	9.15	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-DD003	OF019	Diss	Seawater	3106-1718	1.08	0.004 U	8.94	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-DD004	OF021	Total	Fresh Water	3106-1719	0.735	0.00441 J	0.366	101415HGA	Q120815A-ICAPQ	091715Osal	100715HTCO	091715Nu
AMB19-DD004	OF021	Diss	Fresh Water	3106-1720	0.567	0.00270 J	0.329	101415HGA	Q120815A-ICAPQ		100515HTCO	
AMB19-101	PS07B	Total	Seawater	3106-1721	0.493	0.0695	2.58	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-101	PS07B	Diss	Seawater	3106-1722	0.425	0.0279	2.50	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-102	M6	Total	Seawater	3106-1723	0.335	0.0551	0.464	101415HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-102	M6	Diss	Seawater	3106-1724	0.429	0.0289	0.394	101415HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-103	M8	Total	Seawater	3106-1725	0.387	0.0926	0.518	102015HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-103	M8	Diss	Seawater	3106-1726	0.342	0.0502	0.474	102015HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-104	DYOTS	Total	Seawater	3106-1727	0.413	0.128	0.591	102015HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-104	DYOTS	Diss	Seawater	3106-1728	0.386	0.0388	0.349	102015HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-105	WP	Total	Seawater	3106-1729	0.352	0.0478	0.548	102015HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-105	WP	Diss	Seawater	3106-1730	0.353	0.0243	0.470	102015HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-106	M2	Total	Seawater	3106-1731	0.398	0.0470	0.446	102015HGA	Q100715A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-106	M2	Diss	Seawater	3106-1732	0.406	0.0139	0.367	102015HGA	Q100715A-ICAPQ		100515HTCO	
AMB19-107	M2DEEP	Total	Seawater	3106-1733	0.431	0.0472	0.565	102015HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-107	M2DEEP	Diss	Seawater	3106-1734	0.616	0.0142	0.477	102015HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-108	CLMBAY	Total	Seawater	3106-1735	0.384	0.0318	0.401	102015HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-108	CLMBAY	Diss	Seawater	3106-1736	0.348	0.00942 J	0.346	102015HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-109	ILSP	Total	Seawater	3106-1737	0.396	0.0542	0.473	102015HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-109	ILSP	Diss	Seawater	3106-1738	0.404	0.0159	0.365	102015HGA	Q100815A-ICAPQ		100515HTCO	

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Ambient Monitoring - AMB19
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Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	CVAF Batch ID	ICP-MS Batch ID	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	ICP-MS	ICP-MS	ICP-MS					
AMB19-110	M1	Total	Seawater	3106-1739	0.379	0.0290	0.617	102015HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-110	M1	Diss	Seawater	3106-1740	0.347	0.0107 J	0.397	102015HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-111	M1DEEP	Total	Seawater	3106-1741	0.367	0.0260	0.431	102015HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-111	M1DEEP	Diss	Seawater	3106-1742	0.356	0.0117 J	0.639	102015HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-112	M3.3	Total	Seawater	3106-1743	0.388	0.0701	1.10	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-112	M3.3	Diss	Seawater	3106-1744	0.387	0.0260	1.07	102115HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-113	M3.3 DUP	Total	Seawater	3106-1745	0.436	0.0568	1.53	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-113	M3.3 DUP	Diss	Seawater	3106-1746	0.576	0.0215	1.38	102115HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-114	PS10.1	Total	Seawater	3106-1747	0.514	0.0788	5.81	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-114	PS10.1	Diss	Seawater	3106-1748	0.471	0.0295	5.54	102115HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-115	PS11	Total	Seawater	3106-1749	0.417	0.0589	4.73	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-115	PS11	Diss	Seawater	3106-1750	0.398	0.0243	4.57	102115HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-116	PS16	Total	Seawater	3106-1751	0.402	0.0557	1.67	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-116	PS16	Diss	Seawater	3106-1752	0.384	0.0244	1.54	102115HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-117	PS07C	Total	Seawater	3106-1753	0.574	0.0654	2.90	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-117	PS07C	Diss	Seawater	3106-1754	0.558	0.0285	2.71	102115HGA	Q100815A-ICAPQ		100515HTCO	
AMB19-106.1	M2 DUP	Total	Seawater	3106-1755	0.396	0.0446	0.463	102115HGA	Q100815A-ICAPQ	091715Osal	100715HTCO	091815Nu
AMB19-106.1	M2 DUP	Diss	Seawater	3106-1756	0.359	0.0108 J	0.375	102115HGA	Q100815A-ICAPQ		100515HTCO	
Equipment Blanks			Freshwater	3106-1757	0.004 U	0.0022 U	0.0358 J	102115HGA	Q100215A-ICAPQ	--	--	--
			Freshwater	3106-1758	0.115	0.0022 U	0.02 U	102115HGA	Q100215A-ICAPQ	--	--	--
			Freshwater	3106-1759	0.195	0.0022 U	0.02 U	102115HGA	Q100215A-ICAPQ	--	--	--

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QC Results for ICP-MS
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Seawater)					**0.2**	**0.006**	**0.06**	**0.020**	**0.050**	**0.004**	**0.10**	
Seawater Reporting Limit (MDL* 3.18)					**0.6**	**0.02**	**0.2**	**0.06**	**0.159**	**0.0127**	**0.318**	
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.1**	**0.0053**	**0.004**	**0.0022**	**0.02**	
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**	
METHOD BLANKS												
MB			Freshwater	TRM Blank	0.2 U	0.004 U	0.1 U	0.0143 J	0.004 U	0.0022 U	0.02 U	Q120815A-ICAPQ
MB			Seawater	DI Blank R1 100115	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MB			Seawater	DI Blank R2 100115	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MB			Seawater	DI Blank R4 100115	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MB			Seawater	DI Blank R5 100115	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MB			Seawater	DI Blank R6 100115	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MB			Seawater	DI Blank R1 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MB			Seawater	DI Blank R2 100515	0.2 U	0.006 U	0.06 U	0.0206 J	0.050 U	0.004 U	0.216 J	Q100715A-ICAPQ
MB			Seawater	DI Blank R3 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100715A-ICAPQ
MEAN REAGENT BLANK			Seawater	***BMRB_100715***	**0.2** U	**0.006** U	**0.06** U	**0.020** U	**0.050** U	**0.004** U	**0.10** U	
MB			Seawater	DI Blank R4 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100815A-ICAPQ
MB			Seawater	DI Blank R5 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100815A-ICAPQ
MB			Seawater	DI Blank R6 100515	0.2 U	0.006 U	0.06 U	0.138	0.0521 J	0.00422 J	0.465	Q100815A-ICAPQ
MB			Seawater	DI Blank R7 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100815A-ICAPQ
MB			Seawater	DI Blank R8 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100815A-ICAPQ
MB			Seawater	DI Blank R9 100515	0.2 U	0.006 U	0.06 U	0.020 U	0.050 U	0.004 U	0.10 U	Q100815A-ICAPQ
MEAN REAGENT BLANK			Seawater	***BMRB_100815***	**0.2** U	**0.006** U	**0.06** U	**0.0229** J	**0.050** U	**0.004** U	**0.10** U	

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QC Results for ICP-MS
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Freshwater	TRM Blank	0.2 U	0.004 U	0.1 U	0.0143 J	0.004 U	0.0022 U	0.02 U	Q120815A-ICAPQ
LCS			Freshwater	TRM LCS	2.07	2.00	2.01	2.04	2.01	2.03	2.02	Q120815A-ICAPQ
				Percent Recovery, LCS	**103%**	**100%**	**100%**	**102%**	**100%**	**101%**	**101%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R1	0.266 J	0.0665	0.122 J	0.221	0.293	0.004 U	0.225 J	Q100715A-ICAPQ
LCS			Seawater	SB LCS R1	2.11	1.96	2.04	1.89	1.98	1.85	1.91	Q100715A-ICAPQ
				Percent Recovery, LCS	**92%**	**95%**	**96%**	**83%**	**84%**	**93%**	**84%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R2	0.280 J	0.0666	0.116 J	0.228	0.303	0.004 U	0.243 J	Q100715A-ICAPQ
LCS			Seawater	SB LCS R2	2.17	1.94	2.03	1.91	2.07	1.89	1.95	Q100715A-ICAPQ
				Percent Recovery, LCS	**94%**	**94%**	**96%**	**84%**	**88%**	**95%**	**86%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R1 100515	0.346 J	0.0668	0.118 J	0.228	0.307	0.004 U	0.259 J	Q100715A-ICAPQ
LCS			Seawater	SB LCS R1 100515	2.16	1.93	1.93	1.84	2.00	1.81	1.86	Q100715A-ICAPQ
				Percent Recovery, LCS	**91%**	**93%**	**90%**	**81%**	**85%**	**90%**	**80%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R2 100515	0.349 J	0.0651	0.125 J	0.250	0.326	0.004 U	0.248 J	Q100815A-ICAPQ
LCS			Seawater	SB LCS R2 100515	2.33	1.96	2.02	2.05	2.14	1.88	2.02	Q100815A-ICAPQ
				Percent Recovery, LCS	**99%**	**95%**	**95%**	**90%**	**91%**	**94%**	**88%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank			Seawater	SB Blank R3 100515	0.400 J	0.0663	0.118 J	0.247	0.325	0.004 U	0.251 J	Q100815A-ICAPQ
LCS			Seawater	SB LCS R3 100515	2.27	1.97	2.04	2.07	2.15	1.91	2.06	Q100815A-ICAPQ
				Percent Recovery, LCS	**93%**	**95%**	**96%**	**91%**	**91%**	**95%**	**91%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
MATRIX SPIKE RESULTS												
AMB19-DD004	OF021	Diss	Fresh Water	3106-1720	6.32	0.006 U	1.66	0.908	0.567	0.004 U	0.329	Q120815A-ICAPQ
MS				3106-1720 MS1	11.2	0.991	2.66	1.89	1.53	0.992	1.32	Q120815A-ICAPQ
MSD				3106-1720 MS1D	11.7	0.994	2.67	1.87	1.54	0.988	1.34	Q120815A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**97%**	**99%**	**99%**	**99%**	**96%**	**99%**	**99%**	
				Percent Recovery, MSD	**107%**	**99%**	**101%**	**97%**	**97%**	**99%**	**102%**	
AMB19-006	PS03	Total	Seawater	3106-1681	6.60	0.0557	0.135 J	1.77	0.382	0.0715	2.28	Q100715A-ICAPQ
MS				3106-1681 MS1	12.0	1.00	1.03	2.58	1.21	0.981	3.09	Q100715A-ICAPQ
MSD				3106-1681 MS1D	13.0	1.01	1.06	2.64	1.23	0.998	3.17	Q100715A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**108%**	**94%**	**89%**	**81%**	**83%**	**91%**	**81%**	
				Percent Recovery, MSD	**128%**	**96%**	**92%**	**86%**	**85%**	**93%**	**89%**	
AMB19-014	PS02	Diss	Seawater	3106-1698	0.305 J	0.0540	0.159 J	1.30	0.637	0.0186	2.33	Q100715A-ICAPQ
MS				3106-1698 MS2	5.24	4.76	4.75	5.62	5.02	4.74	6.35	Q100715A-ICAPQ
MSD				3106-1698 MS2D	5.15	4.88	4.87	5.60	5.00	4.77	6.21	Q100715A-ICAPQ
				Spiking Level	5	5	5	5	5	5	5	
				Percent Recovery, MS	**99%**	**94%**	**92%**	**87%**	**88%**	**95%**	**80%**	
				Percent Recovery, MSD	**97%**	**96%**	**94%**	**86%**	**87%**	**95%**	**77%**	
AMB19-DD002	OF018	Total	Seawater	3106-1715	3.25	0.0973	0.458	3.83	2.52	0.0724	21.0	Q100715A-ICAPQ
MS				3106-1715 MS1	7.46	1.03	1.36	4.45	3.13	1.00	21.1	Q100715A-ICAPQ
MSD				3106-1715 MS1D	7.53	1.06	1.40	4.56	3.22	1.03	21.7	Q100715A-ICAPQ
				Spiking Level	5	1	1	1	1	1	1	
				Percent Recovery, MS	**84%**	**93%**	**91%**	**62%** N	**61%** N	**93%**	**6%** c	
				Percent Recovery, MSD	**85%**	**96%**	**94%**	**73%**	**70%**	**95%**	**71%** c	
AMB19-109	ILSP	Total	Seawater	3106-1737	7.20	0.0629	0.106 J	0.435	0.396	0.0542	0.473	Q100815A-ICAPQ
MS				3106-1737 MS1	8.06	0.975	1.09	1.32	1.29	1.00	1.38	Q100815A-ICAPQ
MSD				3106-1737 MS1D	8.05	0.993	1.07	1.31	1.28	0.982	1.34	Q100815A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**87%**	**91%**	**99%**	**88%**	**89%**	**95%**	**90%**	
				Percent Recovery, MSD	**85%**	**93%**	**96%**	**88%**	**88%**	**93%**	**86%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
AMB19-106.1	M2 DUP	Diss	Seawater	3106-1756	0.335 J	0.0619	0.0983 J	0.335	0.359	0.0108 J	0.375	Q100815A-ICAPQ
MS				3106-1756 MS1	1.27	0.982	1.03	1.21	1.24	0.918	1.19	Q100815A-ICAPQ
MSD				3106-1756 MS1D	1.18	0.979	1.00	1.19	1.20	0.900	1.18	Q100815A-ICAPQ
				Spiking Level	1	1	1	1	1	1	1	
				Percent Recovery, MS	**93%**	**92%**	**94%**	**88%**	**88%**	**91%**	**82%**	
				Percent Recovery, MSD	**85%**	**92%**	**90%**	**85%**	**84%**	**89%**	**80%**	
REPLICATE PRECISION												
AMB19-DD004	OF021	Total	Fresh Water	3106-1719 R1	7.63	0.006 U	1.79	1.00	0.735	0.00441 J	0.366	Q120815A-ICAPQ
DUP				3106-1719 R2	7.48	0.006 U	1.75	1.00	0.721	0.00454 J	0.368	Q120815A-ICAPQ
				Mean	*7.56*	*0.006 U*	*1.77*	*1.000*	*0.728*	*0.00448 J*	*0.367*	Q120815A-ICAPQ
				RPD	**2%**	**NA**	**2%**	**0%**	**2%**	**3%**	**1%**	
AMB19-003	PS14	Total	Seawater	3106-1675 R1	3.41	0.0543	0.108 J	1.98	0.359	0.0448	3.56	Q100715A-ICAPQ
DUP				3106-1675 R2	3.58	0.0540	0.112 J	2.01	0.362	0.0448	3.59	Q100715A-ICAPQ
				Mean	*3.49*	*0.0541*	*0.110 J*	*1.99*	*0.361*	*0.0448*	*3.58*	Q100715A-ICAPQ
				RPD	**5%**	**0%**	**4%**	**1%**	**1%**	**0%**	**1%**	
AMB19-018	M3.1	Total	Seawater	3106-1705 R1	9.18	0.0642	0.113 J	0.438	0.355	0.0552	0.504	Q100715A-ICAPQ
DUP				3106-1705 R2	9.47	0.0640	0.134 J	0.438	0.350	0.0557	0.526	Q100715A-ICAPQ
				Mean	*9.33*	*0.0641*	*0.124 J*	*0.438*	*0.353*	*0.0555*	*0.515*	Q100715A-ICAPQ
				RPD	**3%**	**0%**	**17%**	**0%**	**1%**	**1%**	**4%**	
AMB19-105	WP	Total	Seawater	3106-1729 R1	5.49	0.0633	0.122 J	0.428	0.352	0.0478	0.548	Q100715A-ICAPQ
DUP				3106-1729 R2	5.66	0.0624	0.107 J	0.431	0.350	0.0480	0.559	Q100715A-ICAPQ
				Mean	*5.57*	*0.0628*	*0.115 J*	*0.430*	*0.351*	*0.0479*	*0.554*	Q100715A-ICAPQ
				RPD	**3%**	**1%**	**14%**	**1%**	**1%**	**0%**	**2%**	
AMB19-107	M2DEEP	Total	Seawater	3106-1733 R1	10.4	0.0692	0.133 J	0.447	0.431	0.0472	0.565	Q100815A-ICAPQ
DUP				3106-1733 R2	9.89	0.0674	0.125 J	0.432	0.413	0.0446	0.554	Q100815A-ICAPQ
				Mean	*10.1*	*0.0683*	*0.129 J*	*0.440*	*0.422*	*0.0459*	*0.560*	Q100815A-ICAPQ
				RPD	**5%**	**3%**	**6%**	**4%**	**4%**	**6%**	**2%**	
AMB19-117	PS07C	Total	Seawater	3106-1753 R1	4.68	0.0608	0.120 J	1.21	0.574	0.0654	2.90	Q100815A-ICAPQ
DUP				3106-1753 R2	4.65	0.0582	0.121 J	1.15	0.544	0.0595	2.76	Q100815A-ICAPQ
				Mean	*4.66*	*0.0595*	*0.120 J*	*1.18*	*0.559*	*0.0625*	*2.83*	Q100815A-ICAPQ
				RPD	**1%**	**4%**	**1%**	**5%**	**5%**	**9%**	**5%**	

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QC Results for ICP-MS
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
STANDARD REFERENCE MATERIAL, Seawater												
SRM CASS-5		Total	Seawater	CASS-5 R1 100115	0.944	0.0204	0.115 J	0.306	0.264	0.00606 J	0.582	Q100715A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R2 100115	0.948	0.0216	0.139 J	0.323	0.289	0.00813 J	0.632	Q100715A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R1 100515	0.962	0.0227	0.128 J	0.322	0.287	0.00791 J	0.632	Q100715A-ICAPQ
SRM CASS-5		Total	Seawater	CASS-5 R2 100515	1.04	0.0215	0.123 J	0.363	0.326	0.00719 J	0.687	Q100815A-ICAPQ
SRM CASS-5		Total	Seawater	cass-5	1.34	0.0208	0.120 J	0.347	0.302	0.00682 J	0.663	Q100815A-ICAPQ
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**	
				PD	--	**5%**	**8%**	**20%**	**20%**	**45%** c	**19%**	
				PD	--	**1%**	**31%** c	**15%**	**12%**	**26%** c	**12%**	
				PD	--	**6%**	**21%** c	**15%**	**13%**	**28%** c	**12%**	
				PD	--	**0%**	**16%**	**4%**	**1%**	**35%** c	**4%**	
				PD	--	**3%**	**14%**	**9%**	**8%**	**38%** c	**8%**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Total	Freshwater	1640a 10X	61.8	3.99	43.4	86.3	25.1	12.1	56.1	Q120815A-ICAPQ
SRM 1640a		Total	Freshwater	1640A	50.8	4.14	40.6	84.3	24.2	12.1	56.4	Q100715A-ICAPQ
SRM 1640a		Total	Freshwater	1640A	311	4.03	40.2	86.5	25.1	12.1	57.6	Q100815A-ICAPQ
SRM 1640a		Total	Freshwater	1640A	51.6	3.91	40.3	84.9	24.6	12.1	57.8	Q100815A-ICAPQ
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**17%**	**0%**	**7%**	**1%**	**1%**	**0%**	**1%**	
				PD	**4%**	**4%**	**0%**	**2%**	**4%**	**0%**	**1%**	
				PD	**487%** &	**1%**	**1%**	**1%**	**1%**	**0%**	**4%**	
				PD	**3%**	**2%**	**0%**	**1%**	**3%**	**0%**	**4%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME	Water	Method Blank1		0.100 U	100715HGA
MB-2	TME	Water	Method Blank2		0.100 U	100715HGA
MB-3	TME	Water	Method Blank3		0.100 U	100715HGA
MB-4	TME	Water	Method Blank1		0.100 U	100815HGA
MB-5	TME	Water	Method Blank2		0.100 U	100815HGA
MB-6	TME	Water	Method Blank3		0.100 U	100815HGA
MB-7	TME	Water	Method Blank1		0.100 U	101415HGA
MB-8	TME	Water	Method Blank2		0.100 U	101415HGA
MB-9	TME	Water	Method Blank3		0.100 U	101415HGA
MB-10	TME	Water	Method Blank1		0.100 U	102015HGA
MB-11	TME	Water	Method Blank2		0.100 U	102015HGA
MB-12	TME	Water	Method Blank3		0.100 U	102015HGA
MB-13	TME	Water	Method Blank1		0.100 U	102115HGA
MB-14	TME	Water	Method Blank2		0.100 U	102115HGA
MB-15	TME	Water	Method Blank3		0.100 U	102115HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 100515 run1		4.83	100715HGA
LCS (2)	TME	Water	OPR 100515 run2		4.80	100715HGA
LCS Blank (1)	TME	Water	BLANK 100515		0.100 U	100715HGA
			Percent Recovery, LCS 1		**97%**	
			Percent Recovery, LCS 2		**97%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 100715 run1		4.87	100815HGA
LCS (2)	TME	Water	OPR 100715 run2		4.89	100815HGA
LCS Blank (1)	TME	Water	BLANK 100715		0.100 U	100815HGA
			Percent Recovery, LCS 1		**98%**	
			Percent Recovery, LCS 2		**99%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 101315 run1		4.83	101415HGA
LCS (2)	TME	Water	OPR 101315 run2		4.95	101415HGA
LCS Blank (1)	TME	Water	BLANK 101315		0.100 U	101415HGA
			Percent Recovery, LCS 1		**97%**	
			Percent Recovery, LCS 2		**100%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 101915 run1		4.78	102015HGA
LCS (2)	TME	Water	OPR 101915 run2		4.86	102015HGA
LCS Blank (1)	TME	Water	BLANK 101915		0.100 U	102015HGA
			Percent Recovery, LCS 1		**96%**	
			Percent Recovery, LCS 2		**98%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 102015 run1	4.88	102115HGA
LCS (2)		TME	Water	OPR 102015 run2	4.86	102115HGA
LCS Blank (1)		TME	Water	BLANK 102015	0.100 U	102115HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**98%**	
MATRIX SPIKE RESULTS						
AMB19-006	PS03	Total	Seawater	3106-1681	2.10	100715HGA
MS				3106-1681 MS	50.4	100715HGA
MSD				3106-1681 MSD	49.9	100715HGA
				Spiking Level, MS	48.7	
				Spiking Level, MSD	47.6	
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.1%**	
AMB19-009	PS15	Diss	Seawater	3106-1688	0.200 J	100715HGA
MS				3106-1688 MS	7.28	100715HGA
MSD				3106-1688 MSD	7.14	100715HGA
				Spiking Level, MS	6.93	
				Spiking Level, MSD	6.79	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.1%**	
AMB19-011	PS10	Diss	Seawater	3106-1692	0.625	100815HGA
MS				3106-1692 MS	7.43	100815HGA
MSD				3106-1692 MSD	7.45	100815HGA
				Spiking Level, MS	6.58	
				Spiking Level, MSD	6.65	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.6%**	
AMB19-014	PS02	Diss	Seawater	3106-1698	0.577	100815HGA
MS				3106-1698 MS	7.53	100815HGA
MSD				3106-1698 MSD	7.38	100815HGA
				Spiking Level, MS	6.66	
				Spiking Level, MSD	6.71	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**101%**	
				RPD	**2.9%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB19-DD002	OF018	Total	Seawater	3106-1715	6.87	101415HGA
MS				3106-1715 MS	26.6	101415HGA
MSD				3106-1715 MSD	26.6	101415HGA
				Spiking Level, MS	19.4	
				Spiking Level, MSD	19.4	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.1%**	
AMB19-101	PS07B	Diss	Seawater	3106-1722	0.266 J	101415HGA
MS				3106-1722 MS	7.14	101415HGA
MSD				3106-1722 MSD	6.91	101415HGA
				Spiking Level, MS	6.86	
				Spiking Level, MSD	6.73	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**99%**	
				RPD	**1.5%**	
AMB19-104	DYOTS	Diss	Seawater	3106-1728	0.240 J	102015HGA
MS				3106-1728 MS	6.99	102015HGA
MSD				3106-1728 MSD	7.20	102015HGA
				Spiking Level, MS	6.69	
				Spiking Level, MSD	6.95	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**100%**	
				RPD	**0.6%**	
AMB19-109	ILSP	Total	Seawater	3106-1737	0.346	102015HGA
MS				3106-1737 MS	7.30	102015HGA
MSD				3106-1737 MSD	7.27	102015HGA
				Spiking Level, MS	6.90	
				Spiking Level, MSD	6.76	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.6%**	
AMB19-113	M3.3 DUP	Diss	Seawater	3106-1746	0.271 J	102115HGA
MS				3106-1746 MS	7.31	102115HGA
MSD				3106-1746 MSD	7.30	102115HGA
				Spiking Level, MS	6.88	
				Spiking Level, MSD	6.96	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**101%**	
				RPD	**1.3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB19
ENVVEST September 2015
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB19-106.1	M2 DUP	Total	Seawater	3106-1755	0.426	102115HGA
MS				3106-1755 MS	7.34	102115HGA
MSD				3106-1755 MSD	7.19	102115HGA
				Spiking Level, MS	6.84	
				Spiking Level, MSD	6.67	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.5%**	
REPLICATE PRECISION						
AMB19-003	PS14	Total	Seawater	3106-1675 r1	0.608	100715HGA
DUP				3106-1675 r2	0.624	100715HGA
				Mean	*0.616*	
				RPD	**3%**	
AMB19-018	M3.1	Total	Seawater	3106-1705 r1	0.465	100815HGA
DUP				3106-1705 r2	0.437	100815HGA
				Mean	*0.451*	
				RPD	**6%**	
AMB19-DD004	OF021	Total	Fresh Water	3106-1719 r1	2.00	101415HGA
DUP				3106-1719 r2	2.01	101415HGA
				Mean	*2.01*	
				RPD	**1%**	
AMB19-107	M2DEEP	Total	Seawater	3106-1733 r1	0.411	102015HGA
DUP				3106-1733 r2	0.434	102015HGA
				Mean	*0.423*	
				RPD	**6%**	
AMB19-117	PS07C	Total	Seawater	3106-1753 r1	0.830	102115HGA
DUP				3106-1753 r2	0.838	102115HGA
				Mean	*0.834*	
				RPD	**1%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 100515	1583622	100715HGA
SRM 1641 (2)		Total	Freshwater	1641d 100715	1609863	100815HGA
SRM 1641 (3)		Total	Freshwater	1641d 101315	1591488	101415HGA
SRM 1641 (4)		Total	Freshwater	1641d 101915	1604989	102015HGA
SRM 1641 (5)		Total	Freshwater	1641d 102015	1610261	102115HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**2%**	
	SRM 1641 (2)			**PD**	**3%**	
	SRM 1641 (3)			**PD**	**2%**	
	SRM 1641 (4)			**PD**	**3%**	
	SRM 1641 (5)			**PD**	**3%**	

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB19
ENVVEST September 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.049**	**4.1**		
Seawater Reporting Limit (MDL* 3.18)					**0.16**	**13**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100515HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100515HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100515HTCO
MB-4			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100515HTCO
MB-5			DIWater	ACIDIFIED_DIW	0.058	4.8	J	100715HTCO
MB-6			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100715HTCO
MB-7			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100715HTCO
MB-8			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100715HTCO
MB-9			DIWater	ACIDIFIED_DIW	0.049	4.1	U	100715HTCO
REPLICATE PRECISION								
AMB19-016	M4	Diss	Seawater	3106-1702	1.09	90.9		100515HTCO
DUP				3106-1702 R2	1.04	86.4		100515HTCO
				Mean	*1.06*	*88.7*		
				RPD	**5.1%**	**5.1%**		
AMB19-107	M2DEEP	Diss	Seawater	3106-1734	1.00	83.2		100515HTCO
DUP				3106-1734 R2	0.96	79.8		100515HTCO
				Mean	*0.98*	*81.5*		
				RPD	**4.1%**	**4.1%**		
AMB19-106.1	M2 DUP	Diss	Seawater	3106-1756	1.03	86.2		100515HTCO
DUP				3106-1756 R2	1.00	83.1		100515HTCO
				Mean	*1.02*	*84.7*		
				RPD	**3.6%**	**3.6%**		
AMB19-108	CLMBAY	Total	Seawater	3106-1735	1.14	94.7		100715HTCO
DUP				3106-1735 R2	1.13	94.5		100715HTCO
				Mean	*1.14*	*94.6*		
				RPD	**0.3%**	**0.3%**		
AMB19-016	M4	Total	Seawater	3106-1701	1.49	124		100715HTCO
DUP				3106-1701 R2	1.51	126		100715HTCO
				Mean	*1.50*	*125*		
				RPD	**1.5%**	**1.5%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB19
ENVVEST September 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.499	41.6		100515HTCO
CRM-2		DOC	Seawater	CRM	0.496	41.3		100515HTCO
CRM-3		DOC	Seawater	CRM	0.456	38.0		100515HTCO
CRM-4		DOC	Seawater	CRM	0.513	42.8		100515HTCO
CRM-5		DOC	Seawater	CRM	0.496	41.3		100515HTCO
CRM-6		DOC	Seawater	CRM	0.475	39.6		100515HTCO
CRM-7		DOC	Seawater	CRM	0.501	41.7		100515HTCO
CRM-8		DOC	Seawater	CRM	0.506	42.1		100715HTCO
CRM-9		DOC	Seawater	CRM	0.480	40.0		100715HTCO
CRM-10		DOC	Seawater	CRM	0.532	44.3		100715HTCO
CRM-11		DOC	Seawater	CRM	0.492	41.0		100715HTCO
CRM-12		DOC	Seawater	CRM	0.479	39.9		100715HTCO
CRM-13		DOC	Seawater	CRM	0.503	41.9		100715HTCO
CRM-14		DOC	Seawater	CRM	0.502	41.8		100715HTCO
CRM-15		DOC	Seawater	CRM	0.500	41.7		100715HTCO
CRM-16		DOC	Seawater	CRM	0.513	42.8		100715HTCO
				Average Consensus Value	0.522	43.5		
				Range	0.504-0.540	42-45		
CRM-1				**PD**	**4.4%**	**4.4%**		
CRM-2				**PD**	**5.0%**	**5.0%**		
CRM-3				**PD**	**13%**	**13%**		
CRM-4				**PD**	**1.7%**	**1.7%**		
CRM-5				**PD**	**5.0%**	**5.0%**		
CRM-6				**PD**	**9.0%**	**9.0%**		
CRM-7				**PD**	**4.0%**	**4.0%**		
CRM-8				**PD**	**3.1%**	**3.1%**		
CRM-9				**PD**	**8.1%**	**8.1%**		
CRM-10				**PD**	**1.9%**	**1.9%**		
CRM-11				**PD**	**5.8%**	**5.8%**		
CRM-12				**PD**	**8.2%**	**8.2%**		
CRM-13				**PD**	**3.6%**	**3.6%**		
CRM-14				**PD**	**3.9%**	**3.9%**		
CRM-15				**PD**	**4.1%**	**4.1%**		
CRM-16				**PD**	**1.7%**	**1.7%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB19
ENVVEST September 2015
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	1.01	84.1		100515HTCO
ICV/CCV-2				CCV_1PPM	1.02	84.7		100515HTCO
ICV/CCV-3				CCV_1PPM	0.95	79.2		100515HTCO
ICV/CCV-4				CCV_1PPM	1.01	84.5		100515HTCO
ICV/CCV-5				CCV_1PPM	1.00	83.5		100515HTCO
ICV/CCV-6				CCV_1PPM	1.00	83.3		100515HTCO
ICV/CCV-7				CCV_1PPM	0.99	82.8		100515HTCO
ICV/CCV-8				ICV_1PPM	1.00	83.1		100715HTCO
ICV/CCV-9				CCV_1PPM	1.00	83.3		100715HTCO
ICV/CCV-10				CCV_1PPM	1.00	83.0		100715HTCO
ICV/CCV-11				CCV_1PPM	0.99	82.3		100715HTCO
ICV/CCV-12				CCV_1PPM	0.98	81.7		100715HTCO
ICV/CCV-13				CCV_1PPM	1.02	84.6		100715HTCO
ICV/CCV-14				CCV_1PPM	1.04	86.4		100715HTCO
ICV/CCV-15				CCV_1PPM	1.01	84.5		100715HTCO
ICV/CCV-16				CCV_1PPM	1.01	84.3		100715HTCO
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**101%**			
ICV/CCV-2				**% RECOVERY**	**102%**			
ICV/CCV-3				**% RECOVERY**	**95%**			
ICV/CCV-4				**% RECOVERY**	**101%**			
ICV/CCV-5				**% RECOVERY**	**100%**			
ICV/CCV-6				**% RECOVERY**	**100%**			
ICV/CCV-7				**% RECOVERY**	**99%**			
ICV/CCV-8				**% RECOVERY**	**100%**			
ICV/CCV-9				**% RECOVERY**	**100%**			
ICV/CCV-10				**% RECOVERY**	**100%**			
ICV/CCV-11				**% RECOVERY**	**99%**			
ICV/CCV-12				**% RECOVERY**	**98%**			
ICV/CCV-13				**% RECOVERY**	**102%**			
ICV/CCV-14				**% RECOVERY**	**104%**			
ICV/CCV-15				**% RECOVERY**	**101%**			
ICV/CCV-16				**% RECOVERY**	**101%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB19
ENVVEST September 2015
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	091715Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	091715Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	091715Nu
MB4		TME	Seawater	Blank 4		0.42 U	mg/L	091815Nu
MB5		TME	Seawater	Blank 5		0.42 U	mg/L	091815Nu
MB6		TME	Seawater	Blank 6		0.42 U	mg/L	091815Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		38.2	mg/L	091715Nu
LCS-2				LCS r2		40.6	mg/L	091715Nu
LCS-3				LCS r3		38.6	mg/L	091715Nu
LCS-4				LCS r4		38.9	mg/L	091815Nu
LCS-5				LCS r5		37.7	mg/L	091815Nu
LCS-6				LCS r6		41.1	mg/L	091815Nu
					TRUE VALUE	**40**	mg/L	
	LCS-1				**% RECOVERY**	**96%**		
	LCS-2				**% RECOVERY**	**102%**		
	LCS-3				**% RECOVERY**	**96%**		
	LCS-4				**% RECOVERY**	**97%**		
	LCS-5				**% RECOVERY**	**94%**		
	LCS-6				**% RECOVERY**	**103%**		
LABORATORY DUPLICATES								
AMB19-013	PS01	Total	Seawater	3106-1695		2.19	mg/L	091715Nu
DUP				3106-1695 r2		1.93	mg/L	091715Nu
					Mean	2.06		
					RPD	**12%**		
AMB19-021	PS12	Total	Seawater	3106-1711		0.996	mg/L	091715Nu
DUP				3106-1711 r2		0.941	mg/L	091715Nu
					Mean	0.968		
					RPD	**6%**		
AMB19-105	WP	Total	Seawater	3106-1729		1.16	mg/L	091815Nu
DUP				3106-1729 r2		1.29	mg/L	091815Nu
					Mean	1.23		
					RPD	**11%**		
AMB19-116	PS16	Total	Seawater	3106-1751		1.10	mg/L	091815Nu
DUP				3106-1751 r2		1.22	mg/L	091815Nu
					Mean	1.16		
					RPD	**10%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB19
ENVVEST September 2015
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
				Instrument: YSI-30 S-C-T Probe, SN02G0492AD				
				MDL	*0.01*		*PSU*	
Method Blanks								
MB1		Total	Seawater	DIW Blank1	0.01	U	PSU	091715Osal
MB2		Total	Seawater	DIW Blank2	0.01	U	PSU	091715Osal
MB3		Total	Seawater	DIW Blank3	0.01	U	PSU	091715Osal
MB4		Total	Seawater	DIW Blank 4	0.01	U	PSU	091715Osal
MB5		Total	Seawater	DIW Blank 5	0.01	U	PSU	091715Osal
MB6		Total	Seawater	DIW Blank 6	0.01	U	PSU	091715Osal
MB7		Total	Seawater	DIW Blank 7	0.01	U	PSU	091715Osal
STANDARD REFERENCE MATERIAL								
SRM-1		Total	Seawater	Salinity Standard 1	35.4		PSU	091715Osal
SRM-2		Total	Seawater	Salinity Standard 2	35.1		PSU	091715Osal
SRM-3		Total	Seawater	Salinity Standard 3	35.1		PSU	091715Osal
SRM-4		Total	Seawater	Salinity Standard 4	35.2		PSU	091715Osal
SRM-5		Total	Seawater	Salinity Standard 5	35.1		PSU	091715Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.1		PSU	091715Osal
SRM-7		Total	Seawater	Salinity Standard 7	35.0		PSU	091715Osal
				Certified Value	**35.00**		PSU	
	SRM-1			**PD**	**1.1%**			
	SRM-2			**PD**	**0.3%**			
	SRM-3			**PD**	**0.3%**			
	SRM-4			**PD**	**0.6%**			
	SRM-5			**PD**	**0.3%**			
	SRM-6			**PD**	**0.3%**			
	SRM-7			**PD**	**0.0%**			
LABORATORY CONTROL SAMPLES								
LCS-1				LCS1	20.7		PSU	091715Osal
LCS-2				LCS2	20.7		PSU	091715Osal
LCS-3				LCS3	20.7		PSU	091715Osal
LCS-4				LCS4	20.6		PSU	091715Osal
LCS-5				LCS5	20.6		PSU	091715Osal
LCS-6				LCS6	20.6		PSU	091715Osal
LCS-7				LCS7	20.6		PSU	091715Osal
				TRUE VALUE	**20.0**		PSU	
	LCS-1			**% RECOVERY**	**104%**			
	LCS-2			**% RECOVERY**	**104%**			
	LCS-3			**% RECOVERY**	**104%**			
	LCS-4			**% RECOVERY**	**103%**			
	LCS-5			**% RECOVERY**	**103%**			
	LCS-6			**% RECOVERY**	**103%**			
	LCS-7			**% RECOVERY**	**103%**			

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QC Sample Results for Salinity
Ambient Monitoring - AMB19
ENVVEST September 2015
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
CALIBRATION RESULTS								
ICV-1				YSI 50 ms/cm ICV	50.0		mS	091715Osal
CCV-1				YSI 50 ms/cmCCV1	49.9		mS	091715Osal
CCV-2				YSI 50 ms/cmCCV2	49.9		mS	091715Osal
CCV-3				YSI 50 ms/cmCCV3	49.9		mS	091715Osal
CCV-4				YSI 50 ms/cmCCV4	49.9		mS	091715Osal
CCV-5				YSI 50 ms/cmCCV5	49.9		mS	091715Osal
CCV-6				YSI 50 ms/cmCCV6	49.7		mS	091715Osal
CCV-7				YSI 50 ms/cmCCV7	49.7		mS	091715Osal
CCV-8				YSI 50 ms/cmCCV8	49.6		mS	091715Osal
CCV-9				YSI 50 ms/cmCCV9	49.6		mS	091715Osal
				TRUE VALUE	**50.0**		mS	
	ICV-1			**% RECOVERY**	**100%**			
	CCV-1			**% RECOVERY**	**100%**			
	CCV-2			**% RECOVERY**	**100%**			
	CCV-3			**% RECOVERY**	**100%**			
	CCV-4			**% RECOVERY**	**100%**			
	CCV-5			**% RECOVERY**	**100%**			
	CCV-6			**% RECOVERY**	**99%**			
	CCV-7			**% RECOVERY**	**99%**			
	CCV-8			**% RECOVERY**	**99%**			
	CCV-9			**% RECOVERY**	**99%**			

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Data Qualifiers
Ambient Monitoring - AMB19
ENVVEST September 2015

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, September 2015 (AMB19)

PARAMETER: Total and Dissolved Metals – Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 09/15/2015 and 09/16/2015. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	09/15/15 and 09/16/15 EQP BLKS 09/04/15
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	09/17/15 and 09/18/15
OSAL analysis dates	09/17/15
CVAF analysis dates (Hg)	10/07/15, 10/08/15, 10/14/15, 10/15/15, 10/21/15
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	12/7/15
Fe/Pd Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	10/01/15 and 10/05/15
TOC/DOC Analysis Date	10/05/15 through 10/07/15

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.16 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.006 µg/L	0.02 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.06 µg/L	0.2 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.020 µg/L	0.06 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.050 µg/L	0.159 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0040 µg/L	0.0127 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.100 µg/L	0.318 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.16 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by two methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for all other metals using a preconcentration via a precipitation step followed by reconstitution in a salt free solution in accordance with Battelle SOP *MSL-I-025, Methods of Sample Preconcentration: Iron and Palladium/APDC Coprecipitation and Borohydride (Fe/Pd) Reductive Precipitation for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and

METHODS (cont): EPA Method 1640.

Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The ICP-MS data were reported in units of µg/L. The required preconcentration procedure for seawater samples analyzed by ICP-MS includes the addition of chelating agents to induce precipitation of metals under specific conditions. Subsequently, reagents added to the samples should be of the purest quality to result in zero addition of metals to the seawater samples. Therefore the ICP-MS method includes a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method includes a matrix matching procedure that allows the quantification and correction of the trace impurities added to the samples during the Fe/Pd preparation. This approach is comparable to the reagent corrected data previously reported and flagged as "b" data qualifier to the ICP-MS data. No flags are required for this data set.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%

B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:
1 SRM certified <10x MDL or
2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the RL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. Sample 3106-1715 from OF018 contained high native sample concentration for Zn and was not spiked at a sufficient level. The data are not qualified as they meet the contingency criteria for the unsufficient spiking level (see “c” flag). One matrix spike failed for Cu and Ni. The data were flagged. The alternate LCS and MS/MSD samples demonstrated acceptable accuracy and precision for these metals in this seawater matrix. No additional actions were required.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. outfall 021). Percent recoveries were within the QC acceptance criterion except one replicate for Al. Alternate replicates and standards demonstrate acceptable accuracy for Al. No further action was required.

CASS-5 is a seawater SRM analyzed with each ICP-MS batch. There is no seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy. The SRM is considered for data set evaluation only if it is not

certified greater than 10 times the MDL. The CASS-5 certified values for Cd, Cr, Ni, Pb, and Zn are certified values less than 10 times the MDL. The results are flagged with a “c” and considered for data set evaluation only and not for QC certification. The PDs were within the QC criterion for all metals except two replicates for Cr and all replicates for Pb. The alternate SRM, seawater LCS and high purity standards provide acceptable QC confirmation for the metals.

A salinity standard was used to verify the accuracy of the salinity measurements. The accuracy range was 0.0-1.1% PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 1.7 to 12.6%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1510393
Project:	ENVVEST (AMB19)	**Date Received:**	09/18/15
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty water samples were received for analysis at ALS Environmental on 09/18/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Total Phosphorus by EPA Method 365.3:
The duplicate matrix spike recovery for sample AMB19-001/PS07 was outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential low bias. No further corrective action was taken.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB19-DD001/ OF096	K1510393-020	ND U	5.1	0.8	1	09/30/15 09:30	9/29/15	
AMB19-DD002/ OF018	K1510393-021	ND U	5.8	0.9	1	09/30/15 09:30	9/29/15	
AMB19-DD004/ OF021	K1510393-022	ND U	5.8	0.9	1	09/30/15 09:30	9/29/15	
Method Blank	K1510393-MB1	ND U	5.0	0.8	1	09/30/15 09:30	9/29/15	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/30/15
		Date Extracted:	09/29/15

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1510549-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1510549-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND U	50.2	56.6	89	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	09/30/15
Sample Matrix:	Ocean Water	**Date Extracted:**	09/29/15

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	464716

	Lab Control Sample K1510393-LCS4			Duplicate Lab Control Sample K1510393-DLCS4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	55.3	60.0	92	54.2	60.0	90	78-114	2	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB19-001/ PS07	K1510393-001	**0.079**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-002/ PS06	K1510393-002	**0.099**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-003/ PS14	K1510393-003	**0.048 J**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-004/ PS05	K1510393-004	**0.030 J**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-005/ PS04	K1510393-005	**0.033 J**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-006/ PS03	K1510393-006	**0.051**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-007/ PS03 DUP	K1510393-007	**0.052**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-008/ PS08	K1510393-008	**0.074**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-009/ PS15	K1510393-009	**0.090**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-010/ PS09	K1510393-010	**0.115**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-011/ PS10	K1510393-011	**0.087**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-013/ PS01	K1510393-012	**0.101**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-014/ PS02	K1510393-013	**0.057**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-015/ PS13	K1510393-014	**0.044 J**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-016/ M4	K1510393-015	**0.066**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-017/ BJEST	K1510393-016	ND U	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-018/ M3.1	K1510393-017	**0.128**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-019/ M3.1 DUP	K1510393-018	**0.127**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-020/ M3.1 DEEP	K1510393-019	**0.121**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-101/ PS07B	K1510393-023	**0.099**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-102/ M6	K1510393-024	**0.049 J**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-103/ M8	K1510393-025	ND U	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-104/ DYOTS	K1510393-026	ND U	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-105/ WP	K1510393-027	**0.124**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-106/ M2	K1510393-028	**0.174**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-107/ M2DEEP	K1510393-029	**0.176**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-108/ CLMBAY	K1510393-030	**0.117**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-109/ ILSP	K1510393-031	**0.135**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-110/ M1	K1510393-032	**0.101**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-111/ M1 DEEP	K1510393-033	**0.126**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-112/ M3.3	K1510393-034	**0.077**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-113/ M3.3 DUP	K1510393-035	**0.078**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-114/ PS10.1	K1510393-036	**0.088**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-115/ PS11	K1510393-037	**0.094**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-116/ PS16	K1510393-038	**0.098**	0.050	0.020	1	09/29/15 14:44	9/29/15	
AMB19-117/ PS07C	K1510393-039	**0.101**	0.050	0.020	1	09/29/15 14:44	9/29/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB19-106.01/ M2 DUP	K1510393-040	**0.173**	0.050	0.020	1	09/29/15 14:44	9/29/15	
Method Blank	K1510393-MB1	ND U	0.050	0.020	1	09/29/15 14:44	9/29/15	
Method Blank	K1510393-MB2	ND U	0.050	0.020	1	09/29/15 14:44	9/29/15	
Method Blank	K1510393-MB3	ND U	0.050	0.020	1	09/29/15 14:44	9/29/15	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1510205-001DUP	0.050	0.020	0.032 J	0.034 J	0.0329	8	20	09/29/15
AMB19-001/ PS07	K1510393-001DUP	0.050	0.020	0.079	0.078	0.0784	<1	20	09/29/15
AMB19-011/ PS10	K1510393-011DUP	0.050	0.020	0.087	0.088	0.0878	<1	20	09/29/15
AMB19-101/ PS07B	K1510393-023DUP	0.050	0.020	0.099	0.099	0.0992	<1	20	09/29/15
AMB19-111/ M1 DEEP	K1510393-033DUP	0.050	0.020	0.126	0.126	0.126	<1	20	09/29/15
Batch QC	K1510662-001DUP	0.050	0.020	1.43	1.42	1.43	<1	20	09/29/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/29/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1510205-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1510205-001MS			Duplicate Matrix Spike K1510205-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.032 J	0.933	1.00	90	0.930	1.00	90	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/29/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB19-001/ PS07	**Units:**	mg/L
Lab Code:	K1510393-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1510393-001MS			K1510393-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.079	1.08	1.00	100	1.09	1.00	101	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/29/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB19-011/ PS10	**Units:**	mg/L
Lab Code:	K1510393-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1510393-011MS			Duplicate Matrix Spike K1510393-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.087	1.09	1.00	100	1.09	1.00	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/29/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB19-101/ PS07B	**Units:**	mg/L
Lab Code:	K1510393-023	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1510393-023MS			K1510393-023DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.099	1.11	1.00	101	1.10	1.00	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/29/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB19-111/ M1 DEEP	**Units:**	mg/L
Lab Code:	K1510393-033	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1510393-033MS			Duplicate Matrix Spike K1510393-033DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.126	1.10	1.00	97	1.11	1.00	98	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/29/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1510662-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1510662-001MS			Duplicate Matrix Spike K1510662-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	1.43	10.9	10.0	95	11.0	10.0	96	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	09/29/15
Sample Matrix:	Ocean Water	**Date Extracted:**	09/29/15

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	465128

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS1	14.9	15.3	97	90-110
Lab Control Sample	K1510393-LCS2	14.8	15.3	97	90-110
Lab Control Sample	K1510393-LCS3	14.7	15.3	96	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1510393
Project: ENVVEST (AMB19)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	465128	KQ1511190-01	09/29/15 14:44	1.00	1.00	100	90-110
CCV2	465128	KQ1511190-02	09/29/15 14:44	1.00	1.00	100	90-110
CCV3	465128	KQ1511190-03	09/29/15 14:44	1.00	0.988	99	90-110
CCV4	465128	KQ1511190-04	09/29/15 14:44	1.00	1.00	100	90-110
CCV5	465128	KQ1511190-05	09/29/15 14:44	1.00	1.00	100	90-110
CCV6	465128	KQ1511190-06	09/29/15 14:44	1.00	0.995	100	90-110
CCV7	465128	KQ1511190-07	09/29/15 14:44	1.00	0.995	100	90-110
CCV8	465128	KQ1511190-08	09/29/15 14:44	1.00	0.993	99	90-110
CCV9	465128	KQ1511190-09	09/29/15 14:44	1.00	0.971	97	90-110
CCV10	465128	KQ1511190-10	09/29/15 14:44	1.00	0.954	95	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1510393
Project: ENVVEST (AMB19)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	465128	KQ1511190-11	09/29/15 14:44	0.050	0.020	ND	U
CCB2	465128	KQ1511190-12	09/29/15 14:44	0.050	0.020	ND	U
CCB3	465128	KQ1511190-13	09/29/15 14:44	0.050	0.020	ND	U
CCB4	465128	KQ1511190-14	09/29/15 14:44	0.050	0.020	ND	U
CCB5	465128	KQ1511190-15	09/29/15 14:44	0.050	0.020	ND	U
CCB6	465128	KQ1511190-16	09/29/15 14:44	0.050	0.020	ND	U
CCB7	465128	KQ1511190-17	09/29/15 14:44	0.050	0.020	ND	U
CCB8	465128	KQ1511190-18	09/29/15 14:44	0.050	0.020	ND	U
CCB9	465128	KQ1511190-19	09/29/15 14:44	0.050	0.020	ND	U
CCB10	465128	KQ1511190-20	09/29/15 14:44	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB19-001/ PS07	K1510393-001	**0.052**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-002/ PS06	K1510393-002	**0.063**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-003/ PS14	K1510393-003	**0.028**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-004/ PS05	K1510393-004	**0.058**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-005/ PS04	K1510393-005	**0.057**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-006/ PS03	K1510393-006	**0.026**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-007/ PS03 DUP	K1510393-007	**0.054**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-008/ PS08	K1510393-008	**0.059**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-009/ PS15	K1510393-009	**0.063**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-010/ PS09	K1510393-010	**0.076**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-011/ PS10	K1510393-011	**0.066**	0.010	0.004	1	09/30/15 10:27	9/29/15	
AMB19-013/ PS01	K1510393-012	**0.077**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-014/ PS02	K1510393-013	**0.076**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-015/ PS13	K1510393-014	**0.068**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-016/ M4	K1510393-015	**0.074**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-017/ BJEST	K1510393-016	**0.056**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-018/ M3.1	K1510393-017	**0.067**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-019/ M3.1 DUP	K1510393-018	**0.063**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-020/ M3.1 DEEP	K1510393-019	**0.065**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-101/ PS07B	K1510393-023	**0.072**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-102/ M6	K1510393-024	**0.061**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-103/ M8	K1510393-025	**0.066**	0.010	0.004	1	10/02/15 16:58	10/2/15	
AMB19-104/ DYOTS	K1510393-026	**0.072**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-105/ WP	K1510393-027	**0.049**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-106/ M2	K1510393-028	**0.078**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-107/ M2DEEP	K1510393-029	**0.073**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-108/ CLMBAY	K1510393-030	**0.076**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-109/ ILSP	K1510393-031	**0.076**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-110/ M1	K1510393-032	**0.066**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-111/ M1 DEEP	K1510393-033	**0.081**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-112/ M3.3	K1510393-034	**0.078**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-113/ M3.3 DUP	K1510393-035	**0.080**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-114/ PS10.1	K1510393-036	**0.079**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-115/ PS11	K1510393-037	**0.094**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-116/ PS16	K1510393-038	**0.077**	0.010	0.004	1	10/03/15 12:58	10/3/15	
AMB19-117/ PS07C	K1510393-039	**0.082**	0.010	0.004	1	10/03/15 12:58	10/3/15	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB19-106.01/ M2 DUP	K1510393-040	**0.074**	0.010	0.004	1	10/03/15 12:58	10/3/15	
Method Blank	K1510393-MB1	ND U	0.010	0.004	1	09/30/15 10:27	9/29/15	
Method Blank	K1510393-MB2	ND U	0.010	0.004	1	10/02/15 16:58	10/2/15	
Method Blank	K1510393-MB3	ND U	0.010	0.004	1	10/03/15 12:58	10/3/15	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB19-001/ PS07	K1510393-001DUP	0.010	0.004	0.052	0.052	0.0518	<1	20	09/30/15
AMB19-104/ DYOTS	K1510393-026DUP	0.010	0.004	0.072	0.069	0.0700	4	20	10/03/15
Batch QC	K1510658-001DUP	0.010	0.004	0.120	0.115	0.118	4	20	10/02/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/30/15
		Date Extracted:	09/29/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB19-001/ PS07	**Units:**	mg/L
Lab Code:	K1510393-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1510393-001MS			K1510393-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.052	0.380	0.500	66	0.321	0.500	54 *	60-135	20	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	10/3/15
		Date Extracted:	10/3/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB19-104/ DYOTS	**Units:**	mg/L
Lab Code:	K1510393-026	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1510393-026MS			K1510393-026DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.072	0.405	0.500	67	0.398	0.500	65	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	10/2/15
		Date Extracted:	10/2/15

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1510658-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1510658-001MS			K1510658-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.120	0.615	0.500	99	0.623	0.500	100	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	09/30/15
Sample Matrix:	Ocean Water	**Date Extracted:**	09/29/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	464703

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS1	2.83	3.13	90	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	10/02/15
Sample Matrix:	Ocean Water	**Date Extracted:**	10/02/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	465222

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS2	3.00	3.13	96	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	10/03/15
Sample Matrix:	Ocean Water	**Date Extracted:**	10/03/15

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	465246

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS3	3.16	3.13	101	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1510393
Project: ENVVEST (AMB19)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	464703	KQ1511050-01	09/30/15 10:27	0.500	0.479	96	90-110
CCV2	464703	KQ1511050-02	09/30/15 10:27	0.500	0.483	97	90-110
CCV3	464703	KQ1511050-03	09/30/15 10:27	0.500	0.483	97	90-110
CCV4	464703	KQ1511050-04	09/30/15 10:27	0.500	0.489	98	90-110
CCV5	464703	KQ1511050-05	09/30/15 10:27	0.500	0.481	96	90-110
CCV6	464703	KQ1511050-06	09/30/15 10:27	0.500	0.484	97	90-110
CCV7	465222	KQ1511219-01	10/02/15 16:58	0.500	0.520	104	90-110
CCV8	465222	KQ1511219-02	10/02/15 16:58	0.500	0.522	104	90-110
CCV9	465222	KQ1511219-03	10/02/15 16:58	0.500	0.526	105	90-110
CCV10	465222	KQ1511219-04	10/02/15 16:58	0.500	0.524	105	90-110
CCV11	465246	KQ1511228-01	10/03/15 12:58	0.500	0.512	102	90-110
CCV12	465246	KQ1511228-02	10/03/15 12:58	0.500	0.513	103	90-110
CCV13	465246	KQ1511228-03	10/03/15 12:58	0.500	0.510	102	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1510393
Project: ENVVEST (AMB19)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	464703	KQ1511050-08	09/30/15 10:27	0.010	0.004	ND	U
CCB2	464703	KQ1511050-09	09/30/15 10:27	0.010	0.004	ND	U
CCB3	464703	KQ1511050-10	09/30/15 10:27	0.010	0.004	ND	U
CCB4	464703	KQ1511050-11	09/30/15 10:27	0.010	0.004	ND	U
CCB5	464703	KQ1511050-12	09/30/15 10:27	0.010	0.004	ND	U
CCB6	464703	KQ1511050-13	09/30/15 10:27	0.010	0.004	ND	U
CCB7	465222	KQ1511219-05	10/02/15 16:58	0.010	0.004	ND	U
CCB8	465222	KQ1511219-06	10/02/15 16:58	0.010	0.004	ND	U
CCB9	465222	KQ1511219-07	10/02/15 16:58	0.010	0.004	ND	U
CCB10	465222	KQ1511219-08	10/02/15 16:58	0.010	0.004	ND	U
CCB11	465246	KQ1511228-04	10/03/15 12:58	0.010	0.004	ND	U
CCB12	465246	KQ1511228-05	10/03/15 12:58	0.010	0.004	ND	U
CCB13	465246	KQ1511228-06	10/03/15 12:58	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB19-001/ PS07	K1510393-001	**0.179**	0.050	0.009	1	09/22/15 09:40	
AMB19-002/ PS06	K1510393-002	**0.132**	0.050	0.009	1	09/22/15 09:40	
AMB19-003/ PS14	K1510393-003	**0.090**	0.050	0.009	1	09/22/15 09:40	
AMB19-004/ PS05	K1510393-004	**0.062**	0.050	0.009	1	09/22/15 09:40	
AMB19-005/ PS04	K1510393-005	**0.057**	0.050	0.009	1	09/22/15 09:40	
AMB19-006/ PS03	K1510393-006	**0.137**	0.050	0.009	1	09/22/15 09:40	
AMB19-007/ PS03 DUP	K1510393-007	**0.086**	0.050	0.009	1	09/22/15 09:40	
AMB19-008/ PS08	K1510393-008	**0.093**	0.050	0.009	1	09/22/15 09:40	
AMB19-009/ PS15	K1510393-009	**0.064**	0.050	0.009	1	09/22/15 09:40	
AMB19-010/ PS09	K1510393-010	**0.121**	0.050	0.009	1	09/22/15 09:40	
AMB19-011/ PS10	K1510393-011	**0.088**	0.050	0.009	1	09/22/15 09:40	
AMB19-013/ PS01	K1510393-012	**0.123**	0.050	0.009	1	09/22/15 09:40	
AMB19-014/ PS02	K1510393-013	**0.148**	0.050	0.009	1	09/22/15 09:40	
AMB19-015/ PS13	K1510393-014	**0.090**	0.050	0.009	1	09/22/15 09:40	
AMB19-016/ M4	K1510393-015	**0.084**	0.050	0.009	1	09/22/15 09:40	
AMB19-017/ BJEST	K1510393-016	**0.030 J**	0.050	0.009	1	09/22/15 09:40	
AMB19-018/ M3.1	K1510393-017	**0.052**	0.050	0.009	1	09/22/15 09:40	
AMB19-019/ M3.1 DUP	K1510393-018	**0.065**	0.050	0.009	1	09/22/15 09:40	
AMB19-020/ M3.1 DEEP	K1510393-019	**0.057**	0.050	0.009	1	09/22/15 09:40	
AMB19-101/ PS07B	K1510393-023	**0.097**	0.050	0.009	1	09/22/15 09:40	
AMB19-102/ M6	K1510393-024	**0.092**	0.050	0.009	1	09/23/15 10:25	
AMB19-103/ M8	K1510393-025	**0.092**	0.050	0.009	1	09/23/15 10:25	
AMB19-104/ DYOTS	K1510393-026	**0.081**	0.050	0.009	1	09/23/15 10:25	
AMB19-105/ WP	K1510393-027	**0.078**	0.050	0.009	1	09/23/15 10:25	
AMB19-106/ M2	K1510393-028	**0.067**	0.050	0.009	1	09/23/15 10:25	
AMB19-107/ M2DEEP	K1510393-029	**0.072**	0.050	0.009	1	09/23/15 10:25	
AMB19-108/ CLMBAY	K1510393-030	**0.075**	0.050	0.009	1	09/23/15 10:25	
AMB19-109/ ILSP	K1510393-031	**0.074**	0.050	0.009	1	09/23/15 10:25	
AMB19-110/ M1	K1510393-032	**0.046 J**	0.050	0.009	1	09/23/15 10:25	
AMB19-111/ M1 DEEP	K1510393-033	**0.086**	0.050	0.009	1	09/23/15 10:25	
AMB19-112/ M3.3	K1510393-034	**0.098**	0.050	0.009	1	09/23/15 10:25	
AMB19-113/ M3.3 DUP	K1510393-035	**0.140**	0.050	0.009	1	09/23/15 10:25	
AMB19-114/ PS10.1	K1510393-036	**0.121**	0.050	0.009	1	09/23/15 10:25	
AMB19-115/ PS11	K1510393-037	**0.110**	0.050	0.009	1	09/23/15 10:25	
AMB19-116/ PS16	K1510393-038	**0.092**	0.050	0.009	1	09/23/15 10:25	
AMB19-117/ PS07C	K1510393-039	**0.100**	0.050	0.009	1	09/23/15 10:25	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB19-106.01/ M2 DUP	K1510393-040	**0.057**	0.050	0.009	1	09/23/15 10:25	
Method Blank	K1510393-MB1	**0.037 J**	0.050	0.009	1	09/22/15 09:40	
Method Blank	K1510393-MB2	**0.017 J**	0.050	0.009	1	09/22/15 09:40	
Method Blank	K1510393-MB3	**0.026 J**	0.050	0.009	1	09/23/15 10:25	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project	ENVVEST (AMB19)	**Date Collected:**	09/15/15 - 09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1510231-001DUP	0.050	0.009	2.70	2.76	2.73	2	20	09/22/15
AMB19-009/ PS15	K1510393-009DUP	0.050	0.009	0.064	0.065	0.0645	2	20	09/22/15
AMB19-102/ M6	K1510393-024DUP	0.050	0.009	0.092	0.092	0.0920	<1	20	09/23/15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/22/15
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1510231-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1510231-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	2.70	13.2	10.0	105	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/15/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/22/15
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB19-009/ PS15	**Units:**	mg/L
Lab Code:	K1510393-009	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1510393-009MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.064	10.4	10.0	103	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Collected:**	09/16/15
Sample Matrix:	Ocean Water	**Date Received:**	09/18/15
		Date Analyzed:	09/23/15
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB19-102/ M6	**Units:**	mg/L
Lab Code:	K1510393-024	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1510393-024MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.092	9.72	10.0	96	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	09/22/15
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	463382

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS1	5.44	5.36	101	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	09/22/15
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	463461

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS2	4.98	5.36	93	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1510393
Project:	ENVVEST (AMB19)	**Date Analyzed:**	09/23/15
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	463577

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1510393-LCS3	5.09	5.36	95	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1510393
Project: ENVVEST (AMB19)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	463382	KQ1510608-09	09/22/15 09:40	10.0	10.1	101	90-110
CCV2	463382	KQ1510608-10	09/22/15 09:40	10.0	9.84	98	90-110
CCV3	463382	KQ1510608-11	09/22/15 09:40	10.0	10.1	101	90-110
CCV4	463382	KQ1510608-12	09/22/15 09:40	10.0	9.71	97	90-110
CCV5	463461	KQ1510622-08	09/22/15 09:40	10.0	10.1	101	90-110
CCV6	463461	KQ1510622-09	09/22/15 09:40	10.0	9.71	97	90-110
CCV7	463461	KQ1510622-10	09/22/15 09:40	10.0	10.2	102	90-110
CCV8	463577	KQ1510649-09	09/23/15 10:25	10.0	10.8	108	90-110
CCV9	463577	KQ1510649-10	09/23/15 10:25	10.0	10.3	103	90-110
CCV10	463577	KQ1510649-11	09/23/15 10:25	10.0	10.3	103	90-110
CCV11	463577	KQ1510649-12	09/23/15 10:25	10.0	10.2	102	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1510393
Project: ENVVEST (AMB19)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	463382	KQ1510608-05	09/22/15 09:40	0.050	0.009	ND	U
CCB2	463382	KQ1510608-06	09/22/15 09:40	0.050	0.009	ND	U
CCB3	463382	KQ1510608-07	09/22/15 09:40	0.050	0.009	ND	U
CCB4	463382	KQ1510608-08	09/22/15 09:40	0.050	0.009	ND	U
CCB5	463461	KQ1510622-05	09/22/15 09:40	0.050	0.009	ND	U
CCB6	463461	KQ1510622-06	09/22/15 09:40	0.050	0.009	ND	U
CCB7	463461	KQ1510622-07	09/22/15 09:40	0.050	0.009	ND	U
CCB8	463577	KQ1510649-05	09/23/15 10:25	0.050	0.009	ND	U
CCB9	463577	KQ1510649-06	09/23/15 10:25	0.050	0.009	ND	U
CCB10	463577	KQ1510649-07	09/23/15 10:25	0.050	0.009	ND	U
CCB11	463577	KQ1510649-08	09/23/15 10:25	0.050	0.009	0.018	J

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/15/2015
Page: 1 of 2
COC Number:

AMB19 & 8

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB18

Testing Parameters

Observations, Instructions

3106 Tot/Diss

Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Metals (Total/Diss)	Total Hg	TS/TSS + GSA	Nuts/TOC	DOC	Osal	Oil&Grease			No. of containers	StationID	Comments
1671	1672	AMB19-001	PS07	9/15/15 9:18		X	X	X	X	X	X				9	PS07	Should be 5 per Jon S. 9/17/15
1673	1674	-002	PS06	9:51												PS06	
1675	1676	-003	PS14	9:58												PS14	
1677	1678	-004	PS05	10:12												PS05	
1679	1680	-005	PS04	10:20												PS04	
1681	1682	-006	PS03	10:34												PS03	
1683	1684	-007	PS03DUP	10:38												PS03	
1685	1686	-008	~~PS03DUP~~ PS08	10:50												PS08	
1687	1688	-009	PS15	10:58												PS15	
1689	1690	-010	PS09	~~11:15~~												PS09	
1691	1692	-011	PS10	11:30												PS10	
1693	1694	-012	PS10PLUME	11:40												PS10PLUME	Red Rust colored water
1695	1696	-013	PS01	11:50												PS01	
1697	1698	-014	PS02	12:00												PS02	
1699	1700	-015	PS13	12:05												PS13	
1701	1702	-016	M4	12:15												M4	
1703	1704	-017	BJEST	12:30												BJEST	
1705	1706	-18	M3.1	12:54												M3.1	
1707	1708	-19	M3.1DUP	12:55												M3.1	
1709	1710	-20	M3.1DEP	12:45												M3.1	

Relinquished by: STRVENS
Signature — Date: 2015.09.15 — Time: 1820
Printed Name — Company: PNNL

Received by: 0940
Signature: C. Sushon — 9/16/15
Printed Name

Total # of Containers
Shipment Method: Hand delivered
Sample Disposition: cg

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 9/15/2015
Page: 2 of 2
COC Number: AMB19

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: ~~AMB18~~ AMB19

3106 TBT/Diss Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Metals (Total/Diss)	Total Hg	TS/TSS	Nuts/TOC	DOC	Osal	Oil&Grease	Tox		No. of containers	StationID	Comments
1711	1712	-021	PS12	9/15/2015	SW	X	X	X		X	X				2	PS12	Hydraulic leak on Boat
1713	1714	-022	DF096	9/15/15 915		X	X	X		X	X	X	X		6	DF09L	grab @ pump L
1715	1716	-023	DF018	1210		X	X	X		X	X	X	X		6	DF018	PW5 24hr composite
1717	1718	-024	DF019	802		X	X	X		X	X		X		5	DF019	DDA013 - 24hr. composite
1719	1720	-025	DF021	1430		X	X	X		X	X	X	X		6	DF021	24hr. composite
END																	
		-DD-001															
		-DD-002															
		-DD-003															
		-DD-004															
		(Eg - "DF" should have "DD" and start new Series -001 002 ...)															

Testing Parameters

Observations, Instructions

Relinquished by: Signature — Date 20150915 — Time 1830
Printed Name — Company PNNL

Received by: Signature — 0940
C. Sussman 9/16/15
Printed Name

Total # of Containers
Shipment Method: Hand delivered
Sample Disposition:

Relinquished by: Signature — Date — Time
Printed Name — Company

Received by: Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/15, logged in 9/16/15
Batch: 51
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-001	PS07-TME	TME	PS07	3106-1671	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-001	PS07-DME	DME	PS07	3106-1672	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-002	PS06-TME	TME	PS06	3106-1673	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-002	PS06-DME	DME	PS06	3106-1674	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-003	PS14-TME	TME	PS14	3106-1675	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-003	PS14-DME	DME	PS14	3106-1676	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-004	PS05-TME	TME	PS05	3106-1677	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-004	PS05-DME	DME	PS05	3106-1678	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-005	PS04-TME	TME	PS04	3106-1679	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-005	PS04-DME	DME	PS04	3106-1680	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-006	PS03-TME	TME	PS03	3106-1681	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-006	PS03-DME	DME	PS03	3106-1682	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-007	PS03 DUP-TME	TME	PS03 DUP	3106-1683	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-007	PS03 DUP-DME	DME	PS03 DUP	3106-1684	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-008	PS08-TME	TME	PS08	3106-1685	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-008	PS08-DME	DME	PS08	3106-1686	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-009	PS15-TME	TME	PS15	3106-1687	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-009	PS15-DME	DME	PS15	3106-1688	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-010	PS09-TME	TME	PS09	3106-1689	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-010	PS09-DME	DME	PS09	3106-1690	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-011	PS10-TME	TME	PS10	3106-1691	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-011	PS10-DME	DME	PS10	3106-1692	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-012	PS10PLUME-TME	TME	PS10PLUME	3106-1693	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-012	PS10PLUME-DME	DME	PS10PLUME	3106-1694	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-013	PS01-TME	TME	PS01	3106-1695	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-013	PS01-DME	DME	PS01	3106-1696	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-014	PS02-TME	TME	PS02	3106-1697	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-014	PS02-DME	DME	PS02	3106-1698	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-015	PS13-TME	TME	PS13	3106-1699	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-015	PS13-DME	DME	PS13	3106-1700	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-016	M4-TME	TME	M4	3106-1701	Seawater	PREP LAB	Total Metals, Hg	09/15/15

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/15, logged in 9/16/15
Batch: 51
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-016	M4-DME	DME	M4	3106-1702	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-017	BJEST-TME	TME	BJEST	3106-1703	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-017	BJEST-DME	DME	BJEST	3106-1704	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-018	M3.1-TME	TME	M3.1	3106-1705	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-018	M3.1-DME	DME	M3.1	3106-1706	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-019	M3.1 DUP-TME	TME	M3.1 DUP	3106-1707	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-019	M3.1 DUP-DME	DME	M3.1 DUP	3106-1708	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-020	M3.1DEEP-TME	TME	M3.1DEEP	3106-1709	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-020	M3.1DEEP-DME	DME	M3.1DEEP	3106-1710	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-021	PS12-TME	TME	PS12	3106-1711	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-021	PS12-DME	DME	PS12	3106-1712	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-DD001	OF096-TME	TME	OF096	3106-1713	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-DD001	OF096-DME	DME	OF096	3106-1714	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-DD002	OF018-TME	TME	OF018	3106-1715	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-DD002	OF018-DME	DME	OF018	3106-1716	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-DD003	OF019-TME	TME	OF019	3106-1717	Seawater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-DD003	OF019-DME	DME	OF019	3106-1718	Seawater	PREP LAB	Dissolved Metals, Hg	09/15/15
AMB19-DD004	OF021-TME	TME	OF021	3106-1719	Freshwater	PREP LAB	Total Metals, Hg	09/15/15
AMB19-DD004	OF021-DME	DME	OF021	3106-1720	Freshwater	PREP LAB	Dissolved Metals, Hg	09/15/15

NOTE: OF19 collected as part of DDA013, CF#3462; PLEASE ANALYZE with AMB19

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/15, logged in 9/16/15
Batch: 51
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-001	PS07-DOC	DOC	PS07	3106-1672	Seawater	MSL	DOC	09/15/15
AMB19-002	PS06-DOC	DOC	PS06	3106-1674	Seawater	MSL	DOC	09/15/15
AMB19-003	PS14-DOC	DOC	PS14	3106-1676	Seawater	MSL	DOC	09/15/15
AMB19-004	PS05-DOC	DOC	PS05	3106-1678	Seawater	MSL	DOC	09/15/15
AMB19-005	PS04-DOC	DOC	PS04	3106-1680	Seawater	MSL	DOC	09/15/15
AMB19-006	PS03-DOC	DOC	PS03	3106-1682	Seawater	MSL	DOC	09/15/15
AMB19-007	PS03 DUP-DOC	DOC	PS03 DUP	3106-1684	Seawater	MSL	DOC	09/15/15
AMB19-008	PS08-DOC	DOC	PS08	3106-1686	Seawater	MSL	DOC	09/15/15
AMB19-009	PS15-DOC	DOC	PS15	3106-1688	Seawater	MSL	DOC	09/15/15
AMB19-010	PS09-DOC	DOC	PS09	3106-1690	Seawater	MSL	DOC	09/15/15
AMB19-011	PS10-DOC	DOC	PS10	3106-1692	Seawater	MSL	DOC	09/15/15
AMB19-012	PS10PLUME-DOC	DOC	PS10PLUME	3106-1694	Seawater	MSL	DOC	09/15/15
AMB19-013	PS01-DOC	DOC	PS01	3106-1696	Seawater	MSL	DOC	09/15/15
AMB19-014	PS02-DOC	DOC	PS02	3106-1698	Seawater	MSL	DOC	09/15/15
AMB19-015	PS13-DOC	DOC	PS13	3106-1700	Seawater	MSL	DOC	09/15/15
AMB19-016	M4-DOC	DOC	M4	3106-1702	Seawater	MSL	DOC	09/15/15
AMB19-017	BJEST-DOC	DOC	BJEST	3106-1704	Seawater	MSL	DOC	09/15/15
AMB19-018	M3.1-DOC	DOC	M3.1	3106-1706	Seawater	MSL	DOC	09/15/15
AMB19-019	M3.1 DUP-DOC	DOC	M3.1 DUP	3106-1708	Seawater	MSL	DOC	09/15/15
AMB19-020	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-1710	Seawater	MSL	DOC	09/15/15
AMB19-021	PS12-DOC	DOC	PS12	3106-1712	Seawater	MSL	DOC	09/15/15
AMB19-DD001	OF096-DOC	DOC	OF096	3106-1714	Seawater	MSL	DOC	09/15/15
AMB19-DD002	OF018-DOC	DOC	OF018	3106-1716	Seawater	MSL	DOC	09/15/15
AMB19-DD003	OF019-DOC	DOC	OF019	3106-1718	Seawater	MSL	DOC	09/15/15
AMB19-DD004	OF021-DOC	DOC	OF021	3106-1720	Freshwater	MSL	DOC	09/15/15

NOTE: OF19 collected as part of DDA013, CF#3462; PLEASE ANALYZE with AMB19

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/15, logged in 9/16/15
Batch: 51
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-001	PS07-TOC	TOC	PS07	3106-1671	Seawater	MSL	TOC	09/15/15
AMB19-002	PS06-TOC	TOC	PS06	3106-1673	Seawater	MSL	TOC	09/15/15
AMB19-003	PS14-TOC	TOC	PS14	3106-1675	Seawater	MSL	TOC	09/15/15
AMB19-004	PS05-TOC	TOC	PS05	3106-1677	Seawater	MSL	TOC	09/15/15
AMB19-005	PS04-TOC	TOC	PS04	3106-1679	Seawater	MSL	TOC	09/15/15
AMB19-006	PS03-TOC	TOC	PS03	3106-1681	Seawater	MSL	TOC	09/15/15
AMB19-007	PS03 DUP-TOC	TOC	PS03 DUP	3106-1683	Seawater	MSL	TOC	09/15/15
AMB19-008	PS08-TOC	TOC	PS08	3106-1685	Seawater	MSL	TOC	09/15/15
AMB19-009	PS15-TOC	TOC	PS15	3106-1687	Seawater	MSL	TOC	09/15/15
AMB19-010	PS09-TOC	TOC	PS09	3106-1689	Seawater	MSL	TOC	09/15/15
AMB19-011	PS10-TOC	TOC	PS10	3106-1691	Seawater	MSL	TOC	09/15/15
AMB19-012	PS10PLUME-TOC	TOC	PS10PLUME	3106-1693	Seawater	MSL	TOC	09/15/15
AMB19-013	PS01-TOC	TOC	PS01	3106-1695	Seawater	MSL	TOC	09/15/15
AMB19-014	PS02-TOC	TOC	PS02	3106-1697	Seawater	MSL	TOC	09/15/15
AMB19-015	PS13-TOC	TOC	PS13	3106-1699	Seawater	MSL	TOC	09/15/15
AMB19-016	M4-TOC	TOC	M4	3106-1701	Seawater	MSL	TOC	09/15/15
AMB19-017	BJEST-TOC	TOC	BJEST	3106-1703	Seawater	MSL	TOC	09/15/15
AMB19-018	M3.1-TOC	TOC	M3.1	3106-1705	Seawater	MSL	TOC	09/15/15
AMB19-019	M3.1 DUP-TOC	TOC	M3.1 DUP	3106-1707	Seawater	MSL	TOC	09/15/15
AMB19-020	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-1709	Seawater	MSL	TOC	09/15/15
AMB19-DD001	OF096-TOC	TOC	OF096	3106-1713	Seawater	MSL	TOC	09/15/15
AMB19-DD002	OF018-TOC	TOC	OF018	3106-1715	Seawater	MSL	TOC	09/15/15
AMB19-DD003	OF019-TOC	TOC	OF019	3106-1717	Seawater	MSL	TOC	09/15/15
AMB19-DD004	OF021-TOC	TOC	OF021	3106-1719	Freshwater	MSL	TOC	09/15/15

NOTE: OF19 collected as part of DDA013, CF#3462; PLEASE ANALYZE with AMB19

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/15, logged in 9/16/15
Batch: 51
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1671	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-002	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1673	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-003	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1675	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-004	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1677	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-005	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1679	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-006	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1681	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-007	PS03 DUP-TSS/OSAL	TSS/OSAL	PS03 DUP	3106-1683	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-008	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1685	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-009	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1687	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-010	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1689	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-011	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1691	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-012	PS10PLUME-TSS/OSAL	TSS/OSAL	PS10PLUME	3106-1693	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-013	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1695	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-014	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1697	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-015	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1699	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-016	M4-TSS/OSAL	TSS/OSAL	M4	3106-1701	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-017	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1703	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-018	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1705	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-019	M3.1 DUP-TSS/OSAL	TSS/OSAL	M3.1 DUP	3106-1707	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-020	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-1709	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-021	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1711	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-DD001	OF096-TSS/OSAL	TSS/OSAL	OF096	3106-1713	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-DD002	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1715	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-DD003	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1717	Seawater	MSL	TSS/OSAL	09/15/15
AMB19-DD004	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1719	Freshwater	MSL	TSS/OSAL	09/15/15

NOTE: OF19 collected as part of DDA013, CF#3462; PLEASE ANALYZE with AMB19

DAY1-AMB19

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31062 Sample No(s): 1671 - 1720 Batch: 51

Project Name: ENVVEST AMB 19 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Water WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples:	*Amount:* Entire sample	Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)		
☐	☐	Special instructions:		

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☑	Custody seal present	Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	4 °C 4 °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☑	☐	☐	Were all chain of custody forms signed and dated?	
☑	☐	☐	Were samples filtered at MSL? DMC	

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Other:

Notes:

Completed By: STRICKLAND Date/Time: 20150915 1830

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐	Complete pH check required for project (use pH meter and record on pH Record form)		
☑	Sample(s) were preserved at MSL		
Type: ☑	0.2% HNO3	Notes: Metals OPTIMA	Lot# 1214010
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☒	Refrigerate/Freeze	Notes: TOC/DOC, TSS, OSAL, O&G, NUT	
☐	~~Other~~	Notes:	

Completed By: Date/Time: 9/17/15 1633

Storage Shelf: TOC/DOC - walk in Deep freezer, OSAL - walk in ref. oil & grease - walk in ref, Nutrients - walk in ref,

SAMPLE CHAIN OF CUSTODY FORM

DA92

Date: 9/16/2015

Page: 1 of 1

COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: ~~AMB18~~ AMB19

Testing Parameters

Observations, Instructions

3106 TOT/DISS Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Metals (Total/Diss)	Total Hg /Diss	~~Diss~~ Nutr	~~Nutr~~/TOC	DOC	Osal/Hsd	Oil&Grease			No. of containers	StationID	Comments
1721	1722	-101	PS07 B	0852	SW	X	X	X	X	X	X				5	PS07	
1723	1724	-102	M6	0944												M6	
1725	1726	-103	M8	1006												M8	
1727	1728	-104	DYOTS	1040												DYOTS	
1729	1730	-105	WP	1143												WP	
1731	1732	-106	M2 ~~DEEP~~	1206												M2 ~~DEEP~~	
1733	1734	-107	~~CLMBAY~~ M2 DEEP	~~1227~~ 1206												~~CLMBAY~~ M2 DEEP	
1735	1736	-108	~~ILSP~~ CLMBAY	~~1258~~ 1227												~~ILSP~~ CLMBAY	
1737	1738	-109	ILSP	1258												ILSP	
1739	1740	-110	M1	1315												M1	
1741	1742	-111	M1 DEEP	1315												M1 DEEP	
1743	1744	-112	M3.3	1414												M3.3	
1745	1746	-113	M3.3 DUP	1414												M3.3 DUP	
1747	1748	-114	PS10.1	1450												PS10.1	
1749	1750	-115	PS11	1501												PS11	
1751	1752	-116	PS16	1509												PS16	
1753	1754	-117	PS07C	1526												PS07C	
1755	1756	-106.1	M2 DUP	1206												M2 DUP	
CDAG																	

Relinquished by: STEVENS 20150916 1803
Signature Date Time
Printed Name Company PNNL

Received by: 0900
Signature 9/17/15
Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand Delivered, Stored refrigerated
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/16, logged in 9/17/15)
Batch: 52
Login Designee: Suslick

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Marine Sciences Laboratory
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-101	PS07B-TME	TME	PS07B	3106-1721	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-101	PS07B-DME	DME	PS07B	3106-1722	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-102	M6-TME	TME	M6	3106-1723	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-102	M6-DME	DME	M6	3106-1724	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-103	M8-TME	TME	M8	3106-1725	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-103	M8-DME	DME	M8	3106-1726	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-104	DYOTS-TME	TME	DYOTS	3106-1727	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-104	DYOTS-DME	DME	DYOTS	3106-1728	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-105	WP-TME	TME	WP	3106-1729	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-105	WP-DME	DME	WP	3106-1730	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-106	M2-TME	TME	M2	3106-1731	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-106	M2-DME	DME	M2	3106-1732	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-107	M2DEEP-TME	TME	M2DEEP	3106-1733	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-107	M2DEEP-DME	DME	M2DEEP	3106-1734	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-108	CLMBAY-TME	TME	CLMBAY	3106-1735	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-108	CLMBAY-DME	DME	CLMBAY	3106-1736	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-109	ILSP-TME	TME	ILSP	3106-1737	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-109	ILSP-DME	DME	ILSP	3106-1738	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-110	M1-TME	TME	M1	3106-1739	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-110	M1-DME	DME	M1	3106-1740	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-111	M1DEEP-TME	TME	M1DEEP	3106-1741	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-111	M1DEEP-DME	DME	M1DEEP	3106-1742	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-112	M3.3-TME	TME	M3.3	3106-1743	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-112	M3.3-DME	DME	M3.3	3106-1744	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-113	M3.3 DUP-TME	TME	M3.3 DUP	3106-1745	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-113	M3.3 DUP-DME	DME	M3.3 DUP	3106-1746	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-114	PS10.1-TME	TME	PS10.1	3106-1747	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-114	PS10.1-DME	DME	PS10.1	3106-1748	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-115	PS11-TME	TME	PS11	3106-1749	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-115	PS11-DME	DME	PS11	3106-1750	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-116	PS16-TME	TME	PS16	3106-1751	Seawater	PREP LAB	Total Metals, Hg	09/16/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/16, logged in 9/17/15)
Batch: 52
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-116	PS16-DME	DME	PS16	3106-1752	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-117	PS07C-TME	TME	PS07C	3106-1753	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-117	PS07C-DME	DME	PS07C	3106-1754	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15
AMB19-106.1	M2 DUP-TME	TME	M2 DUP	3106-1755	Seawater	PREP LAB	Total Metals, Hg	09/16/15
AMB19-106.1	M2 DUP-DME	DME	M2 DUP	3106-1756	Seawater	PREP LAB	Dissolved Metals, Hg	09/16/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/16, logged in 9/17/15)
Batch: 52
Login Designee: Suslick

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1529 West Sequim Bay Road
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Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-101	PS07B-DOC	DOC	PS07B	3106-1722	Seawater	MSL	DOC	09/16/15
AMB19-102	M6-DOC	DOC	M6	3106-1724	Seawater	MSL	DOC	09/16/15
AMB19-103	M8-DOC	DOC	M8	3106-1726	Seawater	MSL	DOC	09/16/15
AMB19-104	DYOTS-DOC	DOC	DYOTS	3106-1728	Seawater	MSL	DOC	09/16/15
AMB19-105	WP-DOC	DOC	WP	3106-1730	Seawater	MSL	DOC	09/16/15
AMB19-106	M2-DOC	DOC	M2	3106-1732	Seawater	MSL	DOC	09/16/15
AMB19-107	M2DEEP-DOC	DOC	M2DEEP	3106-1734	Seawater	MSL	DOC	09/16/15
AMB19-108	CLMBAY-DOC	DOC	CLMBAY	3106-1736	Seawater	MSL	DOC	09/16/15
AMB19-109	ILSP-DOC	DOC	ILSP	3106-1738	Seawater	MSL	DOC	09/16/15
AMB19-110	M1-DOC	DOC	M1	3106-1740	Seawater	MSL	DOC	09/16/15
AMB19-111	M1DEEP-DOC	DOC	M1DEEP	3106-1742	Seawater	MSL	DOC	09/16/15
AMB19-112	M3.3-DOC	DOC	M3.3	3106-1744	Seawater	MSL	DOC	09/16/15
AMB19-113	M3.3 DUP-DOC	DOC	M3.3 DUP	3106-1746	Seawater	MSL	DOC	09/16/15
AMB19-114	PS10.1-DOC	DOC	PS10.1	3106-1748	Seawater	MSL	DOC	09/16/15
AMB19-115	PS11-DOC	DOC	PS11	3106-1750	Seawater	MSL	DOC	09/16/15
AMB19-116	PS16-DOC	DOC	PS16	3106-1752	Seawater	MSL	DOC	09/16/15
AMB19-117	PS07C-DOC	DOC	PS07C	3106-1754	Seawater	MSL	DOC	09/16/15
AMB19-106.1	M2 DUP-DOC	DOC	M2 DUP	3106-1756	Seawater	MSL	DOC	09/16/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/16, logged in 9/17/15)
Batch: 52
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-101	PS07B-TOC	TOC	PS07B	3106-1721	Seawater	MSL	TOC	09/16/15
AMB19-102	M6-TOC	TOC	M6	3106-1723	Seawater	MSL	TOC	09/16/15
AMB19-103	M8-TOC	TOC	M8	3106-1725	Seawater	MSL	TOC	09/16/15
AMB19-104	DYOTS-TOC	TOC	DYOTS	3106-1727	Seawater	MSL	TOC	09/16/15
AMB19-105	WP-TOC	TOC	WP	3106-1729	Seawater	MSL	TOC	09/16/15
AMB19-106	M2-TOC	TOC	M2	3106-1731	Seawater	MSL	TOC	09/16/15
AMB19-107	M2DEEP-TOC	TOC	M2DEEP	3106-1733	Seawater	MSL	TOC	09/16/15
AMB19-108	CLMBAY-TOC	TOC	CLMBAY	3106-1735	Seawater	MSL	TOC	09/16/15
AMB19-109	ILSP-TOC	TOC	ILSP	3106-1737	Seawater	MSL	TOC	09/16/15
AMB19-110	M1-TOC	TOC	M1	3106-1739	Seawater	MSL	TOC	09/16/15
AMB19-111	M1DEEP-TOC	TOC	M1DEEP	3106-1741	Seawater	MSL	TOC	09/16/15
AMB19-112	M3.3-TOC	TOC	M3.3	3106-1743	Seawater	MSL	TOC	09/16/15
AMB19-113	M3.3 DUP-TOC	TOC	M3.3 DUP	3106-1745	Seawater	MSL	TOC	09/16/15
AMB19-114	PS10.1-TOC	TOC	PS10.1	3106-1747	Seawater	MSL	TOC	09/16/15
AMB19-115	PS11-TOC	TOC	PS11	3106-1749	Seawater	MSL	TOC	09/16/15
AMB19-116	PS16-TOC	TOC	PS16	3106-1751	Seawater	MSL	TOC	09/16/15
AMB19-117	PS07C-TOC	TOC	PS07C	3106-1753	Seawater	MSL	TOC	09/16/15
AMB19-106.1	M2 DUP-TOC	TOC	M2 DUP	3106-1755	Seawater	MSL	TOC	09/16/15

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/16/2015 (samples arrived 9/16, logged in 9/17/15)
Batch: 52
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, SEPTEMBER 2015 (AMB19, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB19-101	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-1721	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-102	M6-TSS/OSAL	TSS/OSAL	M6	3106-1723	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-103	M8-TSS/OSAL	TSS/OSAL	M8	3106-1725	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-104	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1727	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-105	WP-TSS/OSAL	TSS/OSAL	WP	3106-1729	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-106	M2-TSS/OSAL	TSS/OSAL	M2	3106-1731	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-107	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1733	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-108	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1735	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-109	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1737	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-110	M1-TSS/OSAL	TSS/OSAL	M1	3106-1739	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-111	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1741	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-112	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1743	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-113	M3.3 DUP-TSS/OSAL	TSS/OSAL	M3.3 DUP	3106-1745	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-114	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1747	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-115	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1749	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-116	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1751	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-117	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-1753	Seawater	MSL	TSS/OSAL	09/16/15
AMB19-106.1	M2 DUP-TSS/OSAL	TSS/OSAL	M2 DUP	3106-1755	Seawater	MSL	TSS/OSAL	09/16/15

DAY2 AMB19

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 1721-1756 Batch: 52

Project Name: ENVVEST AMB19 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: SW WP#

Yes	No	
☑	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) 4 °C 4 °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☑	☐	☐	Were all chain of custody forms signed and dated?
☑	☐	☐	Were samples filtered at MSL? DMC

Sample condition(s): ~~Acceptable~~ Other (explain):

Container type: ~~Tetlon~~ ~~Poly~~ ~~Glass~~ Cap. Vial Other:

Notes:

Completed By: [signature] Date/Time: 20150916 1805

SAMPLE PRESERVATION

☐		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☑		Sample(s) were preserved at MSL	
Type:	☑	0.2% HNO3	Notes: OPTIMA Lot# 124010
	☐	0.5% HCl (Hg samples)	Notes: Lot#
	☑	~~Refrigerate~~/~~Freeze~~	Notes: See notes ag
	☐	Other	Notes:

Completed By: [signature] Date/Time: 9/16/15 1000

Storage Shelf: TOC/DOC - Deep freeze.
TSS, Nutr. - walk in ref. MSL-5

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle *The Business of Innovation*

Project Manager: Brandenberger
Date Received: 9/4/2015
Batch: NA
Login Designee: McGahahn
Project: **ENVVEST- AMB19**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
Filter Blank A	na	3106-1666	DI water	Lab 227	TME, Hg	09/04/15
Filter Blank B	na	3106-1667	DI water	Lab 227	TME, Hg	09/04/15
Filter Blank C	na	3106-1668	DI water	Lab 227	TME, Hg	09/04/15
Tank 4 Feed water	na	3106-1669	Seawater	Lab 227	TME, Hg	09/04/15
Go Flow 20 min. hold	na	3106-1670	Seawater	Lab 227	TME, Hg	09/04/15

SOP#: MSL-A-001

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 20150904

Battelle

The Business of Innovation

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project Name: ENVVEST AMB 19
Project Manager: Brandenbarger
Phone Number:

Shipment Method: NA
Preservation: 0.2% HNO3

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TMS	Test Parameters: Mercury				Laboratory ID	Observations/Comments
1	Filter Blank A	20150904 1000	Water (DI)	1	x	x				31060 - 16066	
2	Filter Blank B	↓	↓	1	x	x				- 16067	
3	Filter Blank C		↓	1	x	x				- 16068	
4	Tank 4 Feedwater		SW	1	x	x				- 16069	
5	Bottom 20 min hold	↓	↓	1	x	x				- 16070	
6	end										
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
STRIVENS	PNNL	NA - Samples Created @ MSL	
Signature/Printed Name	20150904 1600 Date/Time	Signature/Printed Name	Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1666-1670 Batch: 50

Project Name: AMB PA Project Manager: JMB

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No		
☐	☐	Navy-type Project (requires high-level sample tracking procedures)	
☐	☐	USDA Samples (see Compliance Agreement Checklist)	PM Verification:
☐	☐	Filter Samples:	Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☐	☐	Special instructions:	

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☑	Custody seal present Seal intact? YES NO
☐	☐	☑	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☑	☐	☐	Were all chain of custody forms signed and dated?
☐	☐	☑	Were samples filtered at MSL?

created in house as N/A °C °C

Comment/Remedy: _____

Sample condition(s): ~~Acceptable~~ ~~Other (explain):~~

Container type: Teflon Poly Glass Cap. Vial Other: _____

Notes: _____

Completed By: C. Soslow Date/Time: 9/4/15 1015

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☐ Sample(s) were preserved at MSL

Type:			
☐	0.2% HNO3	Notes:	Lot#
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☐	Refrigerate/Freeze	Notes:	
☑	Other	Notes:	to labs

Completed By: C. Soslow Date/Time: 9/4/15 1015

Storage Shelf: _____

K1510393

PROJECT ENVVEST														
Project Name: SEPTEMBER 2015 Ambient Monitoring (AMB19)														
SAMPLE TEAM:	Navy, Battelle													
DATE:	9/17/2015													
Laboratory:	ALS Kelso, WA													

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB19-001	PS07	9/15/2015 9:18:00 AM	Seawater				X					1	
AMB19-002	PS06	9/15/2015 9:51:00 AM	Seawater				X					1	
AMB19-003	PS14	9/15/2015 9:58:00 AM	Seawater				X					1	
AMB19-004	PS05	9/15/2015 10:12:00 AM	Seawater				X					1	
AMB19-005	PS04	9/15/2015 10:20:00 AM	Seawater				X					1	
AMB19-006	PS03	9/15/2015 10:34:00 AM	Seawater				X					1	
AMB19-007	PS03 DUP	9/15/2015 10:38:00 AM	Seawater				X					1	
AMB19-008	PS08	9/15/2015 10:50:00 AM	Seawater				X					1	
AMB19-009	PS15	9/15/2015 10:58:00 AM	Seawater				X					1	
AMB19-010	PS09	9/15/2015 11:15:00 AM	Seawater				X					1	
AMB19-011	PS10	9/15/2015 11:30:00 AM	Seawater				X					1	
AMB19-013	PS01	9/15/2015 11:50:00 AM	Seawater				X					1	
AMB19-014	PS02	9/15/2015 12:00:00 PM	Seawater				X					1	
AMB19-015	PS13	9/15/2015 12:05:00 PM	Seawater				X					1	
AMB19-016	M4	9/15/2015 12:15:00 PM	Seawater				X					1	
AMB19-017	BJEST	9/15/2015 12:30:00 PM	Seawater				X					1	
AMB19-018	M3.1	9/15/2015 12:55:00 PM	Seawater				X					1	
AMB19-019	M3.1 DUP	9/15/2015 12:55:00 PM	Seawater				X					1	
AMB19-020	M3.1DEEP	9/15/2015 12:45:00 PM	Seawater				X					1	
AMB19-DD001	OF096	9/15/2015 9:15:00 AM	Seawater						X			1	
AMB19-DD002	OF018	9/15/2015 12:10:00 PM	Seawater						X			1	
AMB19-DD004	OF021	9/15/2015 14:30:00 PM	Freshwater						X			1	
AMB19-101	PS07B	9/16/2015 8:52:00 AM	Seawater				X					1	
AMB19-102	M6	9/16/2015 9:44:00 AM	Seawater				X					1	
AMB19-103	M8	9/16/2015 10:06:00 AM	Seawater				X					1	
AMB19-104	DYOTS	9/16/2015 10:40:00 AM	Seawater				X					1	
AMB19-105	WP	9/16/2015 11:43:00 AM	Seawater				X					1	
AMB19-106	M2	9/16/2015 12:06:00 PM	Seawater				X					1	

K1510393

PROJECT ENVVEST															
Project Name: SEPTEMBER 2015 Ambient Monitoring (AMB19)								CHAIN OF CUSTODY FORM							
SAMPLE TEAM:		Navy, Battelle													
DATE:	9/17/2015														
Laboratory:	ALS Kelso, WA							Testing Parameters per QAPP							
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	**COMMENTS**		
AMB19-107	M2DEEP	9/16/2015 12:06:00 PM	Seawater				X					1			
AMB19-108	CLMBAY	9/16/2015 12:27:00 PM	Seawater				X					1			
AMB19-109	ILSP	9/16/2015 12:58:00 PM	Seawater				X					1			
AMB19-110	M1	9/16/2015 13:15:00 PM	Seawater				X					1			
AMB19-111	M1DEEP	9/16/2015 13:15:00 PM	Seawater				X					1			
AMB19-112	M3.3	9/16/2015 14:14:00 PM	Seawater				X					1			
AMB19-113	M3.3 DUP	9/16/2015 14:14:00 PM	Seawater				X					1			
AMB19-114	PS10.1	9/16/2015 14:50:00 PM	Seawater				X					1			
AMB19-115	PS11	9/16/2015 15:01:00 PM	Seawater				X					1			
AMB19-116	PS16	9/16/2015 15:09:00 PM	Seawater				X					1			
AMB19-117	PS07C	9/16/2015 15:26:00 PM	Seawater				X					1			
AMB19-106.1	M2 DUP	9/16/2015 12:06:00 PM	Seawater				X					1			
–end															
											Total:	40			

Relinquished By:	Company:	Battelle MSL	
J. Strivens		9/17/2015	shipped via Fedex 9/17/15, JS
Signature/Printed Name		1422 Date/Time	
Received By:	Company:	AS 9/18/15 1120	
Signature/Printed Name		Date/Time	

PC 172

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request K15 10393

Received: 9/8/15 Opened: 9/8/15 By: bw Unloaded: 9/8/15 By: bw

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
4.4	4.2	6.5	6.3	-0.2	358		7745 3810 6856	
3.4	3.7	4.2	4.5	+0.3	360		7745 3810 6786	
0.8	0.7	3.8	3.7	-0.1	350		7745 8810 7017	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring March 2016 (AMB20)

Seawater and Freshwater Chemistry

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
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BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
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Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.0190**	**1.58**	**0.10**	**0.05**	**0.0008**	**0.01**	**0.002**
Seawater Reporting Limit (MDL* 3.18)								**0.0603**	**5.02**	**0.32**	**0.16**	**0.0025**	**0.03**	**0.006**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.10**	**0.2**	**0.004**	**0.10**	**0.0053**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.32**	**0.6**	**0.01**	**0.3**	**0.017**
AMB20														
AMB20-001	PS07	Total	Seawater	3106-1765	03/15/16	24.5	0.857	0.994	82.8	0.738	12.7	0.0773	0.118	1.31
AMB20-001	PS07	Diss	Seawater	3106-1766	03/15/16			0.935	77.9	0.375	1.84	0.0748	0.0985	1.15
AMB20-002	M4	Total	Seawater	3106-1767	03/15/16	26.0	1.60	1.04	86.5	0.728	37.4	0.0732	0.196	0.845
AMB20-002	M4	Diss	Seawater	3106-1768	03/15/16			1.07	89.4	0.268 J	3.57	0.0726	0.131	0.618
AMB20-003	M3.1	Total	Seawater	3106-1769	03/15/16	27.2	1.02	0.955	79.6	0.553	25.8	0.0738	0.155	0.707
AMB20-003	M3.1	Diss	Seawater	3106-1770	03/15/16			0.915	76.2	0.237 J	1.77	0.0703	0.115	0.557
AMB20-003.1	M3.1DEEP	Total	Seawater	3106-1771	03/15/16	27.7	1.97	0.896	74.6	0.612	36.5	0.0730	0.163	0.579
AMB20-003.1	M3.1DEEP	Diss	Seawater	3106-1772	03/15/16			0.908	75.7	0.225 J	1.40	0.0698	0.131	0.479
AMB20-004	BJEST	Total	Seawater	3106-1773	03/15/16	25.9	1.75	1.40	116	0.726	51.1	0.0722	0.228	0.839
AMB20-004	BJEST	Diss	Seawater	3106-1774	03/15/16			1.13	93.9	0.278 J	4.60	0.0692	0.137	0.617
AMB20-005	PS12	Total	Seawater	3106-1775	03/15/16	27.4	0.724	0.938	78.2	0.626	19.7	0.0755	0.182	1.24
AMB20-005	PS12	Diss	Seawater	3106-1776	03/15/16			0.914	76.1	0.234 J	2.25	0.0730	0.130	1.03
AMB20-006	PS12DUP	Total	Seawater	3106-1777	03/15/16	27.4	0.675	0.930	77.5	0.922	26.7	0.0741	0.159	1.17
AMB20-006	PS12DUP	Diss	Seawater	3106-1778	03/15/16			0.954	79.5	0.227 J	1.89	0.0731	0.113	0.897
AMB20-007	PS01	Total	Seawater	3106-1779	03/15/16	26.8	0.574	0.953	79.4	1.17	17.2	0.0792	0.192	1.33
AMB20-007	PS01	Diss	Seawater	3106-1780	03/15/16			0.981	81.7	0.630	2.18	0.0760	0.178	1.15
AMB20-008	PS02	Total	Seawater	3106-1781	03/15/16	26.8	0.762	1.04	86.4	1.55	15.5	0.0765	0.175	2.07
AMB20-008	PS02	Diss	Seawater	3106-1782	03/15/16			0.972	81.0	0.786	2.15	0.0750	0.131	1.80
AMB20-009	PS13	Total	Seawater	3106-1783	03/15/16	26.9	1.68	1.05	87.2	0.606	19.2	0.0765	0.135	1.32
AMB20-009	PS13	Diss	Seawater	3106-1784	03/15/16			1.02	84.8	0.254 J	2.19	0.0736	0.130	1.12
AMB20-010	M3.3	Total	Seawater	3106-1785	03/15/16	27.0	0.862	1.05	87.8	0.631	26.6	0.0742	0.157	0.844
AMB20-010	M3.3	Diss	Seawater	3106-1786	03/15/16			0.967	80.6	0.220 J	2.20	0.0722	0.118	0.696
AMB20-011	PS03	Total	Seawater	3106-1787	03/15/16	26.9	0.557	1.01	84.5	3.35	14.4	0.0790	0.206	2.28
AMB20-011	PS03	Diss	Seawater	3106-1788	03/15/16			0.953	79.4	1.51	2.31	0.0784	0.173	1.95
AMB20-012	PS04	Total	Seawater	3106-1789	03/15/16	26.9	1.07	1.01	83.9	0.82	18.0	0.0755	0.129	2.19
AMB20-012	PS04	Diss	Seawater	3106-1790	03/15/16			1.01	84.1	0.379	2.31	0.0769	0.138	1.82
AMB20-013	PS05	Total	Seawater	3106-1791	03/15/16	27.1	0.925	1.00	83.2	0.702	19.0	0.0759	0.142	1.52
AMB20-013	PS05	Diss	Seawater	3106-1792	03/15/16			0.950	79.1	0.278 J	2.26	0.0749	0.124	1.32
AMB20-014	PS14	Total	Seawater	3106-1793	03/15/16	27.0	0.397 U	1.00	83.3	0.605	26.5	0.0747	0.138	0.877
AMB20-014	PS14	Diss	Seawater	3106-1794	03/15/16			0.906	75.5	0.224 J	2.29	0.0745	0.120	0.726
AMB20-015	PS06	Total	Seawater	3106-1795	03/15/16	26.8	0.928	0.984	82.0	0.921	17.1	0.0748	0.140	1.40
AMB20-015	PS06	Diss	Seawater	3106-1796	03/15/16			0.927	77.3	0.469	1.77	0.0734	0.117	1.17

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Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB20-016	PS06DUP	Total	Seawater	3106-1797	03/15/16	26.8	0.726	0.995	83.0	0.775	17.5	0.0749	0.206	1.50
AMB20-016	PS06DUP	Diss	Seawater	3106-1798	03/15/16			0.909	75.8	0.385	1.90	0.0753	0.113	1.29
AMB20-017	PS08	Total	Seawater	3106-1799	03/15/16	27.1	0.747	1.00	83.5	0.706	13.9	0.0771	0.143	2.37
AMB20-017	PS08	Diss	Seawater	3106-1800	03/15/16			0.919	76.6	0.389	1.90	0.0786	0.177	2.10
AMB20-018	PS15	Total	Seawater	3106-1801	03/15/16	27.1	1.35	1.00	83.6	0.558	23.1	0.0744	0.143	0.930
AMB20-018	PS15	Diss	Seawater	3106-1802	03/15/16			0.918	76.5	0.233 J	2.00	0.0731	0.0904	0.817
AMB20-019	PS09	Total	Seawater	3106-1803	03/15/16	27.0	1.87	1.02	84.6	2.40	37.8	0.0783	0.193	3.16
AMB20-019	PS09	Diss	Seawater	3106-1804	03/15/16			1.02	84.8	0.483	1.73	0.0769	0.117	2.04
AMB20-020	PS10	Total	Seawater	3106-1805	03/15/16	27.4	1.41	0.981	81.7	1.24	22.9	0.0776	0.161	2.42
AMB20-020	PS10	Diss	Seawater	3106-1806	03/15/16			1.13	93.9	0.409	1.80	0.0798	0.124	1.86
AMB20-021	PS10.1	Total	Seawater	3106-1807	03/15/16	27.4	0.665	1.06	88.2	0.652	13.9	0.0761	0.110	1.94
AMB20-021	PS10.1	Diss	Seawater	3106-1808	03/15/16			0.966	80.5	0.302 J	3.05	0.0759	0.111	1.78
AMB20-022	PS11	Total	Seawater	3106-1809	03/15/16	27.3	0.506	0.979	81.6	0.708	17.1	0.0747	0.126	1.67
AMB20-022	PS11	Diss	Seawater	3106-1810	03/15/16			1.04	86.7	0.288 J	1.90	0.0756	0.105	1.45
AMB20-023	PS16	Total	Seawater	3106-1811	03/15/16	27.5	0.973	0.947	78.9	0.611	22.6	0.0757	0.132	1.19
AMB20-023	PS16	Diss	Seawater	3106-1812	03/15/16			0.968	80.6	0.216 J	1.98	0.0744	0.0958	1.02
AMB20-024	PS07B	Total	Seawater	3106-1813	03/15/16	26.2	0.911	0.927	77.2	1.00	14.6	0.0761	0.122	1.50
AMB20-024	PS07B	Diss	Seawater	3106-1814	03/15/16			0.965	80.4	0.584	2.27	0.0754	0.102	1.32
AMB20-DD001	OF018	Total	Seawater	3106-1815	03/15/16	23.0	2.05	7.03	586	11.1	13.6	0.116	1.40	3.65
AMB20-DD001	OF018	Diss	Seawater	3106-1816	03/15/16			6.32	526	3.09	0.910	0.116	0.305	2.11
AMB20-DD002	OF019	Total	Seawater	3106-1817	03/15/16	18.7	1.28	0.905	75.4	9.46	17.7	0.0828	4.25	1.79
AMB20-DD002	OF019	Diss	Seawater	3106-1818	03/15/16			0.807	67.3	5.69	0.712	0.0794	0.175	1.09
AMB20-DD003	OF021	Total	Fresh Water	3106-1819	03/15/16	0.12	0.654	3.36	280	2.43	12.1	0.004 U	0.839	1.28
AMB20-DD003	OF021	Diss	Fresh Water	3106-1820	03/15/16			3.13	261	2.28	9.08	0.004 U	0.793	1.15
AMB20-100	PS07C	Total	Seawater	3106-1821	03/16/16	25.7	0.652	0.913	76.1	0.865	11.1	0.0746	0.116	1.28
AMB20-100	PS07C	Diss	Seawater	3106-1822	03/16/16			0.924	77.0	0.501	1.84	0.0768	0.0922	1.02
AMB20-101	M6	Total	Seawater	3106-1823	03/16/16	25.5	1.60	1.34	111	0.681	41.9	0.0665	0.208	0.662
AMB20-101	M6	Diss	Seawater	3106-1824	03/16/16			1.33	111	0.317 J	6.07	0.0702	0.0950	0.526
AMB20-102	M8	Total	Seawater	3106-1825	03/16/16	25.3	0.938	1.10	91.3	0.600	21.2	0.0723	0.167	0.675
AMB20-102	M8	Diss	Seawater	3106-1826	03/16/16			0.968	80.6	0.237 J	1.64	0.0726	0.137	0.555
AMB20-103	DYOTS	Total	Seawater	3106-1827	03/16/16	21.1	2.01	1.94	162	1.25	73.1	0.0615	0.308	0.824
AMB20-103	DYOTS	Diss	Seawater	3106-1828	03/16/16			1.85	154	0.542	13.9	0.0599	0.180	0.584
AMB20-104	M2	Total	Seawater	3106-1829	03/16/16	28.0	0.520	0.873	72.7	0.386	22.5	0.0707	0.167	0.528
AMB20-104	M2	Diss	Seawater	3106-1830	03/16/16			0.887	73.9	0.198 J	1.45	0.0706	0.0948	0.403
AMB20-105	M2DEEP	Total	Seawater	3106-1831	03/16/16	28.0	0.798	0.938	78.2	0.427	23.0	0.0726	0.127	0.496
AMB20-105	M2DEEP	Diss	Seawater	3106-1832	03/16/16			0.874	72.8	0.201 J	1.11	0.0711	0.107	0.405
AMB20-106	CLMBAY	Total	Seawater	3106-1833	03/16/16	26.3	0.722	1.14	95.0	0.523	26.7	0.0713	0.133	0.579

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Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg	Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB20-106	CLMBAY	Diss	Seawater	3106-1834	03/16/16			1.10	91.9	0.261 J	2.58	0.0717	0.103	0.445
AMB20-107	WP	Total	Seawater	3106-1835	03/16/16	27.3	0.880	1.04	86.6	0.522	24.5	0.0720	0.141	0.741
AMB20-107	WP	Diss	Seawater	3106-1836	03/16/16			0.981	81.8	0.234 J	2.10	0.0736	0.106	0.586
AMB20-108	M1	Total	Seawater	3106-1837	03/16/16	27.4	0.600	1.02	84.7	0.430	21.9	0.0750	0.145	0.600
AMB20-108	M1	Diss	Seawater	3106-1838	03/16/16			1.01	84.2	0.223 J	2.11	0.0718	0.115	0.551
AMB20-109	M1DEEP	Total	Seawater	3106-1839	03/16/16	27.7	0.787	0.921	76.8	0.429	19.5	0.0735	0.110	0.557
AMB20-109	M1DEEP	Diss	Seawater	3106-1840	03/16/16			0.910	75.8	0.225 J	1.32	0.0725	0.112	0.530
AMB20-110	ILSP	Total	Seawater	3106-1841	03/16/16	26.3	1.26	1.10	91.3	0.470	21.0	0.0731	0.141	0.594
AMB20-110	ILSP	Diss	Seawater	3106-1842	03/16/16			1.06	88.2	0.262 J	1.71	0.0718	0.104	0.456
AMB20-111	ILSPDUP	Total	Seawater	3106-1843	03/16/16	26.4	1.09	1.11	92.5	0.498	22.0	0.0721	0.150	0.582
AMB20-111	ILSPDUP	Diss	Seawater	3106-1844	03/16/16			1.04	86.9	0.281 J	2.35	0.0673	0.112	0.487
AMB20-112	SN05	Total	Seawater	3106-1845	03/16/16	24.0	1.01	1.05	87.4	0.565	24.2	0.0730	0.162	0.876
AMB20-112	SN05	Diss	Seawater	3106-1846	03/16/16			1.05	87.6	0.274 J	3.39	0.0706	0.143	0.746
AMB20-113	SN03	Total	Seawater	3106-1847	03/16/16	26.4	0.711	1.12	93.2	0.784	46.3	0.0660	0.208	0.886
AMB20-113	SN03	Diss	Seawater	3106-1848	03/16/16			1.03	86.1	0.337	6.44	0.0629	0.120	0.701
AMB20-114	SN08	Total	Seawater	3106-1849	03/16/16	26.3	1.16	1.04	86.3	0.743	40.2	0.0734	0.201	0.932
AMB20-114	SN08	Diss	Seawater	3106-1850	03/16/16			0.964	80.3	0.238 J	2.91	0.0713	0.105	0.684
AMB20-115	SN10	Total	Seawater	3106-1851	03/16/16	26.3	0.385	1.07	89.0	0.504	17.0	0.0748	0.154	1.27
AMB20-115	SN10	Diss	Seawater	3106-1852	03/16/16			0.974	81.1	0.270 J	2.76	0.0701	0.102	1.13
AMB20-116	SN11	Total	Seawater	3106-1853	03/16/16	21.2	2.09	2.19	182	0.771	45.9	0.0686	0.243	0.856
AMB20-116	SN11	Diss	Seawater	3106-1854	03/16/16			1.85	154	0.395	9.25	0.0655	0.147	0.693
AMB20-117	SN11DUP	Total	Seawater	3106-1855	03/16/16	21.0	2.27	2.15	179	1.02	67.4	0.0623	0.322	0.878
AMB20-117	SN11DUP	Diss	Seawater	3106-1856	03/16/16			1.90	158	0.610	15.6	0.0622	0.205	0.701
AMB20-118	PS07D	Total	Seawater	3106-1857	03/16/16	26.4	0.678	1.03	86.0	1.24	13.1	0.0832	0.126	1.67
AMB20-118	PS07D	Diss	Seawater	3106-1858	03/16/16			0.928	77.3	0.633	2.20	0.0792	0.0843	1.43
Filter Blanks			Freshwater	3106-1760	--	--	--	--	--	0.102 J	0.2 U	0.004 U	0.0100 U	0.080
			Freshwater	3106-1761	--	--	--	--	--	0.10 U	0.2 U	0.004 U	0.0100 U	0.024
			Freshwater	3106-1762	--	--	--	--	--	0.10 U	0.2 U	0.004 U	0.0138 J	0.027

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Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	Hg	Al	Cd	Cr	Cu
				Instrument:	ICP-MS	ICP-MS	ICP-MS	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0019**	**0.0010**	**0.0093**					
Seawater Reporting Limit (MDL* 3.18)					**0.0060**	**0.0032**	**0.03**					
Laboratory Achieved Detection Limits (Freshwater)					**0.004**	**0.0022**	**0.02**					
Freshwater Reporting Limit (MDL* 3.18)					**0.01**	**0.0070**	**0.06**					
AMB20												
AMB20-001	PS07	Total	Seawater	3106-1765	0.533	0.0576	5.31	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-001	PS07	Diss	Seawater	3106-1766	0.572	0.0202	5.44	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-002	M4	Total	Seawater	3106-1767	0.588	0.0758	2.35	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-002	M4	Diss	Seawater	3106-1768	0.477	0.0163	2.21	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-003	M3.1	Total	Seawater	3106-1769	0.529	0.0598	1.66	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-003	M3.1	Diss	Seawater	3106-1770	0.464	0.00751	1.54	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-003.1	M3.1DEEP	Total	Seawater	3106-1771	0.488	0.0574	1.31	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-003.1	M3.1DEEP	Diss	Seawater	3106-1772	0.454	0.00767	1.24	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-004	BJEST	Total	Seawater	3106-1773	0.682	0.0778	2.43	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-004	BJEST	Diss	Seawater	3106-1774	0.475	0.00786	2.26	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-005	PS12	Total	Seawater	3106-1775	0.568	0.0646	4.77	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-005	PS12	Diss	Seawater	3106-1776	0.508	0.0265	4.78	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-006	PS12DUP	Total	Seawater	3106-1777	0.525	0.0760	4.02	032216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-006	PS12DUP	Diss	Seawater	3106-1778	0.504	0.0138	4.06	032216HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-007	PS01	Total	Seawater	3106-1779	0.737	0.0697	5.65	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-007	PS01	Diss	Seawater	3106-1780	0.553	0.0193	5.70	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-008	PS02	Total	Seawater	3106-1781	0.526	0.0718	5.83	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-008	PS02	Diss	Seawater	3106-1782	0.509	0.0175	5.89	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-009	PS13	Total	Seawater	3106-1783	0.518	0.0719	3.75	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-009	PS13	Diss	Seawater	3106-1784	0.481	0.00580	3.62	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-010	M3.3	Total	Seawater	3106-1785	0.540	0.0648	2.27	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-010	M3.3	Diss	Seawater	3106-1786	0.554	0.0101	2.14	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-011	PS03	Total	Seawater	3106-1787	0.799	0.111	7.55	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-011	PS03	Diss	Seawater	3106-1788	0.567	0.0272	7.08	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-012	PS04	Total	Seawater	3106-1789	0.632	0.0655	4.76	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-012	PS04	Diss	Seawater	3106-1790	0.543	0.0757	5.13	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-013	PS05	Total	Seawater	3106-1791	0.540	0.0658	4.01	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-013	PS05	Diss	Seawater	3106-1792	0.484	0.0151	3.89	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-014	PS14	Total	Seawater	3106-1793	0.545	0.0609	2.50	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-014	PS14	Diss	Seawater	3106-1794	0.500	0.00947	2.42	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-015	PS06	Total	Seawater	3106-1795	0.586	0.0535	5.16	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-015	PS06	Diss	Seawater	3106-1796	0.547	0.0104	5.06	032316HGA	Q041316A	Q040816A	Q040116A	Q041316A

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Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	Hg	Al	Cd	Cr	Cu
				Instrument:	ICP-MS	ICP-MS	ICP-MS	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB20-016	PS06DUP	Total	Seawater	3106-1797	0.563	0.0623	5.73	032316HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-016	PS06DUP	Diss	Seawater	3106-1798	0.540	0.0117	5.63	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-017	PS08	Total	Seawater	3106-1799	0.622	0.0483	9.67	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-017	PS08	Diss	Seawater	3106-1800	0.798	0.0202	9.58	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-018	PS15	Total	Seawater	3106-1801	0.529	0.0583	2.57	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-018	PS15	Diss	Seawater	3106-1802	0.723	0.0137	2.58	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-019	PS09	Total	Seawater	3106-1803	0.732	0.191	11.7	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-019	PS09	Diss	Seawater	3106-1804	0.624	0.0150	10.3	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-020	PS10	Total	Seawater	3106-1805	0.612	0.0990	7.54	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-020	PS10	Diss	Seawater	3106-1806	0.575	0.0419	7.05	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-021	PS10.1	Total	Seawater	3106-1807	0.542	0.0505	8.67	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-021	PS10.1	Diss	Seawater	3106-1808	0.521	0.0120	8.56	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-022	PS11	Total	Seawater	3106-1809	0.549	0.0581	5.50	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-022	PS11	Diss	Seawater	3106-1810	0.510	0.00934	5.22	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-023	PS16	Total	Seawater	3106-1811	0.544	0.0642	3.96	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-023	PS16	Diss	Seawater	3106-1812	0.534	0.0165	3.76	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-024	PS07B	Total	Seawater	3106-1813	0.569	0.0730	7.95	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-024	PS07B	Diss	Seawater	3106-1814	0.541	0.0183	7.50	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-DD001	OF018	Total	Seawater	3106-1815	3.65	0.167	26.2	032816HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-DD001	OF018	Diss	Seawater	3106-1816	3.70	0.0124	22.9	032816HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-DD002	OF019	Total	Seawater	3106-1817	1.71	0.112	11.1	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-DD002	OF019	Diss	Seawater	3106-1818	1.49	0.00457	9.63	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-DD003	OF021	Total	Fresh Water	3106-1819	0.465	0.00621 J	0.273	032916HGA	Q042516B	Q042516B	Q042516B	Q042516B
AMB20-DD003	OF021	Diss	Fresh Water	3106-1820	0.323	0.00418 J	0.313	032916HGA	Q042516B	Q042516B	Q042516B	Q042516B
AMB20-100	PS07C	Total	Seawater	3106-1821	0.674	0.0435	5.70	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-100	PS07C	Diss	Seawater	3106-1822	0.594	0.0450	5.74	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-101	M6	Total	Seawater	3106-1823	0.590	0.0645	1.79	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-101	M6	Diss	Seawater	3106-1824	0.511	0.0120	1.62	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-102	M8	Total	Seawater	3106-1825	0.735	0.0735	1.69	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-102	M8	Diss	Seawater	3106-1826	0.636	0.0289	1.54	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-103	DYOTS	Total	Seawater	3106-1827	0.759	0.116	2.46	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-103	DYOTS	Diss	Seawater	3106-1828	0.578	0.0122	2.00	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-104	M2	Total	Seawater	3106-1829	0.539	0.0436	1.04	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-104	M2	Diss	Seawater	3106-1830	0.461	0.00313 J	0.726	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-105	M2DEEP	Total	Seawater	3106-1831	0.478	0.0373	0.812	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-105	M2DEEP	Diss	Seawater	3106-1832	0.502	0.00710	0.749	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-106	CLMBAY	Total	Seawater	3106-1833	0.517	0.0411	1.07	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A

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Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	Hg	Al	Cd	Cr	Cu
				Instrument:	ICP-MS	ICP-MS	ICP-MS	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB20-106	CLMBAY	Diss	Seawater	3106-1834	0.485	0.00491	1.16	032916HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-107	WP	Total	Seawater	3106-1835	0.626	0.0540	1.58	032916HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-107	WP	Diss	Seawater	3106-1836	0.589	0.0106	1.45	033016HGA	Q041316A	Q040816A	Q040116A	Q041316A
AMB20-108	M1	Total	Seawater	3106-1837	0.575	0.0370	1.42	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-108	M1	Diss	Seawater	3106-1838	0.721	0.00779	1.27	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-109	M1DEEP	Total	Seawater	3106-1839	0.505	0.0399	1.19	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-109	M1DEEP	Diss	Seawater	3106-1840	0.606	0.0316	1.23	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-110	ILSP	Total	Seawater	3106-1841	0.622	0.0442	1.53	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-110	ILSP	Diss	Seawater	3106-1842	0.517	0.0458	1.59	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-111	ILSPDUP	Total	Seawater	3106-1843	0.521	0.0383	1.26	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-111	ILSPDUP	Diss	Seawater	3106-1844	0.500	0.00457	1.10	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-112	SN05	Total	Seawater	3106-1845	0.517	0.0586	2.05	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-112	SN05	Diss	Seawater	3106-1846	0.562	0.00828	1.99	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-113	SN03	Total	Seawater	3106-1847	0.674	0.0732	3.75	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-113	SN03	Diss	Seawater	3106-1848	0.542	0.0107	3.26	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-114	SN08	Total	Seawater	3106-1849	0.620	0.0955	2.58	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-114	SN08	Diss	Seawater	3106-1850	0.565	0.0122	2.25	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-115	SN10	Total	Seawater	3106-1851	0.527	0.0669	3.73	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-115	SN10	Diss	Seawater	3106-1852	0.544	0.0173	3.57	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-116	SN11	Total	Seawater	3106-1853	0.680	0.0653	2.75	033016HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-116	SN11	Diss	Seawater	3106-1854	0.574	0.00755	2.36	033016HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-117	SN11DUP	Total	Seawater	3106-1855	0.746	0.0726	3.50	041216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-117	SN11DUP	Diss	Seawater	3106-1856	0.650	0.0395	3.16	041216HGA	Q041316A	Q041116A	Q040116A	Q041316A
AMB20-118	PS07D	Total	Seawater	3106-1857	0.591	0.0774	9.49	041216HGA	Q042016A	Q041416A	Q042016A	Q041416A
AMB20-118	PS07D	Diss	Seawater	3106-1858	0.583	0.0182	8.92	041216HGA	Q041316A	Q041116A	Q040116A	Q041316A
Filter Blanks			Freshwater	3106-1760	0.275	0.00474 J	0.02 U	032216HGA	Q042516B	Q042516B	Q042516B	Q042516B
			Freshwater	3106-1761	0.083	0.0022 J	0.02 U	032216HGA	Q042516B	Q042516B	Q042516B	Q042516B
			Freshwater	3106-1762	0.199	0.0022 J	0.02 U	032216HGA	Q042516B	Q042516B	Q042516B	Q042516B

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Ni	Pb	Zn	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID			
Laboratory Achieved Detection Limits (Seawater)										
Seawater Reporting Limit (MDL* 3.18)										
Laboratory Achieved Detection Limits (Freshwater)										
Freshwater Reporting Limit (MDL* 3.18)										
AMB20										
AMB20-001	PS07	Total	Seawater	3106-1765	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-001	PS07	Diss	Seawater	3106-1766	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-002	M4	Total	Seawater	3106-1767	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-002	M4	Diss	Seawater	3106-1768	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-003	M3.1	Total	Seawater	3106-1769	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-003	M3.1	Diss	Seawater	3106-1770	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-003.1	M3.1DEEP	Total	Seawater	3106-1771	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-003.1	M3.1DEEP	Diss	Seawater	3106-1772	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-004	BJEST	Total	Seawater	3106-1773	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-004	BJEST	Diss	Seawater	3106-1774	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-005	PS12	Total	Seawater	3106-1775	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-005	PS12	Diss	Seawater	3106-1776	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-006	PS12DUP	Total	Seawater	3106-1777	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-006	PS12DUP	Diss	Seawater	3106-1778	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-007	PS01	Total	Seawater	3106-1779	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-007	PS01	Diss	Seawater	3106-1780	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-008	PS02	Total	Seawater	3106-1781	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-008	PS02	Diss	Seawater	3106-1782	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-009	PS13	Total	Seawater	3106-1783	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-009	PS13	Diss	Seawater	3106-1784	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-010	M3.3	Total	Seawater	3106-1785	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-010	M3.3	Diss	Seawater	3106-1786	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-011	PS03	Total	Seawater	3106-1787	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-011	PS03	Diss	Seawater	3106-1788	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-012	PS04	Total	Seawater	3106-1789	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-012	PS04	Diss	Seawater	3106-1790	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-013	PS05	Total	Seawater	3106-1791	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-013	PS05	Diss	Seawater	3106-1792	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-014	PS14	Total	Seawater	3106-1793	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-014	PS14	Diss	Seawater	3106-1794	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-015	PS06	Total	Seawater	3106-1795	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-015	PS06	Diss	Seawater	3106-1796	Q040816A	Q041316A	Q041316A		040716HTCO	

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Ni	Pb	Zn	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID			
AMB20-016	PS06DUP	Total	Seawater	3106-1797	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-016	PS06DUP	Diss	Seawater	3106-1798	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-017	PS08	Total	Seawater	3106-1799	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-017	PS08	Diss	Seawater	3106-1800	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-018	PS15	Total	Seawater	3106-1801	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-018	PS15	Diss	Seawater	3106-1802	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-019	PS09	Total	Seawater	3106-1803	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-019	PS09	Diss	Seawater	3106-1804	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-020	PS10	Total	Seawater	3106-1805	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-020	PS10	Diss	Seawater	3106-1806	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-021	PS10.1	Total	Seawater	3106-1807	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-021	PS10.1	Diss	Seawater	3106-1808	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-022	PS11	Total	Seawater	3106-1809	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-022	PS11	Diss	Seawater	3106-1810	Q040816A	Q041316A	Q041316A		040716HTCO	
AMB20-023	PS16	Total	Seawater	3106-1811	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-023	PS16	Diss	Seawater	3106-1812	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-024	PS07B	Total	Seawater	3106-1813	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-024	PS07B	Diss	Seawater	3106-1814	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-DD001	OF018	Total	Seawater	3106-1815	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-DD001	OF018	Diss	Seawater	3106-1816	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-DD002	OF019	Total	Seawater	3106-1817	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-DD002	OF019	Diss	Seawater	3106-1818	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-DD003	OF021	Total	Fresh Water	3106-1819	Q042516B	Q042516B	Q042516B	032116Osal	041216HTCO	032116Nu
AMB20-DD003	OF021	Diss	Fresh Water	3106-1820	Q042516B	Q042516B	Q042516B		041216HTCO	
AMB20-100	PS07C	Total	Seawater	3106-1821	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-100	PS07C	Diss	Seawater	3106-1822	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-101	M6	Total	Seawater	3106-1823	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-101	M6	Diss	Seawater	3106-1824	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-102	M8	Total	Seawater	3106-1825	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-102	M8	Diss	Seawater	3106-1826	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-103	DYOTS	Total	Seawater	3106-1827	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-103	DYOTS	Diss	Seawater	3106-1828	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-104	M2	Total	Seawater	3106-1829	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-104	M2	Diss	Seawater	3106-1830	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-105	M2DEEP	Total	Seawater	3106-1831	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-105	M2DEEP	Diss	Seawater	3106-1832	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-106	CLMBAY	Total	Seawater	3106-1833	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Ni	Pb	Zn	OSAL Sample ID	TOC/DOC Batch ID	TSS Batch ID
				Instrument:	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID			
AMB20-106	CLMBAY	Diss	Seawater	3106-1834	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-107	WP	Total	Seawater	3106-1835	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-107	WP	Diss	Seawater	3106-1836	Q040816A	Q041316A	Q041316A		041216HTCO	
AMB20-108	M1	Total	Seawater	3106-1837	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-108	M1	Diss	Seawater	3106-1838	Q041116A	Q041316A	Q041316A		041216HTCO	
AMB20-109	M1DEEP	Total	Seawater	3106-1839	Q042016A	Q041416A	Q042016A	032116Osal	040516HTCO	032116Nu
AMB20-109	M1DEEP	Diss	Seawater	3106-1840	Q041116A	Q041316A	Q041316A		041216HTCO	
AMB20-110	ILSP	Total	Seawater	3106-1841	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-110	ILSP	Diss	Seawater	3106-1842	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-111	ILSPDUP	Total	Seawater	3106-1843	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-111	ILSPDUP	Diss	Seawater	3106-1844	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-112	SN05	Total	Seawater	3106-1845	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-112	SN05	Diss	Seawater	3106-1846	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-113	SN03	Total	Seawater	3106-1847	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-113	SN03	Diss	Seawater	3106-1848	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-114	SN08	Total	Seawater	3106-1849	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-114	SN08	Diss	Seawater	3106-1850	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-115	SN10	Total	Seawater	3106-1851	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-115	SN10	Diss	Seawater	3106-1852	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-116	SN11	Total	Seawater	3106-1853	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-116	SN11	Diss	Seawater	3106-1854	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-117	SN11DUP	Total	Seawater	3106-1855	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-117	SN11DUP	Diss	Seawater	3106-1856	Q041116A	Q041316A	Q041316A		040716HTCO	
AMB20-118	PS07D	Total	Seawater	3106-1857	Q042016A	Q041416A	Q042016A	032116Osal	041216HTCO	032116Nu
AMB20-118	PS07D	Diss	Seawater	3106-1858	Q041116A	Q041316A	Q041316A		040716HTCO	
Filter Blanks			Freshwater	3106-1760	Q042516B	Q042516B	Q042516B	--	--	--
			Freshwater	3106-1761	Q042516B	Q042516B	Q042516B	--	--	--
			Freshwater	3106-1762	Q042516B	Q042516B	Q042516B	--	--	--

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QC Results for ICP-MS
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction	Sample	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.05**	**0.0008**	**0.01**	**0.002**	**0.0019**	**0.0010**	**0.0093**
Seawater Reporting Limit (MDL* 3.18)					**0.16**	**0.0025**	**0.03**	**0.006**	**0.0060**	**0.0032**	**0.03**
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.10**	**0.0053**	**0.004**	**0.0022**	**0.02**
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**
METHOD BLANKS											
MB		Seawater		BLANK R1	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R2	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R3	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R4	0.0961 J	0.0008 U	0.01 U	0.00630	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R5	0.0958 J	0.0008 U	0.01 U	0.00203 J	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R6	0.0671 J	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R7	0.0931 J	0.0008 U	0.01 U	0.00899	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R8	0.0802 J	0.0008 U	0.01 U	0.00372 J	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R9	0.0505 J	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MEAN REAGENT BLANK		Seawater			**0.0805 J**	**0.0008 U**	**0.0100 U**	**0.00234 J**	**0.0019 U**	**0.0010 U**	**0.0093 U**
LABORATORY CONTROL SAMPLES											
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank		Seawater		SB Blank R1	0.676	0.0635	0.488	0.233	0.903	0.0030 J	1.21
LCS		Seawater		SB LCS R1	2.18	2.06	2.30	2.15	3.04	1.96	3.27
			Percent Recovery, LCS		**75%**	**100%**	**91%**	**96%**	**107%**	**98%**	**103%**
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank		Seawater		SB Blank R2	0.759	0.0630	0.470	0.246	0.972	0.0028 J	1.27
LCS		Seawater		SB LCS R2	2.83	2.09	2.50	2.22	3.15	1.96	3.36
			Percent Recovery, LCS		**103%**	**101%**	**102%**	**99%**	**109%**	**98%**	**105%**
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank		Seawater		SB Blank R3	0.722	0.0647	0.490	0.245	0.958	0.0031 J	1.28
LCS		Seawater		SB LCS R3	2.59	2.15	2.29	2.33	3.22	1.98	3.50
			Percent Recovery, LCS		**93%**	**104%**	**90%**	**104%**	**113%**	**99%**	**111%**

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206/528-3407

QC Results for ICP-MS
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction	Sample	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
MATRIX SPIKE RESULTS											
AMB20-002	M4	Total	Seawater	3106-1767	37.4	0.0732	0.196	0.845	0.588	0.0758	2.35
MS	M4	Total	Seawater	3106-1767 MS	43.2	1.06	1.18	1.81	1.57	1.04	3.36
MSD	M4	Total	Seawater	3106-1767 MSD	40.8	1.06	1.07	1.80	1.60	1.03	3.40
				concentration spiked	5	1	1	1	1	1	1
				Percent Recovery, MS	**117%**	**106%**	**99%**	**97%**	**99%**	**104%**	**102%**
				Percent Recovery, MSD	**68%** c	**106%**	**87%**	**96%**	**101%**	**103%**	**105%**
AMB20-018	PS15	Total	Seawater	3106-1801	23.1	0.0744	0.143	0.930	0.529	0.0583	2.57
MS	PS15	Total	Seawater	3106-1801 MS	28.3	1.07	1.05	1.94	1.58	1.01	3.63
MSD	PS15	Total	Seawater	3106-1801 MSD	27.4	1.07	1.16	1.93	1.55	1.00	3.61
				concentration spiked	5	1	1	1	1	1	1
				Percent Recovery, MS	**104%**	**99%**	**91%**	**101%**	**105%**	**96%**	**106%**
				Percent Recovery, MSD	**87%**	**99%**	**101%**	**100%**	**102%**	**94%**	**105%**
AMB20-105	M2DEEP	Total	Seawater	3106-1831	23.0	0.0726	0.127	0.496	0.478	0.0373	0.812
MS	M2DEEP	Total	Seawater	3106-1831 MS	27.5	1.09	1.07	1.54	1.52	1.01	1.91
MSD	M2DEEP	Total	Seawater	3106-1831 MSD	29.1	1.05	1.02	1.49	1.51	0.97	1.91
				concentration spiked	5	1	1	1	1	1	1
				Percent Recovery, MS	**91%**	**101%**	**94%**	**104%**	**104%**	**97%**	**109%**
				Percent Recovery, MSD	**122%**	**98%**	**89%**	**99%**	**103%**	**93%**	**109%**
REPLICATE PRECISION											
AMB20-001	PS07	Total	Seawater	3106-1765 R1	12.7	0.0773	0.118	1.31	0.533	0.0576	5.31
DUP	PS07	Total	Seawater	3106-1765 R2	12.5	0.0761	0.133	1.26	0.538	0.0548	5.41
				Mean	*12.6*	*0.0767*	*0.125*	*1.29*	*0.536*	*0.0562*	*5.36*
				RPD	**2%**	**2%**	**12%**	**4%**	**1%**	**5%**	**2%**
AMB20-DD001	OF018	Total	Seawater	3106-1815 R1	13.6	0.116	1.40	3.65	3.652	0.167	26.2
DUP	OF018	Total	Seawater	3106-1815 R2	13.4	0.117	1.40	3.70	3.640	0.170	26.2
				Mean	*13.5*	*0.116*	*1.40*	*3.67*	*3.646*	*0.168*	*26.2*
				RPD	**1%**	**2%**	**0%**	**2%**	**0%**	**2%**	**0%**
AMB20-112	SN05	Total	Seawater	3106-1845 R1	24.2	0.0730	0.162	0.876	0.517	0.0586	2.05
DUP	SN05	Total	Seawater	3106-1845 R2	24.9	0.0725	0.160	0.864	0.516	0.0561	2.07
				Mean	*24.6*	*0.0727*	*0.161*	*0.870*	*0.516*	*0.0573*	*2.06*
				RPD	**3%**	**1%**	**1%**	**1%**	**0%**	**4%**	**1%**

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QC Results for ICP-MS
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction	Sample	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
STANDARD REFERENCE MATERIAL, Seawater											
SRM CASS-5		Total	Seawater	CASS-5 R1	1.14	0.0235	0.104	0.378	0.330	0.00952	0.732
SRM CASS-5		Total	Seawater	CASS-5 R2	1.19	0.0236	0.097	0.398	0.348	0.00926	0.764
SRM CASS-5		Total	Seawater	CASS-5 R3	1.09	0.0235	0.086	0.409	0.352	0.00900	0.780
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**
				PD	**--**	**9%**	**2%**	**1%**	**0%**	**13%**	**2%**
				PD	**--**	**10%**	**8%**	**5%**	**6%**	**16%**	**6%**
				PD	**--**	**9%**	**19%**	**8%**	**7%**	**18%**	**8%**

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Sequim, Washington 98382-9099
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QC Results for ICP-MS
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction	Sample	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Seawater)					**0.05**	**0.0008**	**0.01**	**0.002**	**0.0019**	**0.0010**	**0.0093**
Seawater Reporting Limit (MDL* 3.18)					**0.16**	**0.0025**	**0.03**	**0.006**	**0.0060**	**0.0032**	**0.030**
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.10**	**0.0053**	**0.004**	**0.0022**	**0.02**
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**
METHOD BLANKS											
MB		Seawater		BLANK R1	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R2	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R3	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R4	0.0982 J	0.0008 U	0.01 U	0.002 U	0.00217 J	0.0010 U	0.0093 U
MB		Seawater		BLANK R5	0.05 U	0.0008 U	0.0109 J	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R6	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R7	0.143 J	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R8	0.0586 J	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MB		Seawater		BLANK R9	0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U
MEAN REAGENT BLANK		Seawater			**0.05** U	**0.0008** U	**0.01** U	**0.002** U	**0.0019** U	**0.0010** U	**0.0093** U
LABORATORY CONTROL SAMPLES											
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank		Seawater		SB Blank R1	0.528	0.0621	0.483	0.240	0.925	0.00316 J	1.30
LCS		Seawater		SB LCS R1	2.87	2.08	2.44	2.17	2.95	1.97	3.39
				Percent Recovery, LCS	**117%**	**101%**	**98%**	**97%**	**101%**	**98%**	**104%**
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank		Seawater		SB Blank R2	0.557	0.0636	0.491	0.246	0.944	0.00316 J	1.33
LCS		Seawater		SB LCS R2	2.94	2.16	2.44	2.27	3.03	2.05	3.49
				Percent Recovery, LCS	**119%**	**105%**	**98%**	**101%**	**104%**	**103%**	**108%**
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank		Seawater		SB Blank R3	0.515	0.0611	0.437	0.242	0.964	0.00353	1.31
LCS		Seawater		SB LCS R3	2.75	2.14	2.41	2.33	3.16	2.12	3.45
				Percent Recovery, LCS	**112%**	**104%**	**99%**	**105%**	**110%**	**106%**	**107%**

BATTELLE MARINE SCIENCE LABORATORIES
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Sequim, Washington 98382-9099
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QC Results for ICP-MS
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction	Sample	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
MATRIX SPIKE RESULTS											
AMB20-004	BJEST	Diss	Seawater	3106-1774	4.60	0.0692	0.137	0.617	0.475	0.00786	2.26
MS	BJEST	Diss	Seawater	3106-1774 MS	10.8	1.04	1.06	1.67	1.44	0.991	8.24
MSD	BJEST	Diss	Seawater	3106-1774 MSD	11.0	1.06	1.12	1.67	1.48	0.996	8.22
				spike concentration	5	1	1	1	1	1	5
				Percent Recovery, MS	**124%**	**104%**	**93%**	**106%**	**97%**	**99%**	**120%**
				Percent Recovery, MSD	**128%**	**106%**	**98%**	**106%**	**101%**	**100%**	**119%**
AMB20-022	PS11	Diss	Seawater	3106-1810	1.90	0.0756	0.105	1.45	0.510	0.0093	5.22
MS	PS11	Diss	Seawater	3106-1810 MS	7.85	1.11	1.09	2.50	1.55	1.06	6.37
MSD	PS11	Diss	Seawater	3106-1810 MSD	7.92	1.09	1.03	2.48	1.52	1.04	6.27
				spike concentration	5	1	1	1	1	1	1
				Percent Recovery, MS	**119%**	**103%**	**99%**	**105%**	**104%**	**105%**	**114%**
				Percent Recovery, MSD	**120%**	**101%**	**93%**	**103%**	**101%**	**103%**	**104%**
AMB20-115	SN10	Diss	Seawater	3106-1852	2.76	0.0701	0.102	1.13	0.544	0.0173	3.57
MS	SN10	Diss	Seawater	3106-1852 MS	8.27	1.09	1.07	2.10	1.59	1.06	4.53
MSD	SN10	Diss	Seawater	3106-1852 MSD	8.53	1.07	1.12	2.12	1.57	1.07	4.61
				spike concentration	5	1	1	1	1	1	1
				Percent Recovery, MS	**110%**	**102%**	**96%**	**97%**	**104%**	**105%**	**96%**
				Percent Recovery, MSD	**115%**	**100%**	**102%**	**99%**	**102%**	**106%**	**104%**
REPLICATE PRECISION											
AMB20-012	PS04	Diss	Seawater	3106-1790 R1	2.31	0.0769	0.138	1.82	0.543	0.0757	5.13
DUP	PS04	Diss	Seawater	3106-1790 R2	2.28	0.0790	0.140	1.81	0.557	0.0750	5.05
				Mean	*2.30*	*0.0780*	*0.139*	*1.81*	*0.550*	*0.0753*	*5.09*
				RPD	**1%**	**3%**	**1%**	**1%**	**3%**	**1%**	**2%**
AMB20-105	M2DEEP	Diss	Seawater	3106-1832 R1	1.11	0.0711	0.107	0.40	0.502	0.00710	0.749
DUP	M2DEEP	Diss	Seawater	3106-1832 R2	1.04	0.0706	0.116	0.41	0.492	0.00712	0.746
				Mean	*1.08*	*0.0708*	*0.112*	*0.41*	*0.497*	*0.00711*	*0.747*
				RPD	**7%**	**1%**	**8%**	**2%**	**2%**	**0%**	**0%**
STANDARD REFERENCE MATERIAL, Seawater											
SRM CASS-5		Total	Seawater	CASS-5 R1	0.926	0.0214	0.128	0.381	0.343	0.00956	0.770
SRM CASS-5		Total	Seawater	CASS-5 R2	1.02	0.0220	0.121	0.399	0.345	0.0101	0.802
SRM CASS-5		Total	Seawater	CASS-5 R3	0.956	0.0213	0.119	0.392	0.365	0.0101	0.780
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**
				PD	**--**	**0%**	**21%** &	**0%**	**4%**	**13%**	**7%**
				PD	**--**	**2%**	**14%**	**5%**	**5%**	**8%**	**11%**
				PD	**--**	**1%**	**13%**	**3%**	**11%**	**8%**	**8%**

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QC Results for ICP-MS
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction	Sample	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*
Laboratory Achieved Detection Limits (Freshwater)					**0.2**	**0.004**	**0.10**	**0.0053**	**0.004**	**0.0022**	**0.02**
Freshwater Reporting Limit (MDL* 3.18)					**0.6**	**0.01**	**0.3**	**0.017**	**0.01**	**0.0070**	**0.06**
METHOD BLANKS											
MB			Freshwater	TRM Blank	0.2 U	0.004 U	0.10 U	0.0053 U	0.004 U	0.0022 U	0.02 U
LABORATORY CONTROL SAMPLES											
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**
LCS Blank			Freshwater	TRM Blank	0.2 U	0.004 U	0.10 U	0.0053 U	0.004 U	0.0022 U	0.02 U
LCS			Freshwater	TRM LCS	2.06	2.01	2.07	2.08	2.04	2.08	2.04
				Percent Recovery, LCS	**103%**	**101%**	**104%**	**104%**	**102%**	**104%**	**102%**
MATRIX SPIKE RESULTS											
AMB20-DD003	OF021	Diss	Fresh Water	3106-1820	9.08	0.004 U	0.793	1.15	0.323	0.00418 J	0.313
MS				3106-1820 MS	13.3	0.968	1.70	2.08	1.22	0.959	1.26
MSD				3106-1820 MSD	13.3	0.970	1.70	2.08	1.23	0.966	1.26
				spiked concentration	5	1	1	1	1	1	1
				Percent Recovery, MS	**85%**	**97%**	**90%**	**92%**	**90%**	**96%**	**95%**
				Percent Recovery, MSD	**85%**	**97%**	**90%**	**92%**	**90%**	**96%**	**95%**
REPLICATE PRECISION											
AMB20-DD003	OF021	Total	Fresh Water	3106-1819 R1	12.1	0.004 *U*	0.839	1.28	0.465	0.00621 J	0.273
DUP				3106-1819 R2	12.4	0.004 *U*	0.837	1.28	0.458	0.00621 J	0.277
				Mean	*12.2*	*0.004 U*	*0.838*	*1.28*	*0.462*	*0.00621 J*	*0.275*
				RPD	**2%**	**NA**	**0%**	**0%**	**2%**	**0%**	**1%**
STANDARD REFERENCE MATERIAL											
INSTRUMENT CHECK SAMPLE/Freshwater SRM											
SRM 1640a		Total	Freshwater	1640A 10X	55.6	3.87	39.5	85.4	24.9	12.2	55.8
SRM 1640a		Total	Freshwater	1640a 10X	53.0	3.90	39.8	85.0	24.7	12.1	54.6
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**
				PD	**5%**	**3%**	**3%**	**1%**	**1%**	**1%**	**0%**
				PD	**0%**	**2%**	**2%**	**1%**	**3%**	**0%**	**2%**

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for CVAF
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME	Water	Method Blank1		0.100 U	032216HGA
MB-2	TME	Water	Method Blank2		0.100 U	032216HGA
MB-3	TME	Water	Method Blank3		0.100 U	032216HGA
MB-4	TME	Water	Method Blank1		0.100 U	032316HGA
MB-5	TME	Water	Method Blank2		0.100 U	032316HGA
MB-6	TME	Water	Method Blank3		0.100 U	032316HGA
MB-7	TME	Water	Method Blank1		0.100 U	032816HGA
MB-8	TME	Water	Method Blank2		0.100 U	032816HGA
MB-9	TME	Water	Method Blank3		0.100 U	032816HGA
MB-10	TME	Water	Method Blank1		0.100 U	032916HGA
MB-11	TME	Water	Method Blank2		0.100 U	032916HGA
MB-12	TME	Water	Method Blank3		0.100 U	032916HGA
MB-13	TME	Water	Method Blank1		0.100 U	033016HGA
MB-14	TME	Water	Method Blank2		0.100 U	033016HGA
MB-15	TME	Water	Method Blank3		0.100 U	033016HGA
MB-16	TME	Water	Method Blank1		0.100 U	041216HGA
MB-17	TME	Water	Method Blank2		0.100 U	041216HGA
MB-18	TME	Water	Method Blank3		0.100 U	041216HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 032116 run1		4.89	032216HGA
LCS (2)	TME	Water	OPR 032116 run2		4.97	032216HGA
LCS Blank (1)	TME	Water	BLANK 032116		0.100 U	032216HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 032216 run1		4.94	032316HGA
LCS (2)	TME	Water	OPR 032216 run2		4.95	032316HGA
LCS Blank (1)	TME	Water	BLANK 032216		0.100 U	032316HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 032416 run1		4.86	032816HGA
LCS (2)	TME	Water	OPR 032416 run2		4.95	032816HGA
LCS Blank (1)	TME	Water	BLANK 032416		0.100 U	032816HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					4.96	
LCS (1)	TME	Water	OPR 032816 run1		4.81	032916HGA
LCS (2)	TME	Water	OPR 032816 run2		4.85	032916HGA
LCS Blank (1)	TME	Water	BLANK 032816		0.100 U	032916HGA
				Percent Recovery, LCS 1	**97%**	
				Percent Recovery, LCS 2	**98%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 032916 run1	4.92	033016HGA
LCS (2)		TME	Water	OPR 032916 run2	5.03	033016HGA
LCS Blank (1)		TME	Water	BLANK 032916	0.100 U	033016HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					4.96	
LCS (1)		TME	Water	OPR 041116 run1	4.86	041216HGA
LCS (2)		TME	Water	OPR 041116 run2	4.93	041216HGA
LCS Blank (1)		TME	Water	BLANK 032916	0.100 U	041216HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**99%**	
MATRIX SPIKE RESULTS						
AMB20-002	M4	Total	Seawater	3106-1767	0.728	032216HGA
MS				3106-1767 MS	7.75	032216HGA
MSD				3106-1767 MSD	7.73	032216HGA
				Spiking Level, MS	6.69	
				Spiking Level, MSD	6.63	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**106%**	
				RPD	**0.7%**	
AMB20-004	BJEST	Diss	Seawater	3106-1774	0.278 J	032216HGA
MS				3106-1774 MS	7.09	032216HGA
MSD				3106-1774 MSD	7.42	032216HGA
				Spiking Level, MS	6.53	
				Spiking Level, MSD	6.70	
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**107%**	
				RPD	**2.3%**	
AMB20-008	PS02	Total	Seawater	3106-1781	1.55	032316HGA
MS				3106-1781 MS	9.41	032316HGA
MSD				3106-1781 MSD	8.30	032316HGA
				Spiking Level, MS	6.86	
				Spiking Level, MSD	6.58	
				Percent Recovery, MS	**115%**	
				Percent Recovery, MSD	**103%**	
				RPD	**11.1%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
AMB20-013	PS05	Diss	Seawater	3106-1792	0.605	032316HGA
MS				3106-1792 MS	7.44	032316HGA
MSD				3106-1792 MSD	7.41	032316HGA
				Spiking Level, MS	6.77	
				Spiking Level, MSD	6.82	
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.1%**	
AMB20-018	PS15	Total	Seawater	3106-1801	0.558	032816HGA
MS				3106-1801 MS	7.34	032816HGA
MSD				3106-1801 MSD	7.30	032816HGA
				Spiking Level, MS	6.68	
				Spiking Level, MSD	6.66	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.5%**	
AMB20-022	PS11	Diss	Seawater	3106-1810	0.288 J	032816HGA
MS				3106-1810 MS	7.22	032816HGA
MSD				3106-1810 MSD	7.01	032816HGA
				Spiking Level, MS	6.89	
				Spiking Level, MSD	6.64	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.9%**	
AMB20-DD003	OF021	Diss	Fresh Water	3106-1820	2.28	032916HGA
MS				3106-1820 MS	9.18	032916HGA
MSD				3106-1820 MSD	9.14	032916HGA
				Spiking Level, MS	6.78	
				Spiking Level, MSD	6.74	
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**102%**	
				RPD	**0.0%**	
AMB20-105	M2DEEP	Total	Seawater	3106-1831	0.427	032916HGA
MS				3106-1831 MS	7.15	032916HGA
MSD				3106-1831 MSD	7.07	032916HGA
				Spiking Level, MS	6.73	
				Spiking Level, MSD	6.56	
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**101%**	
				RPD	**1.4%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB20-110	ILSP	Total	Seawater	3106-1841	0.470	033016HGA
MS				3106-1841 MS	7.47	033016HGA
MSD				3106-1841 MSD	7.50	033016HGA
				Spiking Level, MS	6.66	
				Spiking Level, MSD	6.73	
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**105%**	
				RPD	**0.4%**	
AMB20-115	SN10	Diss	Seawater	3106-1852	0.270 J	033016HGA
MS				3106-1852 MS	7.38	033016HGA
MSD				3106-1852 MSD	7.40	033016HGA
				Spiking Level, MS	6.87	
				Spiking Level, MSD	6.78	
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**105%**	
				RPD	**1.7%**	
REPLICATE PRECISION						
AMB20-001	PS07	Total	Seawater	3106-1765 r1	0.738	032216HGA
DUP				3106-1765 r2	0.766	032216HGA
				Mean	*0.752*	
				RPD	**4%**	
AMB20-007	PS01	Total	Seawater	3106-1779 r1	1.17	032316HGA
DUP				3106-1779 r2	1.17	032316HGA
				Mean	*1.17*	
				RPD	**0%**	
AMB20-DD001	OF018	Total	Seawater	3106-1815 r1	11.1	032816HGA
DUP				3106-1815 r2	10.6	032816HGA
				Mean	*10.8*	
				RPD	**4%**	
AMB20-DD003	OF021	Total	Fresh Water	3106-1819 r1	2.43	032916HGA
DUP				3106-1819 r2	2.48	032916HGA
				Mean	*2.45*	
				RPD	**2%**	
AMB20-112	SN05	Total	Seawater	3106-1845 r1	0.565	033016HGA
DUP				3106-1845 r2	0.550	033016HGA
				Mean	*0.558*	
				RPD	**3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB20
ENVVEST March 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 032116	1480911	032216HGA
SRM 1641 (2)		Total	Freshwater	1641d 032216	1514070	032316HGA
SRM 1641 (3)		Total	Freshwater	1641d 032416	1481629	032816HGA
SRM 1641 (4)		Total	Freshwater	1641d 032816	1521662	032916HGA
SRM 1641 (5)		Total	Freshwater	1641d 032916	1559611	033016HGA
SRM 1641 (6)		Total	Freshwater	1641d 041116	1549521	041216HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**4.9%**	
	SRM 1641 (2)			**PD**	**2.8%**	
	SRM 1641 (3)			**PD**	**4.8%**	
	SRM 1641 (4)			**PD**	**2.3%**	
	SRM 1641 (5)			**PD**	**0.2%**	
	SRM 1641 (6)			**PD**	**0.5%**	

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB20
ENVVEST March 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0190**	**1.58**		
Seawater Reporting Limit (MDL* 3.18)					**0.0603**	**5.02**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	040516HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	040516HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	040516HTCO
MB-4			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	040716HTCO
MB-5			DIWater	ACIDIFIED_DIW	0.0459	3.82	J	040716HTCO
MB-6			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	040716HTCO
MB-7			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	041216HTCO
MB-8			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	041216HTCO
MB-9			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	041216HTCO
MB-10			DIWater	ACIDIFIED_DIW	0.0190	1.58	U	041216HTCO
REPLICATE PRECISION								
AMB20-014	PS14	Total	Seawater	3106-1793	1.00	83.3		040516HTCO
DUP	PS14	Total	Seawater	3106-1793 R2	1.02	84.7		040516HTCO
				Mean	*1.01*	*84*		
				RPD	**1.6%**	**1.6%**		
AMB20-101	M6	Total	Seawater	3106-1823	1.34	111		040516HTCO
DUP	M6	Total	Seawater	3106-1823 R2	1.36	114		040516HTCO
				Mean	*1.35*	*113*		
				RPD	**1.9%**	**1.9%**		
AMB20-116	SN11	Total	Seawater	3106-1853	1.98	165		040516HTCO
DUP	SN11	Total	Seawater	3106-1853 R2	2.10	175		040516HTCO
				Mean	*2.04*	*170*		
				RPD	**5.9%**	**5.9%**		
AMB20-014	PS14	Diss	Seawater	3106-1794	0.906	75.5		040716HTCO
DUP	PS14	Diss	Seawater	3106-1794 R2	0.961	80.1		040716HTCO
				Mean	*0.934*	*78*		
				RPD	**5.9%**	**5.9%**		
AMB20-101	M6	Diss	Seawater	3106-1824	1.30	109		040716HTCO
DUP	M6	Diss	Seawater	3106-1824 R2	1.24	104		040716HTCO
				Mean	*1.27*	*106*		
				RPD	**4.6%**	**4.6%**		
AMB20-116	SN11	Diss	Seawater	3106-1854	1.85	154		040716HTCO
DUP	SN11	Diss	Seawater	3106-1854 R2	1.85	154		040716HTCO
				Mean	*1.85*	*154*		
				RPD	**0.1%**	**0.1%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB20
ENVVEST March 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.435	36.2		040516HTCO
CRM-2		DOC	Seawater	CRM	0.474	39.5		040516HTCO
CRM-3		DOC	Seawater	CRM	0.454	37.8		040516HTCO
CRM-4		DOC	Seawater	CRM	0.464	38.6		040516HTCO
CRM-5		DOC	Seawater	CRM	0.485	40.5		040716HTCO
CRM-6		DOC	Seawater	CRM	0.491	40.9		040716HTCO
CRM-7		DOC	Seawater	CRM	0.489	40.7		040716HTCO
CRM-8		DOC	Seawater	CRM	0.455	37.9		040716HTCO
CRM-9		DOC	Seawater	CRM	0.436	36.4		040716HTCO
CRM-10		DOC	Seawater	CRM	0.468	39.0		040716HTCO
CRM-11		DOC	Seawater	CRM	0.487	40.6		040716HTCO
CRM-12		DOC	Seawater	CRM	0.461	38.4		040716HTCO
CRM-13		DOC	Seawater	CRM	0.465	38.7		040716HTCO
CRM-14		DOC	Seawater	CRM	0.486	40.5		041216HTCO
CRM-15		DOC	Seawater	CRM	0.488	40.7		041216HTCO
CRM-16		DOC	Seawater	CRM	0.490	40.8		041216HTCO
CRM-17		DOC	Seawater	CRM	0.479	39.9		041216HTCO
CRM-18		DOC	Seawater	CRM	0.487	40.5		041216HTCO
CRM-19		DOC	Seawater	CRM	0.500	41.7		041216HTCO
CRM-20		DOC	Seawater	CRM	0.485	40.4		041216HTCO
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**14.7%**	**14.7%**		
CRM-2				**PD**	**7.0%**	**7.0%**		
CRM-3				**PD**	**11.0%**	**11.0%**		
CRM-4				**PD**	**9.1%**	**9.1%**		
CRM-5				**PD**	**4.8%**	**4.8%**		
CRM-6				**PD**	**3.6%**	**3.6%**		
CRM-7				**PD**	**4.2%**	**4.2%**		
CRM-8				**PD**	**10.7%**	**10.7%**		
CRM-9				**PD**	**14.4%**	**14.4%**		
CRM-10				**PD**	**8.3%**	**8.3%**		
CRM-11				**PD**	**4.5%**	**4.5%**		
CRM-12				**PD**	**9.5%**	**9.5%**		
CRM-13				**PD**	**8.9%**	**8.9%**		
CRM-14				**PD**	**4.8%**	**4.8%**		
CRM-15				**PD**	**4.2%**	**4.2%**		
CRM-16				**PD**	**4.0%**	**4.0%**		
CRM-17				**PD**	**6.1%**	**6.1%**		
CRM-18				**PD**	**4.6%**	**4.6%**		
CRM-19				**PD**	**2.0%**	**2.0%**		
CRM-20				**PD**	**4.8%**	**4.8%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB20
ENVVEST March 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	0.939	78.2		040516HTCO
ICV/CCV-2				CCV_1PPM	0.944	78.6		040516HTCO
ICV/CCV-3				CCV_1PPM	0.959	80.0		040516HTCO
ICV/CCV-4				CCV_1PPM	0.923	76.9		040516HTCO
ICV/CCV-5				CCV_1PPM	0.969	80.8		040516HTCO
ICV/CCV-6				CCV_1PPM	0.953	79.4		040516HTCO
ICV/CCV-7				CCV_1PPM	0.919	76.6		040716HTCO
ICV/CCV-8				ICV_1PPM	0.941	78.4		040716HTCO
ICV/CCV-9				CCV_1PPM	0.915	76.2		040716HTCO
ICV/CCV-10				CCV_1PPM	0.963	80.2		040716HTCO
ICV/CCV-11				CCV_1PPM	0.997	83.1		040716HTCO
ICV/CCV-12				CCV_1PPM	0.965	80.4		040716HTCO
ICV/CCV-13				CCV_1PPM	0.963	80.2		040716HTCO
ICV/CCV-14				CCV_1PPM	0.977	81.4		041216HTCO
ICV/CCV-15				CCV_1PPM	1.01	84.2		041216HTCO
ICV/CCV-16				CCV_1PPM	0.990	82.5		041216HTCO
ICV/CCV-17				CCV_1PPM	0.970	80.8		041216HTCO
ICV/CCV-18				CCV_1PPM	1.04	86.5		041216HTCO
ICV/CCV-19				CCV_1PPM	1.02	84.8		041216HTCO
ICV/CCV-20				CCV_1PPM	0.978	81.5		041216HTCO

	TRUE VALUE	**1.0**
ICV/CCV-1	**% RECOVERY**	**94%**
ICV/CCV-2	**% RECOVERY**	**94%**
ICV/CCV-3	**% RECOVERY**	**96%**
ICV/CCV-4	**% RECOVERY**	**92%**
ICV/CCV-5	**% RECOVERY**	**97%**
ICV/CCV-6	**% RECOVERY**	**95%**
ICV/CCV-7	**% RECOVERY**	**92%**
ICV/CCV-8	**% RECOVERY**	**94%**
ICV/CCV-9	**% RECOVERY**	**91%**
ICV/CCV-10	**% RECOVERY**	**96%**
ICV/CCV-11	**% RECOVERY**	**100%**
ICV/CCV-12	**% RECOVERY**	**96%**
ICV/CCV-13	**% RECOVERY**	**96%**
ICV/CCV-14	**% RECOVERY**	**98%**
ICV/CCV-15	**% RECOVERY**	**101%**
ICV/CCV-16	**% RECOVERY**	**99%**
ICV/CCV-17	**% RECOVERY**	**97%**
ICV/CCV-18	**% RECOVERY**	**104%**
ICV/CCV-19	**% RECOVERY**	**102%**
ICV/CCV-20	**% RECOVERY**	**98%**

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QC Sample Results for Salinity
Ambient Monitoring - AMB20
ENVVEST March 2016
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
				Instrument:	*YSI-30 S-C-T Probe, SN02G0492AD*			
				MDL	*0.01*		*PSU*	
Method Blanks								
MB1		Total	Seawater	DIW Blank 1	0.01	U	PSU	032116Osal
MB2		Total	Seawater	DIW Blank 2	0.01	U	PSU	032116Osal
MB3		Total	Seawater	DIW Blank 3	0.01	U	PSU	032116Osal
MB4		Total	Seawater	DIW Blank 4	0.01	U	PSU	032116Osal
MB5		Total	Seawater	DIW Blank 5	0.02		PSU	032116Osal
MB6		Total	Seawater	DIW Blank 6	0.01	U	PSU	032116Osal
STANDARD REFERENCE MATERIAL								
SRM-1		Total	Seawater	Salinity Standard 1	34.9		PSU	032116Osal
SRM-2		Total	Seawater	Salinity Standard 2	34.9		PSU	032116Osal
SRM-3		Total	Seawater	Salinity Standard 3	34.9		PSU	032116Osal
SRM-4		Total	Seawater	Salinity Standard 4	34.9		PSU	032116Osal
SRM-5		Total	Seawater	Salinity Standard 5	35.0		PSU	032116Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.0		PSU	032116Osal
				Certified Value	**35.00**		PSU	
	SRM-1			**PD**	**0.4%**			
	SRM-2			**PD**	**0.3%**			
	SRM-3			**PD**	**0.2%**			
	SRM-4			**PD**	**0.2%**			
	SRM-5			**PD**	**0.0%**			
	SRM-6			**PD**	**0.0%**			
LABORATORY CONTROL SAMPLES								
LCS-1				LCS1	19.9		PSU	032116Osal
LCS-2				LCS2	20.0		PSU	032116Osal
LCS-3				LCS3	20.0		PSU	032116Osal
LCS-4				LCS4	20.0		PSU	032116Osal
LCS-5				LCS5	20.0		PSU	032116Osal
LCS-6				LCS6	19.9		PSU	032116Osal
				TRUE VALUE	**20.0**		PSU	
	LCS-1			**% RECOVERY**	**100%**			
	LCS-2			**% RECOVERY**	**100%**			
	LCS-3			**% RECOVERY**	**100%**			
	LCS-4			**% RECOVERY**	**100%**			
	LCS-5			**% RECOVERY**	**100%**			
	LCS-6			**% RECOVERY**	**100%**			

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QC Sample Results for Salinity
Ambient Monitoring - AMB20
ENVVEST March 2016
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
CALIBRATION RESULTS								
ICV-1				YSI 50 ms/cm ICV	50.0		mS	032116Osal
CCV-1				YSI 50 ms/cmCCV1	50.0		mS	032116Osal
CCV-2				YSI 50 ms/cmCCV2	50.0		mS	032116Osal
CCV-3				YSI 50 ms/cmCCV3	49.8		mS	032116Osal
CCV-4				YSI 50 ms/cmCCV4	49.9		mS	032116Osal
CCV-5				YSI 50 ms/cmCCV5	49.8		mS	032116Osal
CCV-6				YSI 50 ms/cmCCV6	49.9		mS	032116Osal
CCV-7				YSI 50 ms/cmCCV7	50.0		mS	032116Osal
CCV-8				YSI 50 ms/cmCCV8	49.7		mS	032116Osal
CCV-9				YSI 50 ms/cmCCV9	50.0		mS	032116Osal
CCV-10				YSI 50 ms/cmCCV10	50.0		mS	032116Osal
				TRUE VALUE	**50.0**		mS	
	ICV-1			**% RECOVERY**	**100%**			
	CCV-1			**% RECOVERY**	**100%**			
	CCV-2			**% RECOVERY**	**100%**			
	CCV-3			**% RECOVERY**	**100%**			
	CCV-4			**% RECOVERY**	**100%**			
	CCV-5			**% RECOVERY**	**100%**			
	CCV-6			**% RECOVERY**	**100%**			
	CCV-7			**% RECOVERY**	**100%**			
	CCV-8			**% RECOVERY**	**99%**			
	CCV-9			**% RECOVERY**	**100%**			
	CCV-10			**% RECOVERY**	**100%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB20
ENVVEST March 2016
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	032116Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	032116Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	032116Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		32.8	mg/L	032116Nu
LCS-2				LCS r2		39.7	mg/L	032116Nu
LCS-3				LCS r3		40.5	mg/L	032116Nu
					TRUE VALUE	**40**	mg/L	
	LCS-1				**% RECOVERY**	**82%**		
	LCS-2				**% RECOVERY**	**99%**		
	LCS-3				**% RECOVERY**	**101%**		
LABORATORY DUPLICATES								
AMB20-012	PS04	Total	Seawater	3106-1789		1.07	mg/L	032116Nu
DUP	PS04	Total	Seawater	3106-1789 r2		1.08	mg/L	032116Nu
					Mean	1.07		
					RPD	**1.30%**		
AMB20-019	PS09	Total	Seawater	3106-1803		1.87	mg/L	032116Nu
DUP	PS09	Total	Seawater	3106-1803 r2		1.61	mg/L	032116Nu
					Mean	1.74		
					RPD	**14.9%**		
AMB20-103	DYOTS	Total	Seawater	3106-1827		2.01	mg/L	032116Nu
DUP	DYOTS	Total	Seawater	3106-1827 r2		2.19	mg/L	032116Nu
					Mean	2.10		
					RPD	**8.79%**		
AMB20-113	SN03	Total	Seawater	3106-1847		0.711	mg/L	032116Nu
DUP	SN03	Total	Seawater	3106-1847 r2		0.669	mg/L	032116Nu
					Mean	0.690		
					RPD	**6.13%**		

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, March 2016 (AMB20)

PARAMETER: Total and Dissolved Metals – Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 03/15/2016 and 03/16/2016. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	03/15/16 and 03/16/16 EQP BLKS 03/03/16
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	03/21/16
OSAL analysis dates	03/21/16
CVAF analysis dates (Hg)	03/22/16, 03/23/16, 03/28/16, 03/29/16, 03/30/16, and 04/12/16
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	04/25/16
Online Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	04/01/16, 4/8/16, 4/11/16, 4/13/16, 4/14/16, and 4/20/16
TOC/DOC Analysis Date	4/5/16 through 4/12/16

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.019 mg/L	0.060 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.05 µg/L	0.16 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0008 µg/L	0.0025 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.01 µg/L	0.03 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.006 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.006 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.001 µg/L	0.0032 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0093 µg/L	0.03 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.019 mg/L	0.06 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.2 µg/L	0.6 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.1 µg/L	0.3 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.0053 µg/L	0.017 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.004 µg/L	0.01 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.1 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by two methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for Cr via direct injection at 15x dilution; Al was analyzed direct at a 10x dilution. All other metals were analyzed using a preconcentration via seaFast chelation step in accordance with Battelle SOP *MSL-I-022, Methods of Sample Preconcentration: Online Preconcentration for Trace Metals Analysis in Water.* Preconcentrated seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. The

QA/QC NARRATIVE

METHODS (cont): ICP-MS data were reported in units of µg/L

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Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The ICP-MS data were reported in units of µg/L. The preconcentration procedure for seawater samples analyzed by ICP-MS for previous AMB events included the addition of chelating agents to induce precipitation of metals under specific conditions. Therefore the ICP-MS method included a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method does not require this type of correction. No flags are required for this data set.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:

1 SRM certified <10x MDL or
2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

A triplicate analysis of 0.45µm PVDF dissolved trace metals filters was performed following a 5% HNO_3 cleaning. The initial blank showed some Ni and Cu was leached into the DI water check. A subsequent re-test of 8 filter blanks showed non-detect values for these analytes, pointing to analytical error in the original filter blanks, and not a problem with metals leaching from the filtration units. Two of the 8 re-tests were performed on filters from the original blank screening. The data is appended to the report.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the RL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at an appropriate level relative to the native sample concentration. Sample 3106-1767 from M4 Total contained high native sample concentration for Al and was not spiked at a sufficient level. The data are not qualified as they meet the contingency criteria for the unsufficient spiking level (see “c” flag).

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. OF 021). Percent recoveries were within the QC acceptance criterion.

CASS-5 is a seawater SRM analyzed with each ICP-MS batch. There is no seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy. The SRM is considered for data set evaluation only if it is not certified greater than 10 times the MDL. The CASS-5 certified values for Cd, Cr, Ni,

Pb, and Zn are certified values less than 10 times the MDL. The PDs were within the QC criterion for all metals except one replicates for Cr (21%). The result was flagged; no additional corrective action taken.

A salinity standard was used to verify the accuracy of the salinity measurements. The accuracy range was 0.0-0.4% PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 2.0 to 14.7%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Received:**	03/18/16
Sample Matrix:	Ocean Water		

Case Narrative

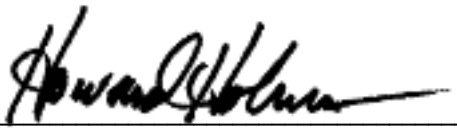
All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-seven ocean water samples were received for analysis at ALS Environmental on 03/18/16. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by 

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB20-DD001/OF018	K1602766-026	**2.4 J**	4.9	0.7	1	03/29/16 20:20	3/29/16	
AMB20-DD002/OF019	K1602766-027	ND U	4.9	0.7	1	03/29/16 20:20	3/29/16	
Method Blank	K1602766-MB1	ND U	5.0	0.7	1	03/29/16 20:20	3/29/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Water	**Date Received:**	03/18/16
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB20-DD003/OF021	K1602766-028	ND U	4.8	0.7	1	03/29/16 20:20	3/29/16	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	03/29/16
		Date Extracted:	03/29/16

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1602929-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1602929-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND U	56.1	57.1	98	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/29/16
Sample Matrix:	Ocean Water	**Date Extracted:**	03/29/16

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	489761

	Lab Control Sample K1602766-LCS5			Duplicate Lab Control Sample K1602766-DLCS5					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	53.8	60.0	90	57.3	60.0	96	78-114	6	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB20-001/PS07	K1602766-001	**0.367**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-002/M4	K1602766-002	**0.362**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-003/M3.1	K1602766-003	**0.368**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-003.1/M3.1DEEP	K1602766-004	**0.370**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-004/BJEST	K1602766-005	**0.358**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-005/PS12	K1602766-006	**0.365**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-006/PS12DUP	K1602766-007	**0.374**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-007/PS01	K1602766-008	**0.396**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-008/PS02	K1602766-009	**0.382**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-009/PS13	K1602766-010	**0.370**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-010/M3.3	K1602766-011	**0.362**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-011/PS03	K1602766-012	**0.378**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-012/PS04	K1602766-013	**0.368**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-013/PS05	K1602766-014	**0.366**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-014/PS14	K1602766-015	**0.364**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-015/PS06	K1602766-016	**0.355**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-016/PS06DUP	K1602766-017	**0.353**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-017/PS08	K1602766-018	**0.365**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-018/PS15	K1602766-019	**0.365**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-019/PS09	K1602766-020	**0.379**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-020/PS10	K1602766-021	**0.367**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-021/PS10.1	K1602766-022	**0.368**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-022/PS11	K1602766-023	**0.366**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-023/PS16	K1602766-024	**0.363**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-024/PS07B	K1602766-025	**0.350**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-100/PS07C	K1602766-029	**0.349**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-101/M6	K1602766-030	**0.328**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-102/M8	K1602766-031	**0.405**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-103/DYOTS	K1602766-032	**0.337**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-104/M2	K1602766-033	**0.365**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-105/M2DEEP	K1602766-034	**0.366**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-106/CLMBAY	K1602766-035	**0.365**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-107/WP	K1602766-036	**0.354**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-108/M1	K1602766-037	**0.358**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-109/M1DEEP	K1602766-038	**0.358**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-110/ILSP	K1602766-039	**0.390**	0.050	0.020	1	03/28/16 15:08	3/28/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB20-111/ILSPDUP	K1602766-040	**0.389**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-112/SN05	K1602766-041	**0.363**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-113/SN03	K1602766-042	**0.369**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-114/SN08	K1602766-043	**0.350**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-115/SN10	K1602766-044	**0.357**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-116/SN11	K1602766-045	**0.365**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-117/SN11DUP	K1602766-046	**0.370**	0.050	0.020	1	03/28/16 15:08	3/28/16	
AMB20-118/PS07D	K1602766-047	**0.363**	0.050	0.020	1	03/28/16 15:08	3/28/16	
Method Blank	K1602766-MB1	ND U	0.050	0.020	1	03/28/16 15:08	3/28/16	
Method Blank	K1602766-MB2	ND U	0.050	0.020	1	03/28/16 15:08	3/28/16	
Method Blank	K1602766-MB3	ND U	0.050	0.020	1	03/28/16 15:08	3/28/16	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB20-001/PS07	K1602766-001DUP	0.050	0.020	0.367	0.363	0.365	1	20	03/28/16
AMB20-010/M3.3	K1602766-011DUP	0.050	0.020	0.362	0.362	0.362	<1	20	03/28/16
AMB20-020/PS10	K1602766-021DUP	0.050	0.020	0.367	0.368	0.368	<1	20	03/28/16
AMB20-112/SN05	K1602766-041DUP	0.050	0.020	0.363	0.359	0.361	1	20	03/28/16
Batch QC	K1602942-001DUP	0.050	0.020	0.974	0.980	0.977	<1	20	03/28/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/28/16
		Date Extracted:	03/28/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB20-001/PS07	**Units:**	mg/L
Lab Code:	K1602766-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1602766-001MS			Duplicate Matrix Spike K1602766-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.367	1.41	1.00	104	1.42	1.00	105	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/28/16
		Date Extracted:	03/28/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB20-010/M3.3	**Units:**	mg/L
Lab Code:	K1602766-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1602766-011MS			Duplicate Matrix Spike K1602766-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.362	1.38	1.00	102	1.41	1.00	105	90-110	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/28/16
		Date Extracted:	03/28/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB20-020/PS10	**Units:**	mg/L
Lab Code:	K1602766-021	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1602766-021MS			Duplicate Matrix Spike K1602766-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.367	1.43	1.00	106	1.44	1.00	107	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/28/16
		Date Extracted:	03/28/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB20-112/SN05	**Units:**	mg/L
Lab Code:	K1602766-041	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1602766-041MS			Duplicate Matrix Spike K1602766-041DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.363	1.41	1.00	105	1.42	1.00	106	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	03/28/16
		Date Extracted:	03/28/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1602942-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1602942-001MS			Duplicate Matrix Spike K1602942-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.974	5.85	5.00	98	5.85	5.00	98	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/28/16
Sample Matrix:	Ocean Water	**Date Extracted:**	03/28/16

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	489630

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS1	14.7	15.3	96	90-110
Lab Control Sample	K1602766-LCS2	14.8	15.3	97	90-110
Lab Control Sample	K1602766-LCS3	15.0	15.3	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1602766
Project: March 2016 Ambient Monitoring (AMB20)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	489630	KQ1602889-01	03/28/16 15:08	1.00	1.00	100	90-110
CCV2	489630	KQ1602889-03	03/28/16 15:08	1.00	0.984	98	90-110
CCV3	489630	KQ1602889-05	03/28/16 15:08	1.00	0.978	98	90-110
CCV4	489630	KQ1602889-07	03/28/16 15:08	1.00	0.975	98	90-110
CCV5	489630	KQ1602889-09	03/28/16 15:08	1.00	0.972	97	90-110
CCV6	489630	KQ1602889-11	03/28/16 15:08	1.00	0.968	97	90-110
CCV7	489630	KQ1602889-13	03/28/16 15:08	1.00	0.966	97	90-110
CCV8	489630	KQ1602889-15	03/28/16 15:08	1.00	0.977	98	90-110
CCV9	489630	KQ1602889-17	03/28/16 15:08	1.00	0.977	98	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1602766
Project: March 2016 Ambient Monitoring (AMB20)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	489630	KQ1602889-02	03/28/16 15:08	0.050	0.020	ND	U
CCB2	489630	KQ1602889-04	03/28/16 15:08	0.050	0.020	ND	U
CCB3	489630	KQ1602889-06	03/28/16 15:08	0.050	0.020	ND	U
CCB4	489630	KQ1602889-08	03/28/16 15:08	0.050	0.020	ND	U
CCB5	489630	KQ1602889-10	03/28/16 15:08	0.050	0.020	ND	U
CCB6	489630	KQ1602889-12	03/28/16 15:08	0.050	0.020	ND	U
CCB7	489630	KQ1602889-14	03/28/16 15:08	0.050	0.020	ND	U
CCB8	489630	KQ1602889-16	03/28/16 15:08	0.050	0.020	ND	U
CCB9	489630	KQ1602889-18	03/28/16 15:08	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB20-001/PS07	K1602766-001	**0.084**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-002/M4	K1602766-002	**0.077**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-003/M3.1	K1602766-003	**0.074**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-003.1/M3.1DEEP	K1602766-004	**0.077**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-004/BJEST	K1602766-005	**0.071**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-005/PS12	K1602766-006	**0.081**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-006/PS12DUP	K1602766-007	**0.080**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-007/PS01	K1602766-008	**0.091**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-008/PS02	K1602766-009	**0.087**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-009/PS13	K1602766-010	**0.080**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-010/M3.3	K1602766-011	**0.074**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-011/PS03	K1602766-012	**0.079**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-012/PS04	K1602766-013	**0.084**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-013/PS05	K1602766-014	**0.080**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-014/PS14	K1602766-015	**0.083**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-015/PS06	K1602766-016	**0.095**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-016/PS06DUP	K1602766-017	**0.098**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-017/PS08	K1602766-018	**0.083**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-018/PS15	K1602766-019	**0.080**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-019/PS09	K1602766-020	**0.085**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-020/PS10	K1602766-021	**0.085**	0.010	0.004	1	03/30/16 12:57	3/30/16	
AMB20-021/PS10.1	K1602766-022	**0.079**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-022/PS11	K1602766-023	**0.081**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-023/PS16	K1602766-024	**0.082**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-024/PS07B	K1602766-025	**0.085**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-100/PS07C	K1602766-029	**0.090**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-101/M6	K1602766-030	**0.068**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-102/M8	K1602766-031	**0.084**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-103/DYOTS	K1602766-032	**0.066**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-104/M2	K1602766-033	**0.074**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-105/M2DEEP	K1602766-034	**0.075**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-106/CLMBAY	K1602766-035	**0.074**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-107/WP	K1602766-036	**0.077**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-108/M1	K1602766-037	**0.074**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-109/M1DEEP	K1602766-038	**0.076**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-110/ILSP	K1602766-039	**0.080**	0.010	0.004	1	03/23/16 17:15	3/23/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB20-111/ILSPDUP	K1602766-040	**0.077**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-112/SN05	K1602766-041	**0.074**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-113/SN03	K1602766-042	**0.074**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-114/SN08	K1602766-043	**0.077**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-115/SN10	K1602766-044	**0.075**	0.010	0.004	1	03/23/16 17:15	3/23/16	
AMB20-116/SN11	K1602766-045	**0.075**	0.010	0.004	1	03/23/16 16:30	3/23/16	
AMB20-117/SN11DUP	K1602766-046	**0.069**	0.010	0.004	1	03/23/16 16:30	3/23/16	
AMB20-118/PS07D	K1602766-047	**0.089**	0.010	0.004	1	03/23/16 16:30	3/23/16	
Method Blank	K1602766-MB1	ND U	0.010	0.004	1	03/23/16 17:15	3/23/16	
Method Blank	K1602766-MB2	ND U	0.010	0.004	1	03/23/16 16:30	3/23/16	
Method Blank	K1602766-MB3	ND U	0.010	0.004	1	03/30/16 12:57	3/30/16	
Method Blank	K1602766-MB4	ND U	0.010	0.004	1	03/30/16 12:57	3/30/16	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB20-001/PS07	K1602766-001DUP	0.010	0.004	0.084	0.084	0.0840	<1	20	03/30/16
AMB20-019/PS09	K1602766-020DUP	0.010	0.004	0.085	0.095	0.0900	11	20	03/30/16
AMB20-021/PS10.1	K1602766-022DUP	0.010	0.004	0.079	0.079	0.0790	<1	20	03/23/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/30/16
		Date Extracted:	03/30/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB20-001/PS07	**Units:**	mg/L
Lab Code:	K1602766-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1602766-001MS			Duplicate Matrix Spike K1602766-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.084	0.433	0.500	70	0.443	0.500	72	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/30/16
		Date Extracted:	03/30/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB20-019/PS09	**Units:**	mg/L
Lab Code:	K1602766-020	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1602766-020MS			Duplicate Matrix Spike K1602766-020DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.085	0.430	0.500	69	0.386	0.500	60	60-135	14	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/23/16
		Date Extracted:	03/23/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB20-021/PS10.1	**Units:**	mg/L
Lab Code:	K1602766-022	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike K1602766-022MS			Duplicate Matrix Spike K1602766-022DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.079	0.454	0.500	75	0.455	0.500	75	60-135	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/23/16
Sample Matrix:	Ocean Water	**Date Extracted:**	03/23/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	489078

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS1	9.30	8.62	108	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/23/16
Sample Matrix:	Ocean Water	**Date Extracted:**	03/23/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	489067

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS2	0.952	0.862	110	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/30/16
Sample Matrix:	Ocean Water	**Date Extracted:**	03/30/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	489904

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS3	9.13	8.62	106	85-115
Lab Control Sample	K1602766-LCS4	8.79	8.62	102	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1602766
Project: March 2016 Ambient Monitoring (AMB20)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	489067	KQ1602743-01	03/23/16 16:30	0.500	0.534	107	90-110
CCV2	489067	KQ1602743-03	03/23/16 16:30	0.500	0.535	107	90-110
CCV3	489067	KQ1602743-05	03/23/16 16:30	0.500	0.537	107	90-110
CCV4	489067	KQ1602743-07	03/23/16 16:30	0.500	0.537	107	90-110
CCV5	489067	KQ1602743-09	03/23/16 16:30	0.500	0.540	108	90-110
CCV6	489078	KQ1602746-01	03/23/16 17:15	0.500	0.527	105	90-110
CCV7	489078	KQ1602746-03	03/23/16 17:15	0.500	0.529	106	90-110
CCV8	489078	KQ1602746-05	03/23/16 17:15	0.500	0.523	105	90-110
CCV9	489078	KQ1602746-08	03/23/16 17:15	0.500	0.532	106	90-110
CCV10	489904	KQ1602980-01	03/30/16 12:57	0.500	0.525	105	90-110
CCV11	489904	KQ1602980-03	03/30/16 12:57	0.500	0.529	106	90-110
CCV12	489904	KQ1602980-05	03/30/16 12:57	0.500	0.532	106	90-110
CCV13	489904	KQ1602980-07	03/30/16 12:57	0.500	0.531	106	90-110
CCV14	489904	KQ1602980-09	03/30/16 12:57	0.500	0.534	107	90-110
CCV15	489904	KQ1602980-11	03/30/16 12:57	0.500	0.535	107	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1602766
Project: March 2016 Ambient Monitoring (AMB20)

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	489067	KQ1602743-02	03/23/16 16:30	0.010	0.004	ND	U
CCB2	489067	KQ1602743-04	03/23/16 16:30	0.010	0.004	ND	U
CCB3	489067	KQ1602743-06	03/23/16 16:30	0.010	0.004	ND	U
CCB4	489067	KQ1602743-08	03/23/16 16:30	0.010	0.004	ND	U
CCB5	489067	KQ1602743-10	03/23/16 16:30	0.010	0.004	ND	U
CCB6	489078	KQ1602746-02	03/23/16 17:15	0.010	0.004	ND	U
CCB7	489078	KQ1602746-04	03/23/16 17:15	0.010	0.004	ND	U
CCB8	489078	KQ1602746-06	03/23/16 17:15	0.010	0.004	ND	U
CCB9	489078	KQ1602746-07	03/23/16 17:15	0.010	0.004	ND	U
CCB10	489904	KQ1602980-02	03/30/16 12:57	0.010	0.004	ND	U
CCB11	489904	KQ1602980-04	03/30/16 12:57	0.010	0.004	ND	U
CCB12	489904	KQ1602980-06	03/30/16 12:57	0.010	0.004	ND	U
CCB13	489904	KQ1602980-08	03/30/16 12:57	0.010	0.004	ND	U
CCB14	489904	KQ1602980-10	03/30/16 12:57	0.010	0.004	ND	U
CCB15	489904	KQ1602980-12	03/30/16 12:57	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB20-001/PS07	K1602766-001	**0.134**	0.050	0.009	1	03/22/16 01:50	
AMB20-002/M4	K1602766-002	**0.091**	0.050	0.009	1	03/22/16 01:50	
AMB20-003/M3.1	K1602766-003	**0.056**	0.050	0.009	1	03/22/16 01:50	
AMB20-003.1/M3.1DEEP	K1602766-004	**0.060**	0.050	0.009	1	03/22/16 01:50	
AMB20-004/BJEST	K1602766-005	**0.078**	0.050	0.009	1	03/22/16 01:50	
AMB20-005/PS12	K1602766-006	**0.062**	0.050	0.009	1	03/22/16 01:50	
AMB20-006/PS12DUP	K1602766-007	**0.027 J**	0.050	0.009	1	03/22/16 01:50	
AMB20-007/PS01	K1602766-008	**0.091**	0.050	0.009	1	03/23/16 09:30	
AMB20-008/PS02	K1602766-009	**0.047 J**	0.050	0.009	1	03/23/16 09:30	
AMB20-009/PS13	K1602766-010	**0.093**	0.050	0.009	1	03/23/16 09:30	
AMB20-010/M3.3	K1602766-011	**0.068**	0.050	0.009	1	03/23/16 09:30	
AMB20-011/PS03	K1602766-012	**0.071**	0.050	0.009	1	03/23/16 09:30	
AMB20-012/PS04	K1602766-013	**0.071**	0.050	0.009	1	03/23/16 09:30	
AMB20-013/PS05	K1602766-014	**0.077**	0.050	0.009	1	03/23/16 09:30	
AMB20-014/PS14	K1602766-015	**0.065**	0.050	0.009	1	03/23/16 09:30	
AMB20-015/PS06	K1602766-016	**0.072**	0.050	0.009	1	03/23/16 09:30	
AMB20-016/PS06DUP	K1602766-017	**0.084**	0.050	0.009	1	03/23/16 09:30	
AMB20-017/PS08	K1602766-018	**0.053**	0.050	0.009	1	03/23/16 09:30	
AMB20-018/PS15	K1602766-019	**0.053**	0.050	0.009	1	03/23/16 09:30	
AMB20-019/PS09	K1602766-020	**0.071**	0.050	0.009	1	03/23/16 09:30	
AMB20-020/PS10	K1602766-021	**0.048 J**	0.050	0.009	1	03/23/16 09:30	
AMB20-021/PS10.1	K1602766-022	**0.046 J**	0.050	0.009	1	03/23/16 09:30	
AMB20-022/PS11	K1602766-023	**0.134**	0.050	0.009	1	03/23/16 09:30	
AMB20-023/PS16	K1602766-024	**0.047 J**	0.050	0.009	1	03/23/16 09:30	
AMB20-024/PS07B	K1602766-025	**0.087**	0.050	0.009	1	03/23/16 09:30	
AMB20-100/PS07C	K1602766-029	**0.087**	0.050	0.009	1	03/23/16 09:30	
AMB20-101/M6	K1602766-030	**0.038 J**	0.050	0.009	1	03/23/16 09:30	
AMB20-102/M8	K1602766-031	**0.056**	0.050	0.009	1	03/24/16 11:00	
AMB20-103/DYOTS	K1602766-032	**0.118**	0.050	0.009	1	03/24/16 11:00	
AMB20-104/M2	K1602766-033	**0.041 J**	0.050	0.009	1	03/24/16 11:00	
AMB20-105/M2DEEP	K1602766-034	**0.043 J**	0.050	0.009	1	03/24/16 11:00	
AMB20-106/CLMBAY	K1602766-035	**0.080**	0.050	0.009	1	03/24/16 11:00	
AMB20-107/WP	K1602766-036	**0.051**	0.050	0.009	1	03/24/16 11:00	
AMB20-108/M1	K1602766-037	**0.049 J**	0.050	0.009	1	03/24/16 11:00	
AMB20-109/M1DEEP	K1602766-038	**0.035 J**	0.050	0.009	1	03/24/16 11:00	
AMB20-110/ILSP	K1602766-039	**0.024 J**	0.050	0.009	1	03/24/16 11:00	

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Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Q
AMB20-111/ILSPDUP	K1602766-040	**0.103**		0.050	0.009	1	03/24/16 11:00	
AMB20-112/SN05	K1602766-041	**0.059**		0.050	0.009	1	03/24/16 11:00	
AMB20-113/SN03	K1602766-042	**0.056**		0.050	0.009	1	03/24/16 11:00	
AMB20-114/SN08	K1602766-043	**0.055**		0.050	0.009	1	03/24/16 11:00	
AMB20-115/SN10	K1602766-044	**0.087**		0.050	0.009	1	03/24/16 11:00	
AMB20-116/SN11	K1602766-045	**0.095**		0.050	0.009	1	03/24/16 11:00	
AMB20-117/SN11DUP	K1602766-046	**0.050**		0.050	0.009	1	03/24/16 11:00	
AMB20-118/PS07D	K1602766-047	**0.103**		0.050	0.009	1	03/24/16 11:00	
Method Blank	K1602766-MB1	**0.009**	**J**	0.050	0.009	1	03/22/16 01:50	
Method Blank	K1602766-MB2	ND	U	0.050	0.009	1	03/23/16 09:30	
Method Blank	K1602766-MB3	ND	U	0.050	0.009	1	03/24/16 11:00	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16 - 03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary

Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB20-007/PS01	K1602766-008DUP	0.050	0.009	0.091	0.080	0.0855	13	20	03/23/16
AMB20-102/M8	K1602766-031DUP	0.050	0.009	0.056	0.046 J	0.0510	20	20	03/24/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/15/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/23/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB20-007/PS01	**Units:**	mg/L
Lab Code:	K1602766-008	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1602766-008MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.091	10.4	10.0	103	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Collected:**	03/16/16
Sample Matrix:	Ocean Water	**Date Received:**	03/18/16
		Date Analyzed:	03/24/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB20-102/M8	**Units:**	mg/L
Lab Code:	K1602766-031	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1602766-031MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.056	9.97	10.0	99	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/22/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	488782

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS1	5.15	5.36	96	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/23/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	488908

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS2	5.10	5.36	95	80-115

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1602766
Project:	March 2016 Ambient Monitoring (AMB20)	**Date Analyzed:**	03/24/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	489125

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1602766-LCS3	5.02	5.36	94	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1602766
Project: March 2016 Ambient Monitoring (AMB20)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	488782	KQ1602680-09	03/22/16 01:50	10.0	10.0	100	90-110
CCV2	488782	KQ1602680-10	03/22/16 01:50	10.0	10.1	101	90-110
CCV3	488782	KQ1602680-11	03/22/16 01:50	10.0	9.97	100	90-110
CCV4	488782	KQ1602680-12	03/22/16 01:50	10.0	10.2	102	90-110
CCV5	488908	KQ1602705-09	03/23/16 09:30	10.0	10.2	102	90-110
CCV6	488908	KQ1602705-10	03/23/16 09:30	10.0	10.3	103	90-110
CCV7	488908	KQ1602705-11	03/23/16 09:30	10.0	10.2	102	90-110
CCV8	488908	KQ1602705-12	03/23/16 09:30	10.0	10.1	101	90-110
CCV9	489125	KQ1602754-08	03/24/16 11:00	10.0	10.1	101	90-110
CCV10	489125	KQ1602754-09	03/24/16 11:00	10.0	9.70	97	90-110
CCV11	489125	KQ1602754-10	03/24/16 11:00	10.0	10.0	100	90-110
CCV12	489125	KQ1602754-11	03/24/16 11:00	10.0	9.57	96	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1602766
Project: March 2016 Ambient Monitoring (AMB20)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	488782	KQ1602680-05	03/22/16 01:50	0.050	0.009	0.023	J
CCB2	488782	KQ1602680-06	03/22/16 01:50	0.050	0.009	0.009	J
CCB3	488782	KQ1602680-07	03/22/16 01:50	0.050	0.009	0.015	J
CCB4	488782	KQ1602680-08	03/22/16 01:50	0.050	0.009	0.013	J
CCB5	488908	KQ1602705-05	03/23/16 09:30	0.050	0.009	0.013	J
CCB6	488908	KQ1602705-06	03/23/16 09:30	0.050	0.009	0.009	J
CCB7	488908	KQ1602705-07	03/23/16 09:30	0.050	0.009	ND	U
CCB8	488908	KQ1602705-08	03/23/16 09:30	0.050	0.009	ND	U
CCB9	489125	KQ1602754-04	03/24/16 11:00	0.050	0.009	ND	U
CCB10	489125	KQ1602754-05	03/24/16 11:00	0.050	0.009	ND	U
CCB11	489125	KQ1602754-06	03/24/16 11:00	0.050	0.009	ND	U
CCB12	489125	KQ1602754-07	03/24/16 11:00	0.050	0.009	ND	U

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/15, logged in 3/16/16
Batch: 55
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-001	PS07-TME	TME	PS07	3106-1765	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-001	PS07-DME	DME	PS07	3106-1766	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-002	M4-TME	TME	M4	3106-1767	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-002	M4-DME	DME	M4	3106-1768	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-003	M3.1-TME	TME	M3.1	3106-1769	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-003	M3.1-DME	DME	M3.1	3106-1770	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-003.1	M3.1DEEP-TME	TME	M3.1DEEP	3106-1771	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-003.1	M3.1DEEP-DME	DME	M3.1DEEP	3106-1772	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-004	BJEST-TME	TME	BJEST	3106-1773	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-004	BJEST-DME	DME	BJEST	3106-1774	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-005	PS12-TME	TME	PS12	3106-1775	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-005	PS12-DME	DME	PS12	3106-1776	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-006	PS12DUP-TME	TME	PS12DUP	3106-1777	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-006	PS12DUP-DME	DME	PS12DUP	3106-1778	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-007	PS01-TME	TME	PS01	3106-1779	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-007	PS01-DME	DME	PS01	3106-1780	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-008	PS02-TME	TME	PS02	3106-1781	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-008	PS02-DME	DME	PS02	3106-1782	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-009	PS13-TME	TME	PS13	3106-1783	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-009	PS13-DME	DME	PS13	3106-1784	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-010	M3.3-TME	TME	M3.3	3106-1785	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-010	M3.3-DME	DME	M3.3	3106-1786	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-011	PS03-TME	TME	PS03	3106-1787	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-011	PS03-DME	DME	PS03	3106-1788	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-012	PS04-TME	TME	PS04	3106-1789	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-012	PS04-DME	DME	PS04	3106-1790	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-013	PS05-TME	TME	PS05	3106-1791	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-013	PS05-DME	DME	PS05	3106-1792	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-014	PS14-TME	TME	PS14	3106-1793	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-014	PS14-DME	DME	PS14	3106-1794	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-015	PS06-TME	TME	PS06	3106-1795	Seawater	PREP LAB	Total Metals, Hg	03/15/16

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/15, logged in 3/16/16
Batch: 55
Login Designee: Suslick

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Marine Sciences Laboratory
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Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-015	PS06-DME	DME	PS06	3106-1796	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-016	PS06DUP-TME	TME	PS06DUP	3106-1797	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-016	PS06DUP-DME	DME	PS06DUP	3106-1798	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-017	PS08-TME	TME	PS08	3106-1799	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-017	PS08-DME	DME	PS08	3106-1800	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-018	PS15-TME	TME	PS15	3106-1801	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-018	PS15-DME	DME	PS15	3106-1802	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-019	PS09-TME	TME	PS09	3106-1803	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-019	PS09-DME	DME	PS09	3106-1804	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-020	PS10-TME	TME	PS10	3106-1805	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-020	PS10-DME	DME	PS10	3106-1806	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-021	PS10.1-TME	TME	PS10.1	3106-1807	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-021	PS10.1-DME	DME	PS10.1	3106-1808	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-022	PS11-TME	TME	PS11	3106-1809	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-022	PS11-DME	DME	PS11	3106-1810	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-023	PS16-TME	TME	PS16	3106-1811	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-023	PS16-DME	DME	PS16	3106-1812	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-024	PS07B-TME	TME	PS07B	3106-1813	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-024	PS07B-DME	DME	PS07B	3106-1814	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-DD001	OF018-TME	TME	OF018	3106-1815	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-DD001	OF018-DME	DME	OF018	3106-1816	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-DD002	OF019-TME	TME	OF019	3106-1817	Seawater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-DD002	OF019-DME	DME	OF019	3106-1818	Seawater	PREP LAB	Dissolved Metals, Hg	03/15/16
AMB20-DD003	OF021-TME	TME	OF021	3106-1819	Freshwater	PREP LAB	Total Metals, Hg	03/15/16
AMB20-DD003	OF021-DME	DME	OF021	3106-1820	Freshwater	PREP LAB	Dissolved Metals, Hg	03/15/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
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Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-001	PS07-TOC	TOC	PS07	3106-1765	Seawater	MSL	TOC	03/15/16
AMB20-002	M4-TOC	TOC	M4	3106-1767	Seawater	MSL	TOC	03/15/16
AMB20-003	M3.1-TOC	TOC	M3.1	3106-1769	Seawater	MSL	TOC	03/15/16
AMB20-003.1	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-1771	Seawater	MSL	TOC	03/15/16
AMB20-004	BJEST-TOC	TOC	BJEST	3106-1773	Seawater	MSL	TOC	03/15/16
AMB20-005	PS12-TOC	TOC	PS12	3106-1775	Seawater	MSL	TOC	03/15/16
AMB20-006	PS12DUP-TOC	TOC	PS12DUP	3106-1777	Seawater	MSL	TOC	03/15/16
AMB20-007	PS01-TOC	TOC	PS01	3106-1779	Seawater	MSL	TOC	03/15/16
AMB20-008	PS02-TOC	TOC	PS02	3106-1781	Seawater	MSL	TOC	03/15/16
AMB20-009	PS13-TOC	TOC	PS13	3106-1783	Seawater	MSL	TOC	03/15/16
AMB20-010	M3.3-TOC	TOC	M3.3	3106-1785	Seawater	MSL	TOC	03/15/16
AMB20-011	PS03-TOC	TOC	PS03	3106-1787	Seawater	MSL	TOC	03/15/16
AMB20-012	PS04-TOC	TOC	PS04	3106-1789	Seawater	MSL	TOC	03/15/16
AMB20-013	PS05-TOC	TOC	PS05	3106-1791	Seawater	MSL	TOC	03/15/16
AMB20-014	PS14-TOC	TOC	PS14	3106-1793	Seawater	MSL	TOC	03/15/16
AMB20-015	PS06-TOC	TOC	PS06	3106-1795	Seawater	MSL	TOC	03/15/16
AMB20-016	PS06DUP-TOC	TOC	PS06DUP	3106-1797	Seawater	MSL	TOC	03/15/16
AMB20-017	PS08-TOC	TOC	PS08	3106-1799	Seawater	MSL	TOC	03/15/16
AMB20-018	PS15-TOC	TOC	PS15	3106-1801	Seawater	MSL	TOC	03/15/16
AMB20-019	PS09-TOC	TOC	PS09	3106-1803	Seawater	MSL	TOC	03/15/16
AMB20-020	PS10-TOC	TOC	PS10	3106-1805	Seawater	MSL	TOC	03/15/16
AMB20-021	PS10.1-TOC	TOC	PS10.1	3106-1807	Seawater	MSL	TOC	03/15/16
AMB20-022	PS11-TOC	TOC	PS11	3106-1809	Seawater	MSL	TOC	03/15/16
AMB20-023	PS16-TOC	TOC	PS16	3106-1811	Seawater	MSL	TOC	03/15/16
AMB20-024	PS07B-TOC	TOC	PS07B	3106-1813	Seawater	MSL	TOC	03/15/16
AMB20-DD001	OF018-TOC	TOC	OF018	3106-1815	Seawater	MSL	TOC	03/15/16
AMB20-DD002	OF019-TOC	TOC	OF019	3106-1817	Seawater	MSL	TOC	03/15/16
AMB20-DD003	OF021-TOC	TOC	OF021	3106-1819	Freshwater	MSL	TOC	03/15/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/15, logged in 3/16/16
Batch: 55
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-001	PS07-DOC	DOC	PS07	3106-1766	Seawater	MSL	DOC	03/15/16
AMB20-002	M4-DOC	DOC	M4	3106-1768	Seawater	MSL	DOC	03/15/16
AMB20-003	M3.1-DOC	DOC	M3.1	3106-1770	Seawater	MSL	DOC	03/15/16
AMB20-003.1	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-1772	Seawater	MSL	DOC	03/15/16
AMB20-004	BJEST-DOC	DOC	BJEST	3106-1774	Seawater	MSL	DOC	03/15/16
AMB20-005	PS12-DOC	DOC	PS12	3106-1776	Seawater	MSL	DOC	03/15/16
AMB20-006	PS12DUP-DOC	DOC	PS12DUP	3106-1778	Seawater	MSL	DOC	03/15/16
AMB20-007	PS01-DOC	DOC	PS01	3106-1780	Seawater	MSL	DOC	03/15/16
AMB20-008	PS02-DOC	DOC	PS02	3106-1782	Seawater	MSL	DOC	03/15/16
AMB20-009	PS13-DOC	DOC	PS13	3106-1784	Seawater	MSL	DOC	03/15/16
AMB20-010	M3.3-DOC	DOC	M3.3	3106-1786	Seawater	MSL	DOC	03/15/16
AMB20-011	PS03-DOC	DOC	PS03	3106-1788	Seawater	MSL	DOC	03/15/16
AMB20-012	PS04-DOC	DOC	PS04	3106-1790	Seawater	MSL	DOC	03/15/16
AMB20-013	PS05-DOC	DOC	PS05	3106-1792	Seawater	MSL	DOC	03/15/16
AMB20-014	PS14-DOC	DOC	PS14	3106-1794	Seawater	MSL	DOC	03/15/16
AMB20-015	PS06-DOC	DOC	PS06	3106-1796	Seawater	MSL	DOC	03/15/16
AMB20-016	PS06DUP-DOC	DOC	PS06DUP	3106-1798	Seawater	MSL	DOC	03/15/16
AMB20-017	PS08-DOC	DOC	PS08	3106-1800	Seawater	MSL	DOC	03/15/16
AMB20-018	PS15-DOC	DOC	PS15	3106-1802	Seawater	MSL	DOC	03/15/16
AMB20-019	PS09-DOC	DOC	PS09	3106-1804	Seawater	MSL	DOC	03/15/16
AMB20-020	PS10-DOC	DOC	PS10	3106-1806	Seawater	MSL	DOC	03/15/16
AMB20-021	PS10.1-DOC	DOC	PS10.1	3106-1808	Seawater	MSL	DOC	03/15/16
AMB20-022	PS11-DOC	DOC	PS11	3106-1810	Seawater	MSL	DOC	03/15/16
AMB20-023	PS16-DOC	DOC	PS16	3106-1812	Seawater	MSL	DOC	03/15/16
AMB20-024	PS07B-DOC	DOC	PS07B	3106-1814	Seawater	MSL	DOC	03/15/16
AMB20-DD001	OF018-DOC	DOC	OF018	3106-1816	Seawater	MSL	DOC	03/15/16
AMB20-DD002	OF019-DOC	DOC	OF019	3106-1818	Seawater	MSL	DOC	03/15/16
AMB20-DD003	OF021-DOC	DOC	OF021	3106-1820	Freshwater	MSL	DOC	03/15/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/15, logged in 3/16/16
Batch: 55
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1765	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-002	M4-TSS/OSAL	TSS/OSAL	M4	3106-1767	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-003	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1769	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-003.1	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-1771	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-004	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1773	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-005	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1775	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-006	PS12DUP-TSS/OSAL	TSS/OSAL	PS12DUP	3106-1777	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-007	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1779	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-008	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1781	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-009	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1783	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-010	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1785	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-011	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1787	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-012	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1789	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-013	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1791	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-014	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1793	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-015	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1795	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-016	PS06DUP-TSS/OSAL	TSS/OSAL	PS06DUP	3106-1797	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-017	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1799	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-018	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1801	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-019	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1803	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-020	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1805	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-021	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1807	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-022	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1809	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-023	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1811	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-024	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-1813	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-DD001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1815	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1817	Seawater	MSL	TSS/OSAL	03/15/16
AMB20-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1819	Freshwater	MSL	TSS/OSAL	03/15/16

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/15/16
Page: 1 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Testing Parameters (as per SOW)

3106-

AMB20-

Lab. Use only: Lab ID	Lab DISS	Sample ID	Sample Label	Collection Date/Time	Matrix	TSS/SAL	TMC/DMC	TOC	DOC	WATER ISOT					No. of containers	StationID	Comments
1765	1766	1	PS07	3/15/16 0915	Sea										5	PS07	
1767	1768	2	M4	0935	Sea										5	M4	
1769	1770	3	M3.1	1000	Sea										5	M3.1	
1771	1772	93/1	M3.1 Deep	1005	Sea										5	M3.1	4 m depth
1773	1774	4	BJEST	1041	Sea										5	BJEST	surface sal 22
1775	1776	5	PS12	1100	Sea										5	PS12	
1777	1778	6	PS12 DUP	1100	Sea										5	PS12	Field DUP
1779	1780	7	PS01	1120	Sea										5	PS01	
1781	1782	8	PS02	1140	Sea										5	PS02	
1783	1784	9	PS13	1152	Sea										5	PS13	
1785	1786	10	M3.3	1205	Sea										5	M3.3	
1787	1788	11	PS03	1241 ~~1351~~	Sea										5	PS03	
1789	1790	12	PS04	1250 ~~1350~~	Sea										5	PS04	
1791	1792	13	PS05	1305	Sea										5	PS05	
1793	1794	14	PS14	1318	Sea										5	PS14	
1795	1796	15	PS06	1332	Sea										5	PS06	
1797	1798	16	PS06 DUP	1332	Sea										5	PS06	
1799	1800	17	PS08	1350	Sea										5	PS08	
1801	1802	18	PS15	1405	Sea										5	PS15	
1803	1804	19	PS09	1420	Sea										5	PS09	

Relinquished by: Stevens
Signature 20160315 Date 1930 Time
Printed Name Company PNNL

Received by: MSL
Signature
C. SUSLICK
Printed Name

Total # of Containers
Shipment Method: PNNL Vehicle
Shipment Method:
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM
Date: 3/15/16
Page: 2 of 2
COC Number:

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Testing Parameters (as per SOW)

Lab. Use only: ID (3/16 Add)	Lab. Use only: Lab DISS	Sample ID (AMB20-)	Sample Label	Collection Date/Time (3/15/16)	Matrix	TSS/SAL	TMC/DMC	TOC	DOC	NUTRIENTS	DIC & ALKALINITY				No. of containers	StationID	Comments
1805	1806	20	PS10	~~Post~~ 1420	Sea	X	X	X	X	X					5	PS10	
1807	1808	21	PS10.1	1450	Sea	X	X	X	X	X					5	PS10.1	
1809	1810	22	PS11	1502	Sea	X	X	X	X	X					5	PS11	
1811	1812	23	PS16	1516	Sea	X	X	X	X	X					5	PS16	
1813	1814	24	PS07B	1534	Sea	X	X	X	X	X					5	PS07	Return to dock
AMB20-DD	1815/1816	DD01	OF018	9:30	SEA	X	X	X	X		X				5	OF018	
	1817/1818	DD02	OF019	14:45	SEA	X	X	X	X		X				5	OF019	
	1819/1820	DD03	OF021	10:45 ~~10:46~~	WATER	X	X	X	X		X				5	OF021	

Observations, Instructions

Relinquished by:	Signature	Date	Time	Received by:	Signature	Total # of Containers
STRUENSY		20160315	1930	MSL		Shipment Method: PNNL Vehicle
	Printed Name	Company	PNNL	C. SUSLICK	Printed Name	Shipment Method:
						Sample Disposition:
Relinquished by:	Signature	Date	Time	Received by:	Signature	Distribution: 1) 2 copies to the Laboratory 2) 1 copy to project manager 3) Return completed original to Battelle Marine Sciences Laboratory
	Printed Name	Company			Printed Name	

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1765 - 1820 Batch: 55

Project Name: ENVVEST AMB 20 DAY 1 Project Manager: Brandenburger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater WP# NG2253

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		X	Custody seal present Seal intact? YES NO
X			Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
		X	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
X			Were all chain of custody forms signed and dated?
X			Were samples filtered at MSL? ALL (HALF) DMS *Samples must be filtered prior to preservation!*

Cooler 1: 4 °C
Cooler 2: 4 °C
Cooler 3: 4 °C
Cooler 4: 4 °C

Comment/Remedy:

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: STREVENS Cooler Receipt Date/Time: 20120815 1930

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [X] Sample(s) were preserved at MSL

Type:
- [X] 0.2% HNO3 Notes: TMS, DMS Lot# 121610
- [ ] 0.5% HCl (Hg samples) Notes: Lot#
- [X] Refrigerate/Freeze Notes: TSS, Nutrient → refrigerator, Toc/DOC → -80°C
- [ ] Other Notes:

Completed By: STREVENS Preservation Date/Time: 20120315 1930

Storage Shelf: Toc/DOC = MSL5C, TSS/Nutrients = MSL45C, TMS =

Comments/Observations: Mats: 1765-1784 K-3-B 1819-1820 K-2-C
1785-1798 K-2 C
1799-1818 K-3-D

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/16, logged in 3/17/16)
Batch: 56
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-100	PS07C-TME	TME	PS07C	3106-1821	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-100	PS07C-DME	DME	PS07C	3106-1822	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-101	M6-TME	TME	M6	3106-1823	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-101	M6-DME	DME	M6	3106-1824	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-102	M8-TME	TME	M8	3106-1825	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-102	M8-DME	DME	M8	3106-1826	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-103	DYOTS-TME	TME	DYOTS	3106-1827	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-103	DYOTS-DME	DME	DYOTS	3106-1828	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-104	M2-TME	TME	M2	3106-1829	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-104	M2-DME	DME	M2	3106-1830	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-105	M2DEEP-TME	TME	M2DEEP	3106-1831	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-105	M2DEEP-DME	DME	M2DEEP	3106-1832	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-106	CLMBAY-TME	TME	CLMBAY	3106-1833	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-106	CLMBAY-DME	DME	CLMBAY	3106-1834	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-107	WP-TME	TME	WP	3106-1835	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-107	WP-DME	DME	WP	3106-1836	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-108	M1-TME	TME	M1	3106-1837	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-108	M1-DME	DME	M1	3106-1838	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-109	M1DEEP-TME	TME	M1DEEP	3106-1839	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-109	M1DEEP-DME	DME	M1DEEP	3106-1840	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-110	ILSP-TME	TME	ILSP	3106-1841	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-110	ILSP-DME	DME	ILSP	3106-1842	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-111	ILSPDUP-TME	TME	ILSPDUP	3106-1843	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-111	ILSPDUP-DME	DME	ILSPDUP	3106-1844	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-112	SN05-TME	TME	SN05	3106-1845	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-112	SN05-DME	DME	SN05	3106-1846	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-113	SN03-TME	TME	SN03	3106-1847	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-113	SN03-DME	DME	SN03	3106-1848	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-114	SN08-TME	TME	SN08	3106-1849	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-114	SN08-DME	DME	SN08	3106-1850	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-115	SN10-TME	TME	SN10	3106-1851	Seawater	PREP LAB	Total Metals, Hg	03/16/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/16, logged in 3/17/16)
Batch: 56
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-115	SN10-DME	DME	SN10	3106-1852	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-116	SN11-TME	TME	SN11	3106-1853	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-116	SN11-DME	DME	SN11	3106-1854	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-117	SN11DUP-TME	TME	SN11DUP	3106-1855	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-117	SN11DUP-DME	DME	SN11DUP	3106-1856	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16
AMB20-118	PS07D-TME	TME	PS07D	3106-1857	Seawater	PREP LAB	Total Metals, Hg	03/16/16
AMB20-118	PS07D-DME	DME	PS07D	3106-1858	Seawater	PREP LAB	Dissolved Metals, Hg	03/16/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/16, logged in 3/17/16)
Batch: 56
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-100	PS07C-TOC	TOC	PS07C	3106-1821	Seawater	MSL	TOC	03/16/16
AMB20-101	M6-TOC	TOC	M6	3106-1823	Seawater	MSL	TOC	03/16/16
AMB20-102	M8-TOC	TOC	M8	3106-1825	Seawater	MSL	TOC	03/16/16
AMB20-103	DYOTS-TOC	TOC	DYOTS	3106-1827	Seawater	MSL	TOC	03/16/16
AMB20-104	M2-TOC	TOC	M2	3106-1829	Seawater	MSL	TOC	03/16/16
AMB20-105	M2DEEP-TOC	TOC	M2DEEP	3106-1831	Seawater	MSL	TOC	03/16/16
AMB20-106	CLMBAY-TOC	TOC	CLMBAY	3106-1833	Seawater	MSL	TOC	03/16/16
AMB20-107	WP-TOC	TOC	WP	3106-1835	Seawater	MSL	TOC	03/16/16
AMB20-108	M1-TOC	TOC	M1	3106-1837	Seawater	MSL	TOC	03/16/16
AMB20-109	M1DEEP-TOC	TOC	M1DEEP	3106-1839	Seawater	MSL	TOC	03/16/16
AMB20-110	ILSP-TOC	TOC	ILSP	3106-1841	Seawater	MSL	TOC	03/16/16
AMB20-111	ILSPDUP-TOC	TOC	ILSPDUP	3106-1843	Seawater	MSL	TOC	03/16/16
AMB20-112	SN05-TOC	TOC	SN05	3106-1845	Seawater	MSL	TOC	03/16/16
AMB20-113	SN03-TOC	TOC	SN03	3106-1847	Seawater	MSL	TOC	03/16/16
AMB20-114	SN08-TOC	TOC	SN08	3106-1849	Seawater	MSL	TOC	03/16/16
AMB20-115	SN10-TOC	TOC	SN10	3106-1851	Seawater	MSL	TOC	03/16/16
AMB20-116	SN11-TOC	TOC	SN11	3106-1853	Seawater	MSL	TOC	03/16/16
AMB20-117	SN11DUP-TOC	TOC	SN11DUP	3106-1855	Seawater	MSL	TOC	03/16/16
AMB20-118	PS07D-TOC	TOC	PS07D	3106-1857	Seawater	MSL	TOC	03/16/16

SAMPLE LOGIN

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Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-100	PS07C-DOC	DOC	PS07C	3106-1822	Seawater	MSL	DOC	03/16/16
AMB20-101	M6-DOC	DOC	M6	3106-1824	Seawater	MSL	DOC	03/16/16
AMB20-102	M8-DOC	DOC	M8	3106-1826	Seawater	MSL	DOC	03/16/16
AMB20-103	DYOTS-DOC	DOC	DYOTS	3106-1828	Seawater	MSL	DOC	03/16/16
AMB20-104	M2-DOC	DOC	M2	3106-1830	Seawater	MSL	DOC	03/16/16
AMB20-105	M2DEEP-DOC	DOC	M2DEEP	3106-1832	Seawater	MSL	DOC	03/16/16
AMB20-106	CLMBAY-DOC	DOC	CLMBAY	3106-1834	Seawater	MSL	DOC	03/16/16
AMB20-107	WP-DOC	DOC	WP	3106-1836	Seawater	MSL	DOC	03/16/16
AMB20-108	M1-DOC	DOC	M1	3106-1838	Seawater	MSL	DOC	03/16/16
AMB20-109	M1DEEP-DOC	DOC	M1DEEP	3106-1840	Seawater	MSL	DOC	03/16/16
AMB20-110	ILSP-DOC	DOC	ILSP	3106-1842	Seawater	MSL	DOC	03/16/16
AMB20-111	ILSPDUP-DOC	DOC	ILSPDUP	3106-1844	Seawater	MSL	DOC	03/16/16
AMB20-112	SN05-DOC	DOC	SN05	3106-1846	Seawater	MSL	DOC	03/16/16
AMB20-113	SN03-DOC	DOC	SN03	3106-1848	Seawater	MSL	DOC	03/16/16
AMB20-114	SN08-DOC	DOC	SN08	3106-1850	Seawater	MSL	DOC	03/16/16
AMB20-115	SN10-DOC	DOC	SN10	3106-1852	Seawater	MSL	DOC	03/16/16
AMB20-116	SN11-DOC	DOC	SN11	3106-1854	Seawater	MSL	DOC	03/16/16
AMB20-117	SN11DUP-DOC	DOC	SN11DUP	3106-1856	Seawater	MSL	DOC	03/16/16
AMB20-118	PS07D-DOC	DOC	PS07D	3106-1858	Seawater	MSL	DOC	03/16/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 3/16/2016 (samples arrived 3/16, logged in 3/17/16)
Batch: 56
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2016 (AMB20, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB20-100	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-1821	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-101	M6-TSS/OSAL	TSS/OSAL	M6	3106-1823	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-102	M8-TSS/OSAL	TSS/OSAL	M8	3106-1825	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-103	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1827	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-104	M2-TSS/OSAL	TSS/OSAL	M2	3106-1829	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-105	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1831	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-106	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1833	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-107	WP-TSS/OSAL	TSS/OSAL	WP	3106-1835	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-108	M1-TSS/OSAL	TSS/OSAL	M1	3106-1837	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-109	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1839	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-110	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-1841	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-111	ILSPDUP-TSS/OSAL	TSS/OSAL	ILSPDUP	3106-1843	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-112	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1845	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-113	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1847	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-114	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1849	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-115	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1851	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-116	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1853	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-117	SN11DUP-TSS/OSAL	TSS/OSAL	SN11DUP	3106-1855	Seawater	MSL	TSS/OSAL	03/16/16
AMB20-118	PS07D-TSS/OSAL	TSS/OSAL	PS07D	3106-1857	Seawater	MSL	TSS/OSAL	03/16/16

SAMPLE CHAIN OF CUSTODY FORM

AMB20
DAY2

Date: 20160316
Page: 1 of 1
COC Number: NA

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB 20

Testing Parameters

3106 Lab. Use only: IDTDY	Lab DISS	Sample ID (AMB20)	Sample Label	3/16/2016 Collection Date/Time	Matrix	Metals (Total/Diss)	~~Total Hg~~	~~TOTOC~~ TSS (1 L)	Nuts/~~TOC~~	DOC	~~Cost~~ TOC	Oil&Grease			No. of containers	StationID	Comments
1821	1822	-100	PS07C	0900	SEA	X		X	X	X	X				5	PS07	from Dock
1823	1824	-101	M6	0952	SEA											M6	Ostrich Bay
1825	1826	-102	M8	1006	SEA											M8	Oyster Bay Lots of Pollen on surface
1827	1828	-103	DYOTS	1028	SEA											DYOTS	Old Town Silverdale
1829	1830	-104	M2	1136	SEA											M2	Rich Passage
1831	1832	-105	M2 Deep	1140	SEA											M2	4.5 m deep
1833	1834	-106	CLMBAY	1200	SEA											CLMBAY	
1835	1836	-107	WP	1215	SEA											WP	
1837	1838	-108	M1	1236	SEA											M1	Port Orchard Passage
1839	1840	-109	M1 DEEP	1240	SEA											M1	
1841	1842	-110	ILSP	1303	SEA											ILSP	Illahee State Park
1843	1844	-111	ILSP Dup	1303	SEA											ILSP	"
1845	1846	-112	SN05	1350	SEA											SN05	Gorst
1847	1848	-113	SN03	1402	SEA											SN03	
1849	1850	-114	SN08	1413	SEA											SN08	Ross Point
1851	1852	-115	SN11 SN10	1425	SEA											SN11	SN10
1853	1854	-116	SN12 SN11	1440	SEA											SN12	SN11 Port Orchard Marina Ferry
1855	1856	-117	SN12 DUP SN11 DUP	1440	SEA											SN12	SN11 3/17/16 Terminal
1857	1858	-118	PS07D	1500	SEA											PS07	Back at Dock

Relinquished by:
STRIVENS — Signature — 20160316 — Date — 1800 — Time
Printed Name — Company PNNL

Received by:
MSL — Signature
C. SUSHCN — Printed Name

Total # of Containers
Shipment Method:
Shipment Method: Hand delivered from field

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1821 - 1858 Batch: 56

Project Name: ENVVEST AMB20 Project Manager: Brandenburger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# 462253

Special Instructions: _____

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box		
☐	☐	☒	Custody seal present	Seal intact? YES NO	
☒	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)		
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)		
☒	☐	☐	Were all chain of custody forms signed and dated?		
☐	☒	☐	Were samples filtered at MSL?	ALL HALF DMS	*Samples must be filtered prior to preservation!*

Cooler 1: 4 °C
Cooler 2: 4 °C
Cooler 3: 4 °C
Cooler 4: 4 °C

Comment/Remedy: _____

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes: _____

Completed By: STRICKLAND Cooler Receipt Date/Time: 2/16/03 1800

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type:			
☒	0.2% HNO3 *	Notes: TMG, DMS	Lot# 121401O
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☒	Refrigerate/Freeze	Notes: TSS, Nutrients / TOC, DOC	
☐	Other	Notes:	

Completed By: STRICKLAND Preservation Date/Time: 2/16/03 1800

Storage Shelf: TSS, Nutrients, TOC, DOC = MSL5C

Comments/Observations:

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 3/3/2016
Batch: 54
Login Designee: Schlafer

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST AMB 20**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date	Time Collected
	Filter Blank A	3106-1760	Water	Prep Lab K-3-A	Dissolved Hg, Al, Cd, Cr, Cu, Ni, Pb, Zn	03/03/16	1030
	Filter blank B	3106-1761	Water	Prep Lab K-3-A	Dissolved Hg, Al, Cd, Cr, Cu, Ni, Pb, Zn	03/03/16	1030
	Filter Blank C	3106-1762	Water	Prep Lab K-3-A	Dissolved Hg, Al, Cd, Cr, Cu, Ni, Pb, Zn	03/03/16	1030

SOP#: MSL-A-001

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/3/16

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVVEST AMB 20
Project Manager: JB
Phone Number:

Shipment Method: NA
Preservation: 0.2% HNO3 - DMC

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: DMC					Laboratory ID	Observations/Comments
1	FILTER BLANK A	20160303 10:30	WATER	1	X					3106-1760	0.45µg filter
2	FILTER BLANK B	"	"	1	X					-1761	"
3	FILTER BLANK C	"	"	1	X					-1762	"
4											
5											
6											Created @ MSL
7											8
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Nick Schlafer	PNNL	C. Susuki	MSL
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time
	3/3/16 10:30		3/3/16 1100

Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 1760 - 1762 Batch: 54

Project Name: AMB20 Project Manager: JM/JS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WATER WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☒	Custody seal present Seal intact? YES NO
☐	☐	☒	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)

Cooler 1: °C
Cooler 2: °C
Cooler 3: °C
Cooler 4: °C

Comment/Remedy:

☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL? (ALL) HALF

Samples must be filtered prior to preservation!

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: NICK SCHLAFER Cooler Receipt Date/Time: 20160303 10:30

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type:		Notes:	Lot#
☒	0.2% HNO3	DME	1214010
☐	0.5% HCl (Hg samples)		
☐	Refrigerate/Freeze		
☐	Other		

Completed By: NICK SCHLAFER Preservation Date/Time: 20160303 10:30

Storage Shelf: MSL 5 271 K3A

Comments/Observations:

K1602726

PROJECT ENVVEST															
Project Name: MARCH 2016 Ambient Monitoring (AMB20)															CHAIN OF CUSTODY FORM
SAMPLE TEAM:		Navy, Battelle													
DATE:	3/17/2016														
Laboratory:	ALS Kelso, WA														Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB20-001	PS07	3/15/2016 9:15:00 AM	Seawater				X					1	
2	AMB20-002	M4	3/15/2016 9:35:00 AM	Seawater				X					1	
3	AMB20-003	M3.1	3/15/2016 10:10:00 AM	Seawater				X					1	
4	AMB20-003.1	M3.1DEEP	3/15/2016 10:05:00 AM	Seawater				X					1	
5	AMB20-004	BJEST	3/15/2016 10:41:00 AM	Seawater				X					1	
6	AMB20-005	PS12	3/15/2016 11:00:00 AM	Seawater				X					1	
7	AMB20-006	PS12DUP	3/15/2016 11:00:00 AM	Seawater				X					1	
8	AMB20-007	PS01	3/15/2016 11:20:00 AM	Seawater				X					1	
9	AMB20-008	PS02	3/15/2016 11:40:00 AM	Seawater				X					1	
10	AMB20-009	PS13	3/15/2016 11:52:00 AM	Seawater				X					1	
11	AMB20-010	M3.3	3/15/2016 12:05:00 PM	Seawater				X					1	
12	AMB20-011	PS03	3/15/2016 12:41:00 PM	Seawater				X					1	
13	AMB20-012	PS04	3/15/2016 12:50:00 PM	Seawater				X					1	
14	AMB20-013	PS05	3/15/2016 13:05:00 PM	Seawater				X					1	
15	AMB20-014	PS14	3/15/2016 13:18:00 PM	Seawater				X					1	
16	AMB20-015	PS06	3/15/2016 13:32:00 PM	Seawater				X					1	
17	AMB20-016	PS06DUP	3/15/2016 13:32:00 PM	Seawater				X					1	
18	AMB20-017	PS08	3/15/2016 13:50:00 PM	Seawater				X					1	
19	AMB20-018	PS15	3/15/2016 14:05:00 PM	Seawater				X					1	
20	AMB20-019	PS09	3/15/2016 14:20:00 PM	Seawater				X					1	
21	AMB20-020	PS10	3/15/2016 14:20:00 PM	Seawater				X					1	
22	AMB20-021	PS10.1	3/15/2016 14:50:00 PM	Seawater				X					1	
23	AMB20-022	PS11	3/15/2016 15:02:00 PM	Seawater				X					1	
24	AMB20-023	PS16	3/15/2016 15:16:00 PM	Seawater				X					1	
25	AMB20-024	PS07B	3/15/2016 15:34:00 PM	Seawater				X					1	
26	AMB20-DD001	OF018	3/15/2016 9:30:00 AM	Seawater						X			1	
27	AMB20-DD002	OF019	3/15/2016 14:45:00 PM	Seawater						X			1	
28	AMB20-DD003	OF021	3/15/2016 10:45:00 AM	Freshwater						X			1	

K1602716

PROJECT ENVVEST
Project Name: MARCH 2016 Ambient Monitoring (AMB20)
SAMPLE TEAM: Navy, Battelle
DATE: 3/17/2016
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

Testing Parameters per QAPP

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	TOC	Nutrients (TP, NH4, NO3+NO2)	DOC	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
29	AMB20-100	PS07C	3/16/2016 9:00:00 AM	Seawater				X					1	
30	AMB20-101	M6	3/16/2016 9:52:00 AM	Seawater				X					1	
31	AMB20-102	M8	3/16/2016 10:06:00 AM	Seawater				X					1	
32	AMB20-103	DYOTS	3/16/2016 10:28:00 AM	Seawater				X					1	
33	AMB20-104	M2	3/16/2016 11:36:00 AM	Seawater				X					1	
34	AMB20-105	M2DEEP	3/16/2016 11:40:00 AM	Seawater				X					1	
35	AMB20-106	CLMBAY	3/16/2016 12:00:00 PM	Seawater				X					1	
36	AMB20-107	WP	3/16/2016 12:15:00 PM	Seawater				X					1	
37	AMB20-108	M1	3/16/2016 12:36:00 PM	Seawater				X					1	
38	AMB20-109	M1DEEP	3/16/2016 12:40:00 PM	Seawater				X					1	
39	AMB20-110	ILSP	3/16/2016 13:03:00 PM	Seawater				X					1	
40	AMB20-111	ILSPDUP	3/16/2016 13:03:00 PM	Seawater				X					1	
41	AMB20-112	SN05	3/16/2016 13:50:00 PM	Seawater				X					1	
42	AMB20-113	SN03	3/16/2016 14:02:00 PM	Seawater				X					1	
43	AMB20-114	SN08	3/16/2016 14:13:00 PM	Seawater				X					1	
44	AMB20-115	SN10	3/16/2016 14:25:00 PM	Seawater				X					1	
45	AMB20-116	SN11	3/16/2016 14:40:00 PM	Seawater				X					1	
46	AMB20-117	SN11DUP	3/16/2016 14:40:00 PM	Seawater				X					1	
47	AMB20-118	PS07D	3/16/2016 15:00:00 PM	Seawater				X					1	
	--end													
												Total:	47	*Sub-totals: 44 Nut / 3 O&G*

Relinquished By: J. Strivens — Company: Battelle MSL — 3/17/2016 — Date/Time
Signature/Printed Name

shipped via Fedex 3/17/16, JS

Received By: — Company: ALS — 3/18/16 0941 — Date/Time
Signature/Printed Name

PC H2

Cooler Receipt and Preservation Form

Client Battelle Service Request K16 02766

Received: 3/18/16 Opened: 3/18/16 By: Unloaded: 3/18/16 By:

1. Samples were received via? *Mail* ~~*Fed Ex*~~ *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? one, front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
2.1	2.3	4.8	5.0	+0.2	352		4758 9926 1080	
0.5	0.7	4.7	4.7	0	328		" " 1540	
3.1	2.9	3.4	3.2	-0.2	323		" " 1057	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page _____ ***of*** _____

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring August 2016 (AMB21)

Seawater and Freshwater Chemistry

PNNL Project No. 62375
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

ENVVEST Ambient Monitoring 21,
Seawater, Freshwater Chemistry

Chemistry Analysis

Field Data Summary Report 3
QA/QC Summary Reports 12
QA/QC Narrative 29

Narrative, Batch K1610284 34
Summary Report, Batch K1610284 35

Sample Custody Information

Sample Collection, 083016 71
Sample Collection, 083116 80
Equipment Blanks, 081016 92

Chain of Custody, Batch K1610284 93

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
206/528-3407

Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg		Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF		ICP-MS	ICP-MS	ICP-MS	ICP-MS
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.0490**	**4.08**	**0.10**		**0.05**	**0.0008**	**0.01**	**0.002**
Seawater Reporting Limit (MDL* 3.18)								**0.156**	**13.0**	**0.32**		**0.16**	**0.0025**	**0.03**	**0.006**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--	**0.10**		**0.02**	**0.0006**	**0.02**	**0.001**
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--	**0.32**		**0.06**	**0.0019**	**0.06**	**0.003**
AMB21															
AMB21-001	PS07	Total	Seawater	3106-1870	08/30/16	28.8	1.83	1.18	98.5	1.42		14.5	0.0687	0.127	2.14
AMB21-001	PS07	Diss	Seawater	3106-1871	08/30/16	--	--	1.03	85.5	0.448		--	0.0626	0.0876	1.46
AMB21-002	M4	Total	Seawater	3106-1872	08/30/16	29.0	4.73	2.71	226	0.926		13.9	0.0610	0.128	0.802
AMB21-002	M4	Diss	Seawater	3106-1873	08/30/16	--	--	1.24	103	0.226	J	--	0.0430	0.0831	0.542
AMB21-003	BJEST	Total	Seawater	3106-1874	08/30/16	29.2	17.9	2.17	181	1.58		80.5	0.0542	0.300	1.30
AMB21-003	BJEST	Diss	Seawater	3106-1875	08/30/16	--	--	1.22	102	0.232	J	--	0.0428	0.0638	0.732
AMB21-004	M3.1	Total	Seawater	3106-1876	08/30/16	29.6	2.88	1.35	112	1.02		30.5	0.0642	0.148	0.697
AMB21-004	M3.1	Diss	Seawater	3106-1877	08/30/16	--	--	1.09	90.7	0.193	J	--	0.0542	0.100	0.417
AMB21-005	M3.1DEEP	Total	Seawater	3106-1878	08/30/16	29.7	2.34	1.32	110	1.01		30.7	0.0620	0.137	0.678
AMB21-005	M3.1DEEP	Diss	Seawater	3106-1879	08/30/16	--	--	1.04	86.3	0.218	J	--	0.0534	0.0911	0.427
AMB21-006	PS12	Total	Seawater	3106-1880	08/30/16	29.4	1.57	1.35	112	1.03		11.2	0.0602	0.108	2.30
AMB21-006	PS12	Diss	Seawater	3106-1881	08/30/16	--	--	1.08	90.1	0.274	J	--	0.0543	0.0816	1.64
AMB21-007	PS01	Total	Seawater	3106-1882	08/30/16	28.0	4.99	1.56	130	3.17		50.4	0.0661	0.353	1.85
AMB21-007	PS01	Diss	Seawater	3106-1883	08/30/16	--	--	1.11	92.6	1.02		--	0.0527	0.218	0.887
AMB21-008	PS01DUP	Total	Seawater	3106-1884	08/30/16	27.9	4.70	1.59	132	2.73		27.1	0.0639	0.228	1.68
AMB21-008	PS01DUP	Diss	Seawater	3106-1885	08/30/16	--	--	1.14	95.3	0.796		--	0.0526	0.161	0.889
AMB21-009	PS02	Total	Seawater	3106-1886	08/30/16	29.2	2.91	1.63	136	1.29		9.23	0.0608	0.152	2.46
AMB21-009	PS02	Diss	Seawater	3106-1887	08/30/16	--	--	1.12	93.0	0.616		--	0.0522	0.157	1.74
AMB21-010	PS13	Total	Seawater	3106-1888	08/30/16	29.6	1.53	1.59	132	0.749		9.41	0.0575	0.114	1.61
AMB21-010	PS13	Diss	Seawater	3106-1889	08/30/16	--	--	1.11	92.6	0.208	J	--	0.0503	0.0853	1.14
AMB21-011	PS03	Total	Seawater	3106-1890	08/30/16	29.0	2.12	1.60	133	11.4		10.3	0.0606	0.143	2.93
AMB21-011	PS03	Diss	Seawater	3106-1891	08/30/16	--	--	1.16	96.3	4.99		--	0.0526	0.129	2.01
AMB21-012	PS04	Total	Seawater	3106-1892	08/30/16	29.1	2.02	1.71	142	0.923		8.14	0.0554	0.111	2.67
AMB21-012	PS04	Diss	Seawater	3106-1893	08/30/16	--	--	1.16	96.7	0.388		--	0.0500	0.106	2.12
AMB21-013	PS05	Total	Seawater	3106-1894	08/30/16	29.0	2.60	1.81	151	0.740		12.3	0.0535	0.111	1.68
AMB21-013	PS05	Diss	Seawater	3106-1895	08/30/16	--	--	1.17	97.9	0.241	J	--	0.0501	0.0772	1.31
AMB21-014	PS05DUP	Total	Seawater	3106-1896	08/30/16	28.9	3.07	1.83	152	0.863		12.2	0.0547	0.119	2.23
AMB21-014	PS05DUP	Diss	Seawater	3106-1897	08/30/16	--	--	1.74	145	0.251	J	--	0.0509	0.0775	1.55
AMB21-015	PS14	Total	Seawater	3106-1898	08/30/16	29.1	3.12	1.89	157	0.887		10.2	0.0563	0.108	2.02
AMB21-015	PS14	Diss	Seawater	3106-1899	08/30/16	--	--	1.17	97.2	0.289	J	--	0.0525	0.0811	1.63
AMB21-016	PS06	Total	Seawater	3106-1900	08/30/16	28.3	1.92	1.44	120	1.01		15.0	0.0602	0.127	2.32
AMB21-016	PS06	Diss	Seawater	3106-1901	08/30/16	--	--	1.03	86.2	0.314	J	--	0.0563	0.0773	1.76

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Ambient Monitoring - AMB21
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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/DOC	TOC/DOC	Hg		Al	Cd	Cr	Cu
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF		ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB21-017	PS08	Total	Seawater	3106-1902	08/30/16	28.8	2.62	1.78	148	0.832		14.1	0.0593	0.118	2.04
AMB21-017	PS08	Diss	Seawater	3106-1903	08/30/16	--	--	1.10	91.9	0.234	J	--	0.0555	0.0824	1.56
AMB21-018	PS15	Total	Seawater	3106-1904	08/30/16	28.9	2.85	2.33	194	0.653		12.3	0.0540	0.129	1.07
AMB21-018	PS15	Diss	Seawater	3106-1905	08/30/16	--	--	1.17	97.9	0.210	J	--	0.0482	0.121	0.800
AMB21-019	PS09	Total	Seawater	3106-1906	08/30/16	28.9	2.39	1.81	151	0.982		15.8	0.0587	0.143	2.94
AMB21-019	PS09	Diss	Seawater	3106-1907	08/30/16	--	--	1.13	94.2	0.286	J	--	0.0540	0.0993	1.96
AMB21-020	PS10	Total	Seawater	3106-1908	08/30/16	29.1	3.13	2.25	187	0.672		11.8	0.0539	0.114	1.48
AMB21-020	PS10	Diss	Seawater	3106-1909	08/30/16	--	--	1.17	97.7	0.195	J	--	0.0474	0.0788	1.06
AMB21-021	PS10.1	Total	Seawater	3106-1910	08/30/16	29.2	3.77	2.30	192	0.749		11.8	0.0527	0.111	1.43
AMB21-021	PS10.1	Diss	Seawater	3106-1911	08/30/16	--	--	1.15	96.1	0.255	J	--	0.0476	0.0757	1.11
AMB21-022	PS11	Total	Seawater	3106-1912	08/30/16	28.6	3.00	1.94	161	1.06		19.4	0.0543	0.122	1.81
AMB21-022	PS11	Diss	Seawater	3106-1913	08/30/16	--	--	1.16	96.3	0.216	J	--	0.0496	0.0849	1.26
AMB21-023	PS16	Total	Seawater	3106-1914	08/30/16	29.2	2.67	1.47	123	0.982		23.2	0.0595	0.147	1.47
AMB21-023	PS16	Diss	Seawater	3106-1915	08/30/16	--	--	1.07	88.8	0.213	J	--	0.0530	0.107	1.13
AMB21-024	PS07B	Total	Seawater	3106-1916	08/30/16	28.1	1.76	1.33	111	1.26		16.7	0.0710	0.141	3.36
AMB21-024	PS07B	Diss	Seawater	3106-1917	08/30/16	--	--	1.09	90.9	0.465		--	0.0674	0.0948	2.66
AMB21-DD001	OF018	Total	Seawater	3106-1918	08/30/16	23.4	11.6	1.18	98.6	11.8		207	0.0987	5.67	19.1
AMB21-DD001	OF018	Diss	Seawater	3106-1919	08/30/16	--	--	1.00	83.2	1.31		--	0.0882	0.311	6.04
AMB21-DD002	OF019	Total	Seawater	3106-1920	08/30/16	16.9	0.42 U	0.696	58.0	5.73		5.55	0.0762	0.247	1.03
AMB21-DD002	OF019	Diss	Seawater	3106-1921	08/30/16	--	--	0.644	53.6	3.23		--	0.0709	0.168	0.717
AMB21-DD003	OF021	Total	Fresh Water	3106-1922	08/30/16	0.2	0.42 U	1.97	164	2.01		3.03	0.00133	J 1.75	0.769
AMB21-DD003	OF021	Diss	Fresh Water	3106-1923	08/30/16	--	--	1.76	147	1.87		--	0.00287	1.68	0.697
AMB21-100	M6	Total	Seawater	3106-1924	08/31/16	29.6	2.60	1.49	124	1.14		28.4	0.0533	0.147	0.618
AMB21-100	M6	Diss	Seawater	3106-1925	08/31/16	--	--	1.12	93.4	0.185	J	--	0.0441	0.0705	0.409
AMB21-101	M8	Total	Seawater	3106-1926	08/31/16	29.4	3.77	1.60	133	1.24		39.1	0.0439	0.156	0.665
AMB21-101	M8	Diss	Seawater	3106-1927	08/31/16	--	--	1.20	100	0.211	J	--	0.0357	0.112	0.415
AMB21-102	M8DUP	Total	Seawater	3106-1928	08/31/16	29.4	3.18	1.61	134	1.36		41.3	0.0497	0.166	0.658
AMB21-102	M8DUP	Diss	Seawater	3106-1929	08/31/16	--	--	1.19	99.0	0.246	J	--	0.0384	0.0839	0.406
AMB21-103	DYOTS	Total	Seawater	3106-1930	08/31/16	29.4	1.94	1.50	125	0.957		35.9	0.0543	0.164	0.752
AMB21-103	DYOTS	Diss	Seawater	3106-1931	08/31/16	--	--	1.29	108	0.251	J	--	0.0418	0.0889	0.543
AMB21-104	WP	Total	Seawater	3106-1932	08/31/16	29.7	1.12	1.43	119	0.687		17.5	0.0611	0.118	0.704
AMB21-104	WP	Diss	Seawater	3106-1933	08/31/16	--	--	1.08	90.3	0.199	J	--	0.0542	0.0795	0.511
AMB21-105	M2	Total	Seawater	3106-1934	08/31/16	30.0	1.47	1.08	90.4	0.575		21.3	0.0695	0.128	0.534
AMB21-105	M2	Diss	Seawater	3106-1935	08/31/16	--	--	0.922	76.9	0.183	J	--	0.0629	0.0858	0.394
AMB21-106	M2DEEP	Total	Seawater	3106-1936	08/31/16	29.9	1.39	1.12	92.9	0.574		17.9	0.0752	0.117	0.584
AMB21-106	M2DEEP	Diss	Seawater	3106-1937	08/31/16	--	--	0.933	77.8	0.201	J	--	0.0618	0.0989	0.390
AMB21-107	CLMBAY	Total	Seawater	3106-1938	08/31/16	30.0	2.30	1.06	88.5	0.673		29.2	0.0701	0.144	0.573

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				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)	CVAF		ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB21-107	CLMBAY	Diss	Seawater	3106-1939	08/31/16	--	--	0.907	75.6	0.185	J	--	0.0658	0.0927	0.408
AMB21-108	ILSP	Total	Seawater	3106-1940	08/31/16	29.9	1.33	1.12	93.3	0.450		11.8	0.0948	0.113	0.659
AMB21-108	ILSP	Diss	Seawater	3106-1941	08/31/16	--	--	0.957	79.7	0.199	J	--	0.0877	0.0740	0.379
AMB21-109	M1	Total	Seawater	3106-1942	08/31/16	29.9	1.45	1.52	127	0.453		10.4	0.0614	0.0963	0.428
AMB21-109	M1	Diss	Seawater	3106-1943	08/31/16	--	--	1.03	85.5	0.158	J	--	0.0517	0.0781	0.334
AMB21-110	M1DEEP	Total	Seawater	3106-1944	08/31/16	30.0	0.862	1.35	113	0.433		7.87	0.0596	0.101	0.401
AMB21-110	M1DEEP	Diss	Seawater	3106-1945	08/31/16	--	--	1.10	91.3	0.188	J	--	0.0524	0.0771	0.316
AMB21-111	POPIPD	Total	Seawater	3106-1946	08/31/16	30.1	1.75	1.09	91.0	0.766		33.6	0.0637	0.159	0.494
AMB21-111	POPIPD	Diss	Seawater	3106-1947	08/31/16	--	--	0.952	79.4	0.189	J	--	0.0569	0.0792	0.321
AMB21-112	SN03	Total	Seawater	3106-1948	08/31/16	29.6	3.14	1.61	135	1.68		38.1	0.0575	0.183	0.893
AMB21-112	SN03	Diss	Seawater	3106-1949	08/31/16	--	--	1.13	94.0	0.234	J	--	0.0488	0.116	0.534
AMB21-113	SN05	Total	Seawater	3106-1950	08/31/16	28.3	4.34	1.72	143	2.01		88.2	0.0492	0.399	1.07
AMB21-113	SN05	Diss	Seawater	3106-1951	08/31/16	--	--	1.14	94.8	0.231	J	--	0.0392	0.165	0.508
AMB21-114	SN05DUP	Total	Seawater	3106-1952	08/31/16	28.2	3.95	1.74	145	1.25		48.7	0.0515	0.261	0.954
AMB21-114	SN05DUP	Diss	Seawater	3106-1953	08/31/16	--	--	1.16	96.4	0.222	J	--	0.0441	0.119	0.554
AMB21-115	SN08	Total	Seawater	3106-1954	08/31/16	29.2	5.79	2.90	241	1.57		38.7	0.0496	0.172	0.886
AMB21-115	SN08	Diss	Seawater	3106-1955	08/31/16	--	--	1.20	100	0.210	J	--	0.0350	0.0674	0.478
AMB21-116	SN10	Total	Seawater	3106-1956	08/31/16	29.4	3.74	2.80	233	1.20		20.0	0.0677	0.114	1.23
AMB21-116	SN10	Diss	Seawater	3106-1957	08/31/16	--	--	1.22	102	0.208	J	--	0.0449	0.0827	0.777
AMB21-117	SN11	Total	Seawater	3106-1958	08/31/16	29.4	4.83	3.16	264	0.988		13.4	0.0729	0.104	0.989
AMB21-117	SN11	Diss	Seawater	3106-1959	08/31/16	--	--	1.18	98.0	0.181	J	--	0.0482	0.0740	0.700
AMB21-118	M3.3	Total	Seawater	3106-1960	08/31/16	29.3	4.01	2.47	206	0.876		13.7	0.0567	0.131	0.729
AMB21-118	M3.3	Diss	Seawater	3106-1961	08/31/16	--	--	1.12	93.6	0.211	J	--	0.0424	0.0897	0.521
AMB21-119	M3.3DEEP	Total	Seawater	3106-1962	08/31/16	29.2	3.79	2.89	241	0.926		20.7	0.0608	0.122	0.868
AMB21-119	M3.3DEEP	Diss	Seawater	3106-1963	08/31/16	--	--	1.12	93.1	0.181	J	--	0.0424	0.0924	0.640
AMB21-120	PS07C	Total	Seawater	3106-1964	08/31/16	28.0	2.09	2.31	192	1.58		17.0	0.0780	0.153	4.21
AMB21-120	PS07C	Diss	Seawater	3106-1965	08/31/16	--	--	1.96	164	0.597		--	0.0712	0.103	3.29
	Filter Blank A		Fresh Water	3106-1865	08/10/16	--	--	--	--	0.10	U	0.0385 J	0.0006 U	0.02 U	0.0010 U
	Filter Blank B		Fresh Water	3106-1866	08/10/16	--	--	--	--	0.10	U	0.0530 J	0.0006 U	0.02 U	0.0010 U
	Filter Blank C		Fresh Water	3106-1867	08/10/16	--	--	--	--	0.10	U	0.0741	0.0006 U	0.02 U	0.0010 U

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Ni	Pb	Zn	Hg	Al	Cd	Cr	Cu
				Instrument:	ICP-MS	ICP-MS	ICP-MS	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0019**	**0.0010**	**0.0093**					
Seawater Reporting Limit (MDL* 3.18)					**0.0060**	**0.0032**	**0.0296**					
Laboratory Achieved Detection Limits (Freshwater)					**0.0022**	**0.0004**	**0.01**					
Freshwater Reporting Limit (MDL* 3.18)					**0.0070**	**0.0013**	**0.03**					
AMB21												
AMB21-001	PS07	Total	Seawater	3106-1870	0.689	0.138	5.15	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-001	PS07	Diss	Seawater	3106-1871	0.555	0.0363	4.25	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-002	M4	Total	Seawater	3106-1872	0.518	0.102	1.90	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-002	M4	Diss	Seawater	3106-1873	0.402	0.0193	1.01	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-003	BJEST	Total	Seawater	3106-1874	0.749	0.244	2.86	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-003	BJEST	Diss	Seawater	3106-1875	0.375	0.0266	1.34	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-004	M3.1	Total	Seawater	3106-1876	0.593	0.157	0.970	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-004	M3.1	Diss	Seawater	3106-1877	0.621	0.0290	0.545	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-005	M3.1DEEP	Total	Seawater	3106-1878	0.532	0.151	1.03	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-005	M3.1DEEP	Diss	Seawater	3106-1879	0.392	0.0337	0.857	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-006	PS12	Total	Seawater	3106-1880	0.571	0.133	5.93	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-006	PS12	Diss	Seawater	3106-1881	0.609	0.0374	4.62	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-007	PS01	Total	Seawater	3106-1882	0.736	0.336	3.75	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-007	PS01	Diss	Seawater	3106-1883	0.550	0.0480	2.15	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-008	PS01DUP	Total	Seawater	3106-1884	0.654	0.257	3.57	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-008	PS01DUP	Diss	Seawater	3106-1885	0.483	0.0459	2.31	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-009	PS02	Total	Seawater	3106-1886	0.561	0.107	5.26	090216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-009	PS02	Diss	Seawater	3106-1887	0.646	0.0331	3.88	090216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-010	PS13	Total	Seawater	3106-1888	0.524	0.0913	2.25	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-010	PS13	Diss	Seawater	3106-1889	0.405	0.0294	1.54	090616HGA	--	Q090916A	Q091316A	Q090916A
AMB21-011	PS03	Total	Seawater	3106-1890	0.580	0.156	3.87	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-011	PS03	Diss	Seawater	3106-1891	0.665	0.0365	2.78	090616HGA	--	Q090916A	Q091316A	Q090916A
AMB21-012	PS04	Total	Seawater	3106-1892	0.555	0.0842	3.92	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-012	PS04	Diss	Seawater	3106-1893	0.527	0.0309	2.98	090616HGA	--	Q090916A	Q091316A	Q090916A
AMB21-013	PS05	Total	Seawater	3106-1894	0.551	0.104	2.38	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-013	PS05	Diss	Seawater	3106-1895	0.477	0.0297	1.73	090616HGA	--	Q091216A	Q091316A	Q091216A
AMB21-014	PS05DUP	Total	Seawater	3106-1896	0.571	0.115	3.68	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-014	PS05DUP	Diss	Seawater	3106-1897	0.493	0.0259	2.48	090616HGA	--	Q091216A	Q091316A	Q091216A
AMB21-015	PS14	Total	Seawater	3106-1898	0.531	0.0902	2.72	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-015	PS14	Diss	Seawater	3106-1899	0.489	0.0313	2.10	090616HGA	--	Q091216A	Q091316A	Q091216A
AMB21-016	PS06	Total	Seawater	3106-1900	0.625	0.115	4.09	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-016	PS06	Diss	Seawater	3106-1901	0.545	0.0299	3.48	090616HGA	--	Q091216A	Q091316A	Q091216A

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Ambient Monitoring - AMB21
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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	Hg	Al	Cd	Cr	Cu
				Instrument:	ICP-MS	ICP-MS	ICP-MS	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB21-017	PS08	Total	Seawater	3106-1902	0.641	0.117	3.93	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-017	PS08	Diss	Seawater	3106-1903	0.592	0.0355	3.34	090616HGA	--	Q091216A	Q091316A	Q091216A
AMB21-018	PS15	Total	Seawater	3106-1904	0.534	0.0998	1.68	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-018	PS15	Diss	Seawater	3106-1905	0.719	0.0303	0.973	090616HGA	--	Q090916A	Q091316A	Q090916A
AMB21-019	PS09	Total	Seawater	3106-1906	0.733	0.146	6.62	090616HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-019	PS09	Diss	Seawater	3106-1907	0.567	0.0301	5.11	090616HGA	--	Q090916A	Q091316A	Q090916A
AMB21-020	PS10	Total	Seawater	3106-1908	0.528	0.0948	2.59	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-020	PS10	Diss	Seawater	3106-1909	0.427	0.0249	1.81	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-021	PS10.1	Total	Seawater	3106-1910	0.515	0.0976	3.24	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-021	PS10.1	Diss	Seawater	3106-1911	0.432	0.0277	2.15	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-022	PS11	Total	Seawater	3106-1912	0.606	0.132	3.97	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-022	PS11	Diss	Seawater	3106-1913	0.500	0.0300	2.82	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-023	PS16	Total	Seawater	3106-1914	0.517	0.117	6.53	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-023	PS16	Diss	Seawater	3106-1915	0.428	0.0360	5.32	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-024	PS07B	Total	Seawater	3106-1916	0.649	0.206	15.3	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-024	PS07B	Diss	Seawater	3106-1917	0.601	0.0615	13.9	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-DD001	OF018	Total	Seawater	3106-1918	10.5	0.933	54.3	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-DD001	OF018	Diss	Seawater	3106-1919	8.50	0.0124	35.1	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-DD002	OF019	Total	Seawater	3106-1920	1.42	0.0767	7.95	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-DD002	OF019	Diss	Seawater	3106-1921	1.31	0.00143 J	6.79	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-DD003	OF021	Total	Fresh Water	3106-1922	0.764	0.00262	0.223	090716HGA	Q091416A	Q091416A	Q091416A	Q091416A
AMB21-DD003	OF021	Diss	Fresh Water	3106-1923	0.579	0.00295	0.214	090716HGA	--	Q091416A	Q091416A	Q091416A
AMB21-100	M6	Total	Seawater	3106-1924	0.523	0.182	0.766	090716HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-100	M6	Diss	Seawater	3106-1925	0.395	0.0431	0.396	090716HGA	--	Q090916A	Q091316A	Q090916A
AMB21-101	M8	Total	Seawater	3106-1926	0.544	0.255	0.782	090816HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-101	M8	Diss	Seawater	3106-1927	0.543	0.0544	0.361	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-102	M8DUP	Total	Seawater	3106-1928	0.595	0.257	0.897	090816HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-102	M8DUP	Diss	Seawater	3106-1929	0.410	0.0546	0.460	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-103	DYOTS	Total	Seawater	3106-1930	0.598	0.166	1.09	090816HGA	Q091316A	Q091516A	Q091316A	Q091516A
AMB21-103	DYOTS	Diss	Seawater	3106-1931	0.463	0.0389	0.646	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-104	WP	Total	Seawater	3106-1932	0.541	0.111	0.998	090816HGA	Q091316A	Q091516A	Q091316A	Q091516A
AMB21-104	WP	Diss	Seawater	3106-1933	0.404	0.0270	0.565	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-105	M2	Total	Seawater	3106-1934	0.483	0.0805	0.631	090816HGA	Q091316A	Q091516A	Q091316A	Q091516A
AMB21-105	M2	Diss	Seawater	3106-1935	0.398	0.0146	0.402	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-106	M2DEEP	Total	Seawater	3106-1936	0.565	0.0730	0.995	090816HGA	Q091316A	Q091516A	Q091316A	Q091516A
AMB21-106	M2DEEP	Diss	Seawater	3106-1937	0.411	0.0203	0.539	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-107	CLMBAY	Total	Seawater	3106-1938	0.532	0.0910	0.710	090816HGA	Q091316A	Q091216A	Q091316A	Q091216A

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Ni**	**Pb**	**Zn**	Hg	Al	Cd	Cr	Cu
				Instrument:	ICP-MS	ICP-MS	ICP-MS	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB21-107	CLMBAY	Diss	Seawater	3106-1939	0.397	0.0124	0.450	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-108	ILSP	Total	Seawater	3106-1940	0.471	0.0611	0.604	090816HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-108	ILSP	Diss	Seawater	3106-1941	0.405	0.0198	0.414	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-109	M1	Total	Seawater	3106-1942	0.482	0.0507	0.591	090816HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-109	M1	Diss	Seawater	3106-1943	0.377	0.0158	0.374	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-110	M1DEEP	Total	Seawater	3106-1944	0.471	0.0483	0.620	090816HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-110	M1DEEP	Diss	Seawater	3106-1945	0.391	0.0172	0.393	090816HGA	--	Q090916A	Q091316A	Q090916A
AMB21-111	POPIPD	Total	Seawater	3106-1946	0.527	0.107	0.672	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-111	POPIPD	Diss	Seawater	3106-1947	0.372	0.0224	0.343	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-112	SN03	Total	Seawater	3106-1948	0.633	0.248	1.39	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-112	SN03	Diss	Seawater	3106-1949	0.671	0.0453	0.814	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-113	SN05	Total	Seawater	3106-1950	0.640	0.303	1.67	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-113	SN05	Diss	Seawater	3106-1951	0.393	0.0356	0.852	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-114	SN05DUP	Total	Seawater	3106-1952	0.580	0.202	1.52	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-114	SN05DUP	Diss	Seawater	3106-1953	0.400	0.0304	0.994	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-115	SN08	Total	Seawater	3106-1954	0.532	0.201	1.87	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-115	SN08	Diss	Seawater	3106-1955	0.364	0.0286	1.00	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-116	SN10	Total	Seawater	3106-1956	0.516	0.139	3.12	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-116	SN10	Diss	Seawater	3106-1957	0.407	0.0329	1.79	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-117	SN11	Total	Seawater	3106-1958	0.499	0.100	2.21	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-117	SN11	Diss	Seawater	3106-1959	0.384	0.0263	1.13	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-118	M3.3	Total	Seawater	3106-1960	0.466	0.109	1.27	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-118	M3.3	Diss	Seawater	3106-1961	0.380	0.0252	0.919	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-119	M3.3DEEP	Total	Seawater	3106-1962	0.485	0.117	1.50	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-119	M3.3DEEP	Diss	Seawater	3106-1963	0.460	0.0242	0.738	091216HGA	--	Q090916A	Q091316A	Q090916A
AMB21-120	PS07C	Total	Seawater	3106-1964	0.880	0.295	12.9	091216HGA	Q091316A	Q091216A	Q091316A	Q091216A
AMB21-120	PS07C	Diss	Seawater	3106-1965	0.752	0.0700	10.9	091216HGA	--	Q090916A	Q091316A	Q090916A
	Filter Blank A		Fresh Water	3106-1865	0.0022 U	0.000557 J	0.0145 J	090716HGA	Q091416A	Q091416A	Q091416A	Q091416A
	Filter Blank B		Fresh Water	3106-1866	0.0022 U	0.0004 U	0.137	090716HGA	Q091416A	Q091416A	Q091416A	Q091416A
	Filter Blank C		Fresh Water	3106-1867	0.0022 U	0.0004 U	0.0151 J	090716HGA	Q091416A	Q091416A	Q091416A	Q091416A

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Ni	Pb	Zn	SAL	TOC/DOC	TSS
				Instrument:	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
Laboratory Achieved Detection Limits (Seawater)										
Seawater Reporting Limit (MDL* 3.18)										
Laboratory Achieved Detection Limits (Freshwater)										
Freshwater Reporting Limit (MDL* 3.18)										
AMB21										
AMB21-001	PS07	Total	Seawater	3106-1870	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-001	PS07	Diss	Seawater	3106-1871	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-002	M4	Total	Seawater	3106-1872	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-002	M4	Diss	Seawater	3106-1873	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-003	BJEST	Total	Seawater	3106-1874	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-003	BJEST	Diss	Seawater	3106-1875	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-004	M3.1	Total	Seawater	3106-1876	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-004	M3.1	Diss	Seawater	3106-1877	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-005	M3.1DEEP	Total	Seawater	3106-1878	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-005	M3.1DEEP	Diss	Seawater	3106-1879	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-006	PS12	Total	Seawater	3106-1880	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-006	PS12	Diss	Seawater	3106-1881	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-007	PS01	Total	Seawater	3106-1882	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-007	PS01	Diss	Seawater	3106-1883	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-008	PS01DUP	Total	Seawater	3106-1884	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-008	PS01DUP	Diss	Seawater	3106-1885	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-009	PS02	Total	Seawater	3106-1886	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-009	PS02	Diss	Seawater	3106-1887	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-010	PS13	Total	Seawater	3106-1888	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-010	PS13	Diss	Seawater	3106-1889	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-011	PS03	Total	Seawater	3106-1890	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-011	PS03	Diss	Seawater	3106-1891	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-012	PS04	Total	Seawater	3106-1892	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-012	PS04	Diss	Seawater	3106-1893	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-013	PS05	Total	Seawater	3106-1894	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-013	PS05	Diss	Seawater	3106-1895	Q091216A	Q091216A	Q091216A	--	091316HTCO	--
AMB21-014	PS05DUP	Total	Seawater	3106-1896	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-014	PS05DUP	Diss	Seawater	3106-1897	Q091216A	Q091216A	Q091216A	--	091316HTCO	--
AMB21-015	PS14	Total	Seawater	3106-1898	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-015	PS14	Diss	Seawater	3106-1899	Q091216A	Q091216A	Q091216A	--	091316HTCO	--
AMB21-016	PS06	Total	Seawater	3106-1900	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-016	PS06	Diss	Seawater	3106-1901	Q091216A	Q091216A	Q091216A	--	091316HTCO	--

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Ni	Pb	Zn	SAL	TOC/DOC	TSS
				Instrument:	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB21-017	PS08	Total	Seawater	3106-1902	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-017	PS08	Diss	Seawater	3106-1903	Q091216A	Q091216A	Q091216A	--	091316HTCO	--
AMB21-018	PS15	Total	Seawater	3106-1904	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-018	PS15	Diss	Seawater	3106-1905	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-019	PS09	Total	Seawater	3106-1906	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-019	PS09	Diss	Seawater	3106-1907	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-020	PS10	Total	Seawater	3106-1908	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-020	PS10	Diss	Seawater	3106-1909	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-021	PS10.1	Total	Seawater	3106-1910	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-021	PS10.1	Diss	Seawater	3106-1911	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-022	PS11	Total	Seawater	3106-1912	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-022	PS11	Diss	Seawater	3106-1913	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-023	PS16	Total	Seawater	3106-1914	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-023	PS16	Diss	Seawater	3106-1915	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-024	PS07B	Total	Seawater	3106-1916	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-024	PS07B	Diss	Seawater	3106-1917	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-DD001	OF018	Total	Seawater	3106-1918	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-DD001	OF018	Diss	Seawater	3106-1919	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-DD002	OF019	Total	Seawater	3106-1920	Q091216A	Q091216A	Q091216A	090116Osal	090816HTCO	090116Nu
AMB21-DD002	OF019	Diss	Seawater	3106-1921	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-DD003	OF021	Total	Fresh Water	3106-1922	Q091416A	Q091416A	Q091416A	090116Osal	090816HTCO	090116Nu
AMB21-DD003	OF021	Diss	Fresh Water	3106-1923	Q091416A	Q091416A	Q091416A	--	091316HTCO	--
AMB21-100	M6	Total	Seawater	3106-1924	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-100	M6	Diss	Seawater	3106-1925	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-101	M8	Total	Seawater	3106-1926	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-101	M8	Diss	Seawater	3106-1927	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-102	M8DUP	Total	Seawater	3106-1928	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-102	M8DUP	Diss	Seawater	3106-1929	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-103	DYOTS	Total	Seawater	3106-1930	Q091516A	Q091516A	Q091516A	090216Osal	090816HTCO	090216Nu
AMB21-103	DYOTS	Diss	Seawater	3106-1931	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-104	WP	Total	Seawater	3106-1932	Q091516A	Q091516A	Q091516A	090216Osal	090816HTCO	090216Nu
AMB21-104	WP	Diss	Seawater	3106-1933	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-105	M2	Total	Seawater	3106-1934	Q091516A	Q091516A	Q091516A	090216Osal	090816HTCO	090216Nu
AMB21-105	M2	Diss	Seawater	3106-1935	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-106	M2DEEP	Total	Seawater	3106-1936	Q091516A	Q091516A	Q091516A	090216Osal	090816HTCO	090216Nu
AMB21-106	M2DEEP	Diss	Seawater	3106-1937	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-107	CLMBAY	Total	Seawater	3106-1938	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Ni	Pb	Zn	SAL	TOC/DOC	TSS
				Instrument:	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB21-107	CLMBAY	Diss	Seawater	3106-1939	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-108	ILSP	Total	Seawater	3106-1940	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-108	ILSP	Diss	Seawater	3106-1941	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-109	M1	Total	Seawater	3106-1942	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-109	M1	Diss	Seawater	3106-1943	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-110	M1DEEP	Total	Seawater	3106-1944	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-110	M1DEEP	Diss	Seawater	3106-1945	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-111	POPIPD	Total	Seawater	3106-1946	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-111	POPIPD	Diss	Seawater	3106-1947	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-112	SN03	Total	Seawater	3106-1948	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-112	SN03	Diss	Seawater	3106-1949	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-113	SN05	Total	Seawater	3106-1950	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-113	SN05	Diss	Seawater	3106-1951	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-114	SN05DUP	Total	Seawater	3106-1952	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-114	SN05DUP	Diss	Seawater	3106-1953	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-115	SN08	Total	Seawater	3106-1954	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-115	SN08	Diss	Seawater	3106-1955	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-116	SN10	Total	Seawater	3106-1956	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-116	SN10	Diss	Seawater	3106-1957	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-117	SN11	Total	Seawater	3106-1958	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-117	SN11	Diss	Seawater	3106-1959	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-118	M3.3	Total	Seawater	3106-1960	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-118	M3.3	Diss	Seawater	3106-1961	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-119	M3.3DEEP	Total	Seawater	3106-1962	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-119	M3.3DEEP	Diss	Seawater	3106-1963	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
AMB21-120	PS07C	Total	Seawater	3106-1964	Q091216A	Q091216A	Q091216A	090216Osal	090816HTCO	090216Nu
AMB21-120	PS07C	Diss	Seawater	3106-1965	Q090916A	Q090916A	Q090916A	--	091316HTCO	--
	Filter Blank A		Fresh Water	3106-1865	Q091416A	Q091416A	Q091416A	--	--	--
	Filter Blank B		Fresh Water	3106-1866	Q091416A	Q091416A	Q091416A	--	--	--
	Filter Blank C		Fresh Water	3106-1867	Q091416A	Q091416A	Q091416A	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.05**	**0.0008**	**0.01**	**0.002**	**0.0019**	**0.0010**	**0.0093**		
Seawater Reporting Limit (MDL* 3.18)					**0.16**	**0.0025**	**0.03**	**0.006**	**0.0060**	**0.0032**	**0.0296**		
METHOD BLANKS													
MB		Seawater	BLANK R1		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R2		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R3		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R4		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R5		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R6		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R7		0.05 U	0.0008 U	0.01 U	0.002 U	0.0023 J	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R8		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MB		Seawater	BLANK R9		0.05 U	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091216A	Q091316A
MEAN REAGENT BLANK		Seawater			**0.05 U**	**0.0008 U**	**0.01 U**	**0.002 U**	**0.00195 U**	**0.0010 U**	**0.0093 U**		
MB		Seawater	BLANK R1 0915		--	0.0008 U	--	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091516A	--
MB		Seawater	BLANK R2 0915		--	0.0008 U	--	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091516A	--
MB		Seawater	BLANK R3 0915		--	0.0008 U	--	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q091516A	--
MEAN REAGENT BLANK		Seawater			--	**0.0008 U**	--	**0.002 U**	**0.0019 U**	**0.0010 U**	**0.0093 U**		
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R1		0.758	0.0624	0.457	0.241	0.971	0.00284 J	1.29	Q091216A	Q091316A
LCS		Seawater	SB LCS R1		2.70	2.19	2.41	2.34	3.23	1.97	3.49	Q091216A	Q091316A
			Percent Recovery, LCS		**97%**	**106%**	**98%**	**105%**	**113%**	**98%**	**110%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R2		0.733	0.0642	0.480	0.255	1.02	0.00295 J	1.36	Q091216A	Q091316A
LCS		Seawater	SB LCS R2		2.69	2.20	2.39	2.41	3.37	1.94	3.63	Q091216A	Q091316A
			Percent Recovery, LCS		**98%**	**107%**	**96%**	**108%**	**117%**	**97%**	**114%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R3		0.719	0.0635	0.456	0.248	1.00	0.00287 J	1.33	Q091216A	Q091316A
LCS		Seawater	SB LCS R3		2.61	2.18	2.36	2.35	3.27	1.96	3.55	Q091216A	Q091316A
			Percent Recovery, LCS		**95%**	**106%**	**95%**	**105%**	**114%**	**98%**	**111%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB 0915		--	0.0653	--	0.255	1.02	0.00304 J	1.32	Q091516A	--
LCS		Seawater	SB LCS 0915		--	2.20	--	2.38	3.31	1.99	3.51	Q091516A	--
			Percent Recovery, LCS		--	**107%**	--	**106%**	**115%**	**99%**	**109%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
MATRIX SPIKE RESULTS													
AMB21-001	PS07	Total	Seawater	3106-1870	14.5	0.0687	0.127	2.14	0.689	0.138	5.15	Q091216A	Q091316A
MS				3106-1870 MS	19.3	1.12	1.06	7.65	1.75	1.11	10.8	Q091216A	Q091316A
MSD				3106-1870 MSD	19.5	1.11	1.05	7.54	1.74	1.11	10.6	Q091216A	Q091316A
				Spike concentration	5	1	1	5	1	1	5	Q091216A	Q091316A
				Percent Recovery, MS	**97%**	**105%**	**94%**	**110%**	**106%**	**97%**	**113%**		
				Percent Recovery, MSD	**101%**	**104%**	**92%**	**108%**	**105%**	**97%**	**109%**		
AMB21-021	PS10.1	Total	Seawater	3106-1910	11.8	0.0527	0.111	1.43	0.515	0.0976	3.24	Q091216A	Q091316A
MS				3106-1910 MS	16.7	1.10	1.07	6.72	1.59	1.06	8.67	Q091216A	Q091316A
MSD				3106-1910 MSD	16.8	1.07	1.06	6.84	1.56	1.05	8.60	Q091216A	Q091316A
				Spike concentration	5	1	1	5	1	1	5	Q091216A	Q091316A
				Percent Recovery, MS	**98%**	**104%**	**96%**	**106%**	**107%**	**97%**	**109%**		
				Percent Recovery, MSD	**99%**	**102%**	**95%**	**108%**	**105%**	**95%**	**107%**		
AMB21-115	SN08	Total	Seawater	3106-1954	38.7	0.0496	0.172	0.886	0.532	0.201	1.87	Q091216A	Q091316A
MS				3106-1954 MS	44.3	1.05	1.14	1.85	1.53	1.15	7.02	Q091216A	Q091316A
MSD				3106-1954 MSD	43.8	1.06	1.12	1.89	1.56	1.15	7.31	Q091216A	Q091316A
				Spike concentration	5	1	1	1	1	1	5	Q091216A	Q091316A
				Percent Recovery, MS	**112%**	**100%**	**97%**	**96%**	**100%**	**95%**	**103%**		
				Percent Recovery, MSD	**103%**	**101%**	**94%**	**101%**	**103%**	**95%**	**109%**		
REPLICATE PRECISION													
AMB21-002	M4	Total	Seawater	3106-1872 R1	13.9	--	0.128	--	--	--	--	--	Q091316A
DUP				3106-1872 R2	14.1	--	0.136	--	--	--	--	--	Q091316A
				Mean	*14.0*	--	*0.132*	--	--	--	--		
				RPD	**1%**	--	**6%**	--	--	--	--		
AMB21-007	PS01	Total	Seawater	3106-1882 R1	50.4	0.0661	0.353	1.85	0.736	0.336	3.75	Q091216A	Q091316A
DUP				3106-1882 R2	49.1	0.0657	0.353	1.83	0.734	0.337	3.74	Q091216A	Q091316A
				Mean	*49.8*	*0.0659*	*0.353*	*1.84*	*0.735*	*0.337*	*3.75*		
				RPD	**3%**	**1%**	**0%**	**1%**	**0%**	**0%**	**0%**		
AMB21-022	PS11	Total	Seawater	3106-1912 R1	--	0.0543	--	1.81	0.606	0.132	3.97	Q091216A	--
DUP				3106-1912 R2	--	0.0535	--	1.68	0.571	0.131	3.86	Q091216A	--
				Mean	--	*0.0539*	--	*1.74*	*0.588*	*0.132*	*3.91*		
				RPD	--	**1%**	--	**7%**	**6%**	**1%**	**3%**		
AMB21-023	PS16	Total	Seawater	3106-1914R1	--	0.0595	--	1.47	0.517	0.117	6.53	Q091216A	--
DUP				3106-1914 R2	--	0.0573	--	1.39	0.497	0.116	6.31	Q091216A	--
				Mean	--	*0.0584*	--	*1.43*	*0.507*	*0.117*	*6.42*		
				RPD	--	**4%**	--	**5%**	**4%**	**1%**	**4%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
AMB21-024	PS07B	Total	Seawater	3106-1916 R1	--	0.0710	--	3.36	0.649	0.206	15.3	Q091216A	--
DUP				3106-1916 R2	--	0.0705	--	3.32	0.643	0.207	15.2	Q091216A	--
				Mean	--	*0.0707*	--	*3.34*	*0.646*	*0.206*	*15.2*		
				RPD	--	**1%**	--	**1%**	**1%**	**0%**	**1%**		
AMB21-DD001	OF018	Total	Seawater	3106-1918 10X R1	--	0.103	--	19.1	11.1	0.964	54.3	Q091216A	--
DUP				3106-1918 10X R2	--	0.101	--	18.6	10.8	0.938	53.0	Q091216A	--
				Mean	--	*0.102*	--	*18.8*	*10.9*	*0.951*	*53.6*		
				RPD	--	**2%**	--	**3%**	**2%**	**3%**	**2%**		
AMB21-106	M2DEEP	Total	Seawater	3106-1936 R1	17.9	0.0752	0.117	0.584	0.565	0.0730	1.00	Q091516A	Q091316A
DUP				3106-1936 R2	15.1	0.0747	0.119	0.578	0.570	0.0735	0.977	Q091516A	Q091316A
				Mean	*16.5*	*0.0750*	*0.118*	*0.581*	*0.567*	*0.0733*	*0.986*		
				RPD	**17%**	**1%**	**1%**	**1%**	**1%**	**1%**	**2%**		
AMB21-119	M3.3DEEP	Total	Seawater	3106-1962 R1	20.7	0.0608	0.122	0.868	0.485	0.117	1.50	Q091216A	Q091316A
DUP				3106-1962 R2	17.2	0.0632	0.131	0.809	0.465	0.113	1.50	Q091216A	Q091316A
				Mean	*18.9*	*0.0620*	*0.127*	*0.839*	*0.475*	*0.115*	*1.50*		
				RPD	**19%**	**4%**	**7%**	**7%**	**4%**	**4%**	**0%**		
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 R1	1.13	0.0217	0.106	0.391	0.361	0.00927	0.765	Q091216A	Q091316A
SRM CASS-5		Total	Seawater	CASS-5 R2	1.14	0.0223	0.113	0.410	0.381	0.00931	0.808	Q091216A	Q091316A
SRM CASS-5		Total	Seawater	CASS-5 R3	1.13	0.0220	0.116	0.398	0.375	0.00917	0.790	Q091216A	Q091316A
SRM CASS-5		Total	Seawater	CASS-5 0915	--	0.0227	--	0.415	0.376	0.00952	0.779	Q091516A	--
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**		
				PD	--	**1%**	**0%**	**3%**	**9%**	**16%**	**6%**		
				PD	--	**4%**	**7%**	**8%**	**15%**	**15%**	**12%**		
				PD	--	**2%**	**9%**	**5%**	**14%**	**17%**	**10%**		
				PD	--	**5%**	--	**9%**	**14%**	**13%**	**8%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.05**	**0.0008**	**0.01**	**0.002**	**0.0019**	**0.0010**	**0.0093**		
Seawater Reporting Limit (MDL* 3.18)					**0.16**	**0.0025**	**0.03**	**0.006**	**0.0060**	**0.0032**	**0.0296**		
METHOD BLANKS													
MB		Seawater	BLANK R1		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R2		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R3		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R4		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R5		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R6		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R7		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R8		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MB		Seawater	BLANK R9		--	0.0008 U	0.01 U	0.002 U	0.0019 U	0.0010 U	0.0093 U	Q090916A	Q091316A
MEAN REAGENT BLANK		Seawater			--	**0.0008 U**	**0.0100 U**	**0.0020 U**	**0.0019 U**	**0.0010 U**	**0.0093 U**		
LABORATORY CONTROL SAMPLES													
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB Blank R1		--	0.0597	0.466	0.231	0.885	0.00273 J	1.18	Q090916A	Q091316A
LCS		Seawater	SB LCS R1		--	2.08	2.37	2.23	2.95	2.03	3.17	Q090916A	Q091316A
		Percent Recovery, LCS			--	**101%**	**95%**	**100%**	**103%**	**101%**	**99%**		
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R2		--	0.0609	0.456	0.242	0.931	0.00267 J	1.24	Q090916A	Q091316A
LCS		Seawater	SB LCS R2		--	2.13	2.37	2.32	3.11	2.01	3.33	Q090916A	Q091316A
		Percent Recovery, LCS			--	**103%**	**96%**	**104%**	**109%**	**100%**	**104%**		
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R3		--	0.0609	0.460	0.238	0.930	0.00268 J	1.22	Q090916A	Q091316A
LCS		Seawater	SB LCS R3		--	2.14	2.43	2.31	3.07	2.05	3.28	Q090916A	Q091316A
		Percent Recovery, LCS			--	**104%**	**99%**	**103%**	**107%**	**102%**	**103%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
MATRIX SPIKE RESULTS													
AMB21-008	PS01DUP	Diss	Seawater	3106-1885	--	0.0526	0.161	0.889	0.483	0.0459	2.31	Q090916A	Q091316A
MS				3106-1885 MS1	--	1.03	1.07	1.88	1.46	1.03	3.28	Q090916A	Q091316A
MSD				3106-1885 MS1D	--	1.03	1.11	1.87	1.45	1.04	3.29	Q090916A	Q091316A
				Spike concentration	--	1	1	1	1	1	1	Q090916A	Q091316A
				Percent Recovery, MS	--	**97%**	**91%**	**99%**	**98%**	**98%**	**98%**		
				Percent Recovery, MSD	--	**98%**	**95%**	**99%**	**97%**	**99%**	**99%**		
AMB21-105	M2	Diss	Seawater	3106-1935	--	0.0629	0.0858	0.394	0.398	0.0146	0.402	Q090916A	Q091316A
MS				3106-1935 MS1	--	1.08	1.06	1.45	1.43	1.02	1.46	Q090916A	Q091316A
MSD				3106-1935 MS1D	--	1.05	1.06	1.45	1.41	1.00	1.45	Q090916A	Q091316A
				Spike concentration	--	1	1	1	1	1	1	Q090916A	Q091316A
				Percent Recovery, MS	--	**102%**	**98%**	**105%**	**103%**	**100%**	**106%**		
				Percent Recovery, MSD	--	**99%**	**98%**	**105%**	**101%**	**99%**	**105%**		
AMB21-115	SN08	Diss	Seawater	3106-1955	--	0.0350	0.0674	0.478	0.364	0.0286	1.00	Q090916A	Q091316A
MS				3106-1955MS1	--	1.03	1.00	1.49	1.34	1.02	5.97	Q090916A	Q091316A
MSD				3106-1955MS1D	--	1.02	0.990	1.48	1.35	1.01	5.99	Q090916A	Q091316A
				Spike concentration	--	1	1	1	1	1	5	Q090916A	Q091316A
				Percent Recovery, MS	--	**100%**	**93%**	**102%**	**98%**	**99%**	**99%**		
				Percent Recovery, MSD	--	**99%**	**92%**	**100%**	**98%**	**98%**	**100%**		
REPLICATE PRECISION													
AMB21-012	PS04	Diss	Seawater	3106-1893 R1	--	0.0500	0.106	2.12	0.527	0.0309	2.98	Q090916A	Q091316A
DUP				3106-1893 R2	--	0.0505	0.110	2.10	0.529	0.0301	3.02	Q090916A	Q091316A
				Mean	--	*0.0502*	*0.108*	*2.11*	*0.528*	*0.0305*	*3.00*		
				RPD	--	**1%**	**4%**	**1%**	**0%**	**3%**	**1%**		
AMB21-024	PS07B	Diss	Seawater	3106-1917 R1	--	0.0674	0.0948	2.66	0.601	0.0615	13.9	Q090916A	Q091316A
DUP				3106-1917 R2	--	0.0664	0.0886	2.60	0.598	0.0613	13.6	Q090916A	Q091316A
				Mean	--	*0.0669*	*0.0917*	*2.63*	*0.599*	*0.0614*	*13.7*		
				RPD	--	**2%**	**7%**	**2%**	**1%**	**0%**	**2%**		
AMB21-118	M3.3	Diss	Seawater	3106-1961 R1	--	0.0424	0.0897	0.521	0.380	0.0252	0.919	Q090916A	Q091316A
DUP				3106-1961 R2	--	0.0424	0.0814	0.525	0.385	0.0253	0.930	Q090916A	Q091316A
				Mean	--	*0.0424*	*0.0855*	*0.523*	*0.383*	*0.0253*	*0.925*		
				RPD	--	**0%**	**10%**	**1%**	**1%**	**0%**	**1%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 R1	--	0.0205	0.0989	0.370	0.320	0.00912	0.703	Q090916A	Q091316A
SRM CASS-5		Total	Seawater	CASS-5 R2	--	0.0212	0.103	0.386	0.341	0.00906	0.722	Q090916A	Q091316A
SRM CASS-5		Total	Seawater	CASS-5 R3	--	0.0214	0.107	0.371	0.333	0.00889	0.718	Q090916A	Q091316A
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**		
				PD	--	**5%**	**7%**	**3%**	**3%**	**17%**	**2%**		
				PD	--	**1%**	**3%**	**2%**	**3%**	**18%**	**0%**		
				PD	--	**0%**	**1%**	**2%**	**1%**	**19%**	**0%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Freshwater
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Freshwater)					**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**	
Freshwater Reporting Limit (MDL* 3.18)					**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**	
METHOD BLANKS												
MB		Diss	Freshwater	Direct Blank	--	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091416A
MB		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091416A
LABORATORY CONTROL SAMPLES												
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Diss	Freshwater	Direct Blank	--	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091416A
LCS		Diss	Freshwater	Direct LCS	--	2.01	2.02	2.01	2.01	2.01	2.01	Q091416A
				Percent Recovery, LCS	--	**101%**	**101%**	**101%**	**101%**	**100%**	**101%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091416A
LCS		Total	Freshwater	TRM LCS	1.95	2.02	2.02	2.05	2.02	2.04	2.04	Q091416A
				Percent Recovery, LCS	**97%**	**101%**	**101%**	**103%**	**101%**	**102%**	**102%**	
MATRIX SPIKE RESULTS												
AMB21-DD003	OF021	Diss	Fresh Water	3106-1923	--	0.00287	1.68	0.697	0.579	0.00295 J	0.214	Q091416A
MS				3106-1923 MS1	--	0.964	6.71	1.65	1.59	0.948	1.18	Q091416A
MSD				3106-1923 MS1D	--	0.971	6.68	1.66	1.61	0.947	1.18	Q091416A
				spiked concentration	--	1	5	1	1	1	1	Q091416A
				Percent Recovery, MS	--	**96%**	**101%**	**95%**	**101%**	**95%**	**97%**	
				Percent Recovery, MSD	--	**97%**	**100%**	**97%**	**103%**	**94%**	**97%**	
REPLICATE PRECISION												
AMB21-DD003	OF021	Total	Fresh Water	3106-1922 r1	3.03	0.00133 *J*	1.75	0.769	0.764	0.00262	0.223	Q091416A
DUP				3106-1922 r2	2.97	0.00162 *J*	1.69	0.746	0.647	0.00251	0.216	Q091416A
				Mean	*3.00*	*0.00147 J*	*1.72*	*0.758*	*0.706*	*0.00256*	*0.220*	
				RPD	**2%**	**20%**	**3%**	**3%**	**17%**	**4%**	**3%**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Diss	Freshwater	1640A 10X Direct	--	3.88	39.3	84.8	24.5	12.0	55.0	Q091416A
SRM 1640a		Total	Freshwater	1640a 10X TRM	51.8	3.89	39.5	84.6	24.6	12.0	54.7	Q091416A
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	--	**3%**	**3%**	**1%**	**3%**	**1%**	**1%**	
				PD	**2%**	**2%**	**2%**	**1%**	**3%**	**1%**	**2%**	

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for CVAF
Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.100**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1	TME		Water	Method Blank1	0.100 U	090216HGA
MB-2	TME		Water	Method Blank2	0.100 U	090216HGA
MB-3	TME		Water	Method Blank3	0.100 U	090216HGA
MB-4	TME		Water	Method Blank1	0.100 U	090616HGA
MB-5	TME		Water	Method Blank2	0.100 U	090616HGA
MB-6	TME		Water	Method Blank3	0.100 U	090616HGA
MB-7	TME		Water	Method Blank1	0.100 U	090716HGA
MB-8	TME		Water	Method Blank2	0.100 U	090716HGA
MB-9	TME		Water	Method Blank3	0.100 U	090716HGA
MB-10	TME		Water	Method Blank1	0.100 U	090816HGA
MB-11	TME		Water	Method Blank2	0.100 U	090816HGA
MB-12	TME		Water	Method Blank3	0.100 U	090816HGA
MB-13	TME		Water	Method Blank1	0.100 U	091216HGA
MB-14	TME		Water	Method Blank2	0.100 U	091216HGA
MB-15	TME		Water	Method Blank3	0.100 U	091216HGA
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 090116 run1	4.89	090216HGA
LCS (2)	TME		Water	OPR 090116 run2	4.94	090216HGA
LCS Blank (1)	TME		Water	BLANK 090116	0.100 U	090216HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 090216 run1	4.96	090616HGA
LCS (2)	TME		Water	OPR 090216 run2	4.95	090616HGA
LCS Blank (1)	TME		Water	BLANK 090216	0.100 U	090616HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 090616 run1	4.99	090716HGA
LCS (2)	TME		Water	OPR 090616 run2	5.02	090716HGA
LCS Blank (1)	TME		Water	BLANK 090616	0.100 U	090716HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 090716 run1	4.99	090816HGA
LCS (2)	TME		Water	OPR 090716 run2	4.93	090816HGA
LCS Blank (1)	TME		Water	BLANK 090716	0.100 U	090816HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**99%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 090916 run1	4.91	091216HGA
LCS (2)	TME		Water	OPR 090916 run2	4.86	091216HGA
LCS Blank (1)	TME		Water	BLANK 090916	0.100 U	091216HGA
				Percent Recovery, LCS 1	**99%**	
				Percent Recovery, LCS 2	**98%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB21-001	PS07	Total	Seawater	3106-1870	1.42	090216HGA
MS				3106-1870 MS	7.95	090216HGA
MSD				3106-1870 MSD	7.93	090216HGA
				Spiking Level, MS	6.85	090216HGA
				Spiking Level, MSD	6.81	090216HGA
				Percent Recovery, MS	**95%**	
				Percent Recovery, MSD	**96%**	
				RPD	**0.2%**	
AMB21-008	PS01DUP	Diss	Seawater	3106-1885	0.796	090216HGA
MS				3106-1885 MS	7.53	090216HGA
MSD				3106-1885 MSD	7.45	090216HGA
				Spiking Level, MS	6.78	090216HGA
				Spiking Level, MSD	6.71	090216HGA
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**99%**	
				RPD	**0.1%**	
AMB21-011	PS03	Total	Seawater	3106-1890	11.4	090616HGA
MS				3106-1890 MS	19.0	090616HGA
MSD				3106-1890 MSD	19.0	090616HGA
				Spiking Level, MS	6.87	090616HGA
				Spiking Level, MSD	6.81	090616HGA
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**111%**	
				RPD	**1.0%**	
AMB21-018	PS15	Diss	Seawater	3106-1905	0.210 J	090616HGA
MS				3106-1905 MS	7.07	090616HGA
MSD				3106-1905 MSD	7.00	090616HGA
				Spiking Level, MS	6.85	090616HGA
				Spiking Level, MSD	6.82	090616HGA
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**100%**	
				RPD	**0.6%**	
AMB21-021	PS10.1	Total	Seawater	3106-1910	0.749	090716HGA
MS				3106-1910 MS	7.52	090716HGA
MSD				3106-1910 MSD	7.70	090716HGA
				Spiking Level, MS	6.68	090716HGA
				Spiking Level, MSD	6.86	090716HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.1%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB21-DD003	OF021	Diss	Fresh Water	3106-1923	1.87	090716HGA
MS				3106-1923 MS	8.65	090716HGA
MSD				3106-1923 MSD	8.80	090716HGA
				Spiking Level, MS	6.73	090716HGA
				Spiking Level, MSD	6.77	090716HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.5%**	
AMB21-105	M2	Diss	Seawater	3106-1935	0.183 J	090816HGA
MS				3106-1935 MS	7.10	090816HGA
MSD				3106-1935 MSD	6.84	090816HGA
				Spiking Level, MS	6.85	090816HGA
				Spiking Level, MSD	6.77	090816HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**98%**	
				RPD	**2.6%**	
AMB21-109	M1	Total	Seawater	3106-1942	0.453	090816HGA
MS				3106-1942 MS	7.33	090816HGA
MSD				3106-1942 MSD	7.29	090816HGA
				Spiking Level, MS	6.95	090816HGA
				Spiking Level, MSD	6.82	090816HGA
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.3%**	
AMB21-115	SN08	Total	Seawater	3106-1954	1.57	091216HGA
MS				3106-1954 MS	8.01	091216HGA
MSD				3106-1954 MSD	8.37	091216HGA
				Spiking Level, MS	6.79	091216HGA
				Spiking Level, MSD	6.97	091216HGA
				Percent Recovery, MS	**95%**	
				Percent Recovery, MSD	**98%**	
				RPD	**2.9%**	
AMB21-115	SN08	Diss	Seawater	3106-1955	0.210 J	091216HGA
MS				3106-1955 MS	7.03	091216HGA
MSD				3106-1955 MSD	7.10	091216HGA
				Spiking Level, MS	6.86	091216HGA
				Spiking Level, MSD	6.96	091216HGA
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**99%**	
				RPD	**0.4%**	

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for CVAF
Ambient Monitoring - AMB21
ENVVEST August 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB21-007	PS01	Total	Seawater	3106-1882 r1	3.17	090216HGA
DUP				3106-1882 r2	3.22	090216HGA
				Mean	*3.19*	
				RPD	**1%**	
AMB21-015	PS14	Total	Seawater	3106-1898 r1	0.887	090616HGA
DUP				3106-1898 r2	0.859	090616HGA
				Mean	*0.873*	
				RPD	**3%**	
AMB21-DD003	OF021	Total	Fresh Water	3106-1922 r1	2.01	090716HGA
DUP				3106-1922 r2	1.97	090716HGA
				Mean	*1.99*	
				RPD	**2%**	
AMB21-106	M2DEEP	Total	Seawater	3106-1936 r1	0.574	090816HGA
DUP				3106-1936 r2	0.600	090816HGA
				Mean	*0.587*	
				RPD	**5%**	
AMB21-119	M3.3DEEP	Total	Seawater	3106-1962 r1	0.926	091216HGA
DUP				3106-1962 r2	0.965	091216HGA
				Mean	*0.945*	
				RPD	**4%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 090116	1570050	090216HGA
SRM 1641 (2)		Total	Freshwater	1641d 090216	1553952	090616HGA
SRM 1641 (3)		Total	Freshwater	1641d 090616	1564638	090716HGA
SRM 1641 (4)		Total	Freshwater	1641d 090716	1561429	090816HGA
SRM 1641 (5)		Total	Freshwater	1641d 090916	1524199	091216HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**0.8%**	
	SRM 1641 (2)			**PD**	**0.2%**	
	SRM 1641 (3)			**PD**	**0.5%**	
	SRM 1641 (4)			**PD**	**0.3%**	
	SRM 1641 (5)			**PD**	**2.1%**	

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB21
ENVVEST August 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0490**	**4.08**		
Seawater Reporting Limit (MDL* 3.18)					**0.156**	**13.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	090816HTCO
MB-2			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	090816HTCO
MB-3			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	090816HTCO
MB-4			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	090816HTCO
MB-5			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	091316HTCO
MB-6			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	091316HTCO
MB-7			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	091316HTCO
MB-8			DIWater	ACIDIFIED_DIW	0.0490	4.08	U	091316HTCO
REPLICATE PRECISION								
AMB21-015	PS14	Total	Seawater	3106-1898	1.89	157		090816HTCO
DUP				3106-1898 R2	1.93	161		090816HTCO
				Mean	*1.91*	*159*		
				RPD	**2.4%**	**2.4%**		
AMB21-102	M8DUP	Total	Seawater	3106-1928	1.61	134		090816HTCO
DUP				3106-1928 R2	1.58	132		090816HTCO
				Mean	*1.60*	*133*		
				RPD	**2.1%**	**2.1%**		
AMB21-117	SN11	Total	Seawater	3106-1958	3.16	264		090816HTCO
DUP				3106-1958 R2	3.02	252		090816HTCO
				Mean	*3.09*	*258*		
				RPD	**4.6%**	**4.6%**		
AMB21-015	PS14	Diss	Seawater	3106-1899	1.17	97.2		091316HTCO
DUP				3106-1899 R2	1.16	96.7		091316HTCO
				Mean	*1.16*	*97.0*		
				RPD	**0.5%**	**0.5%**		
AMB21-102	M8DUP	Diss	Seawater	3106-1929	1.19	99.0		091316HTCO
DUP				3106-1929 R2	1.18	98.3		091316HTCO
				Mean	*1.18*	*98.6*		
				RPD	**0.7%**	**0.7%**		
AMB21-118	M3.3	Diss	Seawater	3106-1961	1.12	93.6		091316HTCO
DUP				3106-1961 R2	1.13	94.4		091316HTCO
				Mean	*1.13*	*94.0*		
				RPD	**0.9%**	**0.9%**		

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB21
ENVVEST August 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.594	49.5		090816HTCO
CRM-2		DOC	Seawater	CRM	0.592	49.3		090816HTCO
CRM-3		DOC	Seawater	CRM	0.531	44.2		090816HTCO
CRM-4		DOC	Seawater	CRM	0.521	43.4		090816HTCO
CRM-5		DOC	Seawater	CRM	0.502	41.9		090816HTCO
CRM-6		DOC	Seawater	CRM	0.523	43.6		090816HTCO
CRM-7		DOC	Seawater	CRM	0.476	39.7		090816HTCO
CRM-8		DOC	Seawater	CRM	0.468	39.0		090816HTCO
CRM-9		DOC	Seawater	CRM	0.497	41.4		091316HTCO
CRM-10		DOC	Seawater	CRM	0.503	41.9		091316HTCO
CRM-11		DOC	Seawater	CRM	0.495	41.2		091316HTCO
CRM-12		DOC	Seawater	CRM	0.467	38.9		091316HTCO
CRM-13		DOC	Seawater	CRM	0.490	40.8		091316HTCO
CRM-14		DOC	Seawater	CRM	0.476	39.7		091316HTCO
CRM-15		DOC	Seawater	CRM	0.479	39.9		091316HTCO
CRM-16		DOC	Seawater	CRM	0.481	40.1		091316HTCO
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**16.4%**	**16.4%**		
CRM-2				**PD**	**16.0%**	**16.0%**		
CRM-3				**PD**	**4.1%**	**4.1%**		
CRM-4				**PD**	**2.1%**	**2.1%**		
CRM-5				**PD**	**1.5%**	**1.5%**		
CRM-6				**PD**	**2.6%**	**2.6%**		
CRM-7				**PD**	**6.7%**	**6.7%**		
CRM-8				**PD**	**8.2%**	**8.2%**		
CRM-9				**PD**	**2.6%**	**2.6%**		
CRM-10				**PD**	**1.3%**	**1.3%**		
CRM-11				**PD**	**3.0%**	**3.0%**		
CRM-12				**PD**	**8.4%**	**8.4%**		
CRM-13				**PD**	**3.9%**	**3.9%**		
CRM-14				**PD**	**6.6%**	**6.6%**		
CRM-15				**PD**	**6.1%**	**6.1%**		
CRM-16				**PD**	**5.7%**	**5.7%**		

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB21
ENVVEST August 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	1.04	86.8		090816HTCO
ICV/CCV-2				CCV_1PPM	1.03	86.0		090816HTCO
ICV/CCV-3				CCV_1PPM	1.02	84.8		090816HTCO
ICV/CCV-4				CCV_1PPM	1.02	85.2		090816HTCO
ICV/CCV-5				CCV_1PPM	0.996	83.0		090816HTCO
ICV/CCV-6				CCV_1PPM	1.00	83.6		090816HTCO
ICV/CCV-7				CCV_1PPM	1.02	85.3		090816HTCO
ICV/CCV-8				ICV_1PPM	1.01	84.4		090816HTCO
ICV/CCV-9				CCV_1PPM	1.00	83.7		091316HTCO
ICV/CCV-10				CCV_1PPM	0.997	83.1		091316HTCO
ICV/CCV-11				CCV_1PPM	1.01	84.3		091316HTCO
ICV/CCV-12				CCV_1PPM	1.04	86.5		091316HTCO
ICV/CCV-13				CCV_1PPM	0.982	81.8		091316HTCO
ICV/CCV-14				CCV_1PPM	1.02	85.0		091316HTCO
ICV/CCV-15				CCV_1PPM	1.04	86.6		091316HTCO
ICV/CCV-16				CCV_1PPM	1.04	86.7		091316HTCO
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**104%**			
ICV/CCV-2				**% RECOVERY**	**103%**			
ICV/CCV-3				**% RECOVERY**	**102%**			
ICV/CCV-4				**% RECOVERY**	**102%**			
ICV/CCV-5				**% RECOVERY**	**100%**			
ICV/CCV-6				**% RECOVERY**	**100%**			
ICV/CCV-7				**% RECOVERY**	**102%**			
ICV/CCV-8				**% RECOVERY**	**101%**			
ICV/CCV-9				**% RECOVERY**	**100%**			
ICV/CCV-10				**% RECOVERY**	**100%**			
ICV/CCV-11				**% RECOVERY**	**101%**			
ICV/CCV-12				**% RECOVERY**	**104%**			
ICV/CCV-13				**% RECOVERY**	**98%**			
ICV/CCV-14				**% RECOVERY**	**102%**			
ICV/CCV-15				**% RECOVERY**	**104%**			
ICV/CCV-16				**% RECOVERY**	**104%**			

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for Salinity
Ambient Monitoring - AMB21
ENVVEST August 2016
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
				Instrument: YSI S-C-T Probe, S/N 15J1013T9				
				MDL	*0.01*		*PSU*	
Method Blanks								
MB1		Total	Seawater	DIW Blank 1	0.01	U	PSU	090116Osal
MB2		Total	Seawater	DIW Blank 2	0.01	U	PSU	090116Osal
MB3		Total	Seawater	DIW Blank 3	0.01	U	PSU	090116Osal
MB4		Total	Seawater	DIW Blank 4	0.01	U	PSU	090116Osal
MB5		Total	Seawater	DIW Blank 5	0.01	U	PSU	090216Osal
MB6		Total	Seawater	DIW Blank 6	0.01	U	PSU	090216Osal
MB7		Total	Seawater	DIW Blank 7	0.01	U	PSU	090216Osal
STANDARD REFERENCE MATERIAL								
SRM-1		Total	Seawater	Salinity Standard 1	34.9		PSU	090116Osal
SRM-2		Total	Seawater	Salinity Standard 2	35.0		PSU	090116Osal
SRM-3		Total	Seawater	Salinity Standard 3	35.0		PSU	090116Osal
SRM-4		Total	Seawater	Salinity Standard 4	35.1		PSU	090116Osal
SRM-5		Total	Seawater	Salinity Standard 5	35.0		PSU	090216Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.0		PSU	090216Osal
SRM-7		Total	Seawater	Salinity Standard 7	35.0		PSU	090216Osal
				Certified Value	**35.00**		PSU	
	SRM-1			**PD**	**0.3%**			
	SRM-2			**PD**	**0.0%**			
	SRM-3			**PD**	**0.1%**			
	SRM-4			**PD**	**0.2%**			
	SRM-5			**PD**	**0.1%**			
	SRM-6			**PD**	**0.0%**			
LABORATORY CONTROL SAMPLES								
LCS-1				LCS1	20.0		PSU	090116Osal
LCS-2				LCS2	20.0		PSU	090116Osal
LCS-3				LCS3	20.1		PSU	090116Osal
LCS-4				LCS4	20.0		PSU	090116Osal
LCS-5				LCS5	20.0		PSU	090216Osal
LCS-6				LCS6	20.0		PSU	090216Osal
LCS-7				LCS7	20.0		PSU	090216Osal
				TRUE VALUE	**20.0**		PSU	
	LCS-1			**% RECOVERY**	**100%**			
	LCS-2			**% RECOVERY**	**100%**			
	LCS-3			**% RECOVERY**	**100%**			
	LCS-4			**% RECOVERY**	**100%**			
	LCS-5			**% RECOVERY**	**100%**			
	LCS-6			**% RECOVERY**	**100%**			
	LCS-7			**% RECOVERY**	**100%**			

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QC Sample Results for Salinity
Ambient Monitoring - AMB21
ENVVEST August 2016
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
CALIBRATION RESULTS								
ICV-1				YSI 50 ms/cm ICV	50.0		mS	090116Osal
CCV-1				YSI 50 ms/cmCCV1	50.1		mS	090116Osal
CCV-2				YSI 50 ms/cmCCV2	50.1		mS	090116Osal
CCV-3				YSI 50 ms/cmCCV3	50.1		mS	090116Osal
CCV-4				YSI 50 ms/cmCCV4	50.1		mS	090116Osal
CCV-5				YSI 50 ms/cmCCV5	50.2		mS	090116Osal
CCV-6				YSI 50 ms/cmCCV6	50.2		mS	090116Osal
CCV-7				YSI 50 ms/cmCCV7	50.0		mS	090216Osal
CCV-8				YSI 50 ms/cmCCV8	50.0		mS	090216Osal
CCV-9				YSI 50 ms/cmCCV9	50.0		mS	090216Osal
CCV-10				YSI 50 ms/cmCCV10	50.1		mS	090216Osal
CCV-11				YSI 50 ms/cmCCV11	50.2		mS	090216Osal
				TRUE VALUE	**50.0**		mS	
	ICV-1			**% RECOVERY**	**100%**			
	CCV-1			**% RECOVERY**	**100%**			
	CCV-2			**% RECOVERY**	**100%**			
	CCV-3			**% RECOVERY**	**100%**			
	CCV-4			**% RECOVERY**	**100%**			
	CCV-5			**% RECOVERY**	**100%**			
	CCV-6			**% RECOVERY**	**100%**			
	CCV-7			**% RECOVERY**	**100%**			
	CCV-8			**% RECOVERY**	**100%**			
	CCV-9			**% RECOVERY**	**100%**			
	CCV-10			**% RECOVERY**	**100%**			
	CCV-11			**% RECOVERY**	**100%**			

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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QC Sample Results for TSS
Ambient Monitoring - AMB21
ENVVEST August 2016
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	090116Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	090116Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	090116Nu
MB4		TME	Seawater	Blank 4		0.42 U	mg/L	090216Nu
MB5		TME	Seawater	Blank 5		0.42 U	mg/L	090216Nu
MB6		TME	Seawater	Blank 6		0.42 U	mg/L	090216Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		37.7	mg/L	090116Nu
LCS-2				LCS r2		38.7	mg/L	090116Nu
LCS-3				LCS r3		39.1	mg/L	090116Nu
LCS-4				LCS r4		37.4	mg/L	090216Nu
LCS-5				LCS r5		38.2	mg/L	090216Nu
LCS-6				LCS r6		39.0	mg/L	090216Nu
					TRUE VALUE	**40**	mg/L	
	LCS-1				**% RECOVERY**	**94%**		
	LCS-2				**% RECOVERY**	**97%**		
	LCS-3				**% RECOVERY**	**98%**		
	LCS-1				**% RECOVERY**	**93%**		
	LCS-2				**% RECOVERY**	**96%**		
	LCS-3				**% RECOVERY**	**98%**		
LABORATORY DUPLICATES								
AMB21-010	PS13	Total	Seawater	3106-1888		1.53	mg/L	090116Nu
DUP	PS13			3106-1888R2		1.59	mg/L	090116Nu
					Mean	1.56		
					RPD	**3.52%**		
AMB21-021	PS10.1	Total	Seawater	3106-1910		3.77	mg/L	090116Nu
DUP	PS10.1			3106-1910R2		3.43	mg/L	090116Nu
					Mean	3.60		
					RPD	**9.4%**		
AMB21-111	POPIPD	Total	Seawater	3106-1946		1.75	mg/L	090216Nu
DUP	POPIPD			3106-1946R2		1.85	mg/L	090216Nu
					Mean	1.80		
					RPD	**5.74%**		
AMB21-118	M3.3	Total	Seawater	3106-1960		4.01	mg/L	090216Nu
DUP	M3.3			3106-1960R2		4.28	mg/L	090216Nu
					Mean	4.14		
					RPD	**6.53%**		

QA/QC NARRATIVE

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, August 2016 (AMB21)

PARAMETER: Total and Dissolved Metals – Al (total only), Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 08/30/2016 and 08/31/2016. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	08/30/16 and 08/31/16 EQP BLKS 08/10/16 and 08/26/16
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	09/01/16 and 09/02/16
OSAL analysis dates	09/01/16 and 09/02/16
CVAF analysis dates (Hg)	09/02/16 - 09/12/16
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/09/16 – 09/15/16
Online Preconcentration Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/09/16 – 09/15/16
TOC/DOC Analysis Date	09/08/16 – 09/14/16

QA/QC NARRATIVE

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.05 µg/L	0.16 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0008 µg/L	0.0025 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.01 µg/L	0.03 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.002 µg/L	0.006 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0019 µg/L	0.006 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.001 µg/L	0.0032 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.0093 µg/L	0.0296 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0006 µg/L	0.0019 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.001 µg/L	0.003 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0004 µg/L	0.0013 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.01 µg/L	0.03 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

METHODS:

Seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by MSL methods. Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013*, *Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for Al and Cr via direct injection at 15x dilution. All other metals were analyzed using a preconcentration via seaFast chelation step in accordance with Battelle SOP *MSL-I-022, Methods of Sample Preconcentration: Online Preconcentration for Trace Metals Analysis in Water.* Seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate Samples by ICP/MS.* The base methods for this procedure are EPA Method 1638 and EPA Method 1640. The ICP-MS data were reported in units of µg/L.

METHODS (cont): Freshwater samples identified as < 5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The preconcentration procedure for seawater samples analyzed by ICP-MS for events prior to AMB20 included the addition of chelating agents to induce precipitation of metals under specific conditions. Therefore the ICP-MS method included a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method does not require this type of correction. No flags are required for this data set. This method shift has been documented in a manuscript entitled *Method Review for Trace Metals in Seawater: Automated Online Pre-concentration vs Borohydride Reductive Precipitation of Nearshore Seawater Samples for Analysis of Ni, Cu, Zn, Cd, and Pb via ICP-MS*, where events 17 and 19 were analyzed using both methods.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. The modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11. In almost all cases the GF/C filters over estimated the TSS concentration. The SOP has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and μM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, 28 days for OC, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater are reported from the Annually Verified Seawater MDL Study as determined by seven replicates of Sequim Bay Seawater spiked at an appropriate concentration for each analyte. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value

c Exceeds data quality objective but meets one of the following contingency criterion:
1 SRM certified <10x MDL or
2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

A triplicate analysis of 0.45µm PVDF dissolved trace metals filters was performed following a 5% HNO_3 cleaning. One Pb value is J flagged at a level of 0.6ng/L. Al and Zn were both detected above their respective RL's for one sample. The Al detect was ≤2% of the lowest sample value. The Zn detect is in the range that its weight may effect OF021 fresh water values.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the MDL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

Two SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. OF 021). Percent recoveries were within the QC acceptance criterion.

CASS-5 is a seawater SRM analyzed with each ICP-MS batch. There is no seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy. The SRM is considered for data set evaluation only if it is not certified greater than 10 times the MDL. The CASS-5 certified values for Cd, Cr, Ni, Pb, and Zn are certified values less than 10 times the MDL. The PDs were within the QC criterion for all metals.

A salinity standard was used to verify the accuracy of the salinity measurements. The

accuracy range was 0.1-0.3PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 1 to 16%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1610284
Project:	ENVVEST (AMB21)/ August 2016	**Date Received:**	09/02/16
Sample Matrix:	Ocean Water, Fresh Water		

Case Narrative

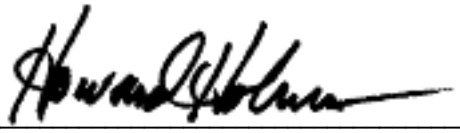
All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-seven samples were received for analysis at ALS Environmental on 09/02/16. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by 

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB21-DD001/OF018	K1610284-024	ND U	5.0	0.7	1	09/06/16 10:30	9/2/16	
AMB21-DD002/OF019	K1610284-025	ND U	5.0	0.7	1	09/06/16 10:30	9/2/16	
AMB21-DD003/OF021	K1610284-026	ND U	4.9	0.7	1	09/06/16 10:30	9/2/16	
Method Blank	K1610284-MB1	ND U	5.0	0.7	1	09/06/16 10:30	9/2/16	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/6/16
		Date Extracted:	09/2/16

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1609895-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1609895-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	37.9	167	125	103	78-114

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/06/16
Sample Matrix:	Ocean Water	**Date Extracted:**	09/02/16

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	512909

	Lab Control Sample K1610284-LCS4			Duplicate Lab Control Sample K1610284-DLCS4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	58.7	60.0	98	60.0	60.0	100	78-114	2	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB21-001/PS07	K1610284-001	**0.100**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-002/M4	K1610284-002	ND U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-003/BJEST	K1610284-003	ND U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-004/M3.1	K1610284-004	**0.071**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-006/PS12	K1610284-005	**0.081**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-007/PS01	K1610284-006	**0.139**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-008/PS01DUP	K1610284-007	**0.117**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-009/PS02	K1610284-008	**0.059**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-010/PS13	K1610284-009	**0.047 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-011/PS03	K1610284-010	**0.033 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-012/PS04	K1610284-011	**0.030 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-013/PS05	K1610284-012	ND U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-014/PS05DUP	K1610284-013	**0.028 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-015/PS14	K1610284-014	**0.026 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-016/PS06	K1610284-015	**0.073**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-017/PS08	K1610284-016	**0.044 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-018/PS15	K1610284-017	ND U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-019/PS09	K1610284-018	**0.043 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-020/PS10	K1610284-019	ND U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-021/PS10.1	K1610284-020	**0.036 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-022/PS11	K1610284-021	**0.042 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-023/PS16	K1610284-022	**0.090**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-024/PS07B	K1610284-023	**0.087**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-100/M6	K1610284-027	**0.047 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-101/M8	K1610284-028	**0.025 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-102/M8DUP	K1610284-029	**0.028 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-103/DYOTS	K1610284-030	**0.029 J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-104/WP	K1610284-031	**0.074**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-105/M2	K1610284-032	**0.166**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-106/M2DEEP	K1610284-033	**0.166**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-107/CLMBAY	K1610284-034	**0.189**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-108/ILSP	K1610284-035	**0.143**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-109/M1	K1610284-036	**0.103**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-110/M1DEEP	K1610284-037	**0.118**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-111/POPIPD	K1610284-038	**0.148**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-112/SN03	K1610284-039	**0.123**	0.050	0.020	1	09/12/16 12:06	9/12/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB21-113/SN05	K1610284-040	**0.109**		0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-114/SN05DUP	K1610284-041	**0.140**		0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-115/SN08	K1610284-042	**0.028**	**J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-116/SN10	K1610284-043	ND	U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-117/SN11	K1610284-044	ND	U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-118/M3.3	K1610284-045	ND	U	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-119/M3.3DEEP	K1610284-046	**0.025**	**J**	0.050	0.020	1	09/12/16 12:06	9/12/16	
AMB21-120/PS07C	K1610284-047	**0.134**		0.050	0.020	1	09/12/16 12:06	9/12/16	
Method Blank	K1610284-MB1	ND	U	0.050	0.020	1	09/12/16 12:06	9/12/16	
Method Blank	K1610284-MB2	ND	U	0.050	0.020	1	09/12/16 12:06	9/12/16	
Method Blank	K1610284-MB3	ND	U	0.050	0.020	1	09/12/16 12:06	9/12/16	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB21-001/PS07	K1610284-001DUP	0.050	0.020	0.100	0.101	0.101	<1	20	09/12/16
AMB21-012/PS04	K1610284-011DUP	0.050	0.020	0.030 J	0.029 J	0.0295	3	20	09/12/16
AMB21-022/PS11	K1610284-021DUP	0.050	0.020	0.042 J	0.043 J	0.0425	2	20	09/12/16
AMB21-108/ILSP	K1610284-035DUP	0.050	0.020	0.143	0.142	0.143	<1	20	09/12/16
AMB21-117/SN11	K1610284-044DUP	0.050	0.020	ND U	ND U	NC	NC	20	09/12/16
Batch QC	K1610292-001DUP	0.050	0.020	0.025 J	0.025 J	0.0250	<1	20	09/12/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/12/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB21-001/PS07	**Units:**	mg/L
Lab Code:	K1610284-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1610284-001MS			Duplicate Matrix Spike K1610284-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.100	1.08	1.00	98	1.13	1.00	103	90-110	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/12/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB21-012/PS04	**Units:**	mg/L
Lab Code:	K1610284-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1610284-011MS			Duplicate Matrix Spike K1610284-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.030 J	0.994	1.00	96	1.04	1.00	101	90-110	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/12/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB21-022/PS11	**Units:**	mg/L
Lab Code:	K1610284-021	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1610284-021MS			Duplicate Matrix Spike K1610284-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.042 J	1.03	1.00	98	1.03	1.00	99	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/12/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB21-108/ILSP	**Units:**	mg/L
Lab Code:	K1610284-035	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1610284-035MS			Duplicate Matrix Spike K1610284-035DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.143	1.17	1.00	103	1.17	1.00	103	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/12/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB21-117/SN11	**Units:**	mg/L
Lab Code:	K1610284-044	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1610284-044MS			Duplicate Matrix Spike K1610284-044DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	1.03	1.00	103	1.07	1.00	107	90-110	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/12/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1610292-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1610292-001MS			Duplicate Matrix Spike K1610292-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.025 J	1.05	1.00	102	1.05	1.00	103	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/12/16
Sample Matrix:	Ocean Water	**Date Extracted:**	09/12/16

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	513871

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1610284-LCS1	15.1	15.3	98	90-110
Lab Control Sample	K1610284-LCS2	15.0	15.3	98	90-110
Lab Control Sample	K1610284-LCS3	15.6	15.3	102	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1610284
Project: ENVVEST (AMB21)/August 2016

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	513871	KQ1611154-01	09/12/16 12:06	1.00	1.04	104	90-110
CCV2	513871	KQ1611154-03	09/12/16 12:06	1.00	1.01	101	90-110
CCV3	513871	KQ1611154-05	09/12/16 12:06	1.00	1.02	102	90-110
CCV4	513871	KQ1611154-07	09/12/16 12:06	1.00	1.03	103	90-110
CCV5	513871	KQ1611154-09	09/12/16 12:06	1.00	1.05	105	90-110
CCV6	513871	KQ1611154-11	09/12/16 12:06	1.00	1.05	105	90-110
CCV7	513871	KQ1611154-13	09/12/16 12:06	1.00	1.06	106	90-110
CCV8	513871	KQ1611154-15	09/12/16 12:06	1.00	1.05	105	90-110
CCV9	513871	KQ1611154-17	09/12/16 12:06	1.00	1.03	103	90-110
CCV10	513871	KQ1611154-19	09/12/16 12:06	1.00	1.05	105	90-110
CCV11	513871	KQ1611154-21	09/12/16 12:06	1.00	1.04	104	90-110
CCV12	513871	KQ1611154-23	09/12/16 12:06	1.00	1.07	107	90-110
CCV13	513871	KQ1611154-25	09/12/16 12:06	1.00	1.06	106	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1610284
Project: ENVVEST (AMB21)/August 2016

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	513871	KQ1611154-02	09/12/16 12:06	0.050	0.020	ND	U
CCB2	513871	KQ1611154-04	09/12/16 12:06	0.050	0.020	ND	U
CCB3	513871	KQ1611154-06	09/12/16 12:06	0.050	0.020	ND	U
CCB4	513871	KQ1611154-08	09/12/16 12:06	0.050	0.020	ND	U
CCB5	513871	KQ1611154-10	09/12/16 12:06	0.050	0.020	ND	U
CCB6	513871	KQ1611154-12	09/12/16 12:06	0.050	0.020	ND	U
CCB7	513871	KQ1611154-14	09/12/16 12:06	0.050	0.020	ND	U
CCB8	513871	KQ1611154-16	09/12/16 12:06	0.050	0.020	ND	U
CCB9	513871	KQ1611154-18	09/12/16 12:06	0.050	0.020	ND	U
CCB10	513871	KQ1611154-20	09/12/16 12:06	0.050	0.020	ND	U
CCB11	513871	KQ1611154-22	09/12/16 12:06	0.050	0.020	ND	U
CCB12	513871	KQ1611154-24	09/12/16 12:06	0.050	0.020	ND	U
CCB13	513871	KQ1611154-26	09/12/16 12:06	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB21-001/PS07	K1610284-001	**0.080**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-002/M4	K1610284-002	**0.079**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-003/BJEST	K1610284-003	**0.075**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-004/M3.1	K1610284-004	**0.060**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-006/PS12	K1610284-005	**0.062**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-007/PS01	K1610284-006	**0.075**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-008/PS01DUP	K1610284-007	**0.075**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-009/PS02	K1610284-008	**0.064**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-010/PS13	K1610284-009	**0.068**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-011/PS03	K1610284-010	**0.059**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-012/PS04	K1610284-011	**0.061**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-013/PS05	K1610284-012	**0.055**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-014/PS05DUP	K1610284-013	**0.057**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-015/PS14	K1610284-014	**0.055**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-016/PS06	K1610284-015	**0.072**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-017/PS08	K1610284-016	**0.060**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-018/PS15	K1610284-017	**0.060**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-019/PS09	K1610284-018	**0.061**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-020/PS10	K1610284-019	**0.055**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-021/PS10.1	K1610284-020	**0.057**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-022/PS11	K1610284-021	**0.054**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-023/PS16	K1610284-022	**0.065**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-024/PS07B	K1610284-023	**0.076**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-100/M6	K1610284-027	**0.066**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-101/M8	K1610284-028	**0.057**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-102/M8DUP	K1610284-029	**0.058**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-103/DYOTS	K1610284-030	**0.062**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-104/WP	K1610284-031	**0.058**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-105/M2	K1610284-032	**0.063**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-106/M2DEEP	K1610284-033	**0.062**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-107/CLMBAY	K1610284-034	**0.067**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-108/ILSP	K1610284-035	**0.076**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-109/M1	K1610284-036	**0.078**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-110/M1DEEP	K1610284-037	**0.085**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-111/POPIPD	K1610284-038	**0.081**	0.010	0.004	1	09/13/16 14:47	9/12/16	
AMB21-112/SN03	K1610284-039	**0.123**	0.010	0.004	1	09/13/16 14:47	9/12/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB21-113/SN05	K1610284-040	**0.073**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-114/SN05DUP	K1610284-041	**0.086**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-115/SN08	K1610284-042	**0.076**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-116/SN10	K1610284-043	**0.077**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-117/SN11	K1610284-044	**0.076**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-118/M3.3	K1610284-045	**0.080**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-119/M3.3DEEP	K1610284-046	**0.093**	0.010	0.004	1	09/14/16 09:22	9/13/16	
AMB21-120/PS07C	K1610284-047	**0.109**	0.010	0.004	1	09/14/16 09:22	9/13/16	
Method Blank	K1610284-MB1	ND U	0.010	0.004	1	09/13/16 14:47	9/12/16	
Method Blank	K1610284-MB2	ND U	0.010	0.004	1	09/13/16 14:47	9/12/16	
Method Blank	K1610284-MB3	ND U	0.010	0.004	1	09/14/16 09:22	9/13/16	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary

Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB21-002/M4	K1610284-002DUP	0.010	0.004	0.079	0.077	0.0782	3	20	09/13/16
AMB21-023/PS16	K1610284-022DUP	0.010	0.004	0.065	0.066	0.0656	<1	20	09/13/16
AMB21-113/SN05	K1610284-040DUP	0.010	0.004	0.073	0.071	0.0722	2	20	09/14/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/13/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB21-002/M4	**Units:**	mg/L
Lab Code:	K1610284-002	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1610284-002MS			K1610284-002DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.079	0.435	0.500	71	0.454	0.500	75	60-135	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/13/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB21-023/PS16	**Units:**	mg/L
Lab Code:	K1610284-022	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1610284-022MS			K1610284-022DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.065	0.457	0.500	78	0.409	0.500	69	60-135	12	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/14/16
		Date Extracted:	09/13/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB21-113/SN05	**Units:**	mg/L
Lab Code:	K1610284-040	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1610284-040MS			K1610284-040DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.073	0.455	0.500	76	0.441	0.500	74	60-135	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/13/16
Sample Matrix:	Ocean Water	**Date Extracted:**	09/12/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	513911

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1610284-LCS1	8.92	8.62	103	85-115
Lab Control Sample	K1610284-LCS2	8.93	8.62	104	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/14/16
Sample Matrix:	Ocean Water	**Date Extracted:**	09/13/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	514061

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1610284-LCS3	8.89	8.62	103	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1610284
Project: ENVVEST (AMB21)/August 2016

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	513911	KQ1611187-01	09/13/16 14:47	0.500	0.525	105	90-110
CCV2	513911	KQ1611187-02	09/13/16 14:47	0.500	0.528	106	90-110
CCV3	513911	KQ1611187-03	09/13/16 14:47	0.500	0.535	107	90-110
CCV4	513911	KQ1611187-04	09/13/16 14:47	0.500	0.529	106	90-110
CCV5	513911	KQ1611187-05	09/13/16 14:47	0.500	0.526	105	90-110
CCV6	513911	KQ1611187-06	09/13/16 14:47	0.500	0.532	106	90-110
CCV7	513911	KQ1611187-07	09/13/16 14:47	0.500	0.530	106	90-110
CCV8	514061	KQ1611232-01	09/14/16 09:22	0.500	0.525	105	90-110
CCV9	514061	KQ1611232-02	09/14/16 09:22	0.500	0.528	106	90-110
CCV10	514061	KQ1611232-03	09/14/16 09:22	0.500	0.526	105	90-110
CCV11	514061	KQ1611232-04	09/14/16 09:22	0.500	0.528	106	90-110
CCV12	514061	KQ1611232-05	09/14/16 09:22	0.500	0.529	106	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1610284
Project: ENVVEST (AMB21)/August 2016

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	513911	KQ1611187-09	09/13/16 14:47	0.010	0.004	ND	U
CCB2	513911	KQ1611187-10	09/13/16 14:47	0.010	0.004	ND	U
CCB3	513911	KQ1611187-11	09/13/16 14:47	0.010	0.004	ND	U
CCB4	513911	KQ1611187-12	09/13/16 14:47	0.010	0.004	ND	U
CCB5	513911	KQ1611187-13	09/13/16 14:47	0.010	0.004	ND	U
CCB6	513911	KQ1611187-14	09/13/16 14:47	0.010	0.004	ND	U
CCB7	513911	KQ1611187-15	09/13/16 14:47	0.010	0.004	ND	U
CCB8	514061	KQ1611232-06	09/14/16 09:22	0.010	0.004	ND	U
CCB9	514061	KQ1611232-07	09/14/16 09:22	0.010	0.004	ND	U
CCB10	514061	KQ1611232-08	09/14/16 09:22	0.010	0.004	ND	U
CCB11	514061	KQ1611232-09	09/14/16 09:22	0.010	0.004	ND	U
CCB12	514061	KQ1611232-10	09/14/16 09:22	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB21-001/PS07	K1610284-001	**0.108**	0.050	0.009	1	09/07/16 08:30	
AMB21-002/M4	K1610284-002	**0.038 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-003/BJEST	K1610284-003	**0.043 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-004/M3.1	K1610284-004	**0.036 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-006/PS12	K1610284-005	**0.040 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-007/PS01	K1610284-006	**0.041 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-008/PS01DUP	K1610284-007	**0.048 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-009/PS02	K1610284-008	**0.040 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-010/PS13	K1610284-009	**0.035 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-011/PS03	K1610284-010	**0.041 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-012/PS04	K1610284-011	**0.028 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-013/PS05	K1610284-012	**0.029 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-014/PS05DUP	K1610284-013	**0.027 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-015/PS14	K1610284-014	**0.029 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-016/PS06	K1610284-015	**0.039 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-017/PS08	K1610284-016	**0.030 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-018/PS15	K1610284-017	**0.027 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-019/PS09	K1610284-018	**0.029 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-020/PS10	K1610284-019	**0.026 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-021/PS10.1	K1610284-020	**0.024 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-022/PS11	K1610284-021	**0.038 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-023/PS16	K1610284-022	**0.057**	0.050	0.009	1	09/07/16 08:30	
AMB21-024/PS07B	K1610284-023	**0.074**	0.050	0.009	1	09/07/16 08:30	
AMB21-100/M6	K1610284-027	**0.057**	0.050	0.009	1	09/07/16 08:30	
AMB21-101/M8	K1610284-028	**0.043 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-102/M8DUP	K1610284-029	**0.033 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-103/DYOTS	K1610284-030	**0.043 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-104/WP	K1610284-031	**0.033 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-105/M2	K1610284-032	**0.030 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-106/M2DEEP	K1610284-033	**0.029 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-107/CLMBAY	K1610284-034	**0.027 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-108/ILSP	K1610284-035	**0.072**	0.050	0.009	1	09/07/16 08:30	
AMB21-109/M1	K1610284-036	**0.062**	0.050	0.009	1	09/07/16 08:30	
AMB21-110/M1DEEP	K1610284-037	**0.080**	0.050	0.009	1	09/07/16 08:30	
AMB21-111/POPIPD	K1610284-038	**0.080**	0.050	0.009	1	09/07/16 08:30	
AMB21-112/SN03	K1610284-039	**0.297**	0.050	0.009	1	09/07/16 08:30	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/2/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB21-113/SN05	K1610284-040	**0.055**	0.050	0.009	1	09/07/16 08:30	
AMB21-114/SN05DUP	K1610284-041	**0.058**	0.050	0.009	1	09/07/16 08:30	
AMB21-115/SN08	K1610284-042	**0.028 J**	0.050	0.009	1	09/07/16 08:30	
AMB21-116/SN10	K1610284-043	**0.059**	0.050	0.009	1	09/14/16 10:40	
AMB21-117/SN11	K1610284-044	**0.050**	0.050	0.009	1	09/14/16 10:40	
AMB21-118/M3.3	K1610284-045	**0.037 J**	0.050	0.009	1	09/14/16 10:40	
AMB21-119/M3.3DEEP	K1610284-046	**0.049 J**	0.050	0.009	1	09/14/16 10:40	
AMB21-120/PS07C	K1610284-047	**0.139**	0.050	0.009	1	09/14/16 10:40	
Method Blank	K1610284-MB1	**0.036 J**	0.050	0.009	1	09/07/16 08:30	
Method Blank	K1610284-MB2	**0.028 J**	0.050	0.009	1	09/07/16 08:30	
Method Blank	K1610284-MB3	**0.038 J**	0.050	0.009	1	09/14/16 10:40	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16 - 08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB21-001/PS07	K1610284-001DUP	0.050	0.009	0.108	0.097	0.103	11	20	09/07/16
AMB21-022/PS11	K1610284-021DUP	0.050	0.009	0.038 J	0.038 J	0.0380	<1	20	09/07/16
AMB21-116/SN10	K1610284-043DUP	0.050	0.009	0.059	0.055	0.0570	7	20	09/14/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/7/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB21-001/PS07	**Units:**	mg/L
Lab Code:	K1610284-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1610284-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.108	9.43	10.0	93	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/30/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/7/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB21-022/PS11	**Units:**	mg/L
Lab Code:	K1610284-021	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1610284-021MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.038 J	10.0	10.0	100	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Collected:**	08/31/16
Sample Matrix:	Ocean Water	**Date Received:**	09/02/16
		Date Analyzed:	09/14/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB21-116/SN10	**Units:**	mg/L
Lab Code:	K1610284-043	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1610284-043MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.059	8.55	10.0	85	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/07/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	513050

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1610284-LCS1	2.10	2.27	93	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/07/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	513074

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1610284-LCS2	2.03	2.27	89	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1610284
Project:	ENVVEST (AMB21)/August 2016	**Date Analyzed:**	09/14/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	514138

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1610284-LCS3	2.28	2.27	100	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1610284
Project: ENVVEST (AMB21)/August 2016

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	513050	KQ1610891-09	09/07/16 08:30	10.0	9.94	99	90-110
CCV2	513050	KQ1610891-10	09/07/16 08:30	10.0	9.44	94	90-110
CCV3	513050	KQ1610891-11	09/07/16 08:30	10.0	9.55	96	90-110
CCV4	513050	KQ1610891-12	09/07/16 08:30	10.0	9.75	98	90-110
CCV5	513074	KQ1610903-09	09/07/16 08:30	10.0	9.55	96	90-110
CCV6	513074	KQ1610903-10	09/07/16 08:30	10.0	9.75	98	90-110
CCV7	513074	KQ1610903-11	09/07/16 08:30	10.0	9.14	91	90-110
CCV8	513074	KQ1610903-12	09/07/16 08:30	10.0	9.28	93	90-110
CCV9	513074	KQ1610903-16	09/07/16 08:30	10.0	9.12	91	90-110
CCV10	514138	KQ1611255-05	09/14/16 10:40	10.0	9.76	98	90-110
CCV11	514138	KQ1611255-06	09/14/16 10:40	10.0	9.04	90	90-110
CCV12	514138	KQ1611255-07	09/14/16 10:40	10.0	9.20	92	90-110
CCV13	514138	KQ1611255-08	09/14/16 10:40	10.0	9.34	93	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1610284
Project: ENVVEST (AMB21)/August 2016

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	513050	KQ1610891-05	09/07/16 08:30	0.050	0.009	0.037	J
CCB2	513050	KQ1610891-06	09/07/16 08:30	0.050	0.009	0.041	J
CCB3	513050	KQ1610891-07	09/07/16 08:30	0.050	0.009	0.037	J
CCB4	513050	KQ1610891-08	09/07/16 08:30	0.050	0.009	0.043	J
CCB5	513074	KQ1610903-05	09/07/16 08:30	0.050	0.009	0.037	J
CCB6	513074	KQ1610903-06	09/07/16 08:30	0.050	0.009	0.043	J
CCB7	513074	KQ1610903-07	09/07/16 08:30	0.050	0.009	0.015	J
CCB8	513074	KQ1610903-08	09/07/16 08:30	0.050	0.009	0.041	J
CCB9	513074	KQ1610903-15	09/07/16 08:30	0.050	0.009	0.042	J
CCB10	514138	KQ1611255-01	09/14/16 10:40	0.050	0.009	0.041	J
CCB11	514138	KQ1611255-02	09/14/16 10:40	0.050	0.009	0.044	J
CCB12	514138	KQ1611255-03	09/14/16 10:40	0.050	0.009	0.032	J
CCB13	514138	KQ1611255-04	09/14/16 10:40	0.050	0.009	0.043	J

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/30/2016 (samples arrived 8/30, logged in 8/3116
Batch: 59
Login Designee: Suslick

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1529 West Sequim Bay Road
Sequim, Washington 98382
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Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-001	PS07-TME	TME	PS07	3106-1870	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-001	PS07-DME	DME	PS07	3106-1871	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-002	M4-TME	TME	M4	3106-1872	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-002	M4-DME	DME	M4	3106-1873	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-003	BJEST-TME	TME	BJEST	3106-1874	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-003	BJEST-DME	DME	BJEST	3106-1875	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-004	M3.1-TME	TME	M3.1	3106-1876	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-004	M3.1-DME	DME	M3.1	3106-1877	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-005	M3.1DEEP-TME	TME	M3.1DEEP	3106-1878	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-005	M3.1DEEP-DME	DME	M3.1DEEP	3106-1879	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-006	PS12-TME	TME	PS12	3106-1880	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-006	PS12-DME	DME	PS12	3106-1881	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-007	PS01-TME	TME	PS01	3106-1882	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-007	PS01-DME	DME	PS01	3106-1883	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-008	PS01DUP-TME	TME	PS01DUP	3106-1884	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-008	PS01DUP-DME	DME	PS01DUP	3106-1885	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-009	PS02-TME	TME	PS02	3106-1886	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-009	PS02-DME	DME	PS02	3106-1887	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-010	PS13-TME	TME	PS13	3106-1888	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-010	PS13-DME	DME	PS13	3106-1889	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-011	PS03-TME	TME	PS03	3106-1890	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-011	PS03-DME	DME	PS03	3106-1891	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-012	PS04-TME	TME	PS04	3106-1892	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-012	PS04-DME	DME	PS04	3106-1893	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-013	PS05-TME	TME	PS05	3106-1894	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-013	PS05-DME	DME	PS05	3106-1895	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-014	PS05DUP-TME	TME	PS05DUP	3106-1896	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-014	PS05DUP-DME	DME	PS05DUP	3106-1897	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-015	PS14-TME	TME	PS14	3106-1898	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-015	PS14-DME	DME	PS14	3106-1899	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-016	PS06-TME	TME	PS06	3106-1900	Seawater	PREP LAB	Total Metals, Hg	08/30/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/30/2016 (samples arrived 8/30, logged in 8/3116
Batch: 59
Login Designee: Suslick

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Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-016	PS06-DME	DME	PS06	3106-1901	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-017	PS08-TME	TME	PS08	3106-1902	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-017	PS08-DME	DME	PS08	3106-1903	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-018	PS15-TME	TME	PS15	3106-1904	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-018	PS15-DME	DME	PS15	3106-1905	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-019	PS09-TME	TME	PS09	3106-1906	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-019	PS09-DME	DME	PS09	3106-1907	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-020	PS10-TME	TME	PS10	3106-1908	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-020	PS10-DME	DME	PS10	3106-1909	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-021	PS10.1-TME	TME	PS10.1	3106-1910	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-021	PS10.1-DME	DME	PS10.1	3106-1911	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-022	PS11-TME	TME	PS11	3106-1912	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-022	PS11-DME	DME	PS11	3106-1913	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-023	PS16-TME	TME	PS16	3106-1914	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-023	PS16-DME	DME	PS16	3106-1915	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-024	PS07B-TME	TME	PS07B	3106-1916	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-024	PS07B-DME	DME	PS07B	3106-1917	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-DD001	OF018-TME	TME	OF018	3106-1918	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-DD001	OF018-DME	DME	OF018	3106-1919	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-DD002	OF019-TME	TME	OF019	3106-1920	Seawater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-DD002	OF019-DME	DME	OF019	3106-1921	Seawater	PREP LAB	Dissolved Metals, Hg	08/30/16
AMB21-DD003	OF021-TME	TME	OF021	3106-1922	Freshwater	PREP LAB	Total Metals, Hg	08/30/16
AMB21-DD003	OF021-DME	DME	OF021	3106-1923	Freshwater	PREP LAB	Dissolved Metals, Hg	08/30/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/30/2016 (samples arrived 8/30, logged in 8/3116
Batch: 59
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-001	PS07-TOC	TOC	PS07	3106-1870	Seawater	MSL	TOC	08/30/16
AMB21-002	M4-TOC	TOC	M4	3106-1872	Seawater	MSL	TOC	08/30/16
AMB21-003	BJEST-TOC	TOC	BJEST	3106-1874	Seawater	MSL	TOC	08/30/16
AMB21-004	M3.1-TOC	TOC	M3.1	3106-1876	Seawater	MSL	TOC	08/30/16
AMB21-005	M3.1DEEP-TOC	TOC	M3.1DEEP	3106-1878	Seawater	MSL	TOC	08/30/16
AMB21-006	PS12-TOC	TOC	PS12	3106-1880	Seawater	MSL	TOC	08/30/16
AMB21-007	PS01-TOC	TOC	PS01	3106-1882	Seawater	MSL	TOC	08/30/16
AMB21-008	PS01DUP-TOC	TOC	PS01DUP	3106-1884	Seawater	MSL	TOC	08/30/16
AMB21-009	PS02-TOC	TOC	PS02	3106-1886	Seawater	MSL	TOC	08/30/16
AMB21-010	PS13-TOC	TOC	PS13	3106-1888	Seawater	MSL	TOC	08/30/16
AMB21-011	PS03-TOC	TOC	PS03	3106-1890	Seawater	MSL	TOC	08/30/16
AMB21-012	PS04-TOC	TOC	PS04	3106-1892	Seawater	MSL	TOC	08/30/16
AMB21-013	PS05-TOC	TOC	PS05	3106-1894	Seawater	MSL	TOC	08/30/16
AMB21-014	PS05DUP-TOC	TOC	PS05DUP	3106-1896	Seawater	MSL	TOC	08/30/16
AMB21-015	PS14-TOC	TOC	PS14	3106-1898	Seawater	MSL	TOC	08/30/16
AMB21-016	PS06-TOC	TOC	PS06	3106-1900	Seawater	MSL	TOC	08/30/16
AMB21-017	PS08-TOC	TOC	PS08	3106-1902	Seawater	MSL	TOC	08/30/16
AMB21-018	PS15-TOC	TOC	PS15	3106-1904	Seawater	MSL	TOC	08/30/16
AMB21-019	PS09-TOC	TOC	PS09	3106-1906	Seawater	MSL	TOC	08/30/16
AMB21-020	PS10-TOC	TOC	PS10	3106-1908	Seawater	MSL	TOC	08/30/16
AMB21-021	PS10.1-TOC	TOC	PS10.1	3106-1910	Seawater	MSL	TOC	08/30/16
AMB21-022	PS11-TOC	TOC	PS11	3106-1912	Seawater	MSL	TOC	08/30/16
AMB21-023	PS16-TOC	TOC	PS16	3106-1914	Seawater	MSL	TOC	08/30/16
AMB21-024	PS07B-TOC	TOC	PS07B	3106-1916	Seawater	MSL	TOC	08/30/16
AMB21-DD001	OF018-TOC	TOC	OF018	3106-1918	Seawater	MSL	TOC	08/30/16
AMB21-DD002	OF019-TOC	TOC	OF019	3106-1920	Seawater	MSL	TOC	08/30/16
AMB21-DD003	OF021-TOC	TOC	OF021	3106-1922	Freshwater	MSL	TOC	08/30/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/30/2016 (samples arrived 8/30, logged in 8/3116
Batch: 59
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-001	PS07-DOC	DOC	PS07	3106-1871	Seawater	MSL	DOC	08/30/16
AMB21-002	M4-DOC	DOC	M4	3106-1873	Seawater	MSL	DOC	08/30/16
AMB21-003	BJEST-DOC	DOC	BJEST	3106-1875	Seawater	MSL	DOC	08/30/16
AMB21-004	M3.1-DOC	DOC	M3.1	3106-1877	Seawater	MSL	DOC	08/30/16
AMB21-005	M3.1DEEP-DOC	DOC	M3.1DEEP	3106-1879	Seawater	MSL	DOC	08/30/16
AMB21-006	PS12-DOC	DOC	PS12	3106-1881	Seawater	MSL	DOC	08/30/16
AMB21-007	PS01-DOC	DOC	PS01	3106-1883	Seawater	MSL	DOC	08/30/16
AMB21-008	PS01DUP-DOC	DOC	PS01DUP	3106-1885	Seawater	MSL	DOC	08/30/16
AMB21-009	PS02-DOC	DOC	PS02	3106-1887	Seawater	MSL	DOC	08/30/16
AMB21-010	PS13-DOC	DOC	PS13	3106-1889	Seawater	MSL	DOC	08/30/16
AMB21-011	PS03-DOC	DOC	PS03	3106-1891	Seawater	MSL	DOC	08/30/16
AMB21-012	PS04-DOC	DOC	PS04	3106-1893	Seawater	MSL	DOC	08/30/16
AMB21-013	PS05-DOC	DOC	PS05	3106-1895	Seawater	MSL	DOC	08/30/16
AMB21-014	PS05DUP-DOC	DOC	PS05DUP	3106-1897	Seawater	MSL	DOC	08/30/16
AMB21-015	PS14-DOC	DOC	PS14	3106-1899	Seawater	MSL	DOC	08/30/16
AMB21-016	PS06-DOC	DOC	PS06	3106-1901	Seawater	MSL	DOC	08/30/16
AMB21-017	PS08-DOC	DOC	PS08	3106-1903	Seawater	MSL	DOC	08/30/16
AMB21-018	PS15-DOC	DOC	PS15	3106-1905	Seawater	MSL	DOC	08/30/16
AMB21-019	PS09-DOC	DOC	PS09	3106-1907	Seawater	MSL	DOC	08/30/16
AMB21-020	PS10-DOC	DOC	PS10	3106-1909	Seawater	MSL	DOC	08/30/16
AMB21-021	PS10.1-DOC	DOC	PS10.1	3106-1911	Seawater	MSL	DOC	08/30/16
AMB21-022	PS11-DOC	DOC	PS11	3106-1913	Seawater	MSL	DOC	08/30/16
AMB21-023	PS16-DOC	DOC	PS16	3106-1915	Seawater	MSL	DOC	08/30/16
AMB21-024	PS07B-DOC	DOC	PS07B	3106-1917	Seawater	MSL	DOC	08/30/16
AMB21-DD001	OF018-DOC	DOC	OF018	3106-1919	Seawater	MSL	DOC	08/30/16
AMB21-DD002	OF019-DOC	DOC	OF019	3106-1921	Seawater	MSL	DOC	08/30/16
AMB21-DD003	OF021-DOC	DOC	OF021	3106-1923	Freshwater	MSL	DOC	08/30/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/30/2016 (samples arrived 8/30, logged in 8/3116
Batch: 59
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1870	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-002	M4-TSS/OSAL	TSS/OSAL	M4	3106-1872	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-003	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-1874	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-004	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-1876	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-005	M3.1DEEP-TSS/OSAL	TSS/OSAL	M3.1DEEP	3106-1878	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-006	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-1880	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-007	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-1882	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-008	PS01DUP-TSS/OSAL	TSS/OSAL	PS01DUP	3106-1884	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-009	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-1886	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-010	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-1888	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-011	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-1890	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-012	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-1892	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-013	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-1894	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-014	PS05DUP-TSS/OSAL	TSS/OSAL	PS05DUP	3106-1896	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-015	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-1898	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-016	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-1900	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-017	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1902	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-018	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-1904	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-019	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1906	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-020	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-1908	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-021	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-1910	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-022	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-1912	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-023	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-1914	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-024	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-1916	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-DD001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-1918	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-1920	Seawater	MSL	TSS/OSAL	08/30/16
AMB21-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-1922	Freshwater	MSL	TSS/OSAL	08/30/16

PAGE 01 of 2

SAMPLE CHAIN OF CUSTODY FORM AMB21

Date: 8/30/2016

Page: 1 of 2

COC Number: AMB21 DBAY1

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:

Project Manager: Jill Brandenberger

Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL

Address: 1529 W. Sequim Bay Road, Sequim, WA 98382

Attention: Jon Strivens

Testing Parameters

Observations, Instructions

3106 TOT/DISS

Lab. Use only: Lab ID		Sample ID	Sample Label	8/30/2016 Collection Date/Time	Matrix	Tmt /Dmt	ToC /Doc	Nutrients	TSS						No. of containers	StationID	Comments
1870	1871	AMB21-001	PS07	0906	NS	x	x	x	x						5	PS07	
1872	1873	-002	M4	0927	M											M4	Algae present
1874	1875	-003	BJEST	0950	NS											BJEST	
1876	1877	-004	M3.1	0928	M											M3.1	
1878	1879	-005	M3.1DEEP	0931	M											M3.1	1.3m deep
1880	1881	-006	PS12	1045	NS											PS12	
1882	1883	-007	PS01	1106	NS											PS01	
1884	1885	-008	PS01DUP	1106	NS											PS01	Field/Lab Dup
1886	1887	-009	PS02	1129	NS											PS02	
1888	1889	-010	PS13	1136	NS											PS13	
1890	1891	-011	PS03	1227	NS											PS03	
1892	1893	-012	PS04	1240	NS											PS04	
1894	1895	-013	PS05	1255	NS											PS05	
1896	1897	-014	PS05DUP	1255	NS											PS05	Field/Lab Dup
1898	1899	-015	PS14	1315	NS											PS14	
1900	1901	-016	PS06	1327	NS											PS06	
1902	1903	-017	PS08	1344	NS											PS08	
1904	1905	-018	PS15	1355	NS											PS15	at Basin

Relinquished by: STRIVENS 20160830 1900
Signature Date Time
Printed Name Company PNNL

Received by: 20160830
Signature
STRIVENS
Printed Name

Total # of Containers 90
Shipment Method: PNNL
Shipment Method:
Sample Disposition:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

PREVENTIVE MEDICINE 3603154455 08/30/2016 15:58

PAGE 02 of 2

SAMPLE CHAIN OF CUSTODY FORM
Date: 8/30/2016
Page: 2 of 2
COC Number: AMB21 DAY1

AMB 21

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jon Strivens

Testing Parameters

Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Tmt / Dmt	Dar / Toc	Nutrients	TSS					No. of containers	StationID	Observations, Instructions / Comments
1906	1907	~~P5~~ 019	AMB21-~~P5~~019	~~P5~~09 1410	SW	X	X	X	X					5	PS09	
1908	1909	-020	PS10	1426	SW									5	PS10	
1910	1911	021	PS10.1	1423	SW									5	PS10.1	
1912	1913	022	PS11	1456	SW									5	PS11	
1914	1915	023	PS16	1506	SW									5	PS16	
1916	1917	024	PS07B	1522	SW									5	PS07	

3106 TN/DISS

Relinquished by: STRWSNS 20160830 1900
Signature Date Time
Printed Name Company PNNL

Relinquished by:
Signature Date Time
Printed Name Company

Received by: 20160830
Signature
STRWSNS
Printed Name

Received by:
Signature
Printed Name

Total # of Containers 30
Shipment Method: PNNL
Shipment Method: Hand carry

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

PREVENTIVE MEDICINE 3603154455 08/30/2016 15:58

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 8/30/16

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVVEST - AMB 21
Project Manager: BRANDEN BERGER
Phone Number: 37652

Shipment Method: PNNL
Preservation:

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TMe	TOC	DOC	TSS	OIL/GREASE	310.1 TOT/DISS Laboratory ID		Observations/Comments
1	OF 018	20160830 ~~10:44~~ 9:47	SEAWATER	5	X	X	X	X	X	1918	1919	
2	OF 019	20160830 11:55	SEAWATER	5	X	X	X	X	X	1920	1921	
3	OF 021	20160830 10:35	WATER	5	X	X	X	X	X	1922	1923	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Relinquished By:	Company: PNNL
STRUENS	20160830 1800
Signature/Printed Name	Date/Time

Received By:	Company: PNNL
STRUENS	20160830 1800
Signature/Printed Name	Date/Time

Relinquished By:	Company:
Signature/Printed Name	Date/Time

Received By:	Company:
Signature/Printed Name	Date/Time

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3100 Sample No(s): 1870-1923 Batch: 59

Project Name: ENVVEST AMB21 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater / Freshwater WP# WG22541

Yes	No	
X		Navy-type Project (requires high-level sample tracking procedures)
	X	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

X		Filter Samples: Amount: Entire sample Half of sample TMS
	X	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
	X	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		X	Custody seal present Seal intact? YES NO
X			Cooler temperature (acceptable range: 4±2°C or solids:frozen) 4° °C
			(if multiple coolers, note temp. of each) 4 °C
		X	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
			Comment/Remedy:
X			Were all chain of custody forms signed and dated?
X			Were samples filtered at MSL? DME

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: STRUCK Date/Time: 2/10/08 1830

SAMPLE PRESERVATION

		Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)	
		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
		Complete pH check required for project (use pH meter and record on pH Record form)	
		Sample(s) were preserved at MSL	
Type:	X	0.2% HNO3	Notes: TME / DME Lot# 1214050
		0.5% HCl (Hg samples)	Notes: Lot#
	X	Refrigerate/Freeze	Notes: R: TSS/Nut/oil F: TOC/DOC
		Other	Notes:

Completed By: STRUCK Date/Time: 2/10/08 1830

Storage Shelf: DME - K5B • K5D, TME - K6A • K6B

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/31/2016 (samples arrived 8/31, logged in 9/1/16)
Batch: 60
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-100	M6-TME	TME	M6	3106-1924	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-100	M6-DME	DME	M6	3106-1925	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-101	M8-TME	TME	M8	3106-1926	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-101	M8-DME	DME	M8	3106-1927	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-102	M8DUP-TME	TME	M8DUP	3106-1928	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-102	M8DUP-DME	DME	M8DUP	3106-1929	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-103	DYOTS-TME	TME	DYOTS	3106-1930	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-103	DYOTS-DME	DME	DYOTS	3106-1931	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-104	WP-TME	TME	WP	3106-1932	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-104	WP-DME	DME	WP	3106-1933	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-105	M2-TME	TME	M2	3106-1934	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-105	M2-DME	DME	M2	3106-1935	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-106	M2DEEP-TME	TME	M2DEEP	3106-1936	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-106	M2DEEP-DME	DME	M2DEEP	3106-1937	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-107	CLMBAY-TME	TME	CLMBAY	3106-1938	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-107	CLMBAY-DME	DME	CLMBAY	3106-1939	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-108	ISLP-TME	TME	ILSP	3106-1940	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-108	ISLP-DME	DME	ILSP	3106-1941	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-109	M1-TME	TME	M1	3106-1942	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-109	M1-DME	DME	M1	3106-1943	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-110	M1DEEP-TME	TME	M1DEEP	3106-1944	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-110	M1DEEP-DME	DME	M1DEEP	3106-1945	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-111	POPIPD-TME	TME	POPIPD	3106-1946	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-111	POPIPD-DME	DME	POPIPD	3106-1947	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-112	SN03-TME	TME	SN03	3106-1948	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-112	SN03-DME	DME	SN03	3106-1949	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-113	SN05-TME	TME	SN05	3106-1950	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-113	SN05-DME	DME	SN05	3106-1951	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-114	SN05DUP-TME	TME	SN05DUP	3106-1952	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-114	SN05DUP-DME	DME	SN05DUP	3106-1953	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-115	SN08-TME	TME	SN08	3106-1954	Seawater	PREP LAB	Total Metals, Hg	08/31/16

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/31/2016 (samples arrived 8/31, logged in 9/1/16)
Batch: 60
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-115	SN08-DME	DME	SN08	3106-1955	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-116	SN10-TME	TME	SN10	3106-1956	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-116	SN10-DME	DME	SN10	3106-1957	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-117	SN11-TME	TME	SN11	3106-1958	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-117	SN11-DME	DME	SN11	3106-1959	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-118	M3.3-TME	TME	M3.3	3106-1960	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-118	M3.3-DME	DME	M3.3	3106-1961	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-119	M3.3DEEP-TME	TME	M3.3DEEP	3106-1962	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-119	M3.3DEEP-DME	DME	M3.3DEEP	3106-1963	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16
AMB21-120	PS07C-TME	TME	PS07C	3106-1964	Seawater	PREP LAB	Total Metals, Hg	08/31/16
AMB21-120	PS07C-DME	DME	PS07C	3106-1965	Seawater	PREP LAB	Dissolved Metals, Hg	08/31/16

SAMPLE LOGIN

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Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-100	M6-TOC	TOC	M6	3106-1924	Seawater	MSL	TOC	08/31/16
AMB21-101	M8-TOC	TOC	M8	3106-1926	Seawater	MSL	TOC	08/31/16
AMB21-102	M8DUP-TOC	TOC	M8DUP	3106-1928	Seawater	MSL	TOC	08/31/16
AMB21-103	DYOTS-TOC	TOC	DYOTS	3106-1930	Seawater	MSL	TOC	08/31/16
AMB21-104	WP-TOC	TOC	WP	3106-1932	Seawater	MSL	TOC	08/31/16
AMB21-105	M2-TOC	TOC	M2	3106-1934	Seawater	MSL	TOC	08/31/16
AMB21-106	M2DEEP-TOC	TOC	M2DEEP	3106-1936	Seawater	MSL	TOC	08/31/16
AMB21-107	CLMBAY-TOC	TOC	CLMBAY	3106-1938	Seawater	MSL	TOC	08/31/16
AMB21-108	ISLP-TOC	TOC	ILSP	3106-1940	Seawater	MSL	TOC	08/31/16
AMB21-109	M1-TOC	TOC	M1	3106-1942	Seawater	MSL	TOC	08/31/16
AMB21-110	M1DEEP-TOC	TOC	M1DEEP	3106-1944	Seawater	MSL	TOC	08/31/16
AMB21-111	POPIPD-TOC	TOC	POPIPD	3106-1946	Seawater	MSL	TOC	08/31/16
AMB21-112	SN03-TOC	TOC	SN03	3106-1948	Seawater	MSL	TOC	08/31/16
AMB21-113	SN05-TOC	TOC	SN05	3106-1950	Seawater	MSL	TOC	08/31/16
AMB21-114	SN05DUP-TOC	TOC	SN05DUP	3106-1952	Seawater	MSL	TOC	08/31/16
AMB21-115	SN08-TOC	TOC	SN08	3106-1954	Seawater	MSL	TOC	08/31/16
AMB21-116	SN10-TOC	TOC	SN10	3106-1956	Seawater	MSL	TOC	08/31/16
AMB21-117	SN11-TOC	TOC	SN11	3106-1958	Seawater	MSL	TOC	08/31/16
AMB21-118	M3.3-TOC	TOC	M3.3	3106-1960	Seawater	MSL	TOC	08/31/16
AMB21-119	M3.3DEEP-TOC	TOC	M3.3DEEP	3106-1962	Seawater	MSL	TOC	08/31/16
AMB21-120	PS07C-TOC	TOC	PS07C	3106-1964	Seawater	MSL	TOC	08/31/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
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Marine Sciences Laboratory
1529 West Sequim Bay Road
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Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-100	M6-DOC	DOC	M6	3106-1925	Seawater	MSL	DOC	08/31/16
AMB21-101	M8-DOC	DOC	M8	3106-1927	Seawater	MSL	DOC	08/31/16
AMB21-102	M8DUP-DOC	DOC	M8DUP	3106-1929	Seawater	MSL	DOC	08/31/16
AMB21-103	DYOTS-DOC	DOC	DYOTS	3106-1931	Seawater	MSL	DOC	08/31/16
AMB21-104	WP-DOC	DOC	WP	3106-1933	Seawater	MSL	DOC	08/31/16
AMB21-105	M2-DOC	DOC	M2	3106-1935	Seawater	MSL	DOC	08/31/16
AMB21-106	M2DEEP-DOC	DOC	M2DEEP	3106-1937	Seawater	MSL	DOC	08/31/16
AMB21-107	CLMBAY-DOC	DOC	CLMBAY	3106-1939	Seawater	MSL	DOC	08/31/16
AMB21-108	ISLP-DOC	DOC	ILSP	3106-1941	Seawater	MSL	DOC	08/31/16
AMB21-109	M1-DOC	DOC	M1	3106-1943	Seawater	MSL	DOC	08/31/16
AMB21-110	M1DEEP-DOC	DOC	M1DEEP	3106-1945	Seawater	MSL	DOC	08/31/16
AMB21-111	POPIPD-DOC	DOC	POPIPD	3106-1947	Seawater	MSL	DOC	08/31/16
AMB21-112	SN03-DOC	DOC	SN03	3106-1949	Seawater	MSL	DOC	08/31/16
AMB21-113	SN05-DOC	DOC	SN05	3106-1951	Seawater	MSL	DOC	08/31/16
AMB21-114	SN05DUP-DOC	DOC	SN05DUP	3106-1953	Seawater	MSL	DOC	08/31/16
AMB21-115	SN08-DOC	DOC	SN08	3106-1955	Seawater	MSL	DOC	08/31/16
AMB21-116	SN10-DOC	DOC	SN10	3106-1957	Seawater	MSL	DOC	08/31/16
AMB21-117	SN11-DOC	DOC	SN11	3106-1959	Seawater	MSL	DOC	08/31/16
AMB21-118	M3.3-DOC	DOC	M3.3	3106-1961	Seawater	MSL	DOC	08/31/16
AMB21-119	M3.3DEEP-DOC	DOC	M3.3DEEP	3106-1963	Seawater	MSL	DOC	08/31/16
AMB21-120	PS07C-DOC	DOC	PS07C	3106-1965	Seawater	MSL	DOC	08/31/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2016 (AMB21, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB21-100	M6-TSS/OSAL	TSS/OSAL	M6	3106-1924	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-101	M8-TSS/OSAL	TSS/OSAL	M8	3106-1926	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-102	M8DUP-TSS/OSAL	TSS/OSAL	M8DUP	3106-1928	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-103	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-1930	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-104	WP-TSS/OSAL	TSS/OSAL	WP	3106-1932	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-105	M2-TSS/OSAL	TSS/OSAL	M2	3106-1934	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-106	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-1936	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-107	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-1938	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-108	ISLP-TSS/OSAL	TSS/OSAL	ILSP	3106-1940	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-109	M1-TSS/OSAL	TSS/OSAL	M1	3106-1942	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-110	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-1944	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-111	POPIPD-TSS/OSAL	TSS/OSAL	POPIPD	3106-1946	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-112	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-1948	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-113	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-1950	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-114	SN05DUP-TSS/OSAL	TSS/OSAL	SN05DUP	3106-1952	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-115	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-1954	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-116	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-1956	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-117	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-1958	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-118	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-1960	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-119	M3.3DEEP-TSS/OSAL	TSS/OSAL	M3.3DEEP	3106-1962	Seawater	MSL	TSS/OSAL	08/31/16
AMB21-120	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-1964	Seawater	MSL	TSS/OSAL	08/31/16

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/31/2016
Page: 1 of 2
COC Number:

AMB21 Day 2

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB21_2016_08_31

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jon Strivens

Testing Parameters

3106 TOT/DISS

8/31/2016

Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	TMT	Toc/Doc	TSS	Nutrients	No. of containers	StationID	Comments
1924	1925	AMB21-100	M6	0902	Seawater	X	X	X	X	5	M6	Ostrich Bay
1926	1927	101	M8	0920							M8	Oyster Bay
1928	1929	102	M8DUP	0920							M8	"
1930	1931	103	DYOTS	0945							DYOTS	Port of Silverdale
1932	1933	104	WP	1023							WP	Waterman Point
1934	1935	105	M2	1039							M2	Rich Passage
1936	1937	106	M2DEEP	1040							M2	
1938	1939	107	CLMBY	1058							CLMBY	Clam Bay
1940	1941	108	ISLP	1115							POPISLP.	Illahee State Park
1942	1943	109	M1	1128							M1	Port Orchard Passage
1944	1945	110	M1DEEP	1130							M1	" "
1946	1947	111	POPIPD	1155							POPIPD	Port of Illahee
1948	1949	112	SN03	1336							SN03	Brem WWTP
1950	1951	113	SN05	1256							SN05	Gust Mit bottom mooring
1952	1953	114	SN05DUP	1300							SN05	Field Dup Station
1954	1955	115	SN08	1313							SN08	Ross Point
1956	1957	116	SN10	1325							SN10	PO Boat Ramp Barge in water work
1958	1959	117	SN11	1336	✓						SN11	PO Footferry

Relinquished by: JSTRIVENS 20160831 1730 PNNL
Signature Date Time
Printed Name Company

Received by: JSTRIVENS
Signature
20160831 1730
Printed Name

Total # of Containers

Shipment Method:
Shipment Method: Hand carry

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

005/006 PSNS&IMF ESH CODE 106 3604768550 FAX 08/31/2016 14:38

SAMPLE CHAIN OF CUSTODY FORM AMB21 DAY2

Date: 8/31/2016
Page: 2 of 2
COC Number: AMB21-2016-08-31

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:

Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB21-2016-08-31

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jon Strivens

Testing Parameters

3106 TOT/DISS

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TMS	TOC/DOC	Nutrients	TSS	No. of containers	StationID	Observations, Instructions / Comments
PKO 1961	AMB21-118	M3.3	8/31/2016 1350	M	X	X	X	X	5	M3.3	Middle of Sinclair Inlet
PK2 1963	-119	M3.3 Deep	1355	M	↓	↓	↓	↓		M3.3	" Deep 3.5m
PKN PK5	-120	PS07C	1412	NS	↓	↓	↓	↓		PS07	Finger Pier

Relinquished by: STRIVENS 20160831 1730 PMM
Signature Date Time
Printed Name Company

Received by: STRIVENS
Signature
20160831 1730
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

08/31/2016 14:33 FAX 3604768550 PSNS&IMF ESH CODE 106 006/006

AMB21 DAY2

			Sampling stations for AMB~~2~~ 21				
		8/31/2016	Outside Barrier				
	#	Station					
	1	~~M6~~	Ostrich Bay off Erlands Point				
	2	~~M8~~	Oyster Bay center of Bay or Ammo Pier			Metals	
	3	~~M8DUP~~	Field Dup			Metals	
	4	~~DYOTS~~	Dyes Inlet Old Town Silverdale			Metals	
	5	~~WP~~	Sinclair Inlet Waterman Point			Metals	
	6	~~M2~~	Rich Passage			Metals	
	7	~~M2DEEP~~	Rich Passage			Metals	
	8	~~CLMBAY~~	Clam Bay neer mouth of Beaver Creek			Metals	
	9	~~ILSP~~	Illahee state park off of fishing pier			Metals	
	10	~~M1~~	Port Orchard Passage University Point			Metals	
	11	~~M1DEEP~~	Port Orchard Passage University Point			Metals	
	12	~~POPIPD~~	Port Orchard Passage Illahee Port Dock			Metals	
	13	~~SN03~~	Offshore of WWTP outfall			Metals	
	14	~~SN05~~	Gost, toward mouth of creek depth = 6ft			Metals	
	15	~~SN05DUP~~	Field Dup			Metals	
	16	~~SN08~~	Ross Point close to shore			Metals	
	17	~~SN10~~	Port Orchard Sinclair Marina off shore of boat ramp			Metals	
	18	SN11	Port Orchard Marina foot ferry dock			Metals	
	19	M3.3	Sinclair Inlet Middle of Channel			Metals	
	20	M3.3DEEP				Metals	
	21	PS07C	Resample finger pier			Metals	

Station Log AMB21 DAY 2

Sample Collector(s) / Author: Johnston, Strivens, Rosen, Caswell, Grace Booker

Organization: PSNS&IMF c/106.32

Page 1 of 1

Bremerton Tides

AMB21-2016-09-31

AMB21 8/31/16 ~~8/30/2016~~

Weather: Light Rain 50°F Showers

Use pre-assigned id AMB21- StationID	m/dd/yy hh:mm Time Arrive Date/Time	m/dd/yy hh:mm Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
1 M6	0857		M	47.60196	122.68187	Ostrich Bay off NHB
2 [3] M4	0917		M	47.57325	122.67641	Oyster Bay
4 DIGIS	0943	1000	NS	47.64164	122.69356	Old Town Silverdale Port of
5 WP	1020		NS	47.58392	122.57133	Waterman Point
6 M2			M	same 47.57347	same 122.53415	↑
7 M2DEEP			M			Rich Passage 5m deep
8 CLMBP			NS	47.57232	122.54617	10 ft
9 ILSP	1113		NS	47.60051	122.59347	Illahee State Park
10 ~~M2~~ M1			M	same	same	↑
11 ~~M2DEEP~~ M2DEEP		1145	M	47.63902	122.58726	University Point
12 PORIPD	1154		NS	47.61344	122.59479	Port of Illahee
13 SN03	1234		NS	47.54654	122.66964	Sinclair WWTP outfall
14/15 [14] SN05	1255		NS	47.53395	122.68348	Gorst Mit bottom Field Dup
16 SN08	1311		NS	47.54074	122.66274	Ross Point
17 SN10	1323		NS	47.54099	122.64301	PO Boat Ramp Dock
18 SN11	1335		NS	47.54352	122.63551	PO Foot Ferry
19 M3.3	1350		M			
20 M3.3 Deep	1355		M	47.55039	122.55039	3.5 meter deep
21 PS07C	1410		NS	47.55594	122.6416	Finger Pier

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

08/31/2016 14:30 FAX 3604768550 PSNS&IMF ESH CODE 106

Water Quality Log AMB21 DAY 0

Page 1 of 1

Sample Logger	Johnston										PSNS Project ENVVEST				8/31/2016
Sampling Team	Johnston, Strivens, Rosen, Caswell, Booker														8/31/2016
Organization	PSNS&IMF c/106.32										Instrument:				AMB21_2016_08_31
Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	YSI								Micro		Secchi	Bottom	AMB21
SampleID	StationID	Date/Time	Cond	units	Spec. Cond	units	TempC	Sal ppt	pH	TDS g/L	Turb NTU	pH	ft	ft	Remarks/ Comments
100	M6	0902	38.08	mS	42.36		16.4	29.6		27.53	0.80		9		
101/102	M6/M6Dup	0920	38.29		42.19		16.9	29.4		27.41	4.06		7	19	
103	DYOB	0945	39.06		42.12		17.9	29.3		27.37	.01		9		
104	DWP	1023	37.26		42.38		15.4	29.6		27.55	.84		10		
105	M2	1039	36.83		42.51		14.7	29.8		27.64	1.45		12		14.7 degrees C
106	M2Deep	1040	36.96		42.52		14.9	29.7		27.63	1.54				from GoFlow 5m depth
107	CLMBY	1058	36.60		42.55		14.8	29.8		27.69	.27		BOT	10	14.4°
108	ISLP	1115	36.88		42.45		14.8	29.7		27.59	.00		19		
109	MC	1128	37.07		42.46		15.1	29.7		27.60	.00		13		University Point
110	MCDeep	1130	37.1		42.40		15.2	29.6		27.55	.00				From GoFlow
111	BOPIPD	1155	36.85		42.42		14.8	29.7		27.58	.00		13		
112	SNO3	1236	36.94		42.00		15.4	29.3		27.33	.99		8		
113/114	Dup SNO5	1256	36.57		42.25		15.6	29.5		27.47	3.76		BOT	5	very murky Bottom stirred up moved off station
115	SNO8	1313	37.38		41.91		16.1	29.2		27.23	1.96		7		
116	SN10	1325	37.8		42.21		16.2	29.5		27.45	1.30		7		Barge in water work
117	SN11	1336	37.9		42.25		16.2	29.5		27.47	0.85		6		
118	M3.3	1350	37.50		42.12		16.0	29.4		27.38	1.09		6		
119	M3.3Deep	1355	37.63		41.98		16.3	29.3		27.29	2.04				Sample from GoFlow
120	PSO7C	1412	36.85		41.46		15.9	29.0		27.05	0.27		11		

003/006

PSNS&IMF ESH CODE 106

08/31/2016 14:31 FAX 3604768550

AMB21 DAY2

NBK Bremerton Marine Mammal Tally Sheet	
Date	~~8/30/2016~~ 8/31/2016
Observers	Johnston, Strivens, Rosen, Caswell
Weather	
Observations	Note number and species present

1236 12-15 sea Lions on barrier
10 ~~each~~ ~~ea~~ K of PB
Too far out to make accurate count

Notes:

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31062 Sample No(s): PA24 - 1965 Batch: 60

Project Name: ENVVEST AMB21 Project Manager: Brandenburger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater WP#

Yes	No	
X		Navy-type Project (requires high-level sample tracking procedures)
	X	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

X		Filter Samples: Amount: Entire sample Half of sample true to DMS
	X	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
	X	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
		X	Custody seal present Seal intact? YES NO
X			Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) 4 °C, 4 °C
		X	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
X			Were all chain of custody forms signed and dated?
X			Were samples filtered at MSL? TMS

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes:

Completed By: STRUSS Date/Time: 20160831 1730

SAMPLE PRESERVATION

	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
	Random pH checked for ~10% of samples (use dip paper) Sample IDs:
	Complete pH check required for project (use pH meter and record on pH Record form)
X	Sample(s) were preserved at MSL

Type:			
X	0.2% HNO3	Notes: TMS, DMS	Lot# 121455
	0.5% HCl (Hg samples)	Notes:	Lot#
X	Refrigerate/Freeze	Notes: R: TSS, Nuts F: Toc/Doc (-20c)	
	Other	Notes:	

Completed By: STRUSS Date/Time: 20160831 1730

Storage Shelf:

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 8/10/2016
Batch: 57
Login Designee: Cade

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST AMB21**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date	Collection Time
Filter Blank A	NA	3106-1859	Water	K-5-A	TMe, Hg	08/10/16	NA
Filter Blank B	NA	3106-1860	Water	K-5-A	TMe, Hg	08/10/16	NA
Filter Blank C	NA	3106-1861	Water	K-5-A	TMe, Hg	08/10/16	NA
Bottle Blank A	NA	3106-1862	Water	K-5-A	Tme	08/10/16	NA
Bottle Blank B	NA	3106-1863	Water	K-5-A	Tme	08/10/16	NA
Bottle Blank C	NA	3106-1864	Water	K-5-A	Tme	08/10/16	NA
Filter Blank A2	NA	3106-1865	Water	K-5-A	TMe	08/10/16	NA
Filter Blank B2	NA	3106-1866	Water	K-5-A	TMe	08/10/16	NA
Filter Blank C2	NA	3106-1867	Water	K-5-A	TMe	08/10/16	NA

PROJECT ENVVEST Project Name: AUGUST 2016 Ambient Monitoring (AMB21) SAMPLE TEAM: Navy, Battelle DATE: 9/1/2016 Laboratory: ALS Kelso, WA				CHAIN OF CUSTODY FORM								Please REPORT by Sept 16th and INVOICE no later than Sept 19th, 2016. Thank You!
Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers		COMMENTS
AMB21-001	PS07	8/30/2016 09:06:00 AM	Seawater			X				1		K1610284
AMB21-002	M4	8/30/2016 09:27:00 AM	Seawater			X				1		
AMB21-003	BJEST	8/30/2016 09:50:00 AM	Seawater			X				1		
AMB21-004	M3.1	8/30/2016 09:28:00 AM	Seawater			X				1		
AMB21-006	PS12	8/30/2016 10:45:00 AM	Seawater			X				1		
AMB21-007	PS01	8/30/2016 11:06:00 AM	Seawater			X				1		
AMB21-008	PS01DUP	8/30/2016 11:06:00 AM	Seawater			X				1		
AMB21-009	PS02	8/30/2016 11:29:00 AM	Seawater			X				1		
AMB21-010	PS13	8/30/2016 11:36:00 AM	Seawater			X				1		
AMB21-011	PS03	8/30/2016 12:27:00 PM	Seawater			X				1		
AMB21-012	PS04	8/30/2016 12:40:00 PM	Seawater			X				1		
AMB21-013	PS05	8/30/2016 12:55:00 PM	Seawater			X				1		
AMB21-014	PS05DUP	8/30/2016 12:55:00 PM	Seawater			X				1		
AMB21-015	PS14	8/30/2016 13:15:00 PM	Seawater			X				1		
AMB21-016	PS06	8/30/2016 13:27:00 PM	Seawater			X				1		
AMB21-017	PS08	8/30/2016 13:44:00 PM	Seawater			X				1		
AMB21-018	PS15	8/30/2016 13:55:00 PM	Seawater			X				1		
AMB21-019	PS09	8/30/2016 14:10:00 PM	Seawater			X				1		
AMB21-020	PS10	8/30/2016 14:26:00 PM	Seawater			X				1		
AMB21-021	PS10.1	8/30/2016 14:23:00 PM	Seawater			X				1		
AMB21-022	PS11	8/30/2016 14:56:00 PM	Seawater			X				1		
AMB21-023	PS16	8/30/2016 15:06:00 PM	Seawater			X				1		
AMB21-024	PS07B	8/30/2016 15:22:00 PM	Seawater			X				1		
25 AMB21-DD001	OF018	8/30/2016 09:43:00 AM	Seawater				X			1		
26 AMB21-DD002	OF019	8/30/2016 11:55:00 AM	Seawater				X			1		
27 AMB21-DD003	OF021	8/30/2016 10:35:00 AM	Freshwater				X			1		
28 AMB21-100	M6	8/31/2016 9:02:00 AM	Seawater			X				1		
29 AMB21-101	M8	8/31/2016 9:20:00 AM	Seawater			X				1		

PROJECT ENVVEST				CHAIN OF CUSTODY FORM								Please REPORT by Sept 16th and INVOICE no later than Sept 19th, 2016. Thank You!
Project Name: AUGUST 2016 Ambient Monitoring (AMB21)												
SAMPLE TEAM:		Navy, Battelle										
DATE:	9/1/2016											
Laboratory:	ALS Kelso, WA											

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
												K1610284
30	AMB21-102	M8DUP	8/31/2016 9:20:00 AM	Seawater			X				1	
31	AMB21-103	DYOTS	8/31/2016 09:45:00 AM	Seawater			X				1	
32	AMB21-104	WP	8/31/2016 10:23:00 AM	Seawater			X				1	
33	AMB21-105	M2	8/31/2016 10:39:00 AM	Seawater			X				1	
34	AMB21-106	M2DEEP	8/31/2016 10:40:00 AM	Seawater			X				1	
35	AMB21-107	CLMBAY	8/31/2016 10:58:00 AM	Seawater			X				1	
36	AMB21-108	ILSP	8/31/2016 11:15:00 AM	Seawater			X				1	
37	AMB21-109	M1	8/31/2016 11:28:00 AM	Seawater			X				1	
38	AMB21-110	M1DEEP	8/31/2016 11:30:00 AM	Seawater			X				1	
39	AMB21-111	POPIPD	8/31/2016 11:55:00 AM	Seawater			X				1	
40	AMB21-112	SN03	8/31/2016 12:36:00 PM	Seawater			X				1	
41	AMB21-113	SN05	8/31/2016 12:56:00 PM	Seawater			X				1	
42	AMB21-114	SN05DUP	8/31/2016 13:00:00 PM	Seawater			X				1	
43	AMB21-115	SN08	8/31/2016 13:13:00 PM	Seawater			X				1	
44	AMB21-116	SN10	8/31/2016 13:25:00 PM	Seawater			X				1	
45	AMB21-117	SN11	8/31/2016 13:36:00 PM	Seawater			X				1	
46	AMB21-118	M3.3	8/31/2016 13:50:00 PM	Seawater			X				1	
47	AMB21-119	M3.3DEEP	8/31/2016 13:55:00 PM	Seawater			X				1	
48	AMB21-120	PS07C	8/31/2016 14:12:00 PM	Seawater			X				1	
	--end											
										Total:	47	

Relinquished By:		Company:	Battelle MSL
J. Strivens			9/1/2016
Signature/Printed Name			Date/Time
Received By:		Company:	ALS
Signature/Printed Name			9/2/16 1020 Date/Time

PC 42

Cooler Receipt and Preservation Form

Client Battelle Service Request K16 10284

Received: 9-2-16 Opened: 9-2-16 By: ES Unloaded: 9-2-16 By: ES

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1-front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
-0.1	-0.3	1.3	1.1	-0.2	361		6447 9277 7223	
4.9	4.6	6.1	5.8	-0.3	328		7271 3910 43[illegible]	
4.2	4.2	5.0	5.0	0	360		7771 3910 4652	

4. Packing material: (*Inserts*) *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: RUSH

7/25/16 *Page ____ of ____*

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring December 2016 (AMB22)

Seawater and Freshwater Chemistry

PNNL Project No. 69647
CF No. 3106

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

CHEMISTRY ANALYSIS
DATA PACKAGE CONTENT

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Seawater, Freshwater Chemistry

Chemistry Analysis

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Compositing Notes 109

Analytical raw data available upon request

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB22
ENVVEST December 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.0490**	**4.08**
Seawater Reporting Limit (MDL* 3.18)								**0.156**	**13.0**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--
AMB22									
AMB22-001	PS07	Total	Seawater	3106-1994	12/06/16	29.1	1.29	0.956	79.7
AMB22-001	PS07	Diss	Seawater	3106-1995	12/06/16	--	--	1.01	84.1
AMB22-002	PS08	Total	Seawater	3106-1996	12/06/16	29.3	1.16	0.950	79.2
AMB22-002	PS08	Diss	Seawater	3106-1997	12/06/16	--	--	0.928	77.3
AMB22-003	PS09	Total	Seawater	3106-1998	12/06/16	29.2	1.27	0.968	80.7
AMB22-003	PS09	Diss	Seawater	3106-1999	12/06/16	--	--	0.937	78.1
AMB22-004	PS10	Total	Seawater	3106-2000	12/06/16	29.1	1.04	0.970	80.9
AMB22-004	PS10	Diss	Seawater	3106-2001	12/06/16	--	--	0.934	77.9
AMB22-005	PS10.1	Total	Seawater	3106-2002	12/06/16	29.0	0.969	0.977	81.5
AMB22-005	PS10.1	Diss	Seawater	3106-2003	12/06/16	--	--	0.961	80.1
AMB22-006	PS11	Total	Seawater	3106-2004	12/06/16	29.4	1.11	0.975	81.2
AMB22-006	PS11	Diss	Seawater	3106-2005	12/06/16	--	--	0.951	79.3
AMB22-007	PS16	Total	Seawater	3106-2006	12/06/16	29.7	1.88	0.946	78.8
AMB22-007	PS16	Diss	Seawater	3106-2007	12/06/16	--	--	0.933	77.8
AMB22-008	M4	Total	Seawater	3106-2008	12/06/16	29.2	0.371 U	1.01	83.9
AMB22-008	M4	Diss	Seawater	3106-2009	12/06/16	--	--	1.00	83.0
AMB22-009	PS01	Total	Seawater	3106-2010	12/06/16	29.2	0.759	0.975	81.2
AMB22-009	PS01	Diss	Seawater	3106-2011	12/06/16	--	--	1.01	84.3
AMB22-010	PS02	Total	Seawater	3106-2012	12/06/16	29.5	1.11	0.968	80.7
AMB22-010	PS02	Diss	Seawater	3106-2013	12/06/16	--	--	0.964	80.3
AMB22-011	PS13	Total	Seawater	3106-2014	12/06/16	29.4	1.44	0.977	81.4
AMB22-011	PS13	Diss	Seawater	3106-2015	12/06/16	--	--	0.985	82.1
AMB22-012	BJEST	Total	Seawater	3106-2016	12/06/16	23.8	2.89	2.40	200
AMB22-012	BJEST	Diss	Seawater	3106-2017	12/06/16	--	--	2.17	181
AMB22-013	PS12	Total	Seawater	3106-2018	12/06/16	29.2	1.33	0.962	80.2
AMB22-013	PS12	Diss	Seawater	3106-2019	12/06/16	--	--	0.972	81.0
AMB22-014	PS12DUP	Total	Seawater	3106-2020	12/06/16	29.5	1.35	0.957	79.7
AMB22-014	PS12DUP	Diss	Seawater	3106-2021	12/06/16	--	--	0.983	81.9
AMB22-015	M3.1	Total	Seawater	3106-2022	12/06/16	29.8	0.683	0.914	76.2
AMB22-015	M3.1	Diss	Seawater	3106-2023	12/06/16	--	--	1.00	82.9
AMB22-016	PS03	Total	Seawater	3106-2024	12/06/16	29.7	0.650	0.945	78.8
AMB22-016	PS03	Diss	Seawater	3106-2025	12/06/16	--	--	1.02	84.9
AMB22-017	PS04	Total	Seawater	3106-2026	12/06/16	29.6	0.645	0.973	81.1
AMB22-017	PS04	Diss	Seawater	3106-2027	12/06/16	--	--	1.05	87.3
AMB22-018	PS05	Total	Seawater	3106-2028	12/06/16	29.5	0.515	1.00	83.1
AMB22-018	PS05	Diss	Seawater	3106-2029	12/06/16	--	--	1.04	86.7
AMB22-019	PS14	Total	Seawater	3106-2030	12/06/16	29.6	0.639	0.951	79.2

BATTELLE MARINE SCIENCE LABORATORIES
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Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB22
ENVVEST December 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
AMB22-019	PS14	Diss	Seawater	3106-2031	12/06/16	--	--	1.08	89.8
AMB22-020	PS06	Total	Seawater	3106-2032	12/06/16	29.1	0.794	0.940	78.3
AMB22-020	PS06	Diss	Seawater	3106-2033	12/06/16	--	--	0.994	82.9
AMB22-021	PS06DUP	Total	Seawater	3106-2034	12/06/16	29.2	0.963	0.963	80.3
AMB22-021	PS06DUP	Diss	Seawater	3106-2035	12/06/16	--	--	1.04	86.6
AMB22-022	PS15	Total	Seawater	3106-2036	12/06/16	29.7	0.777	0.939	78.2
AMB22-022	PS15	Diss	Seawater	3106-2037	12/06/16	--	--	1.00	83.6
AMB22-023	PS07B	Total	Seawater	3106-2038	12/06/16	29.6	1.02	0.969	80.7
AMB22-023	PS07B	Diss	Seawater	3106-2039	12/06/16	--	--	1.07	88.9
AMB22-DD001	OF018	Total	Seawater	3106-2040	12/06/16	23.1	0.962	0.962	80.2
AMB22-DD001	OF018	Diss	Seawater	3106-2041	12/06/16	--	--	1.00	83.6
AMB22-DD002	OF019	Total	Seawater	3106-2042	12/06/16	18.1	0.265 U	0.701	58.4
AMB22-DD002	OF019	Diss	Seawater	3106-2043	12/06/16	--	--	0.719	59.9
AMB22-DD003	OF021	Total	Freshwater	3106-2044	12/06/16	0.110	0.000 U	3.92	327
AMB22-DD003	OF021	Diss	Freshwater	3106-2045	12/06/16	--	--	4.04	336
AMB22-101	PS07	Total	Seawater	3106-2046	12/07/16	28.9	1.13	0.968	80.7
AMB22-101	PS07	Diss	Seawater	3106-2047	12/07/16	--	--	0.995	82.9
AMB22-102	M6	Total	Seawater	3106-2048	12/07/16	28.3	0.658	1.03	85.8
AMB22-102	M6	Diss	Seawater	3106-2049	12/07/16	--	--	1.10	91.8
AMB22-103	M8	Total	Seawater	3106-2050	12/07/16	27.6	1.44	1.00	83.2
AMB22-103	M8	Diss	Seawater	3106-2051	12/07/16	--	--	1.01	84.6
AMB22-104	DYOTS	Total	Seawater	3106-2052	12/07/16	28.4	0.895	1.04	87.1
AMB22-104	DYOTS	Diss	Seawater	3106-2053	12/07/16	--	--	1.11	92.2
AMB22-105	DYOTS DUP	Total	Seawater	3106-2054	12/07/16	28.4	0.857	1.06	88.1
AMB22-105	DYOTS DUP	Diss	Seawater	3106-2055	12/07/16	--	--	1.03	86.0
AMB22-106	WP	Total	Seawater	3106-2056	12/07/16	29.2	0.949	0.889	74.1
AMB22-106	WP	Diss	Seawater	3106-2057	12/07/16	--	--	0.888	74.0
AMB22-107	CLMBAY	Total	Seawater	3106-2058	12/07/16	28.5	0.730	0.904	75.3
AMB22-107	CLMBAY	Diss	Seawater	3106-2059	12/07/16	--	--	0.990	82.5
AMB22-108	M2DEEP	Total	Seawater	3106-2060	12/07/16	28.6	0.639	0.886	73.8
AMB22-108	M2DEEP	Diss	Seawater	3106-2061	12/07/16	--	--	0.996	83.0
AMB22-109	M2	Total	Seawater	3106-2062	12/07/16	28.4	0.849	0.902	75.2
AMB22-109	M2	Diss	Seawater	3106-2063	12/07/16	--	--	0.897	74.7
AMB22-110	ILSP	Total	Seawater	3106-2064	12/07/16	29.4	0.830	0.936	78.0
AMB22-110	ILSP	Diss	Seawater	3106-2065	12/07/16	--	--	0.972	81.0
AMB22-111	M1	Total	Seawater	3106-2066	12/07/16	28.9	0.978	1.02	85.0
AMB22-111	M1	Diss	Seawater	3106-2067	12/07/16	--	--	1.15	95.7
AMB22-112	M1DEEP	Total	Seawater	3106-2068	12/07/16	28.9	0.776	1.00	83.7
AMB22-112	M1DEEP	Diss	Seawater	3106-2069	12/07/16	--	--	1.05	87.7
AMB22-113	POPIPD	Total	Seawater	3106-2070	12/07/16	28.8	1.50	1.00	83.6
AMB22-113	POPIPD	Diss	Seawater	3106-2071	12/07/16	--	--	1.04	86.9
AMB22-114	SN03	Total	Seawater	3106-2072	12/07/16	28.6	1.15	1.06	88.7

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Ambient Monitoring - AMB22
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Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
AMB22-114	SN03	Diss	Seawater	3106-2073	12/07/16	--	--	1.07	89.0
AMB22-115	SN05	Total	Seawater	3106-2074	12/07/16	26.6	3.05	1.18	98.0
AMB22-115	SN05	Diss	Seawater	3106-2075	12/07/16	--	--	1.12	93.6
AMB22-116	SN08	Total	Seawater	3106-2076	12/07/16	28.7	1.43	1.03	86.1
AMB22-116	SN08	Diss	Seawater	3106-2077	12/07/16	--	--	1.12	93.5
AMB22-117	SN08 DUP	Total	Seawater	3106-2078	12/07/16	28.6	1.56	1.04	86.8
AMB22-117	SN08 DUP	Diss	Seawater	3106-2079	12/07/16	--	--	1.00	83.1
AMB22-118	SN10	Total	Seawater	3106-2080	12/07/16	28.2	1.51	1.15	95.9
AMB22-118	SN10	Diss	Seawater	3106-2081	12/07/16	--	--	1.17	97.9
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	12/07/16	28.7	0.776	0.978	81.5
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	12/07/16	--	--	1.00	83.5
AMB22-120	M3.3	Total	Seawater	3106-2084	12/07/16	28.7	1.30	1.01	83.8
AMB22-120	M3.3	Diss	Seawater	3106-2085	12/07/16	--	--	0.989	82.4
AMB22-121	PS07C	Total	Seawater	3106-2086	12/07/16	28.8	1.08	0.940	78.3
AMB22-121	PS07C	Diss	Seawater	3106-2087	12/07/16	--	--	1.03	86.2
	Filter Blank A		Fresh Water	3106-1986	11/18/16	--	--	--	--
	Filter Blank B		Fresh Water	3106-1987	11/18/16	--	--	--	--
	Filter Blank C		Fresh Water	3106-1988	11/18/16	--	--	--	--

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
Laboratory Achieved Detection Limits (Seawater)					**0.10**	**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**
Seawater Reporting Limit (MDL* 3.18)					**0.32**	**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**
Laboratory Achieved Detection Limits (Freshwater)					**0.10**	**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**
Freshwater Reporting Limit (MDL* 3.18)					**0.32**	**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**
AMB22												
AMB22-001	PS07	Total	Seawater	3106-1994	1.02	29.2	0.0733	0.193	1.03	0.591	0.125	2.79
AMB22-001	PS07	Diss	Seawater	3106-1995	0.171 J	--	0.0696	0.104	0.706	0.507	0.0143	2.42
AMB22-002	PS08	Total	Seawater	3106-1996	0.892	29.6	0.0760	0.151	1.07	0.540	0.109	3.20
AMB22-002	PS08	Diss	Seawater	3106-1997	0.169 J	--	0.0722	0.102	0.762	0.446	0.0129	2.89
AMB22-003	PS09	Total	Seawater	3106-1998	0.697	22.8	0.0745	0.161	1.96	0.568	0.0943	6.28
AMB22-003	PS09	Diss	Seawater	3106-1999	0.189 J	--	0.0708	0.101	1.56	0.505	0.0132	6.01
AMB22-004	PS10	Total	Seawater	3106-2000	1.07	22.2	0.0774	0.159	2.01	0.609	0.121	5.90
AMB22-004	PS10	Diss	Seawater	3106-2001	0.190 J	--	0.0737	0.105	1.47	0.528	0.0133	5.46
AMB22-005	PS10.1	Total	Seawater	3106-2002	0.769	21.7	0.0759	0.162	1.23	0.605	0.109	5.01
AMB22-005	PS10.1	Diss	Seawater	3106-2003	0.175 J	--	0.0697	0.143	0.947	0.912	0.0129	3.89
AMB22-006	PS11	Total	Seawater	3106-2004	0.849	23.7	0.0764	0.163	1.38	0.568	0.119	4.31
AMB22-006	PS11	Diss	Seawater	3106-2005	0.154 J	--	0.0712	0.102	0.963	0.447	0.0125	3.91
AMB22-007	PS16	Total	Seawater	3106-2006	0.664	28.7	0.0762	0.142	0.670	0.513	0.0887	1.59
AMB22-007	PS16	Diss	Seawater	3106-2007	0.156 J	--	0.0718	0.0817	0.479	0.444	0.00889	1.40
AMB22-008	M4	Total	Seawater	3106-2008	0.625	21.9	0.0734	0.144	1.04	0.548	0.102	3.89
AMB22-008	M4	Diss	Seawater	3106-2009	0.185 J	--	0.0702	0.104	0.753	0.449	0.0112	3.49
AMB22-009	PS01	Total	Seawater	3106-2010	0.837	21.0	0.0757	0.147	1.71	0.610	0.104	3.67
AMB22-009	PS01	Diss	Seawater	3106-2011	0.203 J	--	0.0707	0.0989	1.27	0.473	0.0176	3.37
AMB22-010	PS02	Total	Seawater	3106-2012	0.794	24.7	0.0746	0.162	1.28	0.557	0.101	2.29
AMB22-010	PS02	Diss	Seawater	3106-2013	0.211 J	--	0.0695	0.0832	0.964	0.455	0.0124	2.03
AMB22-011	PS13	Total	Seawater	3106-2014	0.755	28.6	0.0742	0.145	0.873	0.524	0.104	1.74
AMB22-011	PS13	Diss	Seawater	3106-2015	0.174 J	--	0.0687	0.0812	0.632	0.459	0.0142	1.50
AMB22-012	BJEST	Total	Seawater	3106-2016	1.06	51.1	0.0703	0.275	0.88	0.636	0.146	2.18
AMB22-012	BJEST	Diss	Seawater	3106-2017	0.295 J	--	0.0633	0.157	0.557	0.489	0.0165	1.81
AMB22-013	PS12	Total	Seawater	3106-2018	0.899	28.0	0.0775	0.161	1.26	0.567	0.115	3.61
AMB22-013	PS12	Diss	Seawater	3106-2019	0.172 J	--	0.0691	0.122	0.864	0.465	0.0169	3.11
AMB22-014	PS12DUP	Total	Seawater	3106-2020	0.734	23.3	0.0764	0.145	1.37	0.582	0.104	4.53
AMB22-014	PS12DUP	Diss	Seawater	3106-2021	0.165 J	--	0.0739	0.0927	0.983	0.479	0.0179	4.17
AMB22-015	M3.1	Total	Seawater	3106-2022	0.692	34.0	0.0760	0.165	0.636	0.538	0.0963	1.16
AMB22-015	M3.1	Diss	Seawater	3106-2023	0.160 J	--	0.0701	0.0973	0.449	0.415	0.00939	0.987
AMB22-016	PS03	Total	Seawater	3106-2024	1.24	22.5	0.0751	0.156	1.39	0.566	0.105	2.97
AMB22-016	PS03	Diss	Seawater	3106-2025	0.307 J	--	0.0708	0.0692 J	1.04	0.454	0.0132	2.36
AMB22-017	PS04	Total	Seawater	3106-2026	0.733	20.7	0.0756	0.155	3.06	0.545	0.0935	4.13
AMB22-017	PS04	Diss	Seawater	3106-2027	0.215 J	--	0.0714	0.104	2.45	0.453	0.0150	3.81
AMB22-018	PS05	Total	Seawater	3106-2028	0.598	21.1	0.0747	0.134	1.56	0.524	0.0782	3.71
AMB22-018	PS05	Diss	Seawater	3106-2029	0.199 J	--	0.0709	0.102	1.22	0.456	0.0137	3.38
AMB22-019	PS14	Total	Seawater	3106-2030	0.701	23.9	0.0743	0.147	1.15	0.525	0.0957	2.36

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				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB22-019	PS14	Diss	Seawater	3106-2031	0.182 J	--	0.0715	0.0723 J	0.861	0.450	0.0123	2.20
AMB22-020	PS06	Total	Seawater	3106-2032	1.01	18.6	0.0769	0.149	1.69	0.640	0.0993	4.73
AMB22-020	PS06	Diss	Seawater	3106-2033	0.303 J	--	0.0714	0.100	1.19	0.494	0.0192	4.21
AMB22-021	PS06DUP	Total	Seawater	3106-2034	1.14	29.2	0.0752	0.162	1.67	0.617	0.115	6.11
AMB22-021	PS06DUP	Diss	Seawater	3106-2035	0.301 J	--	0.0732	0.0964	1.22	0.495	0.0171	5.68
AMB22-022	PS15	Total	Seawater	3106-2036	0.761	20.8	0.0756	0.146	1.51	0.543	0.0955	3.51
AMB22-022	PS15	Diss	Seawater	3106-2037	0.196 J	--	0.0700	0.115	1.12	0.557	0.0137	3.10
AMB22-023	PS07B	Total	Seawater	3106-2038	2.01	23.1	0.0777	0.144	0.885	0.569	0.0988	4.12
AMB22-023	PS07B	Diss	Seawater	3106-2039	1.01	--	0.0746	0.0817	0.830	0.495	0.0171	3.99
AMB22-DD001	OF018	Total	Seawater	3106-2040	15.8	29.1	0.103	0.697	8.22	6.08	0.0992	29.5
AMB22-DD001	OF018	Diss	Seawater	3106-2041	3.66	--	0.102	0.410	5.96	5.44	0.00786	25.8
AMB22-DD002	OF019	Total	Seawater	3106-2042	7.19	12.2	0.0799	0.253	1.23	1.35	0.0502	7.47
AMB22-DD002	OF019	Diss	Seawater	3106-2043	2.88	--	0.0725	0.162	0.706	1.16	0.00116 J	6.50
AMB22-DD003	OF021	Total	Freshwater	3106-2044	2.82	7.22	0.0006 U	1.05	1.33	0.563	0.00553	1.49
AMB22-DD003	OF021	Diss	Freshwater	3106-2045	2.58	6.23	0.0006 U	0.990	1.23	0.490	0.00404	1.50
AMB22-101	PS07	Total	Seawater	3106-2046	1.11	26.7	0.0769	0.157	1.43	0.671	0.135	4.48
AMB22-101	PS07	Diss	Seawater	3106-2047	0.176 J	--	0.0733	0.0813	0.954	0.552	0.0167	3.87
AMB22-102	M6	Total	Seawater	3106-2048	0.556	31.8	0.0735	0.156	0.607	0.560	0.0784	1.39
AMB22-102	M6	Diss	Seawater	3106-2049	0.178 J	--	0.0719	0.0963	0.675	0.601	0.0352	1.74
AMB22-103	M8	Total	Seawater	3106-2050	0.841	34.7	0.0742	0.223	0.629	0.702	0.130	1.58
AMB22-103	M8	Diss	Seawater	3106-2051	0.174 J	--	0.0684	0.100	0.420	0.484	0.0201	1.29
AMB22-104	DYOTS	Total	Seawater	3106-2052	0.632	26.2	0.0708	0.165	0.578	0.547	0.0864	1.32
AMB22-104	DYOTS	Diss	Seawater	3106-2053	0.184 J	--	0.0669	0.109	0.412	0.573	0.0135	1.35
AMB22-105	DYOTS DUP	Total	Seawater	3106-2054	0.637	24.5	0.0716	0.172	0.595	0.541	0.0842	1.32
AMB22-105	DYOTS DUP	Diss	Seawater	3106-2055	0.182 J	--	0.0668	0.158	0.488	1.03	0.0113	1.16
AMB22-106	WP	Total	Seawater	3106-2056	0.485	25.3	0.0734	0.162	0.541	0.520	0.0568	0.827
AMB22-106	WP	Diss	Seawater	3106-2057	0.175 J	--	0.0721	0.0734 J	0.395	0.420	0.00460	0.695
AMB22-107	CLMBAY	Total	Seawater	3106-2058	0.342	16.0	0.0733	0.132	0.485	0.491	0.0296	0.855
AMB22-107	CLMBAY	Diss	Seawater	3106-2059	0.167 J	--	0.0695	0.0841	0.368	0.412	0.00187 J	0.755
AMB22-108	M2DEEP	Total	Seawater	3106-2060	0.306 J	12.1	0.0753	0.128	0.459	0.494	0.0241	0.847
AMB22-108	M2DEEP	Diss	Seawater	3106-2061	0.174 J	--	0.0698	0.0820	0.358	0.417	0.00153 J	0.857
AMB22-109	M2	Total	Seawater	3106-2062	0.311 J	14.2	0.0733	0.129	0.465	0.513	0.0252	0.652
AMB22-109	M2	Diss	Seawater	3106-2063	0.161 J	--	0.0695	0.0791 J	0.365	0.428	0.00308 J	0.629
AMB22-110	ILSP	Total	Seawater	3106-2064	0.494	26.5	0.0716	0.137	0.519	0.524	0.0636	0.926
AMB22-110	ILSP	Diss	Seawater	3106-2065	0.172 J	--	0.0707	0.0642 J	0.395	0.428	0.00775	0.833
AMB22-111	M1	Total	Seawater	3106-2066	0.421	26.9	0.0728	0.159	0.553	0.555	0.0644	1.07
AMB22-111	M1	Diss	Seawater	3106-2067	0.157 J	--	0.0661	0.0799	0.367	0.428	0.00721	0.868
AMB22-112	M1DEEP	Total	Seawater	3106-2068	0.431	25.2	0.0697	0.156	0.511	0.542	0.0639	1.05
AMB22-112	M1DEEP	Diss	Seawater	3106-2069	0.169 J	--	0.0665	0.0803	0.368	0.447	0.00915	0.915
AMB22-113	POPIPD	Total	Seawater	3106-2070	0.456	26.0	0.0702	0.143	0.540	0.593	0.0677	1.05
AMB22-113	POPIPD	Diss	Seawater	3106-2071	0.169 J	--	0.0657	0.0861	0.379	0.439	0.00827	0.879
AMB22-114	SN03	Total	Seawater	3106-2072	1.06	35.9	0.0772	0.171	0.882	0.711	0.148	2.06

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				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB22-114	SN03	Diss	Seawater	3106-2073	0.160 J	--	0.0719	0.0756 J	0.535	0.475	0.0159	1.68
AMB22-115	SN05	Total	Seawater	3106-2074	1.47	89.3	0.0675	0.392	1.16	0.791	0.256	2.49
AMB22-115	SN05	Diss	Seawater	3106-2075	0.215 J	--	0.0607	0.123	0.550	0.487	0.0192	1.80
AMB22-116	SN08	Total	Seawater	3106-2076	1.01	38.8	0.0755	0.230	1.06	0.623	0.149	2.53
AMB22-116	SN08	Diss	Seawater	3106-2077	0.159 J	--	0.0727	0.0814	0.795	0.545	0.0173	2.34
AMB22-117	SN08 DUP	Total	Seawater	3106-2078	0.967	37.9	0.0747	0.184	1.12	0.582	0.146	2.62
AMB22-117	SN08 DUP	Diss	Seawater	3106-2079	0.149 J	--	0.0669	0.103	0.693	0.457	0.0154	2.21
AMB22-118	SN10	Total	Seawater	3106-2080	0.893	34.9	0.0721	0.191	1.05	0.591	0.138	2.46
AMB22-118	SN10	Diss	Seawater	3106-2081	0.190 J	--	0.0665	0.101	0.654	0.491	0.0200	2.13
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	0.690	23.5	0.0731	0.141	0.731	0.518	0.0967	1.61
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	0.164 J	--	0.0683	0.0817	0.517	0.426	0.0126	1.45
AMB22-120	M3.3	Total	Seawater	3106-2084	0.644	25.8	0.0743	0.162	0.774	0.580	0.0957	1.76
AMB22-120	M3.3	Diss	Seawater	3106-2085	0.190 J	--	0.0712	0.0869	0.573	0.451	0.0107	1.54
AMB22-121	PS07C	Total	Seawater	3106-2086	2.25	23.0	0.0751	0.140	1.29	0.565	0.124	4.70
AMB22-121	PS07C	Diss	Seawater	3106-2087	0.995 J	--	0.0720	0.0811	0.917	0.494	0.0242	4.31
	Filter Blank A		Fresh Water	3106-1986	0.10 U	0.102 J	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.410 B
	Filter Blank B		Fresh Water	3106-1987	0.10 U	0.197 J	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.412 B
	Filter Blank C		Fresh Water	3106-1988	0.10 U	0.228 J	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.0643 B

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				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB22												
AMB22-001	PS07	Total	Seawater	3106-1994	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-001	PS07	Diss		3106-1995	120916HGA	--	Q012417A	Q122116A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-002	PS08	Total	Seawater	3106-1996	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-002	PS08	Diss	Seawater	3106-1997	120916HGA	--	Q012417A	Q122116A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-003	PS09	Total	Seawater	3106-1998	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-003	PS09	Diss	Seawater	3106-1999	120916HGA	--	Q012417A	Q122116A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-004	PS10	Total	Seawater	3106-2000	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-004	PS10	Diss	Seawater	3106-2001	120916HGA	--	Q012417A	Q122116A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-005	PS10.1	Total	Seawater	3106-2002	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-005	PS10.1	Diss	Seawater	3106-2003	120916HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-006	PS11	Total	Seawater	3106-2004	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-006	PS11	Diss	Seawater	3106-2005		--	Q012417A	Q122116A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-007	PS16	Total	Seawater	3106-2006	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-007	PS16	Diss	Seawater	3106-2007	120916HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-008	M4	Total		3106-2008	120916HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-008	M4	Diss	Seawater	3106-2009	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-009	PS01	Total	Seawater	3106-2010	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-009	PS01	Diss	Seawater	3106-2011	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-010	PS02	Total	Seawater	3106-2012	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-010	PS02	Diss	Seawater	3106-2013	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-011	PS13	Total	Seawater	3106-2014	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-011	PS13	Diss	Seawater	3106-2015	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-012	BJEST	Total	Seawater	3106-2016	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-012	BJEST	Diss	Seawater	3106-2017	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-013	PS12	Total	Seawater	3106-2018	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-013	PS12	Diss	Seawater	3106-2019	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-014	PS12DUP	Total	Seawater	3106-2020	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-014	PS12DUP	Diss	Seawater	3106-2021	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-015	M3.1	Total	Seawater	3106-2022	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-015	M3.1	Diss	Seawater	3106-2023	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-016	PS03	Total	Seawater	3106-2024	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-016	PS03	Diss	Seawater	3106-2025	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-017	PS04	Total	Seawater	3106-2026	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-017	PS04	Diss	Seawater	3106-2027	121216HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-018	PS05	Total	Seawater	3106-2028	121216HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-018	PS05	Diss	Seawater	3106-2029	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-019	PS14	Total	Seawater	3106-2030	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB22-019	PS14	Diss	Seawater	3106-2031	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-020	PS06	Total	Seawater	3106-2032	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-020	PS06	Diss	Seawater	3106-2033	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-021	PS06DUP	Total	Seawater	3106-2034	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-021	PS06DUP	Diss	Seawater	3106-2035	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-022	PS15	Total	Seawater	3106-2036	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-022	PS15	Diss	Seawater	3106-2037	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-023	PS07B	Total	Seawater	3106-2038	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q051517A
AMB22-023	PS07B	Diss	Seawater	3106-2039	121316HGA	--	Q022117A	Q010317A	Q022117A	Q022117A	Q022117A	Q051517A
AMB22-DD001	OF018	Total	Seawater	3106-2040	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-DD001	OF018	Diss	Seawater	3106-2041	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-DD002	OF019	Total	Seawater	3106-2042	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-DD002	OF019	Diss	Seawater	3106-2043	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-DD003	OF021	Total	Freshwater	3106-2044	121316HGA	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A
AMB22-DD003	OF021	Diss	Freshwater	3106-2045	121316HGA	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A
AMB22-101	PS07	Total	Seawater	3106-2046	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-101	PS07	Diss	Seawater	3106-2047	121316HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-102	M6	Total	Seawater	3106-2048	121316HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q051517A
AMB22-102	M6	Diss	Seawater	3106-2049	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q051517A
AMB22-103	M8	Total	Seawater	3106-2050	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-103	M8	Diss	Seawater	3106-2051	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-104	DYOTS	Total	Seawater	3106-2052	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-104	DYOTS	Diss	Seawater	3106-2053	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-105	DYOTS DUI	Total	Seawater	3106-2054	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-105	DYOTS DUI	Diss	Seawater	3106-2055	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-106	WP	Total	Seawater	3106-2056	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-106	WP	Diss	Seawater	3106-2057	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-107	CLMBAY	Total	Seawater	3106-2058	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-107	CLMBAY	Diss	Seawater	3106-2059	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-108	M2DEEP	Total	Seawater	3106-2060	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-108	M2DEEP	Diss	Seawater	3106-2061	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-109	M2	Total	Seawater	3106-2062	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-109	M2	Diss	Seawater	3106-2063	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-110	ILSP	Total	Seawater	3106-2064	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-110	ILSP	Diss	Seawater	3106-2065	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-111	M1	Total	Seawater	3106-2066	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-111	M1	Diss	Seawater	3106-2067	121516HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-112	M1DEEP	Total	Seawater	3106-2068	121516HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-112	M1DEEP	Diss	Seawater	3106-2069	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-113	POPIPD	Total	Seawater	3106-2070	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-113	POPIPD	Diss	Seawater	3106-2071	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-114	SN03	Total	Seawater	3106-2072	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	ICP-MS Batch ID
AMB22-114	SN03	Diss	Seawater	3106-2073	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-115	SN05	Total	Seawater	3106-2074	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-115	SN05	Diss	Seawater	3106-2075	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-116	SN08	Total	Seawater	3106-2076	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-116	SN08	Diss	Seawater	3106-2077	122016HGA	--	Q022117A	Q010317A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-117	SN08 DUP	Total	Seawater	3106-2078	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-117	SN08 DUP	Diss	Seawater	3106-2079	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-118	SN10	Total	Seawater	3106-2080	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-118	SN10	Diss	Seawater	3106-2081	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-120	M3.3	Total	Seawater	3106-2084	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-120	M3.3	Diss	Seawater	3106-2085	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
AMB22-121	PS07C	Total	Seawater	3106-2086	122016HGA	Q022217A	Q022117A	Q022217A	Q022117A	Q022117A	Q022117A	Q022117A
AMB22-121	PS07C	Diss	Seawater	3106-2087	122016HGA	--	Q012417A	Q010317A	Q012417A	Q012417A	Q012417A	Q012417A
	Filter Blank A		Fresh Water	3106-1986	120916HGA	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A
	Filter Blank B		Fresh Water	3106-1987	120916HGA	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A
	Filter Blank C		Fresh Water	3106-1988	120916HGA	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A	Q122016A

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	SAL	TOC/DOC	TSS
				Instrument:	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB22							
AMB22-001	PS07	Total	Seawater	3106-1994	120816Osal	121416HTCO	120816Nu
AMB22-001	PS07	Diss	Seawater	3106-1995	--	122016HTCO	--
AMB22-002	PS08	Total	Seawater	3106-1996	120816Osal	121416HTCO	120816Nu
AMB22-002	PS08	Diss	Seawater	3106-1997	--	122016HTCO	--
AMB22-003	PS09	Total	Seawater	3106-1998	120816Osal	121416HTCO	120816Nu
AMB22-003	PS09	Diss	Seawater	3106-1999	--	122016HTCO	--
AMB22-004	PS10	Total	Seawater	3106-2000	120816Osal	121416HTCO	120816Nu
AMB22-004	PS10	Diss	Seawater	3106-2001	--	122016HTCO	--
AMB22-005	PS10.1	Total	Seawater	3106-2002	120816Osal	121416HTCO	120816Nu
AMB22-005	PS10.1	Diss	Seawater	3106-2003	--	122016HTCO	--
AMB22-006	PS11	Total	Seawater	3106-2004	120816Osal	121416HTCO	120816Nu
AMB22-006	PS11	Diss	Seawater	3106-2005	--	122016HTCO	--
AMB22-007	PS16	Total	Seawater	3106-2006	120816Osal	121416HTCO	120816Nu
AMB22-007	PS16	Diss	Seawater	3106-2007	--	122016HTCO	--
AMB22-008	M4	Total	Seawater	3106-2008	120816Osal	121416HTCO	120816Nu
AMB22-008	M4	Diss	Seawater	3106-2009	--	122016HTCO	--
AMB22-009	PS01	Total	Seawater	3106-2010	120816Osal	121416HTCO	120816Nu
AMB22-009	PS01	Diss	Seawater	3106-2011	--	122016HTCO	--
AMB22-010	PS02	Total	Seawater	3106-2012	120816Osal	121416HTCO	120816Nu
AMB22-010	PS02	Diss	Seawater	3106-2013	--	122016HTCO	--
AMB22-011	PS13	Total	Seawater	3106-2014	120816Osal	121416HTCO	120816Nu
AMB22-011	PS13	Diss	Seawater	3106-2015	--	122016HTCO	--
AMB22-012	BJEST	Total	Seawater	3106-2016	120816Osal	121416HTCO	120816Nu
AMB22-012	BJEST	Diss	Seawater	3106-2017	--	122016HTCO	--
AMB22-013	PS12	Total	Seawater	3106-2018	120816Osal	121416HTCO	120816Nu
AMB22-013	PS12	Diss	Seawater	3106-2019	--	122016HTCO	--
AMB22-014	PS12DUP	Total	Seawater	3106-2020	120816Osal	121416HTCO	120816Nu
AMB22-014	PS12DUP	Diss	Seawater	3106-2021	--	122016HTCO	--
AMB22-015	M3.1	Total	Seawater	3106-2022	120816Osal	121416HTCO	120816Nu
AMB22-015	M3.1	Diss	Seawater	3106-2023	--	122016HTCO	--
AMB22-016	PS03	Total	Seawater	3106-2024	120816Osal	121516HTCO	120816Nu
AMB22-016	PS03	Diss	Seawater	3106-2025	--	122016HTCO	--
AMB22-017	PS04	Total	Seawater	3106-2026	120816Osal	121516HTCO	120816Nu
AMB22-017	PS04	Diss	Seawater	3106-2027	--	122116HTCO	--
AMB22-018	PS05	Total	Seawater	3106-2028	120816Osal	122116HTCO	120816Nu
AMB22-018	PS05	Diss	Seawater	3106-2029	--	122116HTCO	--
AMB22-019	PS14	Total	Seawater	3106-2030	120816Osal	121516HTCO	120816Nu

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	SAL	TOC/DOC	TSS
				Instrument:	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB22-019	PS14	Diss	Seawater	3106-2031	--	122116HTCO	--
AMB22-020	PS06	Total	Seawater	3106-2032	120816Osal	121516HTCO	120816Nu
AMB22-020	PS06	Diss	Seawater	3106-2033	--	122116HTCO	--
AMB22-021	PS06DUP	Total	Seawater	3106-2034	120816Osal	121516HTCO	120816Nu
AMB22-021	PS06DUP	Diss	Seawater	3106-2035	--	122116HTCO	--
AMB22-022	PS15	Total	Seawater	3106-2036	120816Osal	121516HTCO	120816Nu
AMB22-022	PS15	Diss	Seawater	3106-2037	--	122116HTCO	--
AMB22-023	PS07B	Total	Seawater	3106-2038	120816Osal	121516HTCO	120816Nu
AMB22-023	PS07B	Diss	Seawater	3106-2039	--	122116HTCO	--
AMB22-DD001	OF018	Total	Seawater	3106-2040	120816Osal	121516HTCO	120816Nu
AMB22-DD001	OF018	Diss	Seawater	3106-2041	--	122116HTCO	--
AMB22-DD002	OF019	Total	Seawater	3106-2042	120816Osal	121516HTCO	120816Nu
AMB22-DD002	OF019	Diss	Seawater	3106-2043	--	122116HTCO	--
AMB22-DD003	OF021	Total	Freshwater	3106-2044	120816Osal	121516HTCO	120816Nu
AMB22-DD003	OF021	Diss	Freshwater	3106-2045	--	122116HTCO	--
AMB22-101	PS07	Total	Seawater	3106-2046	121316Osal	121516HTCO	121316Nu
AMB22-101	PS07	Diss	Seawater	3106-2047	--	122116HTCO	--
AMB22-102	M6	Total	Seawater	3106-2048	121316Osal	121516HTCO	121316Nu
AMB22-102	M6	Diss	Seawater	3106-2049	--	122116HTCO	--
AMB22-103	M8	Total	Seawater	3106-2050	121316Osal	121516HTCO	121316Nu
AMB22-103	M8	Diss	Seawater	3106-2051	--	122116HTCO	--
AMB22-104	DYOTS	Total	Seawater	3106-2052	121316Osal	121516HTCO	121316Nu
AMB22-104	DYOTS	Diss	Seawater	3106-2053	--	122116HTCO	--
AMB22-105	DYOTS DUF	Total	Seawater	3106-2054	121316Osal	121516HTCO	121316Nu
AMB22-105	DYOTS DUF	Diss	Seawater	3106-2055	--	122116HTCO	--
AMB22-106	WP	Total	Seawater	3106-2056	121316Osal	121516HTCO	121316Nu
AMB22-106	WP	Diss	Seawater	3106-2057	--	122116HTCO	--
AMB22-107	CLMBAY	Total	Seawater	3106-2058	121316Osal	121516HTCO	121316Nu
AMB22-107	CLMBAY	Diss	Seawater	3106-2059	--	122116HTCO	--
AMB22-108	M2DEEP	Total	Seawater	3106-2060	121316Osal	121516HTCO	121316Nu
AMB22-108	M2DEEP	Diss	Seawater	3106-2061	--	122116HTCO	--
AMB22-109	M2	Total	Seawater	3106-2062	121316Osal	121516HTCO	121316Nu
AMB22-109	M2	Diss	Seawater	3106-2063	--	122116HTCO	--
AMB22-110	ILSP	Total	Seawater	3106-2064	121316Osal	121516HTCO	121316Nu
AMB22-110	ILSP	Diss	Seawater	3106-2065	--	122116HTCO	--
AMB22-111	M1	Total	Seawater	3106-2066	121316Osal	121516HTCO	121316Nu
AMB22-111	M1	Diss	Seawater	3106-2067	--	122116HTCO	--
AMB22-112	M1DEEP	Total	Seawater	3106-2068	121316Osal	121516HTCO	121316Nu
AMB22-112	M1DEEP	Diss	Seawater	3106-2069	--	122116HTCO	--
AMB22-113	POPIPD	Total	Seawater	3106-2070	121316Osal	121516HTCO	121316Nu
AMB22-113	POPIPD	Diss	Seawater	3106-2071	--	122116HTCO	--
AMB22-114	SN03	Total	Seawater	3106-2072	121316Osal	121516HTCO	121316Nu

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB22
ENVVEST December 2016
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	SAL	TOC/DOC	TSS
				Instrument:	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB22-114	SN03	Diss	Seawater	3106-2073	--	122116HTCO	--
AMB22-115	SN05	Total	Seawater	3106-2074	121316Osal	121516HTCO	121316Nu
AMB22-115	SN05	Diss	Seawater	3106-2075	--	122116HTCO	--
AMB22-116	SN08	Total	Seawater	3106-2076	121316Osal	121516HTCO	121316Nu
AMB22-116	SN08	Diss	Seawater	3106-2077	--	122116HTCO	--
AMB22-117	SN08 DUP	Total	Seawater	3106-2078	121316Osal	121516HTCO	121316Nu
AMB22-117	SN08 DUP	Diss	Seawater	3106-2079	--	122116HTCO	--
AMB22-118	SN10	Total	Seawater	3106-2080	121316Osal	121516HTCO	121316Nu
AMB22-118	SN10	Diss	Seawater	3106-2081	--	122116HTCO	--
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	121316Osal	121516HTCO	121316Nu
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	--	122116HTCO	--
AMB22-120	M3.3	Total	Seawater	3106-2084	121316Osal	121516HTCO	121316Nu
AMB22-120	M3.3	Diss	Seawater	3106-2085	--	122116HTCO	--
AMB22-121	PS07C	Total	Seawater	3106-2086	121316Osal	121516HTCO	121316Nu
AMB22-121	PS07C	Diss	Seawater	3106-2087	--	122116HTCO	--
	Filter Blank A		Fresh Water	3106-1986	--	--	--
	Filter Blank B		Fresh Water	3106-1987	--	--	--
	Filter Blank C		Fresh Water	3106-1988	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
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360/681-4564

QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**		
Seawater Reporting Limit (MDL* 3.18)					**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**		
METHOD BLANKS													
MB		Seawater	BLANK R1		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R2		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R3		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R4		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R5		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R6		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R7		0.126 J	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R8		0.146 J	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MB		Seawater	BLANK R9		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q022117A	Q022217A
MEAN REAGENT BLANK		Seawater			**0.113 J**	**0.0030 U**	**0.025 U**	**0.061 U**	**0.043 U**	**0.0010 U**	**0.013 U**		
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R1		1.05	0.0643	0.521	0.237	0.969	0.00304 J	1.27	Q022117A	Q022217A
LCS		Seawater	SB LCS R1		3.12	2.23	2.56	2.27	3.16	2.08	3.34	Q022117A	Q022217A
		Percent Recovery, LCS			**104%**	**108%**	**102%**	**102%**	**110%**	**104%**	**104%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R2		1.05	0.0649	0.509	0.248	1.00	0.00394	1.25	Q022117A	Q022217A
LCS		Seawater	SB LCS R2		2.91	2.29	2.55	2.32	3.20	2.10	3.33	Q022117A	Q022217A
		Percent Recovery, LCS			**93%**	**111%**	**102%**	**104%**	**110%**	**105%**	**104%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R3		1.04	0.0638	0.494	0.245	1.01	0.00296 J	1.26	Q022117A	Q022217A
LCS		Seawater	SB LCS R3		2.93	2.25	2.53	2.28	3.25	2.11	3.30	Q022117A	Q022217A
		Percent Recovery, LCS			**95%**	**109%**	**102%**	**102%**	**112%**	**105%**	**102%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
MATRIX SPIKE RESULTS													
AMB22-002	PS08	Total	Seawater	3106-1996	29.6	0.0760	0.151	1.07	0.540	0.109	3.20	Q022117A	Q022217A
MS				3106-1996 MS	35.5	1.12	1.18	6.14	1.57	1.15	8.15	Q022117A	Q022217A
MSD				3106-1996 MSD	37.4	1.11	1.18	6.46	1.59	1.18	8.53	Q022117A	Q022217A
				Spike concentration	5	1	1	5	1	1	5	Q022117A	Q022217A
				Percent Recovery, MS	**118%**	**104%**	**103%**	**101%**	**103%**	**104%**	**99%**		
				Percent Recovery, MSD	**156%** c2	**103%**	**103%**	**108%**	**105%**	**107%**	**107%**		
				RPD	**3%**	**0%**	**0%**	**3%**	**1%**	**1%**	**2%**		
AMB22-108	M2DEEP	Total	Seawater	3106-2060	12.1	0.0753	0.128	0.459	0.494	0.0241	0.847	Q022117A	Q022217A
MS				3106-2060 MS	17.3	1.12	1.16	1.55	1.58	1.07	1.84	Q022117A	Q022217A
MSD				3106-2060 MSD	16.9	1.10	1.13	1.55	1.59	1.06	1.80	Q022117A	Q022217A
				Spike concentration	5	1	1	1	1	1	1	Q022117A	Q022217A
				Percent Recovery, MS	**104%**	**104%**	**103%**	**109%**	**109%**	**105%**	**99%**		
				Percent Recovery, MSD	**96%**	**102%**	**100%**	**109%**	**110%**	**104%**	**95%**		
				RPD	**1%**	**1%**	**1%**	**0%**	**0%**	**0%**	**1%**		
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	23.5	0.0731	0.141	0.731	0.518	0.0967	1.61	Q022117A	Q022217A
MS				3106-2082 MS	27.5	1.09	1.16	1.81	1.59	1.15	6.47	Q022117A	Q022217A
MSD				3106-2082 MSD	27.8	1.10	1.14	1.78	1.59	1.10	6.72	Q022117A	Q022217A
				Spike concentration	5	1	1	1	1	1	5	Q022117A	Q022217A
				Percent Recovery, MS	**80%**	**102%**	**102%**	**108%**	**107%**	**105%**	**97%**		
				Percent Recovery, MSD	**86%**	**103%**	**100%**	**105%**	**107%**	**100%**	**102%**		
				RPD	**1%**	**0%**	**1%**	**1%**	**0%**	**2%**	**2%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
REPLICATE PRECISION													
AMB22-003	PS09	Total	Seawater	3106-1998 R1	22.8	--	0.161	--	--	--	--	--	Q022217A
DUP				3106-1998 R2	23.4	--	0.160	--	--	--	--	--	Q022217A
				Mean	*23.1*	--	*0.161*	--	--	--	--		
				RPD	**3%**	--	**1%**	--	--	--	--		
AMB22-004	PS10	Total	Seawater	3106-2000 R1	22.2	0.0774	0.159	2.01	0.609	0.121	5.90	Q022117A	Q022217A
DUP				3106-2000 R2	22.2	0.0779	0.159	2.04	0.599	0.120	6.03	Q022117A	Q022217A
				Mean	*22.2*	*0.0777*	*0.159*	*2.03*	*0.604*	*0.121*	*5.97*		
				RPD	**0%**	**1%**	**0%**	**1%**	**2%**	**1%**	**2%**		
AMB22-DD002	OF019	Total	Seawater	3106-2042 R1	12.2	0.0799	0.253	1.23	1.35	0.0502	7.47	Q022117A	Q022217A
DUP				3106-2042 R2	12.3	0.0792	0.254	1.26	1.41	0.0495	7.60	Q022117A	Q022217A
				Mean	*12.3*	*0.0796*	*0.254*	*1.25*	*1.38*	*0.0499*	*7.54*		
				RPD	**1%**	**1%**	**0%**	**2%**	**4%**	**1%**	**2%**		
AMB22-114	SN03	Total	Seawater	3106-2072 R1	35.9	0.0772	0.171	0.882	0.711	0.148	2.06	Q022117A	Q022217A
DUP				3106-2072 R2	36.0	0.0779	0.164	0.886	0.713	0.151	2.06	Q022117A	Q022217A
				Mean	*36.0*	*0.0776*	*0.168*	*0.884*	*0.712*	*0.150*	*2.06*		
				RPD	**0%**	**1%**	**4%**	**0%**	**0%**	**2%**	**0%**		
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 R1	1.32	0.0219	0.116	0.381	0.358	0.00923	0.744	Q022117A	Q022217A
SRM CASS-5		Total	Seawater	CASS-5 R2	1.37	0.0228	0.122	0.399	0.376	0.00960	0.769	Q022117A	Q022217A
SRM CASS-5		Total	Seawater	CASS-5 R3	1.49	0.0222	0.111	0.398	0.377	0.00953	0.757	Q022117A	Q022217A
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**		
				PD	--	**2%**	**9%**	**0%**	**8%**	**16%**	**3%**		
				PD	--	**6%**	**15%**	**5%**	**14%**	**13%**	**7%**		
				PD	--	**3%**	**5%**	**5%**	**14%**	**13%**	**5%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**		
Seawater Reporting Limit (MDL* 3.18)					**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**		
METHOD BLANKS													
MB			Seawater	BLANK R1	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q122116A
MB			Seawater	BLANK R2	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q122116A
MB			Seawater	BLANK R3	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q122116A
MB			Seawater	BLANK R4	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q010317A
MB			Seawater	BLANK R5	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q010317A
MB			Seawater	BLANK R6	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q010317A
MB			Seawater	BLANK R7	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q010317A
MB			Seawater	BLANK R8	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q010317A
MB			Seawater	BLANK R9	--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q012417A	Q010317A
MEAN REAGENT BLANK			Seawater		--	**0.003 U**	**0.0250 U**	**0.061 U**	**0.043 U**	**0.0010 U**	**0.013 U**		
MB			Seawater	BLANK R1	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R2	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R3	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R4	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R5	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R6	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R7	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R8	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MB			Seawater	BLANK R9	--	0.003 U	--	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	--
MEAN REAGENT BLANK			Seawater		--	**0.0030 U**	--	**0.061 U**	**0.043 U**	**0.0010 U**	**0.013 U**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
LABORATORY CONTROL SAMPLES													
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB Blank R1	--	0.0618	0.471	0.213	0.901	0.00239 J	1.18	Q012417A	Q122116A
LCS			Seawater	SB LCS R1	--	2.10	2.45	2.06	2.87	2.08	3.04	Q012417A	Q122116A
			Percent Recovery, LCS		--	**102%**	**99%**	**92%**	**98%**	**104%**	**93%**		
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB Blank R2	--	0.0608	0.454	0.210	0.891	0.00310 J	1.14	Q012417A	Q010317A
LCS			Seawater	SB LCS R2	--	2.12	2.32	2.06	2.88	2.08	3.03	Q012417A	Q010317A
			Percent Recovery, LCS		--	**103%**	**93%**	**93%**	**99%**	**104%**	**95%**		
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB Blank R3	--	0.0615	0.452	0.210	0.903	0.00260 J	1.15	Q012417A	Q010317A
LCS			Seawater	SB LCS R3	--	2.08	2.35	2.06	2.92	2.08	3.02	Q012417A	Q010317A
			Percent Recovery, LCS		--	**101%**	**95%**	**93%**	**101%**	**104%**	**94%**		
			RSD SB Blanks			**1%**	**2%**	**1%**	**1%**	**14%**	**2%**		
Spiking Level					--	**2**	--	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB R1	--	0.0738	--	0.265	0.371	0.00402	0.244	Q051517A	--
LCS			Seawater	SB LCS R1	--	2.30	--	2.35	2.54	2.13	2.39	Q051517A	--
			Percent Recovery, LCS		--	**111%**	--	**104%**	**108%**	**106%**	**107%**		
Spiking Level					--	**2**	--	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB R2	--	0.0776	--	0.266	0.367	0.00415	0.245	Q051517A	--
LCS			Seawater	SB LCS R2	--	2.31	--	2.27	2.44	2.14	2.30	Q051517A	--
			Percent Recovery, LCS		--	**112%**	--	**100%**	**104%**	**107%**	**103%**		
Spiking Level					--	**2**	--	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB R3	--	0.0729	--	0.258	0.368	0.00425	0.231	Q051517A	--
LCS			Seawater	SB LCS R3	--	2.32	--	2.44	2.63	2.19	2.44	Q051517A	--
			Percent Recovery, LCS		--	**112%**	--	**109%**	**113%**	**109%**	**110%**		
			RSD SB Blanks		--	**3%**	--	**2%**	**1%**	**3%**	**3%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
MATRIX SPIKE RESULTS													
AMB22-006	PS11	Diss	Seawater	3106-2005	--	0.0712	0.102	0.963	0.447	0.0125	3.91	Q012417A	Q122116A
MS				3106-2005 MS	--	1.05	1.09	1.98	1.43	1.05	8.50	Q012417A	Q122116A
MSD				3106-2005 MSD	--	1.06	1.03	1.96	1.42	1.05	8.56	Q012417A	Q122116A
				Spike concentration	--	1	1	1	1	1	5	Q012417A	Q122116A
				Percent Recovery, MS	--	**98%**	**99%**	**102%**	**98%**	**104%**	**92%**		
				Percent Recovery, MSD	--	**99%**	**93%**	**100%**	**97%**	**104%**	**93%**		
				RPD	--	**0%**	**3%**	**1%**	**0%**	**0%**	**0%**		
AMB22-104	DYOTS	Diss	Seawater	3106-2053	--	0.0669	0.109	0.412	0.573	0.0135	1.35	Q012417A	Q010317A
MS				3106-2053 MS	--	1.08	1.01	1.56	1.46	1.07	5.98	Q012417A	Q010317A
MSD				3106-2053 MSD	--	1.02	1.02	1.37	1.45	1.05	6.11	Q012417A	Q010317A
				Spike concentration	--	1	1	1	1	1	5	Q012417A	Q010317A
				Percent Recovery, MS	--	**101%**	**90%**	**115%**	**89%**	**106%**	**93%**		
				Percent Recovery, MSD	--	**95%**	**91%**	**96%**	**88%**	**104%**	**95%**		
				RPD		**3%**	**0%**	**6%**	**0%**	**1%**	**1%**		
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	--	0.0683	0.0817	0.517	0.426	0.0126	1.45	Q012417A	Q010317A
MS				3106-2083 MS	--	1.05	0.946	1.49	1.38	1.05	6.00	Q012417A	Q010317A
MSD				3106-2083 MSD	--	1.06	0.990	1.50	1.39	1.07	6.11	Q012417A	Q010317A
				Spike concentration	--	1	1	1	1	1	5	Q012417A	Q010317A
				Percent Recovery, MS	--	**98%**	**86%**	**97%**	**95%**	**104%**	**91%**		
				Percent Recovery, MSD	--	**99%**	**91%**	**98%**	**96%**	**106%**	**93%**		
				RPD		**0%**	**2%**	**0%**	**0%**	**1%**	**1%**		
AMB23-001	PS07	Diss	Seawater	3106-2095	--	0.0894	--	1.02	0.696	0.0131	6.41	Q051517A	--
MS				3106-2095 MS	--	1.21	--	6.22	1.80	1.09	11.6	Q051517A	--
MSD				3106-2095 MSD	--	1.23	--	6.25	1.81	1.11	11.6	Q051517A	--
				Spike concentration	--	1	--	5	1	1	5	Q051517A	--
				Percent Recovery, MS	--	**112%**	--	**104%**	**110%**	**108%**	**104%**		
				Percent Recovery, MSD	--	**114%**	--	**105%**	**111%**	**110%**	**104%**		
				RPD	--	**1%**	--	**0%**	**0%**	**1%**	**0%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
MATRIX SPIKE RESULTS (Continued)													
AMB23-013	PS08	Diss	Seawater	3106-2119	--	0.0857	--	1.17	0.585	0.0111	6.35	Q051517A	--
MS				3106-2119 MS	--	1.20	--	6.32	1.63	1.09	11.6	Q051517A	--
MSD				3106-2119 MSD	--	1.19	--	6.14	1.60	1.07	11.4	Q051517A	--
				Spike concentration	--	1	--	5	1	1	5	Q051517A	--
				Percent Recovery, MS	--	**111%**	--	**103%**	**105%**	**108%**	**105%**		
				Percent Recovery, MSD	--	**110%**	--	**99%**	**102%**	**106%**	**101%**		
				RPD		**0%**	--	**1%**	**1%**	**1%**	**1%**		
AMB23-208	POPIPD	Diss	Seawater	3106-2167	--	0.0725	--	0.486	0.605	0.00516	1.63	Q051517A	--
MS				3106-2167 MS	--	1.14	--	1.54	1.69	1.04	6.84	Q051517A	--
MSD				3106-2167 MSD	--	1.17	--	1.57	1.72	1.07	6.86	Q051517A	--
				Spike concentration	--	1	--	1	1	1	5	Q051517A	--
				Percent Recovery, MS	--	**107%**	--	**105%**	**109%**	**103%**	**104%**		
				Percent Recovery, MSD	--	**110%**	--	**108%**	**112%**	**106%**	**105%**		
				RPD		**1%**	--	**1%**	**1%**	**1%**	**0%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
REPLICATE PRECISION													
AMB22-013	PS12	Diss	Seawater	3106-2019 R1	--	0.0691	0.122	0.864	0.465	0.0169	3.11	Q012417A	Q010317A
DUP				3106-2019 R2	--	0.0696	0.132	0.861	0.457	0.0168	3.07	Q012417A	Q010317A
				Mean	--	*0.0694*	*0.127*	*0.863*	*0.461*	*0.0169*	*3.09*		
				RPD	--	**1%**	**8%**	**0%**	**2%**	**1%**	**1%**		
AMB22-023	PS07B	Diss	Seawater	3106-2039 R1	--	0.0746	0.0817	0.830	0.495	0.0171	4.00	Q022117A	Q010317A
DUP				3106-2039 R2	--	0.0756	0.0931	0.845	0.506	0.0176	4.01	Q022117A	Q010317A
				Mean	--	*0.0751*	*0.0874*	*0.838*	*0.501*	*0.0174*	*4.01*		
				RPD	--	**1%**	**13%**	**2%**	**2%**	**3%**	**0%**		
AMB22-116	SN08	Diss	Seawater	3106-2077 R1	--	0.0727	0.0814	0.795	0.545	0.0173	2.34	Q022117A	Q010317A
DUP				3106-2077 R2	--	0.0740	0.0861	0.812	0.549	0.0178	2.37	Q022117A	Q010317A
				Mean	--	*0.0734*	*0.0838*	*0.804*	*0.547*	*0.0176*	*2.36*		
				RPD	--	**2%**	**6%**	**2%**	**1%**	**3%**	**1%**		
AMB23-001	PS07	Diss	Seawater	3106-2095 R1	--	0.0894	--	1.02	0.696	0.0131	6.41	Q051517A	--
DUP				3106-2095 R2	--	0.0911	--	1.04	0.719	0.0137	6.46	Q051517A	--
				Mean	--	*0.0903*	--	*1.03*	*0.708*	*0.0134*	*6.44*		
				RPD	--	**2%**	--	**2%**	**3%**	**4%**	**1%**		
AMB23-008	PS04	Diss	Seawater	3106-2109 R1	--	0.0870	--	1.98	0.520	0.0206	8.99	Q051517A	--
DUP				3106-2109 R2	--	0.0846	--	1.94	0.507	0.0196	8.72	Q051517A	--
				Mean	--	*0.0858*	--	*1.96*	*0.514*	*0.0201*	*8.86*		
				RPD	--	**3%**	--	**2%**	**3%**	**5%**	**3%**		
AMB23-020	PS16	Diss	Seawater	3106-2133 R1	--	0.0845	--	0.906	0.503	0.0114	6.21	Q051517A	--
DUP				3106-2133 R2	--	0.0847	--	0.910	0.508	0.0114	6.30	Q051517A	--
				Mean	--	*0.0846*	--	*0.908*	*0.506*	*0.0114*	*6.26*		
				RPD	--	**0%**	--	**0%**	**1%**	**0%**	**1%**		
AMB23-213	SN10	Diss	Seawater	3106-2177 R1	--	0.0751	--	0.850	0.508	0.0102	3.40	Q051517A	--
DUP				3106-2177 R2	--	0.0750	--	0.837	0.502	0.0101	3.39	Q051517A	--
				Mean	--	*0.0751*	--	*0.844*	*0.505*	*0.0102*	*3.40*		
				RPD	--	**0%**	--	**2%**	**1%**	**1%**	**0%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-5		Total	Seawater	CASS-5 R1	--	0.0213	0.108	0.354	0.337	0.00911	0.712	Q012417A	Q122116A
SRM CASS-5		Total	Seawater	CASS-5 R2	--	0.0216	0.116	0.365	0.342	0.00951	0.724	Q012417A	Q010317A
SRM CASS-5		Total	Seawater	CASS-5 R3	--	0.0211	--	0.350	0.333	0.00937	0.699	Q012417A	
				Certified Value	NC	**0.0215**	**0.106**	**0.380**	**0.330**	**0.011**	**0.719**		
				PD	--	**1%**	**2%**	**7%**	**2%**	**17%**	**1%**		
				PD	--	**0%**	**9%**	**4%**	**4%**	**14%**	**1%**		
				PD	--	**2%**	--	**8%**	**1%**	**15%**	**3%**		
SRM NASS-6		Total	Seawater	NASS-6 R1	--	--	0.122	--	--	--	--		Q122116A
SRM NASS-6		Total	Seawater	NASS-6 R2	--	--	0.115	--	--	--	--		Q010317A
SRM NASS-6		Total	Seawater	NASS-6 R3	--	--	0.117	--	--	--	--		Q010317A
				Certified Value	NC	--	**0.118**	--	--	--	--	--	
				PD	--	--	**3%**	--	--	--	--		
				PD	--	--	**3%**	--	--	--	--		
				PD	--	--	**1%**	--	--	--	--		
SRM CASS-6				CASS-6 R1	--	0.0243	--	0.544	0.465	0.0121	1.29	Q051517A	--
SRM CASS-6				CASS-6 R2	--	0.0247	--	0.514	0.444	0.0120	1.23	Q051517A	--
SRM CASS-6				CASS-6 R3 R	--	0.0234	--	0.514	0.447	0.0121	1.24	Q051517A	--
				Certified Value	NC	**0.0217**	NC	**0.530**	**0.418**	**0.0106**	**1.27**		
				PD	--	**12%**	--	**3%**	**11%**	**14%**	**2%**		
				PD	--	**14%**	--	**3%**	**6%**	**13%**	**3%**		
				PD	--	**8%**	--	**3%**	**7%**	**14%**	**2%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB22
ENVVEST December 2016
Metals in Fresh Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Freshwater)					**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**	
Freshwater Reporting Limit (MDL* 3.18)					**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**	
METHOD BLANKS												
MB		Diss	Freshwater	Direct Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q122016A
MB		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.00669 B	0.0022 U	0.00128 J	0.01 U	Q122016A
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Diss	Freshwater	Direct Blank	0.02	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q122016A
LCS		Diss	Freshwater	Direct LCS	1.95	1.97	1.95	1.97	1.95	1.98	1.98	Q122016A
				Percent Recovery, LCS	**98%**	**99%**	**98%**	**99%**	**98%**	**99%**	**99%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.00669 B	0.0022 U	0.00128 J	0.01 U	Q122016A
LCS		Total	Freshwater	TRM LCS	2.01	2.05	2.04	2.06	2.03	2.05	2.05	Q122016A
				Percent Recovery, LCS	**101%**	**103%**	**102%**	**103%**	**102%**	**102%**	**103%**	
MATRIX SPIKE RESULTS												
AMB22-DD003	OF021	Diss	Fresh Water	3106-2045	6.23	0.000220 U	0.990	1.23	0.490	0.00404	1.502	Q122016A
MS				3106-2045 MS	9.80	0.987	2.00	5.93	1.47	0.966	6.19	Q122016A
MSD				3106-2045 MSD	9.89	0.981	1.96	5.93	1.42	0.950	6.22	Q122016A
				spiked concentration	5	1	1	5	1	1	5	Q122016A
				Percent Recovery, MS	**71% c2**	**99%**	**101%**	**94%**	**98%**	**96%**	**94%**	
				Percent Recovery, MSD	**73% c2**	**98%**	**97%**	**94%**	**93%**	**95%**	**94%**	
				RPD	**0%**	**0%**	**1%**	**0%**	**2%**	**1%**	**0%**	
REPLICATE PRECISION												
AMB22-DD003	OF021	Total	Fresh Water	3106-2044 R1	7.22	0.000517 U	1.05	1.33	0.563	0.00553	1.49	Q122016A
DUP				3106-2044 R2	7.30	0.000431 U	1.05	1.33	0.565	0.00547	1.49	Q122016A
				Mean	*7.26*	*0.000474* U	*1.05*	*1.33*	*0.564*	*0.00550*	*1.49*	
				RPD	**1%**	**18%**	**0%**	**0%**	**0%**	**1%**	**0%**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Diss	Freshwater	1640A 10X Direct	55.2	4.00	40.3	86.6	25.4	12.4	56.6	Q122016A
SRM 1640a		Total	Freshwater	1640a 10X TRM	53.4	4.02	40.2	86.0	25.2	12.5	56.9	Q122016A
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**--**	**0%**	**0%**	**1%**	**0%**	**2%**	**2%**	
				PD	**1%**	**1%**	**1%**	**0%**	**0%**	**3%**	**2%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB22
ENVVEST Dec 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.10**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1		TME	Water	Method Blank1	0.10 U	120916HGA
MB-2		TME	Water	Method Blank2	0.10 U	120916HGA
MB-3		TME	Water	Method Blank3	0.10 U	120916HGA
MB-4		TME	Water	Method Blank1	0.10 U	121216HGA
MB-5		TME	Water	Method Blank2	0.10 U	121216HGA
MB-6		TME	Water	Method Blank3	0.10 U	121216HGA
MB-7		TME	Water	Method Blank1	0.10 U	121316HGA
MB-8		TME	Water	Method Blank2	0.10 U	121316HGA
MB-9		TME	Water	Method Blank3	0.10 U	121316HGA
MB-10		TME	Water	Method Blank1	0.10 U	121516HGA
MB-11		TME	Water	Method Blank2	0.10 U	121516HGA
MB-12		TME	Water	Method Blank3	0.10 U	121516HGA
MB-13		TME	Water	Method Blank1	0.10 U	122016HGA
MB-14		TME	Water	Method Blank2	0.10 U	122016HGA
MB-15		TME	Water	Method Blank3	0.10 U	122016HGA

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QC Sample Results for CVAF
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ENVVEST Dec 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 120816 run1	4.96	120916HGA
LCS (2)	TME		Water	OPR 120816 run2	4.91	120916HGA
LCS Blank (1)	TME		Water	BLANK 120816	0.100 U	120916HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**99%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 120916 run1	4.94	121216HGA
LCS (2)	TME		Water	OPR 120916 run2	4.84	121216HGA
LCS Blank (1)	TME		Water	BLANK 120916	0.100 U	121216HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**98%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 121216 run1	4.96	121316HGA
LCS (2)	TME		Water	OPR 121216 run2	5.03	121316HGA
LCS Blank (1)	TME		Water	BLANK 121216	0.100 U	121316HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**101%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 121416 run1	4.94	121516HGA
LCS (2)	TME		Water	OPR 121416 run2	4.88	121516HGA
LCS Blank (1)	TME		Water	BLANK 121416	0.100 U	121516HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**98%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 121916 run1	4.86	122016HGA
LCS (2)	TME		Water	OPR 121916 run2	4.90	122016HGA
LCS Blank (1)	TME		Water	BLANK 121916	0.100 U	122016HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**99%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB22
ENVVEST Dec 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB22-002	PS08	Total	Seawater	3106-1996	0.892	120916HGA
MS				3106-1996 MS	8.14	120916HGA
MSD				3106-1996 MSD	7.95	120916HGA
				Spiking Level, MS	6.90	120916HGA
				Spiking Level, MSD	6.60	120916HGA
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**107%**	
				RPD	**1.8%**	
AMB22-006	PS11	Diss	Seawater	3106-2005	0.154 J	120916HGA
MS				3106-2005 MS	7.16	120916HGA
MSD				3106-2005 MSD	7.24	120916HGA
				Spiking Level, MS	6.80	120916HGA
				Spiking Level, MSD	6.74	120916HGA
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**105%**	
				RPD	**2.0%**	
AMB22-009	PS01	Total	Seawater	3106-2010	0.837	121216HGA
MS				3106-2010 MS	7.76	121216HGA
MSD				3106-2010 MSD	7.48	121216HGA
				Spiking Level, MS	6.81	121216HGA
				Spiking Level, MSD	6.67	121216HGA
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**100%**	
				RPD	**2.1%**	
AMB22-016	PS03	Diss	Seawater	3106-2025	0.307 J	121216HGA
MS				3106-2025 MS	7.13	121216HGA
MSD				3106-2025 MSD	7.41	121216HGA
				Spiking Level, MS	6.82	121216HGA
				Spiking Level, MSD	6.90	121216HGA
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.9%**	
AMB22-020	PS06	Total	Seawater	3106-2032	1.01	121316HGA
MS				3106-2032 MS	7.86	121316HGA
MSD				3106-2032 MSD	7.85	121316HGA
				Spiking Level, MS	6.76	121316HGA
				Spiking Level, MSD	6.58	121316HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**104%**	
				RPD	**2.6%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB22
ENVVEST Dec 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB22-DD003	OF021	Diss	Fresh Water	3106-2045	2.58	121316HGA
MS				3106-2045 MS	9.58	121316HGA
MSD				3106-2045 MSD	9.68	121316HGA
				Spiking Level, MS	6.78	121316HGA
				Spiking Level, MSD	6.65	121316HGA
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**107%**	
				RPD	**3.4%**	
AMB22-105	DYOTS DUP	Total	Seawater	3106-2054	0.637	121516HGA
MS				3106-2054 MS	7.56	121516HGA
MSD				3106-2054 MSD	7.48	121516HGA
				Spiking Level, MS	6.68	121516HGA
				Spiking Level, MSD	6.71	121516HGA
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.6%**	
AMB22-108	M2DEEP	Total	Seawater	3106-2060	0.306 J	121516HGA
MS				3106-2060 MS	7.14	121516HGA
MSD				3106-2060 MSD	7.29	121516HGA
				Spiking Level, MS	6.65	121516HGA
				Spiking Level, MSD	6.80	121516HGA
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.1%**	
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	0.690	122016HGA
MS				3106-2082 MS	7.53	122016HGA
MSD				3106-2082 MSD	7.63	122016HGA
				Spiking Level, MS	6.85	122016HGA
				Spiking Level, MSD	6.83	122016HGA
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.7%**	
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	0.164 J	122016HGA
MS				3106-2083 MS	6.96	122016HGA
MSD				3106-2083 MSD	7.09	122016HGA
				Spiking Level, MS	6.68	122016HGA
				Spiking Level, MSD	6.90	122016HGA
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.3%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB22
ENVVEST Dec 2016
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		CVAF Batch ID
				Instrument:	*CVAF*		
REPLICATE PRECISION							
AMB22-004	PS10	Total	Seawater	3106-2000 r1	1.07		120916HGA
DUP				3106-2000 r2	1.08		120916HGA
				Mean	*1.08*		
				RPD	**1%**		
AMB22-013	PS12	Diss	Seawater	3106-2019 r1	0.172	**J**	121216HGA
DUP				3106-2019 r2	0.164	**J**	121216HGA
				Mean	*0.168*		
				RPD	**5%**		
AMB22-DD002	OF019	Total	Fresh Water	3106-2042 r1	7.19		121316HGA
DUP				3106-2042 r2	7.09		121316HGA
				Mean	*7.14*		
				RPD	**1%**		
AMB22-107	CLMBAY	Total	Seawater	3106-2058 r1	0.342		121516HGA
DUP				3106-2058 r2	0.359		121516HGA
				Mean	*0.351*		
				RPD	**5%**		
AMB22-114	SN03	Total	Seawater	3106-2072 r1	1.058		122016HGA
DUP				3106-2072 r2	1.019		122016HGA
				Mean	*1.039*		
				RPD	**4%**		
STANDARD REFERENCE MATERIAL							
SRM 1641 (1)		Total	Freshwater	1641d 120816	1552212		120916HGA
SRM 1641 (2)		Total	Freshwater	1641d 120916	1554587		121216HGA
SRM 1641 (3)		Total	Freshwater	1641d 121216	1594154		121316HGA
SRM 1641 (4)		Total	Freshwater	1641d 121416	1552836		121516HGA
SRM 1641 (5)		Total	Freshwater	1641d 121916	1550131		122016HGA
				Certified Value	**1557000**		
				range	**±20000**		
	SRM 1641 (1)			**PD**	**0.3%**		
	SRM 1641 (2)			**PD**	**0.2%**		
	SRM 1641 (3)			**PD**	**2.4%**		
	SRM 1641 (4)			**PD**	**0.3%**		
	SRM 1641 (5)			**PD**	**0.4%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB22
ENVVEST December 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0490**	**4.08**		
Seawater Reporting Limit (MDL* 3.18)					**0.156**	**13.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	121416HTCO
MB-2			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	121416HTCO
MB-3			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	121516HTCO
MB-4			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	121516HTCO
MB-5			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	122016HTCO
MB-6			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	122016HTCO
MB-7			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	122116HTCO
MB-8			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	122116HTCO
REPLICATE PRECISION								
AMB22-015	M3.1	Total	Seawater	3106-2022	0.914	76.2		121416HTCO
DUP				3106-2022 R2	0.923	77.0		121416HTCO
				Mean	*0.92*	*77*		
				RPD	**1.0%**	**1.0%**		
AMB22-104	DYOTS	Total	Seawater	3106-2052	1.04	87.1		121516HTCO
DUP				3106-2052 R2	1.05	87.9		121516HTCO
				Mean	*1.05*	*88*		
				RPD	**1.0%**	**0.9%**		
AMB22-119	M3.3DEEP	Total	Seawater	3106-2082	0.978	81.5		121516HTCO
DUP				3106-2082 R2	0.982	81.8		121516HTCO
				Mean	*0.98*	*82*		
				RPD	**0.4%**	**0.4%**		
AMB22-015	M3.1	Diss	Seawater	3106-2023	1.00	82.9		122016HTCO
DUP				3106-2023 R2	0.966	80.5		122016HTCO
				Mean	*0.98*	*81.7*		
				RPD	**3.5%**	**2.9%**		
AMB22-104	DYOTS	Diss	Seawater	3106-2053	1.11	92.2		122116HTCO
DUP				3106-2053 R2	1.12	93.2		122116HTCO
				Mean	*1.12*	*92.7*		
				RPD	**0.9%**	**1.1%**		
AMB22-119	M3.3DEEP	Diss	Seawater	3106-2083	1.00	83.5		122116HTCO
DUP				3106-2083 R2	1.04	87.0		122116HTCO
				Mean	*1.02*	*85.3*		
				RPD	**3.9%**	**4.1%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB22
ENVVEST December 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.474	39.5		121416HTCO
CRM-2		DOC	Seawater	CRM	0.475	39.6		121416HTCO
CRM-3		DOC	Seawater	CRM	0.488	40.7		121516HTCO
CRM-4		DOC	Seawater	CRM	0.483	40.2		121516HTCO
CRM-5		DOC	Seawater	CRM	0.482	40.1		121516HTCO
CRM-6		DOC	Seawater	CRM	0.480	40.0		121516HTCO
CRM-7		DOC	Seawater	CRM	0.503	41.9		121516HTCO
CRM-8		DOC	Seawater	CRM	0.503	41.9		121516HTCO
CRM-9		DOC	Seawater	CRM	0.458	38.2		122016HTCO
CRM-10		DOC	Seawater	CRM	0.478	39.8		122016HTCO
CRM-11		DOC	Seawater	CRM	0.475	39.6		122016HTCO
CRM-12		DOC	Seawater	CRM	0.482	40.2		122116HTCO
CRM-13		DOC	Seawater	CRM	0.473	39.4		122116HTCO
CRM-14		DOC	Seawater	CRM	0.476	39.7		122116HTCO
CRM-15		DOC	Seawater	CRM	0.471	39.2		122116HTCO
CRM-16		DOC	Seawater	CRM	0.482	40.2		122116HTCO
				Average Consensus Value	0.510	42.5		
				Range	0.492-0.528	41-44		
CRM-1				**PD**	**7.1%**	**7.1%**		
CRM-2				**PD**	**6.9%**	**6.8%**		
CRM-3				**PD**	**4.3%**	**4.2%**		
CRM-4				**PD**	**5.3%**	**5.4%**		
CRM-5				**PD**	**5.5%**	**5.6%**		
CRM-6				**PD**	**5.9%**	**5.9%**		
CRM-7				**PD**	**1.4%**	**1.4%**		
CRM-8				**PD**	**1.4%**	**1.4%**		
CRM-9				**PD**	**10.2%**	**10.1%**		
CRM-10				**PD**	**6.3%**	**6.4%**		
CRM-11				**PD**	**6.9%**	**6.8%**		
CRM-12				**PD**	**5.5%**	**5.4%**		
CRM-13				**PD**	**7.3%**	**7.3%**		
CRM-14				**PD**	**6.7%**	**6.6%**		
CRM-15				**PD**	**7.6%**	**7.8%**		
CRM-16				**PD**	**5.5%**	**5.4%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB22
ENVVEST December 2016
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	0.990	82.5		121416HTCO
ICV/CCV-2				CCV_1PPM	0.985	82.1		121416HTCO
ICV/CCV-3				CCV_1PPM	1.00	82.9		121416HTCO
ICV/CCV-4				CCV_1PPM	1.00	83.0		121516HTCO
ICV/CCV-5				CCV_1PPM	1.03	86.1		121516HTCO
ICV/CCV-6				CCV_1PPM	1.03	86.2		121516HTCO
ICV/CCV-7				CCV_1PPM	1.03	85.4		121516HTCO
ICV/CCV-8				CCV_1PPM	1.02	84.6		121516HTCO
ICV/CCV-9				ICV_1PPM	1.00	83.2		122016HTCO
ICV/CCV-10				CCV_1PPM	1.01	84.3		122016HTCO
ICV/CCV-11				CCV_1PPM	1.03	85.4		122016HTCO
ICV/CCV-12				CCV_1PPM	1.05	87.5		122116HTCO
ICV/CCV-13				CCV_1PPM	1.05	87.7		122116HTCO
ICV/CCV-14				CCV_1PPM	1.03	86.1		122116HTCO
ICV/CCV-15				CCV_1PPM	1.05	87.9		122116HTCO
ICV/CCV-16				CCV_1PPM	1.02	84.7		122116HTCO
				TRUE VALUE	**1.0**			
	ICV/CCV-1			**% RECOVERY**	**99%**			
	ICV/CCV-2			**% RECOVERY**	**99%**			
	ICV/CCV-3			**% RECOVERY**	**100%**			
	ICV/CCV-4			**% RECOVERY**	**100%**			
	ICV/CCV-5			**% RECOVERY**	**103%**			
	ICV/CCV-6			**% RECOVERY**	**103%**			
	ICV/CCV-7			**% RECOVERY**	**103%**			
	ICV/CCV-8			**% RECOVERY**	**102%**			
	ICV/CCV-9			**% RECOVERY**	**100%**			
	ICV/CCV-10			**% RECOVERY**	**101%**			
	ICV/CCV-11			**% RECOVERY**	**103%**			
	ICV/CCV-12			**% RECOVERY**	**105%**			
	ICV/CCV-13			**% RECOVERY**	**105%**			
	ICV/CCV-14			**% RECOVERY**	**103%**			
	ICV/CCV-15			**% RECOVERY**	**105%**			
	ICV/CCV-16			**% RECOVERY**	**102%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB22
ENVVEST December 2016
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	120816Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	120816Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	120816Nu
MB4		TME	Seawater	Blank 4		0.42 U	mg/L	121316Nu
MB5		TME	Seawater	Blank 5		0.42 U	mg/L	121316Nu
MB6		TME	Seawater	Blank 6		0.42 U	mg/L	121316Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		33.9	mg/L	120816Nu
LCS-2				LCS r2		39.6	mg/L	120816Nu
LCS-3				LCS r3		36.2	mg/L	120816Nu
LCS-4				LCS r4		36.9	mg/L	121316Nu
LCS-5				LCS r5		35.6	mg/L	121316Nu
LCS-6				LCS r6		37.0	mg/L	121316Nu
					TRUE VALUE	**40**	mg/L	
	LCS-1				**% RECOVERY**	**84.8%**		
	LCS-2				**% RECOVERY**	**99.0%**		
	LCS-3				**% RECOVERY**	**90.5%**		
	LCS-1				**% RECOVERY**	**92.3%**		
	LCS-2				**% RECOVERY**	**89.0%**		
	LCS-3				**% RECOVERY**	**92.5%**		
LABORATORY DUPLICATES								
AMB22-007	PS16	Total	Seawater	3106-2006		1.88	mg/L	120816Nu
DUP	PS16			3106-2006R2		2.11	mg/L	120816Nu
					Mean	2.00		
					RPD	**11.5%**		
AMB22-012	BJEST	Total	Seawater	3106-2016		2.89	mg/L	120816Nu
DUP	BJEST			3106-2016R2		3.03	mg/L	120816Nu
					Mean	2.96		
					RPD	**4.7%**		
AMB22-107	CLMBAY	Total	Seawater	3106-2058		0.730	mg/L	121316Nu
DUP	CLMBAY			3106-2058R2		0.760	mg/L	121316Nu
					Mean	0.745		
					RPD	**4.0%**		
AMB22-115	SN05	Total	Seawater	3106-2074		3.05	mg/L	121316Nu
DUP	SN05			3106-2074R2		3.34	mg/L	121316Nu
					Mean	3.20		
					RPD	**9.1%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB22
ENVVEST December 2016
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
				Instrument:	*YSI S-C-T Probe, S/N 15J1013T9*			
				MDL	*0.01*		*PSU*	
Method Blanks								
MB1		Total	Seawater	DIW Blank 1	0.01	U	PSU	120816Osal
MB2		Total	Seawater	DIW Blank 2	0.01	U	PSU	120816Osal
MB3		Total	Seawater	DIW Blank 3	0.01	U	PSU	120816Osal
MB4		Total	Seawater	DIW Blank 4	0.01	U	PSU	120816Osal
MB5		Total	Seawater	DIW Blank 5	0.01	U	PSU	121316Osal
MB6		Total	Seawater	DIW Blank 6	0.01	U	PSU	121316Osal
MB7		Total	Seawater	DIW Blank 7	0.01	U	PSU	121316Osal
STANDARD REFERENCE MATERIAL								
SRM-1		Total	Seawater	Salinity Standard 1	35.2		PSU	120816Osal
SRM-2		Total	Seawater	Salinity Standard 2	35.3		PSU	120816Osal
SRM-3		Total	Seawater	Salinity Standard 3	35.4		PSU	120816Osal
SRM-4		Total	Seawater	Salinity Standard 4	35.4		PSU	120816Osal
SRM-5		Total	Seawater	Salinity Standard 5	34.9		PSU	121316Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.1		PSU	121316Osal
SRM-7		Total	Seawater	Salinity Standard 7	34.4		PSU	121316Osal
				Certified Value	**35.0**		PSU	
	SRM-1			**PD**	**0.6%**			
	SRM-2			**PD**	**0.9%**			
	SRM-3			**PD**	**1.1%**			
	SRM-4			**PD**	**1.1%**			
	SRM-5			**PD**	**0.3%**			
	SRM-6			**PD**	**1.7%**			
LABORATORY CONTROL SAMPLES								
LCS-1				LCS1	20.2		PSU	120816Osal
LCS-2				LCS2	20.3		PSU	120816Osal
LCS-3				LCS3	20.3		PSU	120816Osal
LCS-4				LCS4	20.3		PSU	120816Osal
LCS-5				LCS5	20.1		PSU	121316Osal
LCS-6				LCS6	20.1		PSU	121316Osal
LCS-7				LCS7	19.8		PSU	121316Osal
				TRUE VALUE	**20.0**		PSU	
	LCS-1			**% RECOVERY**	**101%**			
	LCS-2			**% RECOVERY**	**102%**			
	LCS-3			**% RECOVERY**	**102%**			
	LCS-4			**% RECOVERY**	**102%**			
	LCS-5			**% RECOVERY**	**101%**			
	LCS-6			**% RECOVERY**	**101%**			
	LCS-7			**% RECOVERY**	**99%**			

BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

QC Sample Results for Salinity
Ambient Monitoring - AMB22
ENVVEST December 2016
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
CALIBRATION RESULTS								
ICV-1				YSI 50 ms/cm ICV	50.0		mS	120816Osal
CCV-1				YSI 50 ms/cmCCV1	50.1		mS	120816Osal
CCV-2				YSI 50 ms/cmCCV2	50.2		mS	120816Osal
CCV-3				YSI 50 ms/cmCCV3	50.7		mS	120816Osal
CCV-4				YSI 50 ms/cmCCV4	50.7		mS	120816Osal
CCV-5				YSI 50 ms/cmCCV5	50.7		mS	120816Osal
CCV-6				YSI 50 ms/cmCCV6	50.7		mS	120816Osal
CCV-7				YSI 50 ms/cmCCV7	50.0		mS	121316Osal
CCV-8				YSI 50 ms/cmCCV8	50.2		mS	121316Osal
CCV-9				YSI 50 ms/cmCCV9	50.2		mS	121316Osal
CCV-10				YSI 50 ms/cmCCV10	50.4		mS	121316Osal
CCV-11				YSI 50 ms/cmCCV11	50.0		mS	121316Osal
				TRUE VALUE	**50.0**		mS	
	ICV-1			**% RECOVERY**	**100%**			
	CCV-1			**% RECOVERY**	**100%**			
	CCV-2			**% RECOVERY**	**100%**			
	CCV-3			**% RECOVERY**	**101%**			
	CCV-4			**% RECOVERY**	**101%**			
	CCV-5			**% RECOVERY**	**101%**			
	CCV-6			**% RECOVERY**	**101%**			
	CCV-7			**% RECOVERY**	**100%**			
	CCV-8			**% RECOVERY**	**100%**			
	CCV-9			**% RECOVERY**	**100%**			
	CCV-10			**% RECOVERY**	**101%**			
	CCV-11			**% RECOVERY**	**100%**			

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Data Qualifiers
Ambient Monitoring - AMB22
ENVVEST December 2016

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, December 2016 (AMB22)

PARAMETER: Total and Dissolved Metals – Al (total only), Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 12/06/2016 and 12/07/2016. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	12/06/16 and 12/07/16 EQP BLKS 11/18/16
Cooler temp. on arrival	All coolers were at 4.0±2°C
Collection dates	See Table
TSS analysis dates	12/08/16 and 12/13/16
OSAL analysis dates	12/08/16 and 12/13/16
CVAF analysis dates (Hg)	12/09/16 - 12/20/16
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	12/19/16 – 12/20/16
Online Preconcentration/Direct Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	12/21/16 – 02/22/17
TOC/DOC Analysis Date	12/14/16 – 12/21/16

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.107 µg/L	0.340 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.003 µg/L	0.010 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0250 µg/L	0.0795 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.061 µg/L	0.194 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.043 µg/L	0.137 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0010 µg/L	0.0032 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.013 µg/L	0.041 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0006 µg/L	0.0019 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.001 µg/L	0.003 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0004 µg/L	0.0013 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.01 µg/L	0.03 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

METHODS:

Freshwater and seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by MSL methods.

Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013, Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for Al and Cr via direct injection at 15x dilution. All other metals were analyzed using a preconcentration via seaFast chelation step in accordance with Battelle SOP *MSL-I-022, Methods of Sample Preconcentration: Online Preconcentration for Trace Metals Analysis in Water*. Seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate*

METHODS (cont): *Samples by ICP/MS*. The base methods for this procedure are EPA Method 1638 and EPA Method 1640. The ICP-MS data were reported in units of µg/L. Freshwater samples identified as <5% seawater were analyzed for all metals, except Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The preconcentration procedure for seawater samples analyzed by ICP-MS for events prior to AMB20 included the addition of chelating agents to induce precipitation of metals under specific conditions. Therefore the ICP-MS method included a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method does not require this type of correction. No flags are required for this data set. This method shift has been documented in a manuscript entitled *Method Review for Trace Metals in Seawater: Automated Online Pre-concentration vs Borohydride Reductive Precipitation of Nearshore Seawater Samples for Analysis of Ni, Cu, Zn, Cd, and Pb via ICP-MS*, where events 17 and 19 were analyzed using both methods.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. A modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11 samples. In almost all cases the GF/C filters over estimated the TSS concentration. MSL SOP I-041-00 has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, 28 days for OC, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater were reported from an Annually Verified Seawater MDL Study as determined by seven replicates of NASS Seawater. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times

DETECTION LIMITS (Continued):

detected blank value

c Exceeds data quality objective but meets one of the following contingency criterion:
  1 SRM certified <10x MDL or
  2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS:

A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

A triplicate analysis of 0.45µm PVDF dissolved trace metals filters was performed following a 5% HNO_3 cleaning. Zn values are B flagged at a level of 0.0643-0.412µg/L. As a corrective action filter blank samples were re-analyzed to confirm Zn levels; additionally data regression was used to identify field data outliers, via x residuals comparing total and dissolved Zn values, resulting in re-analysis of AMB22-023 and AMB22-102 (statistical analysis is available upon request). Re-analysis confirmed the values on these samples to be <10% RPD with the exception of sample 3106-2049. Sample 2049 and other Zn dissolved values <1.20 µg/L can be used with caution. A third HNO_3 gravity filtration clean-up step will be added for future AMB PVDF.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the MDL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES:

A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY:

A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at sufficient levels relative to native sample concentrations.

REPLICATE PRECISION:

Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL. Analytical batch Q012417A had a programming error and only contained one duplicate analysis; additional dissolved metal duplicates were added into run Q022117A. Additional replicate precision for Q012417A is demonstrated by the RSDs of SB Blanks and RPDs of MS/MSDs. Batch Q122116A had a similar programming error; replicate precision is demonstrated by the RPDs of MS/MSDs.

STANDARD REFERENCE MATERIAL ACCURACY:

Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified value. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The PDs were within the QC acceptance criterion of ≤ 20%.

CASS and NASS are a seawater SRM analyzed with each ICP-MS batch. There is no

STANDARD REFERENCE MATERIAL ACCURACY (Continued):

seawater SRM for Al. High purity standards and the freshwater SRM were used to evaluate analytical accuracy. The SRM is considered for data set evaluation only if it is not certified greater than 10 times the MDL. The PDs were within the QC criterion for all metals.

The seawater SRMs were analyzed with the analytical batches for Al, Cd, Cr, Cu, Ni, Pb, and Zn quantified by ICP-MS. The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS and the freshwater sample matrices (e.g. OF021). Percent recoveries were within the QC acceptance criterion. NASS was reported in place of CASS for Q010317A R3 due to a syringe alignment issue on the auto-sampler during that run. NASS is typically run as a backup SRM with each batch.

A salinity standard was used to verify the accuracy of the salinity measurements. The accuracy range was 0.3-1.7PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 1 to 10%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1614884
Project:	December 2016 Ambient Monitoring (AMB22)	**Date Received:**	12/09/16
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-seven ocean water samples were received for analysis at ALS Environmental on 12/09/16. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Ammonia as Nitrogen by Standard Method 4500-NH3 E:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample Batch QC was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/6/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB22-DD001/OF018	K1614884-024	ND U	5.2	0.8	1	12/22/16 16:00	12/21/16	
AMB22-DD002/OF019	K1614884-025	ND U	5.1	0.8	1	12/22/16 16:00	12/21/16	
AMB22-DD003/OF021	K1614884-026	ND U	5.0	0.7	1	12/22/16 16:00	12/21/16	
Method Blank	K1614884-MB1	ND U	5.0	0.7	1	12/22/16 16:00	12/21/16	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/22/16
Sample Matrix:	Ocean Water	**Date Extracted:**	12/21/16

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	528894

	Lab Control Sample K1614884-LCS5			Duplicate Lab Control Sample K1614884-DLCS5					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	50.6	60.0	84	53.3	60.0	89	78-114	5	20

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB22-001/PS07	K1614884-001	**0.364**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-002/PS08	K1614884-002	**0.362**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-003/PS09	K1614884-003	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-004/PS10	K1614884-004	**0.375**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-005/PS10.1	K1614884-005	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-006/PS11	K1614884-006	**0.366**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-007/PS16	K1614884-007	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-008/M4	K1614884-008	**0.358**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-009/PS01	K1614884-009	**0.368**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-010/PS02	K1614884-010	**0.361**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-011/PS13	K1614884-011	**0.361**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-012/BJEST	K1614884-012	**0.373**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-013/PS12	K1614884-013	**0.363**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-014/PS12DUP	K1614884-014	**0.363**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-015/M3.1	K1614884-015	**0.364**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-016/PS03	K1614884-016	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-017/PS04	K1614884-017	**0.364**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-018/PS05	K1614884-018	**0.370**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-019/PS14	K1614884-019	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-020/PS06	K1614884-020	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-021/PS06DUP	K1614884-021	**0.361**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-022/PS15	K1614884-022	**0.362**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-023/PS07B	K1614884-023	**0.373**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-101/PS07	K1614884-027	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-102/M6	K1614884-028	**0.355**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-103/M8	K1614884-029	**0.389**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-104/DYOTS	K1614884-030	**0.360**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-105/DYOTS DUP	K1614884-031	**0.356**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-106/WP	K1614884-032	**0.365**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-107/CLMBAY	K1614884-033	**0.361**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-108/M2DEEP	K1614884-034	**0.361**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-109/M2	K1614884-035	**0.364**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-110/ILSP	K1614884-036	**0.363**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-111/M1	K1614884-037	**0.351**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-112/M1DEEP	K1614884-038	**0.350**	0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-113/POPIPD	K1614884-039	**0.351**	0.050	0.020	1	12/19/16 11:50	12/19/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB22-114/SN03	K1614884-040	**0.404**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-115/SN05	K1614884-041	**0.370**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-116/SN08	K1614884-042	**0.359**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-117/SN08 DUP	K1614884-043	**0.363**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-118/SN10	K1614884-044	**0.363**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-119/M3.3DEEP	K1614884-045	**0.365**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-120/M3.3	K1614884-046	**0.363**		0.050	0.020	1	12/19/16 11:50	12/19/16	
AMB22-121/PS07C	K1614884-047	**0.375**		0.050	0.020	1	12/19/16 11:50	12/19/16	
Method Blank	K1614884-MB1	**0.028**	**J**	0.050	0.020	1	12/19/16 11:50	12/19/16	
Method Blank	K1614884-MB2	**0.028**	**J**	0.050	0.020	1	12/19/16 11:50	12/19/16	
Method Blank	K1614884-MB3	**0.030**	**J**	0.050	0.020	1	12/19/16 11:50	12/19/16	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB22-001/PS07	K1614884-001DUP	0.050	0.020	0.364	0.367	0.366	<1	20	12/19/16
AMB22-011/PS13	K1614884-011DUP	0.050	0.020	0.361	0.362	0.362	<1	20	12/19/16
AMB22-020/PS06	K1614884-020DUP	0.050	0.020	0.365	0.365	0.365	<1	20	12/19/16
AMB22-107/CLMBAY	K1614884-033DUP	0.050	0.020	0.361	0.358	0.360	<1	20	12/19/16
AMB22-117/SN08 DUP	K1614884-043DUP	0.050	0.020	0.363	0.364	0.364	<1	20	12/19/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/19/16
		Date Extracted:	12/19/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB22-001/PS07	**Units:**	mg/L
Lab Code:	K1614884-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1614884-001MS			Duplicate Matrix Spike K1614884-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.364	1.30	1.00	93	1.30	1.00	94	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/19/16
		Date Extracted:	12/19/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB22-011/PS13	**Units:**	mg/L
Lab Code:	K1614884-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1614884-011MS			Duplicate Matrix Spike K1614884-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.361	1.30	1.00	93	1.29	1.00	93	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/19/16
		Date Extracted:	12/19/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB22-020/PS06	**Units:**	mg/L
Lab Code:	K1614884-020	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1614884-020MS			Duplicate Matrix Spike K1614884-020DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.365	1.29	1.00	93	1.29	1.00	93	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/19/16
		Date Extracted:	12/19/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB22-107/CLMBAY	**Units:**	mg/L
Lab Code:	K1614884-033	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1614884-033MS			K1614884-033DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.361	1.30	1.00	94	1.28	1.00	92	90-110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/19/16
		Date Extracted:	12/19/16

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB22-117/SN08 DUP	**Units:**	mg/L
Lab Code:	K1614884-043	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1614884-043MS			Duplicate Matrix Spike K1614884-043DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.363	1.34	1.00	98	1.31	1.00	94	90-110	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/19/16
Sample Matrix:	Ocean Water	**Date Extracted:**	12/19/16

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	528261

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS1	15.2	15.3	99	90-110
Lab Control Sample	K1614884-LCS2	15.3	15.3	100	90-110
Lab Control Sample	K1614884-LCS3	15.5	15.3	102	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1614884
Project: ENVVEST December 2016/Ambient Monitoring (AMB22)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	528261	KQ1616514-01	12/19/16 11:50	1.00	0.948	95	90-110
CCV2	528261	KQ1616514-02	12/19/16 11:50	1.00	0.958	96	90-110
CCV3	528261	KQ1616514-03	12/19/16 11:50	1.00	0.954	95	90-110
CCV4	528261	KQ1616514-04	12/19/16 11:50	1.00	0.954	95	90-110
CCV5	528261	KQ1616514-05	12/19/16 11:50	1.00	0.958	96	90-110
CCV6	528261	KQ1616514-06	12/19/16 11:50	1.00	0.958	96	90-110
CCV7	528261	KQ1616514-07	12/19/16 11:50	1.00	0.967	97	90-110
CCV8	528261	KQ1616514-08	12/19/16 11:50	1.00	0.967	97	90-110
CCV9	528261	KQ1616514-09	12/19/16 11:50	1.00	0.960	96	90-110
CCV10	528261	KQ1616514-10	12/19/16 11:50	1.00	0.970	97	90-110
CCV11	528261	KQ1616514-11	12/19/16 11:50	1.00	0.972	97	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1614884
Project: ENVVEST December 2016/Ambient Monitoring (AMB22)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	528261	KQ1616514-12	12/19/16 11:50	0.050	0.020	0.022	J
CCB2	528261	KQ1616514-13	12/19/16 11:50	0.050	0.020	0.026	J
CCB3	528261	KQ1616514-14	12/19/16 11:50	0.050	0.020	0.026	J
CCB4	528261	KQ1616514-15	12/19/16 11:50	0.050	0.020	0.022	J
CCB5	528261	KQ1616514-16	12/19/16 11:50	0.050	0.020	0.021	J
CCB6	528261	KQ1616514-17	12/19/16 11:50	0.050	0.020	0.020	J
CCB7	528261	KQ1616514-18	12/19/16 11:50	0.050	0.020	0.020	J
CCB8	528261	KQ1616514-19	12/19/16 11:50	0.050	0.020	ND	U
CCB9	528261	KQ1616514-20	12/19/16 11:50	0.050	0.020	0.024	J
CCB10	528261	KQ1616514-21	12/19/16 11:50	0.050	0.020	0.024	J
CCB11	528261	KQ1616514-22	12/19/16 11:50	0.050	0.020	0.028	J

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB22-001/PS07	K1614884-001	**0.101**	0.010	0.004	1	12/13/16 16:02	12/13/16	
AMB22-002/PS08	K1614884-002	**0.087**	0.010	0.004	1	12/13/16 18:40	12/13/16	
AMB22-003/PS09	K1614884-003	**0.095**	0.010	0.004	1	12/13/16 16:02	12/13/16	
AMB22-004/PS10	K1614884-004	**0.095**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-005/PS10.1	K1614884-005	**0.131**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-006/PS11	K1614884-006	**0.091**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-007/PS16	K1614884-007	**0.084**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-008/M4	K1614884-008	**0.090**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-009/PS01	K1614884-009	**0.093**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-010/PS02	K1614884-010	**0.085**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-011/PS13	K1614884-011	**0.088**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-012/BJEST	K1614884-012	**0.087**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-013/PS12	K1614884-013	**0.090**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-014/PS12DUP	K1614884-014	**0.089**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-015/M3.1	K1614884-015	**0.087**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-016/PS03	K1614884-016	**0.092**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-017/PS04	K1614884-017	**0.086**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-018/PS05	K1614884-018	**0.091**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-019/PS14	K1614884-019	**0.088**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-020/PS06	K1614884-020	**0.090**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-021/PS06DUP	K1614884-021	**0.099**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-022/PS15	K1614884-022	**0.088**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-023/PS07B	K1614884-023	**0.087**	0.010	0.004	1	12/16/16 13:42	12/16/16	
AMB22-101/PS07	K1614884-027	**0.085**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-102/M6	K1614884-028	**0.085**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-103/M8	K1614884-029	**0.083**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-104/DYOTS	K1614884-030	**0.084**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-105/DYOTS DUP	K1614884-031	**0.087**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-106/WP	K1614884-032	**0.081**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-107/CLMBAY	K1614884-033	**0.081**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-108/M2DEEP	K1614884-034	**0.080**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-109/M2	K1614884-035	**0.077**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-110/ILSP	K1614884-036	**0.080**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-111/M1	K1614884-037	**0.086**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-112/M1DEEP	K1614884-038	**0.082**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-113/POPIPD	K1614884-039	**0.049**	0.010	0.004	1	12/17/16 09:48	12/16/16	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB22-114/SN03	K1614884-040	**0.121**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-115/SN05	K1614884-041	**0.098**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-116/SN08	K1614884-042	**0.098**	0.010	0.004	1	12/17/16 09:48	12/16/16	
AMB22-117/SN08 DUP	K1614884-043	**0.099**	0.010	0.004	1	12/17/16 13:47	12/17/16	
AMB22-118/SN10	K1614884-044	**0.089**	0.010	0.004	1	12/17/16 13:47	12/17/16	
AMB22-119/M3.3DEEP	K1614884-045	**0.084**	0.010	0.004	1	12/17/16 13:47	12/17/16	
AMB22-120/M3.3	K1614884-046	**0.087**	0.010	0.004	1	12/17/16 13:47	12/17/16	
AMB22-121/PS07C	K1614884-047	**0.089**	0.010	0.004	1	12/17/16 13:47	12/17/16	
Method Blank	K1614884-MB1	ND U	0.010	0.004	1	12/13/16 16:02	12/13/16	
Method Blank	K1614884-MB2	ND U	0.010	0.004	1	12/16/16 13:42	12/16/16	
Method Blank	K1614884-MB3	ND U	0.010	0.004	1	12/17/16 09:48	12/16/16	
Method Blank	K1614884-MB4	ND U	0.010	0.004	1	12/17/16 13:47	12/17/16	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary

Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB22-002/PS08	K1614884-002DUP	0.010	0.004	0.087	0.084	0.0855	4	20	12/13/16
AMB22-004/PS10	K1614884-004DUP	0.010	0.004	0.095	0.091	0.0929	4	20	12/16/16
AMB22-107/CLMBAY	K1614884-033DUP	0.010	0.004	0.081	0.073	0.0768	11	20	12/17/16
AMB22-121/PS07C	K1614884-047DUP	0.010	0.004	0.089	0.088	0.0888	<1	20	12/17/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 12/28/2016 2:18:53 PM

Superset Reference:16-0000404164 rev 00

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/13/16
		Date Extracted:	12/13/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB22-002/PS08	**Units:**	mg/L
Lab Code:	K1614884-002	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1614884-002MS			K1614884-002DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.087	0.440	0.500	71	0.465	0.500	76	60-135	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/16/16
		Date Extracted:	12/16/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB22-004/PS10	**Units:**	mg/L
Lab Code:	K1614884-004	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1614884-004MS			K1614884-004DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.095	0.451	0.500	71	0.465	0.500	74	60-135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/17/16
		Date Extracted:	12/16/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB22-107/CLMBAY	**Units:**	mg/L
Lab Code:	K1614884-033	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1614884-033MS			K1614884-033DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.081	0.446	0.500	73	0.451	0.500	74	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/17/16
		Date Extracted:	12/17/16

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB22-121/PS07C	**Units:**	mg/L
Lab Code:	K1614884-047	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1614884-047MS			K1614884-047DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.089	0.439	0.500	70	0.454	0.500	73	60-135	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/13/16
Sample Matrix:	Ocean Water	**Date Extracted:**	12/13/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	527536

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS1	8.76	8.62	102	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/16/16
Sample Matrix:	Ocean Water	**Date Extracted:**	12/16/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	528107

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS2	9.08	8.62	105	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/17/16
Sample Matrix:	Ocean Water	**Date Extracted:**	12/16/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	528111

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS3	8.87	8.62	103	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/17/16
Sample Matrix:	Ocean Water	**Date Extracted:**	12/17/16

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	528113

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS4	8.89	8.62	103	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1614884
Project: ENVVEST December 2016/Ambient Monitoring (AMB22)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	527536	KQ1616265-01	12/13/16 16:02	0.500	0.517	103	90-110
CCV2	527536	KQ1616265-02	12/13/16 16:02	0.500	0.525	105	90-110
CCV3	527536	KQ1616265-03	12/13/16 16:02	0.500	0.525	105	90-110
CCV4	527536	KQ1616265-04	12/13/16 16:02	0.500	0.527	105	90-110
CCV5	527536	KQ1616265-05	12/13/16 16:02	0.500	0.530	106	90-110
CCV6	527536	KQ1616265-06	12/13/16 16:02	0.500	0.534	107	90-110
CCV7	527536	KQ1616265-07	12/13/16 16:02	0.500	0.534	107	90-110
CCV8	527536	KQ1616265-08	12/13/16 18:40	0.500	0.522	104	90-110
CCV9	527536	KQ1616265-09	12/13/16 18:40	0.500	0.528	106	90-110
CCV10	528107	KQ1616460-01	12/16/16 13:42	0.500	0.526	105	90-110
CCV11	528107	KQ1616460-02	12/16/16 13:42	0.500	0.523	105	90-110
CCV12	528107	KQ1616460-03	12/16/16 13:42	0.500	0.526	105	90-110
CCV13	528107	KQ1616460-04	12/16/16 13:42	0.500	0.526	105	90-110
CCV14	528111	KQ1616462-01	12/17/16 09:48	0.500	0.520	104	90-110
CCV15	528111	KQ1616462-02	12/17/16 09:48	0.500	0.523	105	90-110
CCV16	528111	KQ1616462-03	12/17/16 09:48	0.500	0.525	105	90-110
CCV17	528111	KQ1616462-04	12/17/16 09:48	0.500	0.528	106	90-110
CCV18	528113	KQ1616465-01	12/17/16 13:47	0.500	0.520	104	90-110
CCV19	528113	KQ1616465-02	12/17/16 13:47	0.500	0.529	106	90-110
CCV20	528113	KQ1616465-03	12/17/16 13:47	0.500	0.525	105	90-110
CCV21	528113	KQ1616465-04	12/17/16 13:47	0.500	0.523	105	90-110
CCV22	528113	KQ1616465-05	12/17/16 13:47	0.500	0.533	107	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1614884
Project: ENVVEST December 2016/Ambient Monitoring (AMB22)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	527536	KQ1616265-10	12/13/16 16:02	0.010	0.004	ND	U
CCB2	527536	KQ1616265-11	12/13/16 16:02	0.010	0.004	ND	U
CCB3	527536	KQ1616265-12	12/13/16 16:02	0.010	0.004	ND	U
CCB4	527536	KQ1616265-13	12/13/16 16:02	0.010	0.004	ND	U
CCB5	527536	KQ1616265-14	12/13/16 16:02	0.010	0.004	ND	U
CCB6	527536	KQ1616265-15	12/13/16 16:02	0.010	0.004	ND	U
CCB7	527536	KQ1616265-16	12/13/16 16:02	0.010	0.004	ND	U
CCB8	527536	KQ1616265-17	12/13/16 18:40	0.010	0.004	ND	U
CCB9	527536	KQ1616265-18	12/13/16 18:40	0.010	0.004	ND	U
CCB10	528107	KQ1616460-05	12/16/16 13:42	0.010	0.004	ND	U
CCB11	528107	KQ1616460-06	12/16/16 13:42	0.010	0.004	ND	U
CCB12	528107	KQ1616460-07	12/16/16 13:42	0.010	0.004	ND	U
CCB13	528107	KQ1616460-08	12/16/16 13:42	0.010	0.004	ND	U
CCB14	528111	KQ1616462-05	12/17/16 09:48	0.010	0.004	ND	U
CCB15	528111	KQ1616462-06	12/17/16 09:48	0.010	0.004	ND	U
CCB16	528111	KQ1616462-07	12/17/16 09:48	0.010	0.004	ND	U
CCB17	528111	KQ1616462-08	12/17/16 09:48	0.010	0.004	ND	U
CCB18	528113	KQ1616465-06	12/17/16 13:47	0.010	0.004	ND	U
CCB19	528113	KQ1616465-07	12/17/16 13:47	0.010	0.004	ND	U
CCB20	528113	KQ1616465-08	12/17/16 13:47	0.010	0.004	ND	U
CCB21	528113	KQ1616465-09	12/17/16 13:47	0.010	0.004	ND	U
CCB22	528113	KQ1616465-10	12/17/16 13:47	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB22-001/PS07	K1614884-001	**0.151**	0.050	0.009	1	12/15/16 04:10	
AMB22-002/PS08	K1614884-002	**0.133**	0.050	0.009	1	12/15/16 04:10	
AMB22-003/PS09	K1614884-003	**0.128**	0.050	0.009	1	12/15/16 04:10	
AMB22-004/PS10	K1614884-004	**0.087**	0.050	0.009	1	12/15/16 04:10	
AMB22-005/PS10.1	K1614884-005	**0.082**	0.050	0.009	1	12/15/16 04:10	
AMB22-006/PS11	K1614884-006	**0.077**	0.050	0.009	1	12/15/16 04:10	
AMB22-007/PS16	K1614884-007	**0.043 J**	0.050	0.009	1	12/15/16 04:10	
AMB22-008/M4	K1614884-008	**0.088**	0.050	0.009	1	12/15/16 04:10	
AMB22-009/PS01	K1614884-009	**0.083**	0.050	0.009	1	12/16/16 12:30	
AMB22-010/PS02	K1614884-010	**0.081**	0.050	0.009	1	12/16/16 12:30	
AMB22-011/PS13	K1614884-011	**0.072**	0.050	0.009	1	12/16/16 12:30	
AMB22-012/BJEST	K1614884-012	**0.062**	0.050	0.009	1	12/16/16 12:30	
AMB22-013/PS12	K1614884-013	**0.061**	0.050	0.009	1	12/16/16 12:30	
AMB22-014/PS12DUP	K1614884-014	**0.035 J**	0.050	0.009	1	12/16/16 12:30	
AMB22-015/M3.1	K1614884-015	**0.033 J**	0.050	0.009	1	12/16/16 12:30	
AMB22-016/PS03	K1614884-016	**0.061**	0.050	0.009	1	12/16/16 12:30	
AMB22-017/PS04	K1614884-017	**0.058**	0.050	0.009	1	12/16/16 12:30	
AMB22-018/PS05	K1614884-018	**0.059**	0.050	0.009	1	12/16/16 12:30	
AMB22-019/PS14	K1614884-019	**0.062**	0.050	0.009	1	12/16/16 12:30	
AMB22-020/PS06	K1614884-020	**0.094**	0.050	0.009	1	12/16/16 12:30	
AMB22-021/PS06DUP	K1614884-021	**0.092**	0.050	0.009	1	12/16/16 12:30	
AMB22-022/PS15	K1614884-022	**0.072**	0.050	0.009	1	12/16/16 12:30	
AMB22-023/PS07B	K1614884-023	**0.060**	0.050	0.009	1	12/16/16 12:30	
AMB22-101/PS07	K1614884-027	**0.071**	0.050	0.009	1	12/16/16 12:30	
AMB22-102/M6	K1614884-028	**0.100**	0.050	0.009	1	12/16/16 12:30	
AMB22-103/M8	K1614884-029	**0.083**	0.050	0.009	1	12/16/16 12:30	
AMB22-104/DYOTS	K1614884-030	**0.064**	0.050	0.009	1	12/16/16 12:30	
AMB22-105/DYOTS DUP	K1614884-031	**0.060**	0.050	0.009	1	12/16/16 12:30	
AMB22-106/WP	K1614884-032	**0.025 J**	0.050	0.009	1	12/22/16 10:00	
AMB22-107/CLMBAY	K1614884-033	**0.029 J**	0.050	0.009	1	12/22/16 10:00	
AMB22-108/M2DEEP	K1614884-034	**0.015 J**	0.050	0.009	1	12/22/16 10:00	
AMB22-109/M2	K1614884-035	**0.010 J**	0.050	0.009	1	12/22/16 10:00	
AMB22-110/ILSP	K1614884-036	**0.035 J**	0.050	0.009	1	12/22/16 10:00	
AMB22-111/M1	K1614884-037	**0.074**	0.050	0.009	1	12/22/16 10:00	
AMB22-112/M1DEEP	K1614884-038	**0.065**	0.050	0.009	1	12/22/16 10:00	
AMB22-113/POPIPD	K1614884-039	**0.061**	0.050	0.009	1	12/22/16 10:00	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/9/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB22-114/SN03	K1614884-040	**0.184**	0.050	0.009	1	12/22/16 10:00	
AMB22-115/SN05	K1614884-041	**0.111**	0.050	0.009	1	12/22/16 10:00	
AMB22-116/SN08	K1614884-042	**0.089**	0.050	0.009	1	12/22/16 10:00	
AMB22-117/SN08 DUP	K1614884-043	**0.098**	0.050	0.009	1	12/22/16 10:00	
AMB22-118/SN10	K1614884-044	**0.076**	0.050	0.009	1	12/22/16 10:00	
AMB22-119/M3.3DEEP	K1614884-045	**0.055**	0.050	0.009	1	12/22/16 10:00	
AMB22-120/M3.3	K1614884-046	**0.053**	0.050	0.009	1	12/22/16 10:00	
AMB22-121/PS07C	K1614884-047	**0.183**	0.050	0.009	1	12/22/16 10:00	
Method Blank	K1614884-MB1	**0.018 J**	0.050	0.009	1	12/15/16 04:10	
Method Blank	K1614884-MB2	**0.017 J**	0.050	0.009	1	12/16/16 12:30	
Method Blank	K1614884-MB3	**0.016 J**	0.050	0.009	1	12/22/16 10:00	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16 - 12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary

Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1614509-001DUP	0.050	0.009	0.016 J	0.013 J	0.0145	21 *	20	12/15/16
AMB22-009/PS01	K1614884-009DUP	0.050	0.009	0.083	0.080	0.0815	4	20	12/16/16
AMB22-106/WP	K1614884-032DUP	0.050	0.009	0.025 J	0.022 J	NC	NC	20	12/22/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	12/15/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1614509-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1614509-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.016 J	11.3	10.0	113	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/06/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/16/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB22-009/PS01	**Units:**	mg/L
Lab Code:	K1614884-009	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1614884-009MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.083	11.3	10.0	112	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Collected:**	12/07/16
Sample Matrix:	Ocean Water	**Date Received:**	12/09/16
		Date Analyzed:	12/22/16
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB22-106/WP	**Units:**	mg/L
Lab Code:	K1614884-032	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1614884-032MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.025 J	9.30	10.0	93	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/15/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	528077

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS1	2.21	2.27	97	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/16/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	526089

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS2	2.16	2.27	95	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1614884
Project:	ENVVEST December 2016/Ambient Monitoring (AMB22)	**Date Analyzed:**	12/22/16
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	528864

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1614884-LCS3	2.33	2.27	103	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1614884
Project: ENVVEST December 2016/Ambient Monitoring (AMB22)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	528077	KQ1616452-09	12/15/16 04:10	10.0	9.33	93	90-110
CCV2	528077	KQ1616452-10	12/15/16 04:10	10.0	10.8	108	90-110
CCV3	528077	KQ1616452-11	12/15/16 04:10	10.0	10.9	109	90-110
CCV4	528077	KQ1616452-12	12/15/16 04:10	10.0	10.7	107	90-110
CCV5	526089	KQ1616454-09	12/16/16 12:30	10.0	10.9	109	90-110
CCV6	526089	KQ1616454-10	12/16/16 12:30	10.0	10.7	107	90-110
CCV7	526089	KQ1616454-11	12/16/16 12:30	10.0	9.82	98	90-110
CCV8	526089	KQ1616454-12	12/16/16 12:30	10.0	9.30	93	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1614884
Project: ENVVEST December 2016/Ambient Monitoring (AMB22)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	528077	KQ1616452-05	12/15/16 04:10	0.050	0.009	0.035	J
CCB2	528077	KQ1616452-06	12/15/16 04:10	0.050	0.009	0.031	J
CCB3	528077	KQ1616452-07	12/15/16 04:10	0.050	0.009	0.017	J
CCB4	528077	KQ1616452-08	12/15/16 04:10	0.050	0.009	0.029	J
CCB5	526089	KQ1616454-05	12/16/16 12:30	0.050	0.009	0.017	J
CCB6	526089	KQ1616454-06	12/16/16 12:30	0.050	0.009	0.029	J
CCB7	526089	KQ1616454-07	12/16/16 12:30	0.050	0.009	0.014	J
CCB8	526089	KQ1616454-08	12/16/16 12:30	0.050	0.009	0.030	J

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/06/2016 (samples arrived 12/06, logged in 12/07/16)
Batch: 62
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-001	PS07-TME	TME	PS07	3106-1994	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-001	PS07-DME	DME	PS07	3106-1995	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-002	PS08-TME	TME	PS08	3106-1996	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-002	PS08-DME	DME	PS08	3106-1997	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-003	PS09-TME	TME	PS09	3106-1998	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-003	PS09-DME	DME	PS09	3106-1999	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-004	PS10-TME	TME	PS10	3106-2000	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-004	PS10-DME	DME	PS10	3106-2001	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-005	PS10.1-TME	TME	PS10.1	3106-2002	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-005	PS10.1-DME	DME	PS10.1	3106-2003	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-006	PS11-TME	TME	PS11	3106-2004	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-006	PS11-DME	DME	PS11	3106-2005	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-007	PS16-TME	TME	PS16	3106-2006	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-007	PS16-DME	DME	PS16	3106-2007	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-008	M4-TME	TME	M4	3106-2008	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-008	M4-DME	DME	M4	3106-2009	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-009	PS01-TME	TME	PS01	3106-2010	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-009	PS01-DME	DME	PS01	3106-2011	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-010	PS02-TME	TME	PS02	3106-2012	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-010	PS02-DME	DME	PS02	3106-2013	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-011	PS13-TME	TME	PS13	3106-2014	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-011	PS13-DME	DME	PS13	3106-2015	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-012	BJEST-TME	TME	BJEST	3106-2016	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-012	BJEST-DME	DME	BJEST	3106-2017	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-013	PS12-TME	TME	PS12	3106-2018	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-013	PS12-DME	DME	PS12	3106-2019	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-014	PS12DUP-TME	TME	PS12DUP	3106-2020	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-014	PS12DUP-DME	DME	PS12DUP	3106-2021	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-015	M3.1-TME	TME	M3.1	3106-2022	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-015	M3.1-DME	DME	M3.1	3106-2023	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-016	PS03-TME	TME	PS03	3106-2024	Seawater	PREP LAB	Total Metals, Hg	12/06/16

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/06/2016 (samples arrived 12/06, logged in 12/07/16)
Batch: 62
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-016	PS03-DME	DME	PS03	3106-2025	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-017	PS04-TME	TME	PS04	3106-2026	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-017	PS04-DME	DME	PS04	3106-2027	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-018	PS05-TME	TME	PS05	3106-2028	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-018	PS05-DME	DME	PS05	3106-2029	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-019	PS14-TME	TME	PS14	3106-2030	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-019	PS14-DME	DME	PS14	3106-2031	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-020	PS06-TME	TME	PS06	3106-2032	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-020	PS06-DME	DME	PS06	3106-2033	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-021	PS06DUP-TME	TME	PS06DUP	3106-2034	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-021	PS06DUP-DME	DME	PS06DUP	3106-2035	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-022	PS15-TME	TME	PS15	3106-2036	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-022	PS15-DME	DME	PS15	3106-2037	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-023	PS07B-TME	TME	PS07B	3106-2038	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-023	PS07B-DME	DME	PS07B	3106-2039	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-DD001	OF018-TME	TME	OF018	3106-2040	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-DD001	OF018-DME	DME	OF018	3106-2041	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-DD002	OF019-TME	TME	OF019	3106-2042	Seawater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-DD002	OF019-DME	DME	OF019	3106-2043	Seawater	PREP LAB	Dissolved Metals, Hg	12/06/16
AMB22-DD003	OF021-TME	TME	OF021	3106-2044	Freshwater	PREP LAB	Total Metals, Hg	12/06/16
AMB22-DD003	OF021-DME	DME	OF021	3106-2045	Freshwater	PREP LAB	Dissolved Metals, Hg	12/06/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/06/2016 (samples arrived 12/06, logged in 12/07/16)
Batch: 62
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-001	PS07-TOC	TOC	PS07	3106-1994	Seawater	MSL	TOC	12/06/16
AMB22-002	PS08-TOC	TOC	PS08	3106-1996	Seawater	MSL	TOC	12/06/16
AMB22-003	PS09-TOC	TOC	PS09	3106-1998	Seawater	MSL	TOC	12/06/16
AMB22-004	PS10-TOC	TOC	PS10	3106-2000	Seawater	MSL	TOC	12/06/16
AMB22-005	PS10.1-TOC	TOC	PS10.1	3106-2002	Seawater	MSL	TOC	12/06/16
AMB22-006	PS11-TOC	TOC	PS11	3106-2004	Seawater	MSL	TOC	12/06/16
AMB22-007	PS16-TOC	TOC	PS16	3106-2006	Seawater	MSL	TOC	12/06/16
AMB22-008	M4-TOC	TOC	M4	3106-2008	Seawater	MSL	TOC	12/06/16
AMB22-009	PS01-TOC	TOC	PS01	3106-2010	Seawater	MSL	TOC	12/06/16
AMB22-010	PS02-TOC	TOC	PS02	3106-2012	Seawater	MSL	TOC	12/06/16
AMB22-011	PS13-TOC	TOC	PS13	3106-2014	Seawater	MSL	TOC	12/06/16
AMB22-012	BJEST-TOC	TOC	BJEST	3106-2016	Seawater	MSL	TOC	12/06/16
AMB22-013	PS12-TOC	TOC	PS12	3106-2018	Seawater	MSL	TOC	12/06/16
AMB22-014	PS12DUP-TOC	TOC	PS12DUP	3106-2020	Seawater	MSL	TOC	12/06/16
AMB22-015	M3.1-TOC	TOC	M3.1	3106-2022	Seawater	MSL	TOC	12/06/16
AMB22-016	PS03-TOC	TOC	PS03	3106-2024	Seawater	MSL	TOC	12/06/16
AMB22-017	PS04-TOC	TOC	PS04	3106-2026	Seawater	MSL	TOC	12/06/16
AMB22-018	PS05-TOC	TOC	PS05	3106-2028	Seawater	MSL	TOC	12/06/16
AMB22-019	PS14-TOC	TOC	PS14	3106-2030	Seawater	MSL	TOC	12/06/16
AMB22-020	PS06-TOC	TOC	PS06	3106-2032	Seawater	MSL	TOC	12/06/16
AMB22-021	PS06DUP-TOC	TOC	PS06DUP	3106-2034	Seawater	MSL	TOC	12/06/16
AMB22-022	PS15-TOC	TOC	PS15	3106-2036	Seawater	MSL	TOC	12/06/16
AMB22-023	PS07B-TOC	TOC	PS07B	3106-2038	Seawater	MSL	TOC	12/06/16
AMB22-DD001	OF018-TOC	TOC	OF018	3106-2040	Seawater	MSL	TOC	12/06/16
AMB22-DD002	OF019-TOC	TOC	OF019	3106-2042	Seawater	MSL	TOC	12/06/16
AMB22-DD003	OF021-TOC	TOC	OF021	3106-2044	Freshwater	MSL	TOC	12/06/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/06/2016 (samples arrived 12/06, logged in 12/07/16)
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Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-001	PS07-DOC	DOC	PS07	3106-1995	Seawater	MSL	DOC	12/06/16
AMB22-002	PS08-DOC	DOC	PS08	3106-1997	Seawater	MSL	DOC	12/06/16
AMB22-003	PS09-DOC	DOC	PS09	3106-1999	Seawater	MSL	DOC	12/06/16
AMB22-004	PS10-DOC	DOC	PS10	3106-2001	Seawater	MSL	DOC	12/06/16
AMB22-005	PS10.1-DOC	DOC	PS10.1	3106-2003	Seawater	MSL	DOC	12/06/16
AMB22-006	PS11-DOC	DOC	PS11	3106-2005	Seawater	MSL	DOC	12/06/16
AMB22-007	PS16-DOC	DOC	PS16	3106-2007	Seawater	MSL	DOC	12/06/16
AMB22-008	M4-DOC	DOC	M4	3106-2009	Seawater	MSL	DOC	12/06/16
AMB22-009	PS01-DOC	DOC	PS01	3106-2011	Seawater	MSL	DOC	12/06/16
AMB22-010	PS02-DOC	DOC	PS02	3106-2013	Seawater	MSL	DOC	12/06/16
AMB22-011	PS13-DOC	DOC	PS13	3106-2015	Seawater	MSL	DOC	12/06/16
AMB22-012	BJEST-DOC	DOC	BJEST	3106-2017	Seawater	MSL	DOC	12/06/16
AMB22-013	PS12-DOC	DOC	PS12	3106-2019	Seawater	MSL	DOC	12/06/16
AMB22-014	PS12DUP-DOC	DOC	PS12DUP	3106-2021	Seawater	MSL	DOC	12/06/16
AMB22-015	M3.1-DOC	DOC	M3.1	3106-2023	Seawater	MSL	DOC	12/06/16
AMB22-016	PS03-DOC	DOC	PS03	3106-2025	Seawater	MSL	DOC	12/06/16
AMB22-017	PS04-DOC	DOC	PS04	3106-2027	Seawater	MSL	DOC	12/06/16
AMB22-018	PS05-DOC	DOC	PS05	3106-2029	Seawater	MSL	DOC	12/06/16
AMB22-019	PS14-DOC	DOC	PS14	3106-2031	Seawater	MSL	DOC	12/06/16
AMB22-020	PS06-DOC	DOC	PS06	3106-2033	Seawater	MSL	DOC	12/06/16
AMB22-021	PS06DUP-DOC	DOC	PS06DUP	3106-2035	Seawater	MSL	DOC	12/06/16
AMB22-022	PS15-DOC	DOC	PS15	3106-2037	Seawater	MSL	DOC	12/06/16
AMB22-023	PS07B-DOC	DOC	PS07B	3106-2039	Seawater	MSL	DOC	12/06/16
AMB22-DD001	OF018-DOC	DOC	OF018	3106-2041	Seawater	MSL	DOC	12/06/16
AMB22-DD002	OF019-DOC	DOC	OF019	3106-2043	Seawater	MSL	DOC	12/06/16
AMB22-DD003	OF021-DOC	DOC	OF021	3106-2045	Freshwater	MSL	DOC	12/06/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/06/2016 (samples arrived 12/06, logged in 12/07/16)
Batch: 62
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Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB21, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-1994	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-002	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-1996	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-003	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-1998	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-004	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-2000	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-005	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-2002	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-006	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-2004	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-007	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-2006	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-008	M4-TSS/OSAL	TSS/OSAL	M4	3106-2008	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-009	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-2010	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-010	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-2012	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-011	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-2014	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-012	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-2016	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-013	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-2018	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-014	PS12DUP-TSS/OSAL	TSS/OSAL	PS12DUP	3106-2020	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-015	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-2022	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-016	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-2024	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-017	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-2026	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-018	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-2028	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-019	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-2030	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-020	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-2032	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-021	PS06DUP-TSS/OSAL	TSS/OSAL	PS06DUP	3106-2034	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-022	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-2036	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-023	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-2038	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-DD001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-2040	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-2042	Seawater	MSL	TSS/OSAL	12/06/16
AMB22-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-2044	Freshwater	MSL	TSS/OSAL	12/06/16

p.1
360-824-6279
Dr. R.K. Johnston
Dec 06 16 07:57p

S60-827-0273-1

AMB22 2016-12-06

SAMPLE CHAIN OF CUSTODY FORM

Date: 12/6/2016
Page: 1 of 1
CCC Number: AMB22

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.:
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT:

Testing Parameters (as per SOW)

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TMB/DMB	DOC	TOC	TSS/SAL	Nutrients	No. of containers	StationID	Comments
3106 TOT DISS	AMB22-00		12/6/2016									
1994 1995	-001 PS07	PS07	0905	Sea	X	X	X	X	X	5	PS07	
1996 1997	-002 PS08	PS08	0916	Sea							PS08	TOX Sample
1998 1999	-003	PS09	0931	Sea							PS09	TOX Sample / SERDP Sample
2000 2001	-004	PS10	0944								PS10	
2002 2003	-005	PS10.1	1005									
2004 2005	-006	PS11	1016								PS11	
2006 2007	-007	PS16	1028									
2008 2009	-008	M4	1006									
2010 2011	-009	PS01	1118									
2012 2013	-010	PS02	1134									
2014 2015	-011	PS13	1146									
2016 2017	-012	BSEG1	1200									
2018 2019	-013	PS12	1222									Field Dup
2020 2021	-014	PS12 Dup	1222									M3.1 TOX
2022 2023	-015	M3.1	1236									TOX
2024 2025	-016	PS03	1325									
2026 2027	-017	PS04	1340									
2028 2029	-018	PS05	1357									
2030 2031	-019	PS14	1400									
2032 2033	-020	PS06	1412									
2034 2035	-021	PS06DUP	1412									
2036 2037	-022	PS15	1432									
2038 2039	-023	PS07B	1441									

Relinquished by: _____ Signature _____ Date _____ Time _____
Printed Name _____ Company _____

Relinquished by: STRUCNS Signature _____ Date PNNL 20161206 Time 1900
Printed Name _____ Company _____

Received by: _____ Signature _____
Printed Name _____

Received by: 20161206 1900 Signature STRUCNS
Printed Name

Total # of Containers
Shipment Method:
Shipment Method:

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 12/6/16

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVVEST AMB 22
Project Manager: J. B.
Phone Number:

Shipment Method: NA
Preservation: 0.2% HNO_3 (TMe)
DEEP FREEZER -80C (Doc)

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TMe	TSS	OIL/GREASE	TOC	DOC	Laboratory ID (TDS 3104* / DISS)		Observations/Comments
1	OF 018	20161206 10:20	SEAWATER	5	X	X	X	X	X	2040	2041	
2	OF 019	20161206 11:51	SEAWATER	5	X	X	X	X	X	2042	2043	
3	OF 021	20161206 13:12	FRESHWATER	5	X	X	X	X	X	2044	2045	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Relinquished By:	Company:	Received By:	Company:
NICK SCHAFER	PNNL	C. SUSLICK	PNNL
Signature/Printed Name	Date/Time: 12/6/16 17:00	Signature/Printed Name	Date/Time: 12/7/16
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 1994-2045 Batch: 62

Project Name: ENVVEST AMB22 DEC 2010 Project Manager: Brandon Berger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater, cooling water WP# N01796

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☒	Custody seal present Seal intact? YES NO	Cooler 1: <4 °C
☒	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)	Cooler 2: <4 °C Cooler 3: <4 °C Cooler 4: <4 °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☒	☐	☐	Were all chain of custody forms signed and dated?	
☒	☐	☐	Were samples filtered at MSL? ALL (HALF) DME	*Samples must be filtered prior to preservation!*

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: STRICKLAND Cooler Receipt Date/Time: 20Dec10 1900

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type: ☒	0.2% HNO3	Notes: TMS, DMS	Lot# 1214050
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☒	Refrigerate/Freeze	Notes: Ref: Nutrients, TSS/Sal Freeze: TOC, DOC	
☐	Other	Notes:	

$ oil/grease

Completed By: STRICKLAND Preservation Date/Time: 20Dec10 1930

Storage Shelf: Met - K1G K1B K2C Lab 231

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/08/2016 (samples arrived 12/7, logged in 12/8/16)
Batch: 63
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB22, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-101	PS07-TME	TME	PS07	3106-2046	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-101	PS07-DME	DME	PS07	3106-2047	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-102	M6-TME	TME	M6	3106-2048	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-102	M6-DME	DME	M6	3106-2049	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-103	M8-TME	TME	M8	3106-2050	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-103	M8-DME	DME	M8	3106-2051	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-104	DYOTS-TME	TME	DYOTS	3106-2052	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-104	DYOTS-DME	DME	DYOTS	3106-2053	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-105	DYOTS DUP-TME	TME	DYOTS DUP	3106-2054	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-105	DYOTS DUP-DME	DME	DYOTS DUP	3106-2055	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-106	WP-TME	TME	WP	3106-2056	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-106	WP-DME	DME	WP	3106-2057	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-107	CLMBAY-TME	TME	CLMBAY	3106-2058	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-107	CLMBAY-DME	DME	CLMBAY	3106-2059	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-108	M2DEEP-TME	TME	M2DEEP	3106-2060	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-108	M2DEEP-DME	DME	M2DEEP	3106-2061	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-109	M2-TME	TME	M2	3106-2062	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-109	M2-DME	DME	M2	3106-2063	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-110	ILSP-TME	TME	ILSP	3106-2064	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-110	ILSP-DME	DME	ILSP	3106-2065	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-111	M1-TME	TME	M1	3106-2066	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-111	M1-DME	DME	M1	3106-2067	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-112	M1DEEP-TME	TME	M1DEEP	3106-2068	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-112	M1DEEP-DME	DME	M1DEEP	3106-2069	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-113	POPIPD-TME	TME	POPIPD	3106-2070	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-113	POPIPD-DME	DME	POPIPD	3106-2071	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-114	SN03-TME	TME	SN03	3106-2072	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-114	SN03-DME	DME	SN03	3106-2073	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-115	SN05-TME	TME	SN05	3106-2074	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-115	SN05-DME	DME	SN05	3106-2075	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-116	SN08-TME	TME	SN08	3106-2076	Seawater	PREP LAB	Total Metals, Hg	12/07/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/08/2016 (samples arrived 12/7, logged in 12/8/16)
Batch: 63
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB22, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-116	SN08-DME	DME	SN08	3106-2077	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-117	SN08 DUP-TME	TME	SN08 DUP	3106-2078	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-117	SN08 DUP-DME	DME	SN08 DUP	3106-2079	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-118	SN10-TME	TME	SN10	3106-2080	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-118	SN10-DME	DME	SN10	3106-2081	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-119	M3.3DEEP-TME	TME	M3.3DEEP	3106-2082	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-119	M3.3DEEP-DME	DME	M3.3DEEP	3106-2083	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-120	M3.3-TME	TME	M3.3	3106-2084	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-120	M3.3-DME	DME	M3.3	3106-2085	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16
AMB22-121	PS07C-TME	TME	PS07C	3106-2086	Seawater	PREP LAB	Total Metals, Hg	12/07/16
AMB22-121	PS07C-DME	DME	PS07C	3106-2087	Seawater	PREP LAB	Dissolved Metals, Hg	12/07/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/08/2016 (samples arrived 12/7, logged in 12/8/16)
Batch: 63
Login Designee: Suslick

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Marine Sciences Laboratory
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Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB22, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-101	PS07-TOC	TOC	PS07	3106-2046	Seawater	MSL	TOC	12/07/16
AMB22-102	M6-TOC	TOC	M6	3106-2048	Seawater	MSL	TOC	12/07/16
AMB22-103	M8-TOC	TOC	M8	3106-2050	Seawater	MSL	TOC	12/07/16
AMB22-104	DYOTS-TOC	TOC	DYOTS	3106-2052	Seawater	MSL	TOC	12/07/16
AMB22-105	DYOTS DUP-TOC	TOC	DYOTS DUP	3106-2054	Seawater	MSL	TOC	12/07/16
AMB22-106	WP-TOC	TOC	WP	3106-2056	Seawater	MSL	TOC	12/07/16
AMB22-107	CLMBAY-TOC	TOC	CLMBAY	3106-2058	Seawater	MSL	TOC	12/07/16
AMB22-108	M2DEEP-TOC	TOC	M2DEEP	3106-2060	Seawater	MSL	TOC	12/07/16
AMB22-109	M2-TOC	TOC	M2	3106-2062	Seawater	MSL	TOC	12/07/16
AMB22-110	ILSP-TOC	TOC	ILSP	3106-2064	Seawater	MSL	TOC	12/07/16
AMB22-111	M1-TOC	TOC	M1	3106-2066	Seawater	MSL	TOC	12/07/16
AMB22-112	M1DEEP-TOC	TOC	M1DEEP	3106-2068	Seawater	MSL	TOC	12/07/16
AMB22-113	POPIPD-TOC	TOC	POPIPD	3106-2070	Seawater	MSL	TOC	12/07/16
AMB22-114	SN03-TOC	TOC	SN03	3106-2072	Seawater	MSL	TOC	12/07/16
AMB22-115	SN05-TOC	TOC	SN05	3106-2074	Seawater	MSL	TOC	12/07/16
AMB22-116	SN08-TOC	TOC	SN08	3106-2076	Seawater	MSL	TOC	12/07/16
AMB22-117	SN08 DUP-TOC	TOC	SN08 DUP	3106-2078	Seawater	MSL	TOC	12/07/16
AMB22-118	SN10-TOC	TOC	SN10	3106-2080	Seawater	MSL	TOC	12/07/16
AMB22-119	M3.3DEEP-TOC	TOC	M3.3DEEP	3106-2082	Seawater	MSL	TOC	12/07/16
AMB22-120	M3.3-TOC	TOC	M3.3	3106-2084	Seawater	MSL	TOC	12/07/16
AMB22-121	PS07C-TOC	TOC	PS07C	3106-2086	Seawater	MSL	TOC	12/07/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/08/2016 (samples arrived 12/7, logged in 12/8/16)
Batch: 63
Login Designee: Suslick

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB22, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-101	PS07-DOC	DOC	PS07	3106-2047	Seawater	MSL	DOC	12/07/16
AMB22-102	M6-DOC	DOC	M6	3106-2049	Seawater	MSL	DOC	12/07/16
AMB22-103	M8-DOC	DOC	M8	3106-2051	Seawater	MSL	DOC	12/07/16
AMB22-104	DYOTS-DOC	DOC	DYOTS	3106-2053	Seawater	MSL	DOC	12/07/16
AMB22-105	DYOTS DUP-DOC	DOC	DYOTS DUP	3106-2055	Seawater	MSL	DOC	12/07/16
AMB22-106	WP-DOC	DOC	WP	3106-2057	Seawater	MSL	DOC	12/07/16
AMB22-107	CLMBAY-DOC	DOC	CLMBAY	3106-2059	Seawater	MSL	DOC	12/07/16
AMB22-108	M2DEEP-DOC	DOC	M2DEEP	3106-2061	Seawater	MSL	DOC	12/07/16
AMB22-109	M2-DOC	DOC	M2	3106-2063	Seawater	MSL	DOC	12/07/16
AMB22-110	ILSP-DOC	DOC	ILSP	3106-2065	Seawater	MSL	DOC	12/07/16
AMB22-111	M1-DOC	DOC	M1	3106-2067	Seawater	MSL	DOC	12/07/16
AMB22-112	M1DEEP-DOC	DOC	M1DEEP	3106-2069	Seawater	MSL	DOC	12/07/16
AMB22-113	POPIPD-DOC	DOC	POPIPD	3106-2071	Seawater	MSL	DOC	12/07/16
AMB22-114	SN03-DOC	DOC	SN03	3106-2073	Seawater	MSL	DOC	12/07/16
AMB22-115	SN05-DOC	DOC	SN05	3106-2075	Seawater	MSL	DOC	12/07/16
AMB22-116	SN08-DOC	DOC	SN08	3106-2077	Seawater	MSL	DOC	12/07/16
AMB22-117	SN08 DUP-DOC	DOC	SN08 DUP	3106-2079	Seawater	MSL	DOC	12/07/16
AMB22-118	SN10-DOC	DOC	SN10	3106-2081	Seawater	MSL	DOC	12/07/16
AMB22-119	M3.3DEEP-DOC	DOC	M3.3DEEP	3106-2083	Seawater	MSL	DOC	12/07/16
AMB22-120	M3.3-DOC	DOC	M3.3	3106-2085	Seawater	MSL	DOC	12/07/16
AMB22-121	PS07C-DOC	DOC	PS07C	3106-2087	Seawater	MSL	DOC	12/07/16

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 12/08/2016 (samples arrived 12/7, logged in 12/8/16)
Batch: 63
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, DECEMBER 2016 (AMB22, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB22-101	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-2046	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-102	M6-TSS/OSAL	TSS/OSAL	M6	3106-2048	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-103	M8-TSS/OSAL	TSS/OSAL	M8	3106-2050	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-104	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-2052	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-105	DYOTS DUP-TSS/OSAL	TSS/OSAL	DYOTS DUP	3106-2054	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-106	WP-TSS/OSAL	TSS/OSAL	WP	3106-2056	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-107	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-2058	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-108	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-2060	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-109	M2-TSS/OSAL	TSS/OSAL	M2	3106-2062	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-110	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-2064	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-111	M1-TSS/OSAL	TSS/OSAL	M1	3106-2066	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-112	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-2068	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-113	POPIPD-TSS/OSAL	TSS/OSAL	POPIPD	3106-2070	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-114	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-2072	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-115	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-2074	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-116	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-2076	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-117	SN08 DUP-TSS/OSAL	TSS/OSAL	SN08 DUP	3106-2078	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-118	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-2080	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-119	M3.3DEEP-TSS/OSAL	TSS/OSAL	M3.3DEEP	3106-2082	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-120	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-2084	Seawater	MSL	TSS/OSAL	12/07/16
AMB22-121	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-2086	Seawater	MSL	TSS/OSAL	12/07/16

SAMPLE CHAIN OF CUSTODY FORM

Date: AMB22 - 2016-12-07

Page: 1 of 2

COC Number:

SSC-Pacific
Bioassay Testing Laboratory
Code 71751 Environmental Sciences Branch

Project No.: AMB Monitoring

Project Name:

Project Manager: Jon Stevens

Phone:

EVENT: AMB22

Address:

Attention: ~~Gunther Rosen~~
~~Observations, Instructions~~

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Testing Parameters: Metals	Tox	DOC	TSS/Sal	Nutrients	No. of containers	310* TOT	310* DISS	StationID	Comments
	AMB22		12/7/16												
1	-101	ESO7	0900	SW		x	x	x	x	x	5			2046	2047
2	-102	M6	0928											2048	2049
3	-103	M9	0946											2050	2051
4	-104	DYOT3	1015											2052	2053
5	-105	D-YOT3 DUP	1015											2054	2055
6	-106	WP	1111											2056	2057
7	-107	CLMBAY	1125											2058	2059
8	-108	M2DEEP	1152											2060	2061
9	-109	~~ELSP~~ M2	1157 ~~1224~~											2062	2063
10	-110	ELSP	1224											2064	2065
11	-111	M1	1257											2066	2067
12	-112	M1DEEP	1300											2068	2069
13	-113	POPIPD	1325											2070	2071
14	-114	SNO3	1347											2072	2073
15	-115	SNO5	1405											2074	2075

3.5m deep

7m deep

Relinquished by:
STRIVENS 20161207 1820
Signature Date Time
TEC
Printed Name Company PNNL

Received by:
Signature
STRIVENS 20161207 1820
Printed Name

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Total # of Containers 75
Shipment Method:
Shipment Method:
Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

SAMPLE CHAIN OF CUSTODY FORM

Date: AMB22-2016-12-07

Page: 2 of 2

COC Number:

SSC-Pacific
Bioassay Testing Laboratory
Code 71751 Environmental Sciences Branch

Project No.:

Project Name:

Project Manager: Jan Stirlens

Phone:

EVENT: AMB18 22

Address:

Attention: ~~Gunther Rosen~~

~~Observations, Instructions~~

Testing Parameters

12/7/2016

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Field Temp	Metals	TOC	DOC	TSS/sal	Nutrients	No. of containers	StationID TOT	StationID DISS	Comments
1	-116	SN08	1412	SW		x	x	x	x	x	5	2076	2077	
2	-117	SN08 DUP	1412									2078	2079	
3	-118	SN10	1432									2080	2081	
4	-119	M3.3 Deep	1440									2082	2083	
5	-120	M3.3	1445									2084	2085	
6	-121	PS07C	1502									2086	2087	
7														
8														
9														
10														
11														
12														
13														
14														
15														

Relinquished by: JSTIRLENS — Signature — 2016/12/07 — Date — 1820 — Time

TEC — Company — PNNL

Printed Name

Received by: — Signature

JSTIRLENS 2016/12/07 1820

Printed Name

Total # of Containers 30

Shipment Method:

Shipment Method:

Sample Disposition:

Relinquished by: — Signature — Date — Time

Printed Name — Company

Received by: — Signature

Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to ENVVEST Technical Coordinator

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 2046-2087 Batch: 63

Project Name: ENVVEST AMB22 FY17 Project Manager: BRANDENBERGER

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: SEAWATER WP# 48179G

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
		X	Custody seal present Seal intact? YES NO	Cooler 1: 2.4 °C
X			Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)	Cooler 2: 2.4 °C Cooler 3: 2.4 °C Cooler 4: 2.4 °C
		X	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
X			Were all chain of custody forms signed and dated?	
X			Were samples filtered at MSL? ALL HALF (DMS)	*Samples must be filtered prior to preservation!*

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: STRIVENS Cooler Receipt Date/Time: 20161207 1820

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [X] Sample(s) were preserved at MSL

Type:
- [X] 0.2% HNO3 Notes: TMS, DMS Lot# 1214050
- [ ] 0.5% HCl (Hg samples) Notes: Lot#
- [X] Refrigerate/Freeze Notes: Ref: NH3, TSS/Sal Freeze. TOC, DOC
- [ ] Other Notes:

Completed By: STRIVENS Preservation Date/Time: 20161207 1920

Storage Shelf:

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 11/18/2016
Batch: 61
Login Designee: Cade

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST AMB 22**

Sponsor ID	Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date	Collection Time
AMB22 Filter Blank A	NA	3106-1986	DI Water	K6D, K5C	Hg, Al, Cd, Cr, Cu, Ni, Pb, Zr	11/18/16	NA
AMB22 Filter Blank B	NA	3106-1987	DI Water	K6D, K5C	Hg, Al, Cd, Cr, Cu, Ni, Pb, Zr	11/18/16	NA
AMB22 Filter Blank C	NA	3106-1988	DI Water	K6D, K5C	Hg, Al, Cd, Cr, Cu, Ni, Pb, Zr	11/18/16	NA
AMB22 Filter Blank A2	NA	3106-1989	DI Water	K6D, K5C	Al, Cd, Cr, Cu, Ni, Pb, Zn	11/18/16	NA
AMB22 Filter Blank B2	NA	3106-1990	DI Water	K6D, K5C	Al, Cd, Cr, Cu, Ni, Pb, Zn	11/18/16	NA
AMB22 Filter Blank C2	NA	3106-1991	DI Water	K6D, K5C	Al, Cd, Cr, Cu, Ni, Pb, Zn	11/18/16	NA
Tank 1 Feed	NA	3106-1992	SW	K6D, K5C	Hg, Al, Cd, Cr, Cu, Ni, Pb, Zr	11/18/16	NA
20Min GoFlow	NA	3106-1993	SW	K6D, K5C	Hg, Al, Cd, Cr, Cu, Ni, Pb, Zr	11/18/16	NA

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 11/18/2016

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVVEST AMB22
Project Manager: Brandenberger
Phone Number: 13652

Shipment Method: NA
Preservation: 0.2% HNO3 Lot#: 1214050

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix		Test Parameters: Hg	Test Parameters: Al, Cd, Cr, Cu, Ni, Pb, Zr					Observations/Comments
1	AMB22 Filter Blank A	11/18/2016	DI water	1	x	x				3106-1986	
2	AMB22 Filter Blank B	11/18/2016	DI water	1	x	x				3106-1987	
3	AMB22 Filter Blank C	11/18/2016	DI water	1	x	x				3106-1988	
4	AMB22 Filter Blank A2	11/18/2016	DI water	1		x				3106-1989	aliquot of corresponding bottle stored in analysis tube
5	AMB22 Filter Blank B2	11/18/2016	DI water	1		x				3106-1990	
6	AMB22 Filter Blank C2	11/18/2016	DI water	1		x				3106-1991	
7	Tank 1 Feed	11/18/2016	SW	1	x	x				3106-1992	
8	20Min GoFlow	11/18/2016	SW	1	x	x				3106-1993	

Relinquished By:	Company: PNNL
Strivens	20161118
Signature/Printed Name	Date/Time

Received By:	Company:
Signature/Printed Name	Date/Time

Relinquished By:	Company:
Signature/Printed Name	Date/Time

Received By:	Company:
Signature/Printed Name	Date/Time

PROJECT ENVVEST
Project Name: DECEMBER 2016 Ambient Monitoring (AMB22)
SAMPLE TEAM: Navy, Battelle
DATE: 12/8/2016
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

K1614884

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
1	AMB22-001	PS07	12/06/2016 09:05:00 AM	Seawater			X				1	
2	AMB22-002	PS08	12/06/2016 09:16:00 AM	Seawater			X				1	
3	AMB22-003	PS09	12/06/2016 09:31:00 AM	Seawater			X				1	
4	AMB22-004	PS10	12/06/2016 09:48:00 AM	Seawater			X				1	
5	AMB22-005	PS10.1	12/06/2016 10:05:00 AM	Seawater			X				1	
6	AMB22-006	PS11	12/06/2016 10:16:00 AM	Seawater			X				1	
7	AMB22-007	PS16	12/06/2016 10:28:00 AM	Seawater			X				1	
8	AMB22-008	M4	12/06/2016 10:06:00 AM	Seawater			X				1	
9	AMB22-009	PS01	12/06/2016 11:18:00 AM	Seawater			X				1	
10	AMB22-010	PS02	12/06/2016 11:34:00 AM	Seawater			X				1	
11	AMB22-011	PS13	12/06/2016 11:46:00 AM	Seawater			X				1	
12	AMB22-012	BJEST	12/06/2016 12:00:00 PM	Seawater			X				1	
13	AMB22-013	PS12	12/06/2016 12:22:00 PM	Seawater			X				1	
14	AMB22-014	PS12DUP	12/06/2016 12:22:00 PM	Seawater			X				1	
15	AMB22-015	M3.1	12/06/2016 12:36:00 PM	Seawater			X				1	
16	AMB22-016	PS03	12/06/2016 13:25:00 PM	Seawater			X				1	
17	AMB22-017	PS04	12/06/2016 13:40:00 PM	Seawater			X				1	
18	AMB22-018	PS05	12/06/2016 13:52:00 PM	Seawater			X				1	
19	AMB22-019	PS14	12/06/2016 14:00:00 PM	Seawater			X				1	
20	AMB22-020	PS06	12/06/2016 14:12:00 PM	Seawater			X				1	
21	AMB22-021	PS06DUP	12/06/2016 14:12:00 PM	Seawater			X				1	
22	AMB22-022	PS15	12/06/2016 14:32:00 PM	Seawater			X				1	
23	AMB22-023	PS07B	12/06/2016 14:41:00 PM	Seawater			X				1	
24	AMB22-DD001	OF018	12/06/2016 10:20:00 AM	Seawater				X			1	
25	AMB22-DD002	OF019	12/06/2016 11:51:00 AM	Seawater				X			1	
26	AMB22-DD003	OF021	12/06/2016 13:12:00 PM	Freshwater				X			1	
27	AMB22-101	PS07	12/07/2016 9:00:00 AM	Seawater			X				1	
28	AMB22-102	M6	12/07/2016 9:28:00 AM	Seawater			X				1	
29	AMB22-103	M8	12/07/2016 9:46:00 AM	Seawater			X				1	

PROJECT ENVVEST
Project Name: DECEMBER 2016 Ambient Monitoring (AMB22)
SAMPLE TEAM: Navy, Battelle
DATE: 12/8/2016
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

K1614884

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
30	AMB22-104	DYOTS	12/07/2016 10:15:00 AM	Seawater			X				1	
31	AMB22-105	DYOTS DUP	12/07/2016 10:15:00 AM	Seawater			X				1	
32	AMB22-106	WP	12/07/2016 11:11:00 AM	Seawater			X				1	
33	AMB22-107	CLMBAY	12/07/2016 11:25:00 AM	Seawater			X				1	
34	AMB22-108	M2DEEP	12/07/2016 11:52:00 AM	Seawater			X				1	
35	AMB22-109	M2	12/07/2016 11:57:00 AM	Seawater			X				1	
36	AMB22-110	ILSP	12/07/2016 12:24:00 PM	Seawater			X				1	
37	AMB22-111	M1	12/07/2016 12:57:00 PM	Seawater			X				1	
38	AMB22-112	M1DEEP	12/07/2016 13:00:00 PM	Seawater			X				1	
39	AMB22-113	POPIPD	12/07/2016 13:25:00 PM	Seawater			X				1	
40	AMB22-114	SN03	12/07/2016 13:47:00 PM	Seawater			X				1	
41	AMB22-115	SN05	12/07/2016 14:05:00 PM	Seawater			X				1	
42	AMB22-116	SN08	12/07/2016 14:12:00 PM	Seawater			X				1	
43	AMB22-117	SN08 DUP	12/07/2016 14:12:00 PM	Seawater			X				1	
44	AMB22-118	SN10	12/07/2016 14:32:00 PM	Seawater			X				1	
45	AMB22-119	M3.3DEEP	12/07/2016 14:40:00 PM	Seawater			X				1	
46	AMB22-120	M3.3	12/07/2016 14:45:00 PM	Seawater			X				1	
47	AMB22-121	PS07C	12/07/2016 15:02:00 PM	Seawater			X				1	
	--end											

Total: 47

Relinquished By: J. Strivens — Company: Battelle MSL — 12/8/2016
Signature/Printed Name — Date/Time

Received By: — Company: ALC
Signature/Printed Name — 12-9-16 09:28 Date/Time

PC 12

Cooler Receipt and Preservation Form

Client Battelle Service Request K16 14884

Received: 12-9-16 Opened: 12-9-16 By: ES Unloaded: 12-9-16 By: ES

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1-front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
-0.3	-0.3	2.6	2.6	0	370		7779 0118 1317	
-0.2	-0.4	1.2	1.0	-0.2	371		7779 0118 2081	
0.2	0.3	3.3	3.4	+0.1	344			

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* ____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: ____

Page ____ *of* ____

Sample Collector	Johnston, Lee, Striweng, Guerrero, Booker	Page of
Sampling Team		Bremerton Tides
Organization	ENVVEST Ambient Monitoring and Toxicity Assessment	AMB22_2016_12_06

Use pre-assigned ic m/dd/yy hh:mm/dd/yy hh:mm Weather: Sunny x Cold 12/6/2016

	StationID	Time Arrive Date/Time	Time Leave Date/Time	Station Type	LAT (North)	LONG (West)	Remarks/ Comments
01	PS07	0900		NS	47.55608	122.64178	
02	PS08	0913		NS	47,55791	122.63863	
03	PS09	0927		NS	47.55998	122.63593	
04	PS10	0945		NS	47.56052	122.63296	
05	PS10.1	1000		NS	47.56083	122.631	Troll at PS10.1A waiting for Clearance
06	PS11	1012		NS	47.56054	122.62926	
07	PS16	1026		NS	47.55876	122.62850	186 Seallions
08	M4	1100		~~NS~~ M	47.54316	122.6664	Clear view of Baker
09	PS01	1115		NS	47.55375	122.65652	CVGZ-1
10	PS02	1125		NS	47.55424	122.65444	
11	PS13	1142		NS	47.55203	122.65401	
12	BSR5T	1155		NS	47.54465	122.62914	
13/14	PS12	1216		NS	47,56044	122.62846	M3.1 47.55860, -122.61193
15	M3.1 →	1235					
16	PS03	1318		NS	47.55537	132,65191	
17	PS04	1336		NS	47.55453	122.64757	
18	PS05	1347		NS	47.55607	122,64491	
19	PS14	1359		NS	47,55214	122.64382	
20/21	PS06	1407		NS	47,55314	122.64225	
22	PS15	1429		NS	47.55552	122.63686	
23	PS07B	1440		NS	47.55508	122.64177	

Station Type: Marine (M), Nearshore (NS), Stream (S), Stormwater (SW), Outfall (OF), Mussel (Mussel), Sediment (Sed); Other - specify

p.1 360-824-6279 Dr. R.K. Johnston Dec 06 16 11:25p

Water Quality Log

Sample Logger	Johnston
Sampling Team	Johnston, Lee, Guerrero, Stevens, Booker
Organization	ENVVEST Ambient Monitoring and Toxicity Assessment

CV62 Water Quality Sampling Baseline

12/6/2016

Instrument: AMB22_2016_12_06

Use pre-assigned id	Use allowable code only	mm/dd/yy hh:mm	YSI							Micro		Secchi	Bottom	
SampleID	StationID	12/16/16 Date/Time	Cond	units	Spec. Cond	units	TempC	Sal ppt	pH	TDS g/L	Turb NTU	pH	ft	ft	Remarks/ Comments
1	PS07	0905	32.41	mS	41.25	mS	10.5	28.9		26.81	0.86		BOT	14	measured Bot w/ Secchi Disk
2	PS08	0916	32.64		41.57		10.4	29.1		27.02	1.01		15	32	
3	PS09	0931	32.9		41.6		10.6	29.1		27.04	0.74		19	55	
4	PS10	0948	32.55		41.52		10.4	29.0		26.99	0.96		20	45	
5	PS10.1	1005	32.45		41.53		10.3	29.1		27.0	0.01		16	53	
6	PS11	1016	32.65		41.59		10.4	29.1		27.03	0.34		21	26	
7	PS16	1028	33.12		41.98		10.9	29.4		27.29	0.68		20	60	
8	M4	1106	32.18		41.3		10.2	28.9		26.86	0.89		12	42	lots of Jellies!
9	PS01	1118	32.60		41.87		10.5	29.2		27.1	0.98		19	62	
10	PS02	1134	32.79		41.68		10.5	29.2		27.1	0.82		20	45	
11	PS13	1146	32.86		41.68		10.6	29.2		27.1	0.94		17	55	
12	BSEST	1200	25.4		30.3		8.3	22.1		24.9	3.42		BOT	8	223 surface 28.3 1ft 28.5
13/14	PS12	1222	32.91		41.76		10.6	29.2		27.12	1.47		13	33	Field Dup
15	M3.1	1236	33.43		42.27		10.9	29.5		27.35	1.09		14	→	130ft by GPS
16	PS03	1325	32.73		41.65		10.5	29.2		27.06	1.76		15	40	
17	PS04	1340	32.81		41.67		10.5	29.2		27.1	0.53		16	40	
18	PS05	1352	32.70		41.65		10.5	29.2		27.07	0.59		21	26	
19	PS14	1400	32.9		41.72		10.6	29.2		27.13	1.53		19	40	
20/21	PS06	1412	32.67		41.42		10.6	29.0		26.93	1.26		20	46	
22	PS15	1432	32.88		41.72		10.6	29.2		27.13	0.65		18		
23	PS07B	1441	32.88		41.7		10.6	29.2		27.1	0.27		BOT	12	12ft

Dec 06 16 11:37p Dr. R.K. Johnston 360-824-6279 p.1

SPAWAR
Systems Center PACIFIC
ENVIRONMENTAL SCIENCES AND APPLIED SYSTEMS, Code 71760
53605 Hull Street
San Diego, CA 92152-5000

Chain of Custody Record

Date 12/6/2016

Page _____ of _____

Project Title/Project Number: ENVVEST AMB22			Project Leader: G. Rosen/B. Johnston
Remarks/Air Bill:			Contact: G. Rosen/ M. Colvin
Sampler(s): (Signature)			Contact Tel: 619-553-0886/ 619-553-2788
Tel:	Fax:	Email:	Requested Analyses

Special Instructions/Comments:

Sample Identification	Collection Date	Collection Time	Matrix	Sample Type	Container Type	Collection Temp (°C) T	Collection Temp (°C) SAL	My-a	Sp-dev	Mg-dev	Pl-c	Temperature upon arrival at Lab (°C)
AMB22-TOX-NPDES 18	12/6/16	1016	EFF	COMP		15.2	23.1					
AMB22-TOX-NPDES 19	12/6/16	1151	EFF	COMP		14.5	17.9					
AMB22-TOX-NPDES 21	12/6/16	13:12	EFF	COMP		8.0	0.09					
AMB22-TOX-PS01	12/6/16	1118	SW	GRAB		10.5	29.2					
AMB22-TOX-PS03	12/6/16	1325	SW	GRAB		10.5	29.2					
AMB22-TOX-PS08	12/6/16 0916	0916	SW	GRAB		16.4	29.1					
AMB22-TOX-PS09	12/6/16	0931	SW	GRAB		10.6	29.1					
AMB22-TOX-PS14			SW	GRAB				No Sample				
AMB22-TOX-PS15			SW	GRAB				No Sample				
AMB22-TOX-M3.1	12/6/16	1236	SW	GRAB		10.9	29.5					
AMB22-TOX-M4	12/6/16	1106	SW	GRAB		10.2	28.9					
AMB22-TOX-BJEST	12/6/16	1200	SW	GRAB		8.3	22.1					
AMB22-TOX-PS06	12/6/16	1412	Sea	Grab		10.6	29.0					

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Dec 06 16 11:39p Dr. R.K. Johnston 360-824-6279 p.1

SPAWAR
Systems Center PACIFIC
ENVIRONMENTAL SCIENCES AND APPLIED SYSTEMS, Code 71760
53605 Hull Street
San Diego, CA 92152-5000

Chain of Custody Record

Date 12/6/2016

Page _____ of _____

Project Title/Project Number: AMB 22 Outfall composites SERDP			Project Leader: D. Reible
Remarks/Air Bill:			Contact:D. Reible/ Balaji Rao
Sampler(s): (Signature) Ernie / Nick Arias / Schlafer			Contact Tel:806-392-5315
Tel:	Fax:	Email:	

Special Instructions/Comments: Salinity

Sample Identification	Collection Date	Collection Time	Matrix	Sample Type	~~Container Type~~ SAL PPT	Collection Temp (°C)	Trace Metals	PAH	PCB	Pesticides	Mercury	Pyrethroids					Temperature upon arrival at Lab (°C)
NPDES 18 SERDP	12/6/16	10:16	SW	COMP	23.1	15.2	X	X	X	X	X	X					
NPDES 19 SERDP	12/6/16	11:51	SW	COMP	17.9	14.5	X	X	X	X	X	X					
OF 021 (ENVVEST	12/6/16	13:12	SW	GRAB	0.09	8.0	X	X	X	X	X	X	Not sample for TIE				
			SW	GRAB			X	X	X	X	X	X					
			SED	GRAB			X	X	X	X	X	X					
			SED	GRAB			X	X	X	X	X	X					

Relinquished by: (Signature)	Received by: (Signature)	Date: 12/06/2016 15:00	Time: 15:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Dec 06 16 11:39p Dr. R.K. Johnston 360-824-6279 p.2

Project: SPAWAR N66001-PC

Sampling Team:

Results To: johnston@cpawar.navy.mil, michael.hardiman@navy.mil

FAX: 360-824-6279

Cell: 360 961-9072

Type: Marine (M) / Nearshore (NS) / Stormwater (SW); Dilution Series: M = 1, 10, 100; NS = 10, 100, 1000; SW = 100, 1000, 10000

M = 1, 10, 100; NS = 10, 100, 1000; SW = 100, 1000, 10000

Date: 10/26/2016

ID: FC2016_10_26

CENTRIC ANALYTICAL LABS 1786 Mile Hill Dr. Port Orchard, WA 98366
509.844.6597 FAX 360-282-6847
james@centricanalytical.com

PSNS&IMF c/106.32
1400 Farragut Ave
Bremerton, WA 98314

#	Sample ID	Sample Date:Time	Lab ID #	Results	Sample Type	MPN Fecal Coliform	Dilution Series (M/NS/SW)?	Dilution Reported 1/ (Specify Ratio)	Notes & Comments
1	PS07	0905			NS				
2	PS08	0916			NS				
3	PS09	0931							
4	PS10	0948							
5	PS10.1	1005							
6	PS11	1016							
7	PS16	1028			M				
8	M4	1006			M				
9	PS01	1118			NS				
10	PS02	1134			NS				
11	PS13	1146			M				
12	BJEST	1200			NS				
13	PS12	1222							
14	PS12DUP	1222							
15	M3.1	1236			M				
16	PS03	1325			NS				
17	PS04	1340			NS				
18	PS05	1352			NS				
19	PS14	1400			M				
20	PS06	1412			NS				
21	PS06 DUP	1412			NS				
22	PS15	1432			M				
23	PS07B	1441							
24									
25									
26									
27									

	Date/Time	Location
Relinquished by: RK Johnston	12/6/2016 1755	
Received by:	12/6/16 1755	Centric
Received by:	Date/Time	Location

Plated Date/Time For Lab Use

Read Date/Time

Notes:

Project: SPAWAR N66001-PC

Sampling Team: Johnston, Lee, Strivens, Guerrero

Results To: johnston@spawar.navy.mil, michael.hardiman@navy.mil

FAX: 360-824-6279

Cell: 360 961-9072

Type: Marine (M) / Nearshore (NS) / Stormwater (SW); Dilution Series: M = 1, 10, 100; NS = 10, 100, 1000; SW = 100, 1000, 10000

12/6/16

M = 1, 10, 100; NS = 10, 100, 1000; SW = 100, 1000, 10000

Date: 12/06/2016

ID: FC2016_12_06

CENTRIC ANALYTICAL LABS 1786 Mile Hill Dr. Port Orchard, WA 98366
NHB 509.844-6597 FAX 360-282-6847
james@centricanalytical.com

PSNS&IMF c/106.32
1400 Farragut Ave
Bremerton, WA 98314

#	Sample ID	Sample Date:Time	Lab ID #	Results	Sample Type	MPN Fecal Coliform	Dilution Series (M/NS/SW)?	Dilution Reported 1/____ (Specify Ratio)	Notes & Comments
1	PS07	0905							
2	PS08	0916							
3	PS09	0931							
4	PS10	0944							
5	PS10.1	1005							
6	PS11	1016							
7	PS16	1028							18 Sea Lions on Barrier
8	M4	1106							
9	PS01	1118							
10	PS02	1134							
11	PS13	1146							
12	BJEST	1200							
13	PS12	1222							
14	PS12DUP	1222							Field Dup
15	M3.1	1236							
16	PS03	1325							
17	PS04	1340							
18	PS05	1352							
19	PS14	1400							
20	PS06	1412							
21	PS06 ~~DUP PS15~~	1412 ~~1432~~							Field DUP PS06DUP
22	PS15 ~~RS07B~~	1432 ~~1441~~							
23	PS07B	1441							
24									
25									
26									
27									

Relinquished by:	Date/Time	Location
RK Johnston	12/6/2016 1615	
Received by:	Date/Time 12/6/2016 1621	Location
Received by:	Date/Time	Location

Plated Date/Time For Lab Use

Read Date/Time

Notes:

NBK Bremerton Marine Mammal Tally Sheet	
Date	12/6/2016
Observers	Johnston, Lee, Guerrero, Stevens, Booker
Weather	Sunny But Cold 20-30°F
Observations	Note number and species present

1056 195 Sea Lion Barrier
165
186

Notes:

AMB22 Outfall Compositing

OF018 (PW4)-Autosampler is still disconnected from the signal line, necessitating manual compositing.

20161205- Pumped down 6x in previous 24 hours. Two aliquots were taken this day, one at 1315 and one at 1816, each was 2.5L.

20161206- A third aliquot of 5L was added at 1020.

Additional notes: An additional 10L sample was collected by Ernie, 5L at 20161205 1816 and 5L at 20161206 1020. Corrosion of the stainless steel spigot was photographed by Rory. The new inline sampler should be running by next quarter.

OF019 (PW6)-The ISCO pump was setup by Dave Metallo with a Y in the tubing so that Ernie could collect an additional 10L sample; tubing was cleaned by SPAWAR. The electrician unable to correctly install the signal line, so the ISCO was started manually. Nick will flush the flow cell with DI water on 20161208 to eliminate any fouling until the next use.

20161205-Pump cycle number not indicated in Ernie's notes. 2.5L aliquots collected at 1623 and 1715.

20161206- 2 additional 2.5L aliquots collected at 1057 and 1151.

OF021 (steamplant)-After 4 unsuccessful attempts to start a pump program it was determined that the liquid sensor on the Sigma sampler was faulty, and was causing both rinse water to enter the collection vessel, and a large over injection of the aliquot (~2L instead of 100mL). Sigma was contacted by Rory, and a new sensor part has been ordered. Manual compositing was completed at this station.

20161205- One aliquot of 3.3L was added to the collection jar.

20161206-Two additional 3.3L aliquots were added, one at 0855 and one at 1312.

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring March 28 - April 4, 2017 (AMB23)

Seawater and Freshwater Chemistry

PNNL Project No. 69647
CF No. 3106
Date Submitted: May 23, 2017

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(206) 528-3407

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Analytical raw data available upon request

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Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.049**	**4.08**
Seawater Reporting Limit (MDL* 3.18)								**0.156**	**13.0**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--
AMB23									
AMB23-001	PS07	Total	Seawater	3106-2094	03/28/17	27.4	0.939	0.977	81.5
AMB23-001	PS07	Diss	Seawater	3106-2095	03/28/17	--	--	1.00	83.7
AMB23-002	PS01	Total	Seawater	3106-2096	03/28/17	27.6	1.99	1.18	98.6
AMB23-002	PS01	Diss	Seawater	3106-2097	03/28/17	--	--	1.12	93.0
AMB23-003	PS02	Total	Seawater	3106-2098	03/28/17	27.5	1.59	1.07	89.3
AMB23-003	PS02	Diss	Seawater	3106-2099	03/28/17	--	--	1.04	86.7
AMB23-004	PS13	Total	Seawater	3106-2100	03/28/17	27.4	1.05	1.06	88.4
AMB23-004	PS13	Diss	Seawater	3106-2101	03/28/17	--	--	1.06	88.2
AMB23-005	PS12	Total	Seawater	3106-2102	03/28/17	27.6	1.47	1.08	89.8
AMB23-005	PS12	Diss	Seawater	3106-2103	03/28/17	--	--	1.11	92.4
AMB23-006	M3.1	Total	Seawater	3106-2104	03/28/17	28.0	2.37	0.999	83.3
AMB23-006	M3.1	Diss	Seawater	3106-2105	03/28/17	--	--	1.01	84.4
AMB23-007	PS03	Total	Seawater	3106-2106	03/28/17	26.4	1.03	1.14	94.7
AMB23-007	PS03	Diss	Seawater	3106-2107	03/28/17	--	--	1.14	94.8
AMB23-008	PS04	Total	Seawater	3106-2108	03/28/17	27.3	1.21	1.09	91.2
AMB23-008	PS04	Diss	Seawater	3106-2109	03/28/17	--	--	1.01	84.6
AMB23-009	PS04DUP	Total	Seawater	3106-2110	03/28/17	27.3	1.35	1.16	96.6
AMB23-009	PS04DUP	Diss	Seawater	3106-2111	03/28/17	--	--	1.16	96.3
AMB23-010	PS05	Total	Seawater	3106-2112	03/28/17	27.2	1.25	1.11	92.3
AMB23-010	PS05	Diss	Seawater	3106-2113	03/28/17	--	--	1.07	89.1
AMB23-011	PS14	Total	Seawater	3106-2114	03/28/17	27.6	1.51	1.06	88.5
AMB23-011	PS14	Diss	Seawater	3106-2115	03/28/17	--	--	1.06	87.9
AMB23-012	PS06	Total	Seawater	3106-2116	03/28/17	27.2	1.15	1.01	83.8
AMB23-012	PS06	Diss	Seawater	3106-2117	03/28/17	--	--	1.05	87.8
AMB23-013	PS08	Total	Seawater	3106-2118	03/28/17	27.6	1.71	1.12	93.3
AMB23-013	PS08	Diss	Seawater	3106-2119	03/28/17	--	--	1.14	95.2
AMB23-014	PS09	Total	Seawater	3106-2120	03/28/17	26.9	1.27	1.18	97.9
AMB23-014	PS09	Diss	Seawater	3106-2121	03/28/17	--	--	1.08	90.1
AMB23-015	PS15	Total	Seawater	3106-2122	03/28/17	27.7	1.44	1.08	89.7
AMB23-015	PS15	Diss	Seawater	3106-2123	03/28/17	--	--	1.11	92.5
AMB23-016	PS10	Total	Seawater	3106-2124	03/28/17	27.6	1.13	1.10	91.4
AMB23-016	PS10	Diss	Seawater	3106-2125	03/28/17	--	--	1.00	83.4
AMB23-017	PS10.1	Total	Seawater	3106-2126	03/28/17	27.5	1.24	1.05	87.7
AMB23-017	PS10.1	Diss	Seawater	3106-2127	03/28/17	--	--	0.992	82.7

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Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]		TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L		HTCO (mg/L)	HTCO (µM)
AMB23-018	PS10.1DUP	Total	Seawater	3106-2128	03/28/17	27.6	1.37		1.21	101
AMB23-018	PS10.1DUP	Diss	Seawater	3106-2129	03/28/17	--	--		1.15	96.1
AMB23-019	PS11	Total	Seawater	3106-2130	03/28/17	27.7	1.55		1.17	97.5
AMB23-019	PS11	Diss	Seawater	3106-2131	03/28/17	--	--		1.13	94.3
AMB23-020	PS16	Total	Seawater	3106-2132	03/28/17	27.8	1.70		1.14	95.4
AMB23-020	PS16	Diss	Seawater	3106-2133	03/28/17	--	--		1.10	91.7
AMB23-021	PS07B	Total	Seawater	3106-2134	03/28/17	27.4	1.30		0.999	83.3
AMB23-021	PS07B	Diss	Seawater	3106-2135	03/28/17	--	--		0.957	79.8
AMB23-DD001	OF018	Total	Seawater	3106-2136	03/28/17	21.6	0.876		0.939	78.3
AMB23-DD001	OF018	Diss	Seawater	3106-2137	03/28/17	--	--		0.937	78.1
AMB23-DD002	OF019	Total	Seawater	3106-2138	03/28/17	16.3	0.420	U	0.656	54.7
AMB23-DD002	OF019	Diss	Seawater	3106-2139	03/28/17	--	--		0.644	53.7
AMB23-DD003	OF021	Total	Freshwater	3106-2140	03/28/17	0.12	0.420	U	2.53	211
AMB23-DD003	OF021	Diss	Freshwater	3106-2141	03/28/17	--	--		2.45	204
AMB23-101	M6	Total	Seawater	3106-2142	03/29/17	27.0	1.87		1.04	87.1
AMB23-101	M6	Diss	Seawater	3106-2143	03/29/17	--	--		1.09	91.1
AMB23-102	M8	Total	Seawater	3106-2144	03/29/17	27.4	1.99		1.19	99.5
AMB23-102	M8	Diss	Seawater	3106-2145	03/29/17	--	--		1.19	99.2
AMB23-103	DYOTS	Total	Seawater	3106-2146	03/29/17	22.6	3.77		1.91	159
AMB23-103	DYOTS	Diss	Seawater	3106-2147	03/29/17	--	--		1.89	158
AMB23-104	M5.1	Total	Seawater	3106-2148	03/29/17	27.4	2.38		1.13	94.6
AMB23-104	M5.1	Diss	Seawater	3106-2149	03/29/17	--	--		1.14	95.3
AMB23-105	PS07C	Total	Seawater	3106-2150	03/29/17	27.1	0.988		1.15	95.5
AMB23-105	PS07C	Diss	Seawater	3106-2151	03/29/17	--	--		1.05	87.6
AMB23-201	WP	Total	Seawater	3106-2152	04/05/17	27.4	2.65		1.24	103
AMB23-201	WP	Diss	Seawater	3106-2153	04/05/17	--	--		1.17	97.5
AMB23-202	M2	Total	Seawater	3106-2154	04/05/17	26.6	3.68		1.26	105
AMB23-202	M2	Diss	Seawater	3106-2155	04/05/17	--	--		1.26	105
AMB23-203	M2DEEP	Total	Seawater	3106-2156	04/05/17	27.3	2.65		1.21	100
AMB23-203	M2DEEP	Diss	Seawater	3106-2157	04/05/17	--	--		1.20	100
AMB23-204	CLMBAY	Total	Seawater	3106-2158	04/05/17	23.2	9.33		2.02	169
AMB23-204	CLMBAY	Diss	Seawater	3106-2159	04/05/17	--	--		2.78	231
AMB23-205	POPISP	Total	Seawater	3106-2160	04/05/17	26.7	2.19		1.27	106
AMB23-205	POPISP	Diss	Seawater	3106-2161	04/05/17	--	--		1.37	115
AMB23-206	M1	Total	Seawater	3106-2162	04/05/17	26.5	2.57		1.30	109
AMB23-206	M1	Diss	Seawater	3106-2163	04/05/17	--	--		1.31	109
AMB23-207	M1DEEP	Total	Seawater	3106-2164	04/05/17	27.2	2.77		1.27	106
AMB23-207	M1DEEP	Diss	Seawater	3106-2165	04/05/17	--	--		1.34	112
AMB23-208	POPIPD	Total	Seawater	3106-2166	04/05/17	25.7	5.63		1.53	127
AMB23-208	POPIPD	Diss	Seawater	3106-2167	04/05/17	--	--		1.51	126

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Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
AMB23-209	POPIPDDUP	Total	Seawater	3106-2168	04/05/17	25.7	5.79	1.61	134
AMB23-209	POPIPDDUP	Diss	Seawater	3106-2169	04/05/17	--	--	1.53	128
AMB23-210	SN03	Total	Seawater	3106-2170	04/05/17	18.3	2.89	1.66	139
AMB23-210	SN03	Diss	Seawater	3106-2171	04/05/17	--	--	1.62	135
AMB23-211	SN05	Total	Seawater	3106-2172	04/05/17	25.4	5.16	1.56	130
AMB23-211	SN05	Diss	Seawater	3106-2173	04/05/17	--	--	1.33	111
AMB23-212	M4	Total	Seawater	3106-2174	04/05/17	25.4	3.58	1.60	133
AMB23-212	M4	Diss	Seawater	3106-2175	04/05/17	--	--	1.28	107
AMB23-213	SN10	Total	Seawater	3106-2176	04/05/17	26.5	4.85	1.81	151
AMB23-213	SN10	Diss	Seawater	3106-2177	04/05/17	--	--	1.40	116
AMB23-214	SN11	Total	Seawater	3106-2178	04/05/17	27.1	4.88	1.85	154
AMB23-214	SN11	Diss	Seawater	3106-2179	04/05/17	--	--	1.29	108
AMB23-215	SN11DUP	Total	Seawater	3106-2180	04/05/17	27.2	4.87	1.86	155
AMB23-215	SN11DUP	Diss	Seawater	3106-2181	04/05/17	--	--	1.43	119
AMB23-216	BJEST	Total	Seawater	3106-2182	04/05/17	16.0	11.9	3.10	258
AMB23-216	BJEST	Diss	Seawater	3106-2183	04/05/17	--	--	3.05	254
AMB23-217	M3.3	Total	Seawater	3106-2184	04/05/17	23.0	2.35	1.52	127
AMB23-217	M3.3	Diss	Seawater	3106-2185	04/05/17	--	--	1.45	121
AMB23-218	M3.3DEEP	Total	Seawater	3106-2186	04/05/17	27.3	2.01	1.20	99.6
AMB23-218	M3.3DEEP	Diss	Seawater	3106-2187	04/05/17	--	--	1.18	98.7
AMB23-219	PS09	Total	Seawater	3106-2188	04/05/17	25.4	2.64	1.73	144
AMB23-219	PS09	Diss	Seawater	3106-2189	04/05/17	--	--	1.47	122
AMB23-220	PS16	Total	Seawater	3106-2190	04/05/17	26.9	1.50	1.29	107
AMB23-220	PS16	Diss	Seawater	3106-2191	04/05/17	--	--	1.40	116
	Filter Blank A		Fresh Water	3106-2088	03/21/17	--	--	--	--
	Filter Blank B		Fresh Water	3106-2089	03/21/17	--	--	--	--
	Filter Blank C		Fresh Water	3106-2090	03/21/17	--	--	--	--

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Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF		ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
Laboratory Achieved Detection Limits (Seawater)					**0.10**		**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**
Seawater Reporting Limit (MDL* 3.18)					**0.32**		**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**
Laboratory Achieved Detection Limits (Freshwater)					**0.10**		**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**
Freshwater Reporting Limit (MDL* 3.18)					**0.32**		**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**
AMB23													
AMB23-001	PS07	Total	Seawater	3106-2094	0.977		19.3	0.0846	0.431	1.47	1.50	0.0948	6.50
AMB23-001	PS07	Diss	Seawater	3106-2095	0.450		--	0.0894	0.149	1.02	0.696	0.0131	6.41
AMB23-002	PS01	Total	Seawater	3106-2096	0.860		32.6	0.0848	0.391	0.843	0.628	0.100	3.34
AMB23-002	PS01	Diss	Seawater	3106-2097	0.204	J	--	0.0854	0.119	0.624	0.545	0.0112	2.97
AMB23-003	PS02	Total	Seawater	3106-2098	0.931		29.0	0.0856	0.163	1.15	0.575	0.110	4.26
AMB23-003	PS02	Diss	Seawater	3106-2099	0.296	J	--	0.0842	0.124	0.871	0.561	0.0151	3.66
AMB23-004	PS13	Total	Seawater	3106-2100	1.04		25.6	0.0886	0.299	2.75	1.38	0.122	6.93
AMB23-004	PS13	Diss	Seawater	3106-2101	0.320		--	0.0873	0.136	1.99	0.593	0.0171	6.22
AMB23-005	PS12	Total	Seawater	3106-2102	1.42		23.2	0.0825	0.166	1.35	0.585	0.0981	6.28
AMB23-005	PS12	Diss	Seawater	3106-2103	0.294	J	--	0.0845	0.110	1.04	0.510	0.0130	5.87
AMB23-006	M3.1	Total	Seawater	3106-2104	0.843		32.1	0.0893	0.489	1.09	1.51	0.161	3.97
AMB23-006	M3.1	Diss	Seawater	3106-2105	0.426		--	0.0847	0.117	0.591	0.507	0.00953	3.05
AMB23-007	PS03	Total	Seawater	3106-2106	17.2		41.8	0.0891	0.420	4.05	1.12	0.571	13.0
AMB23-007	PS03	Diss	Seawater	3106-2107	7.01		--	0.0908	0.265	2.55	0.690	0.106	11.1
AMB23-008	PS04	Total	Seawater	3106-2108	1.27		18.2	0.0912	0.293	2.40	0.757	0.127	11.3
AMB23-008	PS04	Diss	Seawater	3106-2109	0.646		--	0.0870	0.125	1.98	0.520	0.0206	8.99
AMB23-009	PS04DUP	Total	Seawater	3106-2110	1.15		18.7	0.0817	0.186	2.54	0.882	0.0948	10.8
AMB23-009	PS04DUP	Diss	Seawater	3106-2111	0.468		--	0.0842	0.110	1.92	0.506	0.0181	9.88
AMB23-010	PS05	Total	Seawater	3106-2112	1.01		15.9	0.0824	0.154	1.93	0.591	0.0759	6.74
AMB23-010	PS05	Diss	Seawater	3106-2113	0.491		--	0.0863	0.124	1.63	0.512	0.0158	6.17
AMB23-011	PS14	Total	Seawater	3106-2114	0.915		24.3	0.0831	0.338	1.40	2.30	0.0947	5.15
AMB23-011	PS14	Diss	Seawater	3106-2115	0.442		--	0.0845	0.124	1.02	0.556	0.0119	4.65
AMB23-012	PS06	Total	Seawater	3106-2116	1.01		23.6	0.0831	0.282	1.46	0.892	0.136	14.6
AMB23-012	PS06	Diss	Seawater	3106-2117	0.317	J	--	0.0865	0.107	1.01	0.491	0.0152	13.2
AMB23-013	PS08	Total	Seawater	3106-2118	0.776		26.1	0.0839	0.177	1.49	0.673	0.0896	6.98
AMB23-013	PS08	Diss	Seawater	3106-2119	0.351		--	0.0857	0.106	1.17	0.585	0.0111	6.35
AMB23-014	PS09	Total	Seawater	3106-2120	1.34		26.6	0.0862	0.224	2.23	1.01	0.227	11.1
AMB23-014	PS09	Diss	Seawater	3106-2121	0.491		--	0.0891	0.133	1.78	0.670	0.0403	10.1
AMB23-015	PS15	Total	Seawater	3106-2122	0.871		23.9	0.0812	0.265	1.34	1.82	0.0835	5.26
AMB23-015	PS15	Diss	Seawater	3106-2123	0.329		--	0.0837	0.113	0.933	0.575	0.0106	4.80
AMB23-016	PS10	Total	Seawater	3106-2124	0.979		21.2	0.0841	0.163	1.66	0.621	0.110	12.4
AMB23-016	PS10	Diss	Seawater	3106-2125	0.388		--	0.0884	0.118	1.40	0.550	0.0208	11.5
AMB23-017	PS10.1	Total	Seawater	3106-2126	1.51		22.6	0.0830	0.146	1.72	0.609	0.0839	12.8
AMB23-017	PS10.1	Diss	Seawater	3106-2127	0.549		--	0.0877	0.117	1.41	0.535	0.0145	12.2

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Ambient Monitoring - AMB23
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Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB23-018	PS10.1DUP	Total	Seawater	3106-2128	1.03	23.6	0.0840	0.165	1.75	0.590	0.0917	13.9
AMB23-018	PS10.1DUP	Diss	Seawater	3106-2129	0.991	--	0.0845	0.131	1.34	0.528	0.0159	12.2
AMB23-019	PS11	Total	Seawater	3106-2130	1.25	27.5	0.0844	0.274	1.67	0.891	0.143	11.8
AMB23-019	PS11	Diss	Seawater	3106-2131	0.361	--	0.0882	0.130	1.26	0.628	0.0188	12.8
AMB23-020	PS16	Total	Seawater	3106-2132	0.953	26.2	0.0827	0.216	1.27	0.812	0.0929	7.11
AMB23-020	PS16	Diss	Seawater	3106-2133	0.295 J	--	0.0845	0.108	0.906	0.503	0.0114	6.21
AMB23-021	PS07B	Total	Seawater	3106-2134	0.998	19.7	0.0811	0.150	1.18	0.570	0.0845	10.9
AMB23-021	PS07B	Diss	Seawater	3106-2135	0.379	--	0.0853	0.112	0.973	0.528	0.0157	10.1
AMB23-DD001	OF018	Total	Seawater	3106-2136	5.53	24.1	0.0805	1.06	4.00	2.81	0.129	27.4
AMB23-DD001	OF018	Diss	Seawater	3106-2137	1.80	--	0.0878	0.347	2.79	2.49	0.00713	25.7
AMB23-DD002	OF019	Total	Seawater	3106-2138	6.77	10.6	0.0702	0.332	0.949	1.84	0.0343	6.67
AMB23-DD002	OF019	Diss	Seawater	3106-2139	4.73	--	0.0729	0.192	0.713	1.32	0.00164 J	7.43
AMB23-DD003	OF021	Total	Freshwater	3106-2140	3.01	11.8	0.000969 J	1.08	0.981	0.788	0.0158	0.209
AMB23-DD003	OF021	Diss	Freshwater	3106-2141	2.91	8.32	0.00101 J	1.05	0.773	0.523	0.00294	0.249
AMB23-101	M6	Total	Seawater	3106-2142	1.15	34.7	0.0810	0.253	0.728	0.893	0.110	1.88
AMB23-101	M6	Diss	Seawater	3106-2143	0.803	--	0.0834	0.127	0.519	0.745	0.0197	1.52
AMB23-102	M8	Total	Seawater	3106-2144	1.09	44.7	0.0804	0.270	0.765	1.12	0.144	2.19
AMB23-102	M8	Diss	Seawater	3106-2145	0.296 J	--	0.0836	0.118	0.485	0.561	0.0200	1.69
AMB23-103	DYOTS	Total	Seawater	3106-2146	1.42	80.6	0.0730	0.547	1.10	1.78	0.174	3.49
AMB23-103	DYOTS	Diss	Seawater	3106-2147	0.778	--	0.0691	0.204	0.606	0.577	0.0161	2.54
AMB23-104	M5.1	Total	Seawater	3106-2148	1.43	48.5	0.0797	0.225	0.685	0.700	0.117	2.06
AMB23-104	M5.1	Diss	Seawater	3106-2149	1.49	--	0.0818	0.108	0.475	0.496	0.0141	1.41
AMB23-105	PS07C	Total	Seawater	3106-2150	1.23	23.4	0.0857	0.192	1.36	1.07	0.120	7.83
AMB23-105	PS07C	Diss	Seawater	3106-2151	0.593	--	0.0886	0.111	1.06	0.547	0.0188	7.07
AMB23-201	WP	Total	Seawater	3106-2152	0.979	32.0	0.0762	0.197	0.740	0.709	0.0889	2.14
AMB23-201	WP	Diss	Seawater	3106-2153	0.608	--	0.0783	0.181	0.631	2.03	0.00941	1.26
AMB23-202	M2	Total	Seawater	3106-2154	0.647	22.4	0.0707	0.164	1.19	0.770	0.0383	1.32
AMB23-202	M2	Diss	Seawater	3106-2155	0.776	--	0.0738	0.102	0.416	0.477	0.00345	1.59
AMB23-203	M2DEEP	Total	Seawater	3106-2156	0.262 J	33.5	0.0752	0.161	0.555	0.567	0.0630	1.19
AMB23-203	M2DEEP	Diss	Seawater	3106-2157	0.357	--	0.0770	0.0985	0.445	0.601	0.00531	1.12
AMB23-204	CLMBAY	Total	Seawater	3106-2158	1.81	241	0.0722	0.749	1.19	1.25	0.208	2.26
AMB23-204	CLMBAY	Diss	Seawater	3106-2159	0.371	--	0.0681	0.149	0.511	0.662	0.00728	0.978
AMB23-205	POPISP	Total	Seawater	3106-2160	0.567	22.1	0.0758	0.187	0.654	0.788	0.0478	1.34
AMB23-205	POPISP	Diss	Seawater	3106-2161	0.498	--	0.0759	0.109	0.446	0.544	0.0160	1.52
AMB23-206	M1	Total	Seawater	3106-2162	0.523	17.7	0.0718	0.154	0.525	0.654	0.0295	1.24
AMB23-206	M1	Diss	Seawater	3106-2163	0.319 J	--	0.0705	0.0882	0.438	0.494	0.00451	0.704
AMB23-207	M1DEEP	Total	Seawater	3106-2164	0.549	34.1	0.0741	0.173	0.534	0.593	0.0520	1.11
AMB23-207	M1DEEP	Diss	Seawater	3106-2165	0.242 J	--	0.0746	0.114	0.450	0.581	0.00611	0.774
AMB23-208	POPIPD	Total	Seawater	3106-2166	0.997	111	0.0746	0.448	0.683	1.08	0.0762	1.40
AMB23-208	POPIPD	Diss	Seawater	3106-2167	0.373	--	0.0725	0.124	0.486	0.605	0.00516	1.63

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB23-209	POPIPDDUP	Total	Seawater	3106-2168	0.825	71.6	0.0712	0.364	0.651	1.61	0.0525	1.16
AMB23-209	POPIPDDUP	Diss	Seawater	3106-2169	0.355	--	0.0719	0.102	0.473	0.639	0.00398	1.12
AMB23-210	SN03	Total	Seawater	3106-2170	2.03	49.3	0.0653	0.363	1.26	1.69	0.132	4.56
AMB23-210	SN03	Diss	Seawater	3106-2171	1.13	--	0.0649	0.183	0.885	0.547	0.0138	3.77
AMB23-211	SN05	Total	Seawater	3106-2172	1.53	108	0.0754	0.456	0.960	0.752	0.208	2.55
AMB23-211	SN05	Diss	Seawater	3106-2173	0.339	--	0.0744	0.136	0.607	0.526	0.0121	1.55
AMB23-212	M4	Total	Seawater	3106-2174	1.04	42.5	0.0735	0.244	0.819	0.615	0.0943	2.29
AMB23-212	M4	Diss	Seawater	3106-2175	0.421	--	0.0715	0.146	0.644	0.525	0.0100	1.59
AMB23-213	SN10	Total	Seawater	3106-2176	0.893	20.8	0.0788	0.168	1.05	0.596	0.0723	4.33
AMB23-213	SN10	Diss	Seawater	3106-2177	0.290 J	--	0.0751	0.105	0.850	0.508	0.0102	3.40
AMB23-214	SN11	Total	Seawater	3106-2178	0.889	34.4	0.0787	0.184	0.937	0.829	0.104	3.69
AMB23-214	SN11	Diss	Seawater	3106-2179	0.256 J	--	0.0749	0.101	0.687	0.493	0.0132	2.23
AMB23-215	SN11DUP	Total	Seawater	3106-2180	1.07	34.4	0.0803	0.178	0.947	0.600	0.0805	3.76
AMB23-215	SN11DUP	Diss	Seawater	3106-2181	0.510	--	0.0758	0.121	0.728	0.551	0.00989	2.29
AMB23-216	BJEST	Total	Seawater	3106-2182	2.34	196	0.0612	0.752	1.12	1.09	0.219	3.89
AMB23-216	BJEST	Diss	Seawater	3106-2183	0.822	--	0.0551	0.264	0.711	0.650	0.0163	1.68
AMB23-217	M3.3	Total	Seawater	3106-2184	1.20	31.5	0.0693	0.242	0.983	0.752	0.0843	2.73
AMB23-217	M3.3	Diss	Seawater	3106-2185	0.582	--	0.0713	0.141	0.794	0.539	0.00921	2.08
AMB23-218	M3.3DEEP	Total	Seawater	3106-2186	0.815	25.2	0.0790	0.401	0.752	1.32	0.0882	2.20
AMB23-218	M3.3DEEP	Diss	Seawater	3106-2187	0.346	--	0.0783	0.124	0.569	0.736	0.0128	2.59
AMB23-219	PS09	Total	Seawater	3106-2188	1.99	32.9	0.0862	0.247	3.09	0.9257	0.418	12.1
AMB23-219	PS09	Diss	Seawater	3106-2189	0.718	--	0.0852	0.184	2.46	1.09	0.0614	9.44
AMB23-220	PS16	Total	Seawater	3106-2190	0.851	14.3	0.0794	0.154	1.34	0.699	0.0596	6.10
AMB23-220	PS16	Diss	Seawater	3106-2191	0.554	--	0.0812	0.173	1.18	1.21	0.0148	5.66
	Filter Blank A		Fresh Water	3106-2088	0.10 U	0.107 U	0.0006 U	0.02 U	0.006 B	0.0022 U	0.0004 U	0.0185 J
	Filter Blank B		Fresh Water	3106-2089	0.10 U	0.107 U	0.0008 J	0.02 U	0.001 U	0.0022 U	0.0004 U	0.0779 B
	Filter Blank C		Fresh Water	3106-2090	0.10 U	0.107 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.0647 B

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al, Cr	Cd, Cu, Ni, Pb, Zn	SAL	TOC/DOC	TSS
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
Laboratory Achieved Detection Limits (Seawater)										
Seawater Reporting Limit (MDL* 3.18)										
Laboratory Achieved Detection Limits (Freshwater)										
Freshwater Reporting Limit (MDL* 3.18)										
AMB23										
AMB23-001	PS07	Total	Seawater	3106-2094	041817HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-001	PS07	Diss	Seawater	3106-2095	041817HGA	--	Q051517A	--	042317HTCO	--
AMB23-002	PS01	Total	Seawater	3106-2096	041817HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-002	PS01	Diss	Seawater	3106-2097	041817HGA	--	Q051517A	--	042617HTCO	--
AMB23-003	PS02	Total	Seawater	3106-2098	041817HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-003	PS02	Diss	Seawater	3106-2099	041817HGA	--	Q051517A	--	042317HTCO	--
AMB23-004	PS13	Total	Seawater	3106-2100	041817HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-004	PS13	Diss	Seawater	3106-2101	041817HGA	--	Q051517A	--	042317HTCO	--
AMB23-005	PS12	Total	Seawater	3106-2102	041817HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-005	PS12	Diss	Seawater	3106-2103	041817HGA	--	Q051517A	--	042317HTCO	--
AMB23-006	M3.1	Total	Seawater	3106-2104	041817HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-006	M3.1	Diss	Seawater	3106-2105	041817HGA	--	Q051517A	--	042317HTCO	--
AMB23-007	PS03	Total	Seawater	3106-2106	042017HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-007	PS03	Diss	Seawater	3106-2107	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-008	PS04	Total	Seawater	3106-2108	042017HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-008	PS04	Diss	Seawater	3106-2109	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-009	PS04DUP	Total	Seawater	3106-2110	042017HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-009	PS04DUP	Diss	Seawater	3106-2111	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-010	PS05	Total	Seawater	3106-2112	042017HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-010	PS05	Diss	Seawater	3106-2113	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-011	PS14	Total	Seawater	3106-2114	042017HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-011	PS14	Diss	Seawater	3106-2115	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-012	PS06	Total	Seawater	3106-2116	042017HGA	Q051917A	Q051817A	040117Osal	042017HTCO	040117Nu
AMB23-012	PS06	Diss	Seawater	3106-2117	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-013	PS08	Total	Seawater	3106-2118	042017HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-013	PS08	Diss	Seawater	3106-2119	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-014	PS09	Total	Seawater	3106-2120	042017HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-014	PS09	Diss	Seawater	3106-2121	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-015	PS15	Total	Seawater	3106-2122	042017HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-015	PS15	Diss	Seawater	3106-2123	042017HGA	--	Q051517A	--	042317HTCO	--
AMB23-016	PS10	Total	Seawater	3106-2124	042117HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-016	PS10	Diss	Seawater	3106-2125	042117HGA	--	Q051517A	--	042417HTCO	--
AMB23-017	PS10.1	Total	Seawater	3106-2126	042117HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-017	PS10.1	Diss	Seawater	3106-2127	042117HGA	--	Q051517A	--	042417HTCO	--

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al, Cr	Cd, Cu, Ni, Pb, Zn	SAL	TOC/DOC	TSS
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB23-018	PS10.1DUP	Total	Seawater	3106-2128	042117HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-018	PS10.1DUP	Diss	Seawater	3106-2129	042117HGA	--	Q051517A	--	042617HTCO	--
AMB23-019	PS11	Total	Seawater	3106-2130	042117HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-019	PS11	Diss	Seawater	3106-2131	042117HGA	--	Q051517A	--	042417HTCO	--
AMB23-020	PS16	Total	Seawater	3106-2132	042117HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-020	PS16	Diss	Seawater	3106-2133	042117HGA	--	Q051517A	--	042417HTCO	--
AMB23-021	PS07B	Total	Seawater	3106-2134	042117HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-021	PS07B	Diss	Seawater	3106-2135	042117HGA	--	Q051517A	--	042417HTCO	--
AMB23-DD001	OF018	Total	Seawater	3106-2136	042117HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-DD001	OF018	Diss	Seawater	3106-2137	042117HGA	--	Q051517A	--	042417HTCO	--
AMB23-DD002	OF019	Total	Seawater	3106-2138	042117HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-DD002	OF019	Diss	Seawater	3106-2139	042117HGA	--	Q051517A	--	042417HTCO	--
AMB23-DD003	OF021	Total	Freshwater	3106-2140	042117HGA	Q050317A	Q050317A	040117Osal	042117HTCO	040117Nu
AMB23-DD003	OF021	Diss	Freshwater	3106-2141	042117HGA	Q050317A	Q050317A	--	042417HTCO	--
AMB23-101	M6	Total	Seawater	3106-2142	050217HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-101	M6	Diss	Seawater	3106-2143	050217HGA	--	Q051517A	--	042417HTCO	--
AMB23-102	M8	Total	Seawater	3106-2144	050217HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-102	M8	Diss	Seawater	3106-2145	050217HGA	--	Q051517A	--	042417HTCO	--
AMB23-103	DYOTS	Total	Seawater	3106-2146	050217HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-103	DYOTS	Diss	Seawater	3106-2147	050217HGA	--	Q051517A	--	042417HTCO	--
AMB23-104	M5.1	Total	Seawater	3106-2148	050217HGA	Q051917A	Q051817A	040117Osal	042117HTCO	040117Nu
AMB23-104	M5.1	Diss	Seawater	3106-2149	050217HGA	--	Q051517A	--	042417HTCO	--
AMB23-105	PS07C	Total	Seawater	3106-2150	050217HGA	Q051917A	Q051817A	040117Osal	042517HTCO	040117Nu
AMB23-105	PS07C	Diss	Seawater	3106-2151	050217HGA	--	Q051517A	--	042417HTCO	--
AMB23-201	WP	Total	Seawater	3106-2152	050217HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-201	WP	Diss	Seawater	3106-2153	050217HGA	--	Q051517A	--	042417HTCO	--
AMB23-202	M2	Total	Seawater	3106-2154	050217HGA	Q051917A	Q051817A	041117Osal	042517HTCO	041117Nu
AMB23-202	M2	Diss	Seawater	3106-2155	050217HGA	--	Q051517A	--	042617HTCO	--
AMB23-203	M2DEEP	Total	Seawater	3106-2156	050217HGA	Q051917A	Q051817A	041117Osal	042517HTCO	041117Nu
AMB23-203	M2DEEP	Diss	Seawater	3106-2157	050217HGA	--	Q051517A	--	042617HTCO	--
AMB23-204	CLMBAY	Total	Seawater	3106-2158	050217HGA	Q051917A	Q051817A	041117Osal	042517HTCO	041117Nu
AMB23-204	CLMBAY	Diss	Seawater	3106-2159	050217HGA	--	Q051517A	--	042617HTCO	--
AMB23-205	POPISP	Total	Seawater	3106-2160	050417HGA	Q051917A	Q051817A	041117Osal	042517HTCO	041117Nu
AMB23-205	POPISP	Diss	Seawater	3106-2161	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-206	M1	Total	Seawater	3106-2162	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-206	M1	Diss	Seawater	3106-2163	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-207	M1DEEP	Total	Seawater	3106-2164	050417HGA	Q051917A	Q051817A	041117Osal	042517HTCO	041117Nu
AMB23-207	M1DEEP	Diss	Seawater	3106-2165	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-208	POPIPD	Total	Seawater	3106-2166	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-208	POPIPD	Diss	Seawater	3106-2167	050417HGA	--	Q051517A	--	042417HTCO	--

BATTELLE MARINE SCIENCE LABORATORIES
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Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al, Cr	Cd, Cu, Ni, Pb, Zn	SAL	TOC/DOC	TSS
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB23-209	POPIPDDUP	Total	Seawater	3106-2168	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-209	POPIPDDUP	Diss	Seawater	3106-2169	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-210	SN03	Total	Seawater	3106-2170	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-210	SN03	Diss	Seawater	3106-2171	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-211	SN05	Total	Seawater	3106-2172	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-211	SN05	Diss	Seawater	3106-2173	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-212	M4	Total	Seawater	3106-2174	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-212	M4	Diss	Seawater	3106-2175	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-213	SN10	Total	Seawater	3106-2176	050417HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-213	SN10	Diss	Seawater	3106-2177	050417HGA	--	Q051517A	--	042417HTCO	--
AMB23-214	SN11	Total	Seawater	3106-2178	050917HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-214	SN11	Diss	Seawater	3106-2179	050917HGA	--	Q051517A	--	042417HTCO	--
AMB23-215	SN11DUP	Total	Seawater	3106-2180	050917HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-215	SN11DUP	Diss	Seawater	3106-2181	050917HGA	--	Q051517A	--	042417HTCO	--
AMB23-216	BJEST	Total	Seawater	3106-2182	050917HGA	Q051917A	Q051817A	041117Osal	042117HTCO	041117Nu
AMB23-216	BJEST	Diss	Seawater	3106-2183	050917HGA	--	Q051517A	--	042417HTCO	--
AMB23-217	M3.3	Total	Seawater	3106-2184	050917HGA	Q051917A	Q051817A	041117Osal	042217HTCO	041117Nu
AMB23-217	M3.3	Diss	Seawater	3106-2185	050917HGA	--	Q051517A	--	042517HTCO	--
AMB23-218	M3.3DEEP	Total	Seawater	3106-2186	050917HGA	Q051917A	Q051817A	041117Osal	042217HTCO	041117Nu
AMB23-218	M3.3DEEP	Diss	Seawater	3106-2187	050917HGA	--	Q051517A	--	042517HTCO	--
AMB23-219	PS09	Total	Seawater	3106-2188	050917HGA	Q051917A	Q051817A	041117Osal	042217HTCO	041117Nu
AMB23-219	PS09	Diss	Seawater	3106-2189	050917HGA	--	Q051517A	--	042517HTCO	--
AMB23-220	PS16	Total	Seawater	3106-2190	050917HGA	Q051917A	Q051817A	041117Osal	042217HTCO	041117Nu
AMB23-220	PS16	Diss	Seawater	3106-2191	050917HGA	--	Q051517A	--	042617HTCO	--
	Filter Blank A		Fresh Water	3106-2088	041817HGA	Q050317A	Q050317A	--	--	--
	Filter Blank B		Fresh Water	3106-2089	041817HGA	Q050317A	Q050317A	--	--	--
	Filter Blank C		Fresh Water	3106-2090	041817HGA	Q050317A	Q050317A	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**		
Seawater Reporting Limit (MDL* 3.18)					**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**		
METHOD BLANKS													
MB			Seawater	BLANK R1	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051817A	Q051917A
MB			Seawater	BLANK R2	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051817A	Q051917A
MB			Seawater	BLANK R3	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051817A	Q051917A
MB			Seawater	BLANK R4	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051817A	Q051917A
MB			Seawater	BLANK R5	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.017 J	Q051817A	Q051917A
MB			Seawater	BLANK R6	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.018 J	Q051817A	Q051917A
MB			Seawater	BLANK R7	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.027 J	Q051817A	Q051917A
MB			Seawater	BLANK R8	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.026 J	Q051817A	Q051917A
MB			Seawater	BLANK R9	0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.026 J	Q051817A	Q051917A
MEAN REAGENT BLANK			Seawater		**0.107 U**	**0.0030 U**	**0.025 U**	**0.061 U**	**0.043 U**	**0.0010 U**	**0.018 J**		
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB R1	0.621	0.0711	0.0988	0.268	0.368	0.00392	0.351	Q051817A	Q051917A
LCS			Seawater	SB LCS R1	6.07	2.21	2.08	2.40	2.51	2.15	2.50	Q051817A	Q051917A
			Percent Recovery, LCS		**272%** &	**107%**	**99%**	**106%**	**107%**	**107%**	**108%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB R2	0.858	0.0696	0.115	0.257	0.356	0.00402	0.345	Q051817A	Q051917A
LCS			Seawater	SB LCS R2	6.02	2.13	2.11	2.25	2.37	2.11	2.44	Q051817A	Q051917A
			Percent Recovery, LCS		**258%** &	**103%**	**100%**	**100%**	**100%**	**105%**	**105%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank			Seawater	SB R3	1.11	0.0689	0.104	0.252	0.351	0.00400	0.347	Q051817A	Q051917A
LCS			Seawater	SB LCS R3	5.98	2.14	2.09	2.26	2.40	2.11	2.50	Q051817A	Q051917A
			Percent Recovery, LCS		**244%** &	**104%**	**99%**	**101%**	**102%**	**106%**	**108%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
MATRIX SPIKE RESULTS													
AMB23-001	PS07	Total	Seawater	3106-2094	19.3	0.0846	0.431	1.47	1.50	0.0948	6.50	Q051817A	Q051917A
MS				3106-2094 MS	24.2	1.13	1.39	6.50	6.48	1.14	11.7	Q051817A	Q051917A
MSD				3106-2094 MSD	24.2	1.14	1.39	6.58	6.64	1.15	11.8	Q051817A	Q051917A
				Spike concentration	5	1	1	5	5	1	5	Q051817A	Q051917A
				Percent Recovery, MS	**98%**	**104%**	**96%**	**101%**	**100%**	**105%**	**104%**		
				Percent Recovery, MSD	**98%**	**105%**	**96%**	**102%**	**103%**	**106%**	**107%**		
				RPD	**0%**	**1%**	**0%**	**1%**	**1%**	**1%**	**0%**		
AMB23-017	PS10.1	Total	Seawater	3106-2126	22.6	0.0830	0.146	1.72	0.609	0.0839	12.8	Q051817A	Q051917A
MS				3106-2126 MS	27.2	1.12	1.18	6.71	1.62	1.15	18.4	Q051817A	Q051917A
MSD				3106-2126 MSD	26.7	1.12	1.17	6.83	1.61	1.14	18.7	Q051817A	Q051917A
				Spike concentration	5	1	1	5	1	1	5	Q051817A	Q051917A
				Percent Recovery, MS	**94%**	**104%**	**103%**	**100%**	**101%**	**107%**	**113%**		
				Percent Recovery, MSD	**83%**	**104%**	**103%**	**102%**	**100%**	**105%**	**119%**		
				RPD	**1%**	**0%**	**0%**	**1%**	**0%**	**1%**	**1%**		
AMB23-217	M3.3	Total	Seawater	3106-2184	31.5	0.0693	0.242	0.983	0.752	0.0843	2.73	Q051817A	Q051917A
MS				3106-2184 MS	37.3	1.11	1.25	1.99	1.82	1.14	8.16	Q051817A	Q051917A
MSD				3106-2184 MSD	36.4	1.12	1.23	2.01	1.81	1.16	8.31	Q051817A	Q051917A
				Spike concentration	5	1	1	1	1	1	5	Q051817A	Q051917A
				Percent Recovery, MS	**116%**	**104%**	**100%**	**100%**	**106%**	**105%**	**109%**		
				Percent Recovery, MSD	**97%**	**105%**	**99%**	**103%**	**106%**	**108%**	**112%**		
				RPD	**1%**	**1%**	**1%**	**1%**	**0%**	**1%**	**1%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
REPLICATE PRECISION													
AMB23-004	PS13	Total	Seawater	3106-2100 R1	25.6	0.0886	0.299	2.75	1.38	0.122	6.93	Q051817A	Q051917A
DUP				3106-2100 R2	25.8	0.0897	0.300	2.81	1.41	0.124	7.02	Q051817A	Q051917A
				Mean	*25.7*	*0.0891*	*0.300*	*2.78*	*1.40*	*0.123*	*6.97*		
				RPD	**1%**	**1%**	**0%**	**2%**	**2%**	**2%**	**1%**		
AMB23-019	PS11	Total	Seawater	3106-2130 R1	27.5	0.0844	0.274	1.67	0.891	0.143	11.8	Q051817A	Q051917A
DUP				3106-2130 R2	27.1	0.0839	0.272	1.64	0.887	0.143	11.8	Q051817A	Q051917A
				Mean	*27.3*	*0.0842*	*0.273*	*1.65*	*0.889*	*0.143*	*11.8*		
				RPD	**2%**	**1%**	**1%**	**1%**	**0%**	**0%**	**1%**		
AMB23-213	SN10	Total	Seawater	3106-2176 R1	20.8	0.0788	0.168	1.05	0.596	0.0723	4.33	Q051817A	Q051917A
DUP				3106-2176 R2	20.3	0.0781	0.170	1.05	0.592	0.0741	4.28	Q051817A	Q051917A
				Mean	*20.5*	*0.0784*	*0.169*	*1.05*	*0.594*	*0.0732*	*4.30*		
				RPD	**3%**	**1%**	**1%**	**0%**	**1%**	**2%**	**1%**		
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-6		Total	Seawater	CASS-6 R1	4.06	0.0244	0.101	0.555	0.480	0.0128	1.35	Q051817A	Q051917A
SRM CASS-6		Total	Seawater	CASS-6 R2	3.90	0.0232	0.087	0.522	0.450	0.0122	1.30	Q051817A	Q051917A
SRM CASS-6		Total	Seawater	CASS-6 R3	3.98	0.0237	0.103	0.527	0.461	0.0126	1.36	Q051817A	Q051917A
				Certified Value	NC	**0.0217**	**0.100**	**0.530**	**0.418**	**0.0106**	**1.27**		
						±0.0018	**±0.016**	**±0.032**	**±0.040**	**±0.0040**	**±0.18**		
				PD	**--**	**12%**	**1%**	**5%**	**15%**	**21%** &	**6%**		
				PD	**--**	**7%**	**13%**	**1%**	**8%**	**16%**	**2%**		
				PD	**--**	**9%**	**3%**	**1%**	**10%**	**18%**	**7%**		
				RSD	**2%**								

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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**		
Seawater Reporting Limit (MDL* 3.18)					**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**		
METHOD BLANKS													
MB		Seawater	BLANK R1		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R2		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R3		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R4		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0013 J	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R5		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R6		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R7		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R8		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MB		Seawater	BLANK R9		--	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q051517A	Q051917A
MEAN REAGENT BLANK		Seawater			--	**0.003 U**	**0.0250 U**	**0.061 U**	**0.043 U**	**0.0010 U**	**0.013 U**		
LABORATORY CONTROL SAMPLES													
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB Blank R1		--	0.0738	0.119	0.265	0.371	0.00402	0.244	Q051517A	Q051917A
LCS		Seawater	SB LCS R1		--	2.30	2.11	2.35	2.54	2.13	2.39	Q051517A	Q051917A
		Percent Recovery, LCS			--	**111%**	**99%**	**104%**	**109%**	**106%**	**107%**		
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB Blank R2		--	0.0776	0.101	0.266	0.367	0.00415	0.245	Q051517A	Q051917A
LCS		Seawater	SB LCS R2		--	2.31	2.08	2.27	2.44	2.14	2.30	Q051517A	Q051917A
		Percent Recovery, LCS			--	**112%**	**99%**	**100%**	**104%**	**107%**	**103%**		
Spiking Level					--	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB Blank R3		--	0.0729	0.0979	0.258	0.368	0.00425	0.231	Q051517A	Q051917A
LCS		Seawater	SB LCS R3		--	2.32	2.03	2.44	2.63	2.19	2.44	Q051517A	Q051917A
		Percent Recovery, LCS			--	**113%**	**97%**	**109%**	**113%**	**109%**	**111%**		
		RSD SB Blanks				**3%**	**11%**	**2%**	**0%**	**3%**	**3%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
MATRIX SPIKE RESULTS													
AMB23-001	PS07	Diss	Seawater	3106-2095	--	0.0894	0.149	1.022	0.696	0.0131	6.41	Q051517A	Q051917A
MS				3106-2095 MS	--	1.21	1.14	6.22	1.80	1.09	11.57	Q051517A	Q051917A
MSD				3106-2095 MSD	--	1.23	1.16	6.25	1.81	1.11	11.63	Q051517A	Q051917A
				Spike concentration	--	1	1	5	1	1	5	Q051517A	Q051917A
				Percent Recovery, MS	--	**112%**	**100%**	**104%**	**110%**	**108%**	**103%**		
				Percent Recovery, MSD	--	**114%**	**101%**	**105%**	**112%**	**109%**	**104%**		
				RPD	--	**1%**	**1%**	**0%**	**0%**	**1%**	**0%**		
AMB23-013	PS08	Diss	Seawater	3106-2119	--	0.0857	0.106	1.169	0.585	0.0111	6.35	Q051517A	Q051917A
MS				3106-2119 MS	--	1.20	1.07	6.32	1.63	1.09	11.57	Q051517A	Q051917A
MSD				3106-2119 MSD	--	1.19	1.12	6.14	1.60	1.07	11.44	Q051517A	Q051917A
				Spike concentration	--	1	1	5	1	1	5	Q051517A	Q051917A
				Percent Recovery, MS	--	**112%**	**96%**	**103%**	**104%**	**108%**	**104%**		
				Percent Recovery, MSD	--	**110%**	**102%**	**99%**	**101%**	**106%**	**102%**		
				RPD		**1%**	**2%**	**1%**	**1%**	**1%**	**1%**		
AMB23-208	POPIPD	Diss	Seawater	3106-2167	--	0.0725	0.124	0.486	0.605	0.0052	1.63	Q051517A	Q051917A
MS				3106-2167 MS	--	1.14	1.08	1.54	1.69	1.04	6.84	Q051517A	Q051917A
MSD				3106-2167 MSD	--	1.17	1.12	1.57	1.72	1.07	6.86	Q051517A	Q051917A
				Spike concentration	--	1	1	1	1	1	5	Q051517A	Q051917A
				Percent Recovery, MS	--	**107%**	**96%**	**105%**	**108%**	**103%**	**104%**		
				Percent Recovery, MSD	--	**110%**	**99%**	**109%**	**112%**	**106%**	**105%**		
				RPD		**1%**	**2%**	**1%**	**1%**	**1%**	**0%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Cr*
REPLICATE PRECISION													
AMB23-001	PS07	Diss	Seawater	3106-2095 R1	--	0.0894	--	1.022	0.696	0.0131	6.41	Q051517A	--
DUP				3106-2095 R2	--	0.0911	--	1.039	0.719	0.0137	6.46	Q051517A	--
				Mean	--	*0.0903*	--	*1.030*	*0.708*	*0.0134*	*6.43*		
				RPD	--	**2%**	--	**2%**	**3%**	**4%**	**1%**		
AMB23-008	PS04	Diss	Seawater	3106-2109 R1	--	0.0870	0.125	1.981	0.520	0.0206	8.99	Q051517A	Q051917A
DUP				3106-2109 R2	--	0.0846	0.139	1.935	0.507	0.0196	8.72	Q051517A	Q051917A
				Mean	--	*0.0858*	*0.132*	*1.958*	*0.513*	*0.0201*	*8.85*		
				RPD	--	**3%**	**10%**	**2%**	**3%**	**5%**	**3%**		
AMB23-020	PS16	Diss	Seawater	3106-2133 R1	--	0.0845	0.108	0.906	0.503	0.0114	6.21	Q051517A	Q051917A
DUP				3106-2133 R2	--	0.0847	0.111	0.910	0.508	0.0114	6.30	Q051517A	Q051917A
				Mean	--	*0.0846*	*0.109*	*0.908*	*0.505*	*0.0114*	*6.25*		
				RPD	--	**0%**	**2%**	**1%**	**1%**	**0%**	**1%**		
AMB23-213	SN10	Diss	Seawater	3106-2177 R1	--	0.0751	0.105	0.850	0.508	0.0102	3.40	Q051517A	Q051917A
DUP				3106-2177 R2	--	0.0750	0.103	0.837	0.502	0.0101	3.39	Q051517A	Q051917A
				Mean	--	*0.0750*	*0.104*	*0.843*	*0.505*	*0.0102*	*3.40*		
				RPD	--	**0%**	**2%**	**2%**	**1%**	**2%**	**0%**		
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-6		Total	Seawater	CASS-6 R1	--	0.0243	0.0934	0.544	0.465	0.01207	1.289	Q051517A	Q051917A
SRM CASS-6		Total	Seawater	CASS-6 R2	--	0.0247	0.100	0.514	0.444	0.01198	1.228	Q051517A	Q051917A
SRM CASS-6		Total	Seawater	CASS-6 R3 R	--	0.0234	0.0914	0.514	0.447	0.01211	1.235	Q051517A	Q051917A
				Certified Value	NC	**0.0217**	**0.100**	**0.530**	**0.418**	**0.011**	**1.27**		
				PD	--	**12%**	**7%**	**3%**	**11%**	**14%**	**1%**		
				PD	--	**14%**	**0%**	**3%**	**6%**	**13%**	**3%**		
				PD	--	**8%**	**9%**	**3%**	**7%**	**14%**	**3%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Fresh Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Freshwater)					**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**	
Freshwater Reporting Limit (MDL* 3.18)					**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**	
METHOD BLANKS												
MB		Diss	Freshwater	Direct Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q050317A
MB		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q050317A
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Diss	Freshwater	Direct Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q050317A
LCS		Diss	Freshwater	Direct LCS	2.06	2.04	2.04	2.03	2.04	2.05	2.07	Q050317A
				Percent Recovery, LCS	**103%**	**102%**	**102%**	**102%**	**102%**	**102%**	**104%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q050317A
LCS		Total	Freshwater	TRM LCS	2.04	2.01	2.02	2.03	2.01	2.03	2.03	Q050317A
				Percent Recovery, LCS	**102%**	**101%**	**101%**	**102%**	**100%**	**101%**	**101%**	
MATRIX SPIKE RESULTS												
AMB23-DD003	OF021	Diss	Fresh Water	3106-2141	8.32	0.00101 J	1.05	0.773	0.523	0.00294	0.249	Q050317A
MS				3106-2141 MS	13.1	0.984	6.09	1.69	1.47	0.960	1.18	Q050317A
MSD				3106-2141 MSD	13.0	0.975	6.06	1.69	1.45	0.958	1.18	Q050317A
				spiked concentration	5	1	5	1	1	1	1	Q050317A
				Percent Recovery, MS	**96%**	**98%**	**101%**	**92%**	**95%**	**96%**	**93%**	
				Percent Recovery, MSD	**94%**	**97%**	**100%**	**92%**	**93%**	**96%**	**93%**	
				RPD	**0%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	
REPLICATE PRECISION												
AMB23-DD003	OF021	Total	Fresh Water	3106-2140 R1	11.8	0.000969 J	1.08	0.981	0.788	0.0158	0.209	Q050317A
DUP				3106-2140 R2	12.1	0.000997 J	1.07	0.960	0.792	0.0158	0.221	Q050317A
				Mean	*11.9*	*0.000983* J	*1.08*	*0.970*	*0.790*	*0.0158*	*0.215*	
				RPD	**2%**	**3%**	**0%**	**2%**	**1%**	**0%**	**5%**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Diss	Freshwater	1640A 10X Direct	58.6	3.46	42.6	86.4	25.8	12.3	44.4	Q050317A
SRM 1640a		Total	Freshwater	1640a 10X TRM	53.2	4.00	40.0	85.2	25.1	12.2	55.5	Q050317A
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**--**	**13%**	**5%**	**1%**	**2%**	**2%**	**20%**	
				PD	**0%**	**0%**	**1%**	**1%**	**1%**	**1%**	**0%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.10**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1		TME	Water	Method Blank1	0.10 U	041817HGA
MB-2		TME	Water	Method Blank2	0.10 U	041817HGA
MB-3		TME	Water	Method Blank3	0.10 U	041817HGA
MB-4		TME	Water	Method Blank1	0.10 U	042017HGA
MB-5		TME	Water	Method Blank2	0.10 U	042017HGA
MB-6		TME	Water	Method Blank3	0.10 U	042017HGA
MB-7		TME	Water	Method Blank1	0.10 U	042117HGA
MB-8		TME	Water	Method Blank2	0.10 U	042117HGA
MB-9		TME	Water	Method Blank3	0.10 U	042117HGA
MB-10		TME	Water	Method Blank1	0.10 U	050217HGA
MB-11		TME	Water	Method Blank2	0.10 U	050217HGA
MB-12		TME	Water	Method Blank3	0.10 U	050217HGA
MB-13		TME	Water	Method Blank1	0.10 U	050417HGA
MB-14		TME	Water	Method Blank2	0.10 U	050417HGA
MB-15		TME	Water	Method Blank3	0.10 U	050417HGA
MB-16		TME	Water	Method Blank1	0.10 U	050917HGA
MB-17		TME	Water	Method Blank2	0.10 U	050917HGA
MB-18		TME	Water	Method Blank3	0.10 U	050917HGA

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QC Sample Results for CVAF
Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 041717 run1	5.02	041817HGA
LCS (2)	TME		Water	OPR 041717 run2	5.08	041817HGA
LCS Blank (1)	TME		Water	BLANK 041717	0.100 U	041817HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**102%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 041817 run1	5.04	042017HGA
LCS (2)	TME		Water	OPR 041817 run2	5.20	042017HGA
LCS Blank (1)	TME		Water	BLANK 041817	0.100 U	042017HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**105%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 042017 run1	5.00	042117HGA
LCS (2)	TME		Water	OPR 042017 run2	5.09	042117HGA
LCS Blank (1)	TME		Water	BLANK 042017	0.100 U	042117HGA
				Percent Recovery, LCS 1	**101%**	
				Percent Recovery, LCS 2	**103%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 050117 run1	4.99	050217HGA
LCS (2)	TME		Water	OPR 050117 run2	5.02	050217HGA
LCS Blank (1)	TME		Water	BLANK 050117	0.138 J	050217HGA
				Percent Recovery, LCS 1	**98%**	
				Percent Recovery, LCS 2	**98%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 050217 run1	5.11	050417HGA
LCS (2)	TME		Water	OPR 050217 run2	5.09	050417HGA
LCS Blank (1)	TME		Water	BLANK 050217	0.163 J	050417HGA
				Percent Recovery, LCS 1	**100%**	
				Percent Recovery, LCS 2	**99%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 050817 run1	5.29	050917HGA
LCS (2)	TME		Water	OPR 050817 run2	5.18	050917HGA
LCS Blank (1)	TME		Water	BLANK 050817	0.145 J	050917HGA
				Percent Recovery, LCS 1	**104%**	
				Percent Recovery, LCS 2	**102%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB23-001	PS07	Total	Seawater	3106-2094	0.977	041817HGA
MS				3106-2094 MS	7.78	041817HGA
MSD				3106-2094 MSD	7.75	041817HGA
				Spiking Level, MS	6.96	041817HGA
				Spiking Level, MSD	6.88	041817HGA
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**98%**	
				RPD	**0.7%**	
AMB23-006	M3.1	Total	Seawater	3106-2104	0.842	041817HGA
MS				3106-2104 MS	7.96	041817HGA
MSD				3106-2104 MSD	7.90	041817HGA
				Spiking Level, MS	6.94	041817HGA
				Spiking Level, MSD	6.88	041817HGA
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**103%**	
				RPD	**0.1%**	
AMB23-007	PS03	Diss	Seawater	3106-2107	7.01	042017HGA
MS				3106-2107 MS	14.1	042017HGA
MSD				3106-2107 MSD	14.0	042017HGA
				Spiking Level, MS	6.99	042017HGA
				Spiking Level, MSD	6.98	042017HGA
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**101%**	
				RPD	**1.2%**	
AMB23-013	PS08	Diss	Seawater	3106-2119	0.351	042017HGA
MS				3106-2119 MS	7.39	042017HGA
MSD				3106-2119 MSD	7.39	042017HGA
				Spiking Level, MS	6.76	042017HGA
				Spiking Level, MSD	6.88	042017HGA
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**102%**	
				RPD	**1.8%**	
AMB23-017	PS10.1	Total	Seawater	3106-2126	1.51	042117HGA
MS				3106-2126 MS	7.38	042117HGA
MSD				3106-2126 MSD	7.63	042117HGA
				Spiking Level, MS	6.87	042117HGA
				Spiking Level, MSD	7.03	042117HGA
				Percent Recovery, MS	**85%**	
				Percent Recovery, MSD	**87%**	
				RPD	**1.8%**	
AMB23-DD002	OF019	Diss	Fresh Water	3106-2139	4.73	042117HGA
MS				3106-2139 MS	11.46	042117HGA
MSD				3106-2139 MSD	11.11	042117HGA
				Spiking Level, MS	6.76	042117HGA
				Spiking Level, MSD	6.50	042117HGA
				Percent Recovery, MS	**100%**	
				Percent Recovery, MSD	**98%**	
				RPD	**1.4%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS (Continued)						
AMB23-101	M6	Total	Seawater	3106-2142	1.15	050217HGA
MS				3106-2142 MS	7.90	050217HGA
MSD				3106-2142 MSD	7.94	050217HGA
				Spiking Level, MS	6.84	050217HGA
				Spiking Level, MSD	6.60	050217HGA
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**103%**	
				RPD	**4.3%**	
AMB23-103	DYOTS	Diss	Seawater	3106-2147	0.778	050217HGA
MS				3106-2147 MS	7.60	050217HGA
MSD				3106-2147 MSD	7.67	050217HGA
				Spiking Level, MS	6.69	050217HGA
				Spiking Level, MSD	6.86	050217HGA
				Percent Recovery, MS	**102%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.5%**	
AMB23-212	M4	Diss	Seawater	3106-2175	0.421	050417HGA
MS				3106-2175 MS	7.24	050417HGA
MSD				3106-2175 MSD	6.96	050417HGA
				Spiking Level, MS	6.85	050417HGA
				Spiking Level, MSD	6.85	050417HGA
				Percent Recovery, MS	**99%**	
				Percent Recovery, MSD	**95%**	
				RPD	**4.2%**	
AMB23-213	SN10	Total	Seawater	3106-2176	0.893	050417HGA
MS				3106-2176 MS	7.69	050417HGA
MSD				3106-2176 MSD	7.36	050417HGA
				Spiking Level, MS	6.99	050417HGA
				Spiking Level, MSD	6.70	050417HGA
				Percent Recovery, MS	**97%**	
				Percent Recovery, MSD	**97%**	
				RPD	**0.7%**	
AMB23-214	SN11	Total	Seawater	3106-2178	0.889	050917HGA
MS				3106-2178 MS	7.80	050917HGA
MSD				3106-2178 MSD	7.96	050917HGA
				Spiking Level, MS	6.83	050917HGA
				Spiking Level, MSD	7.01	050917HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.1%**	
AMB23-218	M3.3DEEP	Diss	Seawater	3106-2187	0.346	050917HGA
MS				3106-2187 MS	7.27	050917HGA
MSD				3106-2187 MSD	7.00	050917HGA
				Spiking Level, MS	6.67	050917HGA
				Spiking Level, MSD	6.92	050917HGA
				Percent Recovery, MS	**104%**	
				Percent Recovery, MSD	**96%**	
				RPD	**7.6%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB23
ENVVEST March 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB23-004	PS13	Total	Seawater	3106-2100 R1	1.04	041817HGA
DUP				3106-2100 R2	0.98	041817HGA
				Mean	*1.01*	
				RPD	**6%**	
AMB23-014	PS09	Total	Seawater	2106-2120 R1	1.34	042017HGA
DUP				2106-2120 R2	1.22 J	042017HGA
				Mean	*1.28* J	
				RPD	**9%**	
AMB23-020	PS16	Diss	Fresh Water	3106-2133 R1	0.295	042117HGA
DUP				3106-2133 R2	0.262	042117HGA
				Mean	*0.279*	
				RPD	**12%**	
AMB23-101	M6	Diss	Seawater	3106-2143 R1	0.803	050217HGA
DUP				3106-2143 R2	0.796	050217HGA
				Mean	*0.799*	
				RPD	**1%**	
AMB23-211	SN05	Total	Seawater	3106-2172 R1	1.53	050417HGA
DUP				3106-2172 R2	1.55	050417HGA
				Mean	*1.54*	
				RPD	**1%**	
AMB23-219	PS09	Total	Seawater	3106-2188 R1	1.99	050917HGA
DUP				3106-2188 R2	2.05	050917HGA
				Mean	*2.02*	
				RPD	**3%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 041717	1742185	041817HGA
SRM 1641 (2)		Total	Freshwater	1641d 041817	1561041	042017HGA
SRM 1641 (3)		Total	Freshwater	1641d 042017	1548746	042117HGA
SRM 1641 (4)		Total	Freshwater	1641d 050117	1556514	050217HGA
SRM 1641 (5)		Total	Freshwater	1641d 050217	1537892	050417HGA
SRM 1641 (6)		Total	Freshwater	1641d 050817	1567864	050917HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**12%**	
	SRM 1641 (2)			**PD**	**0%**	
	SRM 1641 (3)			**PD**	**1%**	
	SRM 1641 (4)			**PD**	**0%**	
	SRM 1641 (5)			**PD**	**1%**	
	SRM 1641 (6)			**PD**	**1%**	

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB23
ENVVEST March 2017
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0490**	**4.08**		
Seawater Reporting Limit (MDL* 3.18)					**0.156**	**13.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042017HTCO
MB-2			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042117HTCO
MB-3			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042117HTCO
MB-4			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042217HTCO
MB-5			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042317HTCO
MB-6			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042417HTCO
MB-7			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042417HTCO
MB-8			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042417HTCO
MB-9			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042517HTCO
MB-10			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042617HTCO
MB-11			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	042617HTCO
REPLICATE PRECISION								
AMB23-015	PS15	Total	Seawater	3106-2122	1.08	89.7		042117HTCO
DUP				3106-2122 R2	1.03	85.6		042117HTCO
				Mean	*1.05*	*87.6*		
				RPD	**4.7%**	**4.7%**		
AMB23-015	PS15	Diss	Seawater	3106-2123	1.11	92.5		042317HTCO
DUP				3106-2123 R2	1.08	89.7		042317HTCO
				Mean	*1.09*	*91.1*		
				RPD	**3.1%**	**3.1%**		
AMB23-201	WP	Total	Seawater	3106-2152	1.24	103		042117HTCO
DUP				3106-2152 R2	1.23	103		042117HTCO
				Mean	*1.24*	*103*		
				RPD	**0.7%**	**0.7%**		
AMB23-201	WP	Diss	Seawater	3106-2153	1.17	97.5		042417HTCO
DUP				3106-2153 R2	1.18	98.4		042417HTCO
				Mean	*1.18*	*97.9*		
				RPD	**0.9%**	**0.9%**		
AMB23-216	BJEST	Total	Seawater	3106-2182	3.10	258		042117HTCO
DUP				3106-2182 R2	3.07	256		042117HTCO
				Mean	*3.09*	*257*		
				RPD	**0.9%**	**0.9%**		
AMB23-216	BJEST	Diss	Seawater	3106-2183	3.05	254		042417HTCO
DUP				3106-2183 R2	3.09	258		042417HTCO
				Mean	*3.07*	*256*		
				RPD	**1.5%**	**1.5%**		
AMB23-009	PS04DUP	Diss	Seawater	3106-2111	1.19	99.1		042617HTCO
DUP				3106-2111 R2	1.24	103		042617HTCO
				Mean	*1.21*	*101*		
				RPD	**4.1%**	**4.1%**		
AMB23-220	PS16	Diss	Seawater	3106-2191	1.40	116		042617HTCO
DUP				3106-2191 R2	1.41	118		042617HTCO
				Mean	*1.41*	*117*		
				RPD	**1.4%**	**1.4%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB23
ENVVEST March 2017
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.518	43.2		042017HTCO
CRM-2		DOC	Seawater	CRM	0.543	45.2		042017HTCO
CRM-3		DOC	Seawater	CRM	0.472	39.3		042117HTCO
CRM-4		DOC	Seawater	CRM	0.507	42.3		042117HTCO
CRM-5		DOC	Seawater	CRM	0.525	43.7		042117HTCO
CRM-6		DOC	Seawater	CRM	0.553	46.1		042117HTCO
CRM-7		DOC	Seawater	CRM	0.568	47.4		042217HTCO
CRM-8		DOC	Seawater	CRM	0.567	47.3		042217HTCO
CRM-9		DOC	Seawater	CRM	0.554	46.2		042317HTCO
CRM-10		DOC	Seawater	CRM	0.534	44.5		042317HTCO
CRM-11		DOC	Seawater	CRM	0.513	42.7		042417HTCO
CRM-12		DOC	Seawater	CRM	0.525	43.7		042417HTCO
CRM-13		DOC	Seawater	CRM	0.567	47.2		042417HTCO
CRM-14		DOC	Seawater	CRM	0.559	46.6		042417HTCO
CRM-15		DOC	Seawater	CRM	0.594	49.5		042517HTCO
CRM-16		DOC	Seawater	CRM	0.537	44.8		042517HTCO
CRM-17		DOC	Seawater	CRM	0.564	47.0		042517HTCO
CRM-18		DOC	Seawater	CRM	0.526	43.8		042617HTCO
CRM-19		DOC	Seawater	CRM	0.560	46.7		042617HTCO
CRM-20		DOC	Seawater	CRM	0.570	47.5		042617HTCO
				Average Consensus Value	0.528	44.0		
				Range	0.516-0.540	43-45		
CRM-1				**PD**	**1.9%**	**1.9%**		
CRM-2				**PD**	**2.8%**	**2.8%**		
CRM-3				**PD**	**10.7%**	**10.7%**		
CRM-4				**PD**	**4.0%**	**4.0%**		
CRM-5				**PD**	**0.6%**	**0.6%**		
CRM-6				**PD**	**4.8%**	**4.8%**		
CRM-7				**PD**	**7.6%**	**7.6%**		
CRM-8				**PD**	**7.4%**	**7.4%**		
CRM-9				**PD**	**4.9%**	**4.9%**		
CRM-10				**PD**	**1.2%**	**1.2%**		
CRM-11				**PD**	**2.9%**	**2.9%**		
CRM-12				**PD**	**0.6%**	**0.6%**		
CRM-13				**PD**	**7.3%**	**7.3%**		
CRM-14				**PD**	**5.9%**	**5.9%**		
CRM-15				**PD**	**12.4%**	**12.4%**		
CRM-16				**PD**	**1.7%**	**1.7%**		
CRM-17				**PD**	**6.8%**	**6.8%**		
CRM-18				**PD**	**0.3%**	**0.3%**		
CRM-19				**PD**	**6.0%**	**6.0%**		
CRM-20				**PD**	**7.9%**	**7.9%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB23
ENVVEST March 2017
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	0.859	71.6		042017HTCO
ICV/CCV-2				CCV_1PPM	0.950	79.2		042017HTCO
ICV/CCV-3				CCV_1PPM	0.904	75.3		042017HTCO
ICV/CCV-4				CCV_1PPM	0.987	82.3		042017HTCO
ICV/CCV-5				CCV_1PPM	0.969	80.8		042117HTCO
ICV/CCV-6				CCV_1PPM	1.01	83.9		042117HTCO
ICV/CCV-7				CCV_1PPM	1.03	85.5		042117HTCO
ICV/CCV-8				CCV_1PPM	1.07	89.5		042117HTCO
ICV/CCV-9				ICV_1PPM	1.11	92.3		042117HTCO
ICV/CCV-10				CCV_1PPM	1.12	93.3		042217HTCO
ICV/CCV-11				CCV_1PPM	1.02	85.1		042317HTCO
ICV/CCV-12				CCV_1PPM	0.991	82.6		042317HTCO
ICV/CCV-13				CCV_1PPM	1.02	84.8		042317HTCO
ICV/CCV-14				CCV_1PPM	0.960	80.0		042417HTCO
ICV/CCV-15				CCV_1PPM	1.13	94.4		042417HTCO
ICV/CCV-16				CCV_1PPM	1.16	96.3		042417HTCO
ICV/CCV-17				CCV_1PPM	1.13	94.4		042417HTCO
ICV/CCV-18				CCV_1PPM	1.02	85.2		042517HTCO
ICV/CCV-19				CCV_1PPM	1.07	88.8		042517HTCO
ICV/CCV-20				CCV_1PPM	1.09	90.8		042617HTCO
ICV/CCV-21				CCV_1PPM	1.11	92.2		042617HTCO
ICV/CCV-22				CCV_1PPM	1.12	93.0		042617HTCO
				TRUE VALUE	**1.0**			
ICV/CCV-1				**% RECOVERY**	**86%**			
ICV/CCV-2				**% RECOVERY**	**95%**			
ICV/CCV-3				**% RECOVERY**	**90%**			
ICV/CCV-4				**% RECOVERY**	**99%**			
ICV/CCV-5				**% RECOVERY**	**97%**			
ICV/CCV-6				**% RECOVERY**	**101%**			
ICV/CCV-7				**% RECOVERY**	**103%**			
ICV/CCV-8				**% RECOVERY**	**107%**			
ICV/CCV-9				**% RECOVERY**	**111%**			
ICV/CCV-10				**% RECOVERY**	**112%**			
ICV/CCV-11				**% RECOVERY**	**102%**			
ICV/CCV-12				**% RECOVERY**	**99%**			
ICV/CCV-13				**% RECOVERY**	**102%**			
ICV/CCV-14				**% RECOVERY**	**96%**			
ICV/CCV-15				**% RECOVERY**	**113%**			
ICV/CCV-16				**% RECOVERY**	**116%**			
ICV/CCV-17				**% RECOVERY**	**113%**			
ICV/CCV-18				**% RECOVERY**	**102%**			
ICV/CCV-19				**% RECOVERY**	**107%**			
ICV/CCV-20				**% RECOVERY**	**109%**			
ICV/CCV-21				**% RECOVERY**	**111%**			
ICV/CCV-22				**% RECOVERY**	**112%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB23
ENVVEST March 2017
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	040117Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	040117Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	040117Nu
MB4		TME	Seawater	Blank 4		0.42 U	mg/L	041117Nu
MB5		TME	Seawater	Blank 5		0.42 U	mg/L	041117Nu
MB6		TME	Seawater	Blank 6		0.42 U	mg/L	041117Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		33.4	mg/L	040117Nu
LCS-2				LCS r2		33.7	mg/L	040117Nu
LCS-3				LCS r3		37.0	mg/L	040117Nu
LCS-4				LCS r4		36.0	mg/L	041117Nu
LCS-5				LCS r5		34.1	mg/L	041117Nu
LCS-6				LCS r6		40.2	mg/L	041117Nu
					TRUE VALUE	**40**	mg/L	
	LCS-1				**% RECOVERY**	**83%**		
	LCS-2				**% RECOVERY**	**84%**		
	LCS-3				**% RECOVERY**	**92%**		
	LCS-1				**% RECOVERY**	**90%**		
	LCS-2				**% RECOVERY**	**85%**		
	LCS-3				**% RECOVERY**	**101%**		
LABORATORY DUPLICATES								
AMB23-020	PS16	Total	Seawater	3106-2132		1.70	mg/L	040117Nu
DUP	PS16			3106-2132 R2		1.58	mg/L	040117Nu
					Mean	1.64		
					RPD	**7%**		
AMB23-103	DYOTS	Total	Seawater	3106-2146		3.77	mg/L	040117Nu
DUP	DYOTS			3106-2146 R2		3.51	mg/L	040117Nu
					Mean	3.64		
					RPD	**7%**		
AMB23-210	SN03	Total	Seawater	3106-2170		2.89	mg/L	041117Nu
DUP	SN03			3106-2170 R2		2.69	mg/L	041117Nu
					Mean	2.79		
					RPD	**7%**		
AMB23-216	BJEST	Total	Seawater	3106-2182		11.9	mg/L	041117Nu
DUP	BJEST			3106-2182 R2		11.4	mg/L	041117Nu
					Mean	11.7		
					RPD	**4%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB23
ENVVEST March 2017
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
				Instrument: YSI S-C-T Probe, S/N 15J1013T9				
				MDL	*0.01*		*PSU*	
Method Blanks								
MB1		Total	Seawater	DIW Blank 1	0.01	U	PSU	040117Osal
MB2		Total	Seawater	DIW Blank 2	0.01	U	PSU	040117Osal
MB3		Total	Seawater	DIW Blank 3	0.01	U	PSU	040117Osal
MB4		Total	Seawater	DIW Blank 4	0.01	U	PSU	040117Osal
MB5		Total	Seawater	DIW Blank 5	0.01	U	PSU	041117Osal
MB6		Total	Seawater	DIW Blank 6	0.01	U	PSU	041117Osal
MB7		Total	Seawater	DIW Blank 7	0.01	U	PSU	041117Osal
STANDARD REFERENCE MATERIAL								
SRM-1		Total	Seawater	Salinity Standard 1	35.1		PSU	040117Osal
SRM-2		Total	Seawater	Salinity Standard 2	35.1		PSU	040117Osal
SRM-3		Total	Seawater	Salinity Standard 3	35.2		PSU	040117Osal
SRM-4		Total	Seawater	Salinity Standard 4	35.2		PSU	040117Osal
SRM-5		Total	Seawater	Salinity Standard 5	35.1		PSU	041117Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.0		PSU	041117Osal
SRM-7		Total	Seawater	Salinity Standard 7	35.1		PSU	041117Osal
				Certified Value	**35.00**		PSU	
	SRM-1			**PD**	**0.3%**			
	SRM-2			**PD**	**0.3%**			
	SRM-3			**PD**	**0.5%**			
	SRM-4			**PD**	**0.5%**			
	SRM-5			**PD**	**0.1%**			
	SRM-6			**PD**	**0.3%**			
LABORATORY CONTROL SAMPLES								
LCS-1				LCS1	20.1		PSU	040117Osal
LCS-2				LCS2	20.1		PSU	040117Osal
LCS-3				LCS3	20.1		PSU	040117Osal
LCS-4				LCS4	20.1		PSU	040117Osal
LCS-5				LCS5	20.0		PSU	041117Osal
LCS-6				LCS6	20.0		PSU	041117Osal
LCS-7				LCS7	20.0		PSU	041117Osal
				TRUE VALUE	**20.0**		PSU	
	LCS-1			**% RECOVERY**	**100%**			
	LCS-2			**% RECOVERY**	**100%**			
	LCS-3			**% RECOVERY**	**101%**			
	LCS-4			**% RECOVERY**	**100%**			
	LCS-5			**% RECOVERY**	**100%**			
	LCS-6			**% RECOVERY**	**100%**			
	LCS-7			**% RECOVERY**	**100%**			

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QC Sample Results for Salinity
Ambient Monitoring - AMB23
ENVVEST March 2017
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
CALIBRATION RESULTS								
ICV-1				YSI 50 ms/cm ICV	50.0		mS	040117Osal
CCV-1				YSI 50 ms/cmCCV1	50.0		mS	040117Osal
CCV-2				YSI 50 ms/cmCCV2	50.1		mS	040117Osal
CCV-3				YSI 50 ms/cmCCV3	50.1		mS	040117Osal
CCV-4				YSI 50 ms/cmCCV4	50.3		mS	040117Osal
CCV-5				YSI 50 ms/cmCCV5	50.3		mS	040117Osal
CCV-6				YSI 50 ms/cmCCV6	50.1		mS	040117Osal
CCV-7				YSI 50 ms/cmCCV7	50.0		mS	041117Osal
CCV-8				YSI 50 ms/cmCCV8	50.2		mS	041117Osal
CCV-9				YSI 50 ms/cmCCV9	50.4		mS	041117Osal
CCV-10				YSI 50 ms/cmCCV10	50.3		mS	041117Osal
CCV-11				YSI 50 ms/cmCCV11	50.6		mS	041117Osal
				TRUE VALUE	**50.0**		mS	
	ICV-1			**% RECOVERY**	**100%**			
	CCV-1			**% RECOVERY**	**100%**			
	CCV-2			**% RECOVERY**	**100%**			
	CCV-3			**% RECOVERY**	**100%**			
	CCV-4			**% RECOVERY**	**101%**			
	CCV-5			**% RECOVERY**	**101%**			
	CCV-6			**% RECOVERY**	**100%**			
	CCV-7			**% RECOVERY**	**100%**			
	CCV-8			**% RECOVERY**	**100%**			
	CCV-9			**% RECOVERY**	**101%**			
	CCV-10			**% RECOVERY**	**101%**			
	CCV-11			**% RECOVERY**	**101%**			

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Data Qualifiers
Ambient Monitoring - AMB23
ENVVEST March 2017

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM (LOT#03-12) and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, March 2017 (AMB23)

PARAMETER: Total and Dissolved Metals – Al (total only), Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 03/28/2017, 03/29/2017 and 04/05/2017. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	03/28/2017, 03/29/2017 and 04/05/2017 EQP BLKS 03/21/17
Cooler temp. on arrival	All coolers were at <6.0°C
Collection dates	03/28/2017, 03/29/2017 and 04/05/2017
TSS analysis dates	04/01/17 and 04/11/17
OSAL analysis dates	04/01/17 and 04/11/17
CVAF analysis dates (Hg)	04/18/17 - 05/09/17
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	05/02/17 – 05/03/17
Online Preconcentration/Direct Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	05/15/17 – 05/19/17
TOC/DOC Analysis Date	04/20/17 – 04/26/17

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.107 µg/L	0.340 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.003 µg/L	0.010 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0250 µg/L	0.0795 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.061 µg/L	0.194 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.043 µg/L	0.137 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0010 µg/L	0.0032 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.013 µg/L	0.041 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0006 µg/L	0.0019 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.001 µg/L	0.003 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0004 µg/L	0.0013 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.01 µg/L	0.03 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

METHODS:

Freshwater and seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by MSL methods.

Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013, Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for Al and Cr via direct injection at 15x dilution. All other metals were analyzed using a preconcentration via seaFast chelation step in accordance with Battelle SOP *MSL-I-022, Methods of Sample Preconcentration: Online Preconcentration for Trace Metals Analysis in Water*. Seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate*

METHODS (cont): *Samples by ICP/MS*. The base methods for this procedure are EPA Method 1638 and EPA Method 1640. The ICP-MS data were reported in units of µg/L. Freshwater samples identified as <5% seawater were analyzed for all metals, other than Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The preconcentration procedure for seawater samples analyzed by ICP-MS for events prior to AMB20 included the addition of chelating agents to induce precipitation of metals under specific conditions. Therefore the ICP-MS method included a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method does not require this type of correction. No flags are required for this data set. This method shift has been documented in a manuscript entitled *Method Review for Trace Metals in Seawater: Automated Online Pre-concentration vs Borohydride Reductive Precipitation of Nearshore Seawater Samples for Analysis of Ni, Cu, Zn, Cd, and Pb via ICP-MS*, where events 17 and 19 were analyzed using both methods.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. A modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11 samples. In almost all cases the GF/C filters over estimated the TSS concentration. MSL SOP I-041-00 has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU). The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method. The instrument is specially equipped with high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, 28 days for OC, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater were reported from an Annually Verified Seawater MDL Study as determined by seven replicates of NASS Seawater. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL
N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times

DETECTION LIMITS (Continued):

detected blank value

c Exceeds data quality objective but meets one of the following contingency criterion:
  1 SRM certified <10x MDL or
  2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS: A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. The average method blank for each batch was less than the RL for all metals.

A triplicate analysis of 0.45µm PVDF dissolved trace metals filters was performed following a 5% HNO_3 cleaning. Zn values are flagged at a level of 0.0185-0.0779µg/L; one filter blank was B flagged at 0.006µg/L Cu; and one filter was J flagged at 0.0008µg/L Cd. For dissolved Zn data filter blanks may contribute to the FW sample and is <11% of the next lowest sample level. For Cu, filter blank contribution is <1% of the lowest field sample level. For Cd, filter blanks may contribute to the FW sample (which is J flagged), but contribute <1% to the next lowest field value. Only the FW sample values should be used with caution.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all below the MDL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed as part of the HTCO calibration curve to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES: A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals with the exception of total Al. The MS/MSD recoveries show this to be a spiking error, and there is no effect to the field data. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY: A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at sufficient levels relative to native sample concentrations.

REPLICATE PRECISION: Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL.

STANDARD REFERENCE MATERIAL ACCURACY: Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified/ reference values. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The SRM for Cd, Cr, Cu, Ni, Pb, and Zn, CASS-6, provides certified values for Cd, Cu, Ni, Pb, and Zn and a reference value for Cr. There is no seawater SRM for Al, for which accuracy is demonstrated by MS/MSD recovery of High Purity standards. The PDs were within the QC acceptance criterion of ≤ 20% with the exception of one Pb value (21%), which is still within the certified range provided by NRC-CNRC.

The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed

STANDARD REFERENCE MATERIAL ACCURACY (Continued):

by ICP-MS with freshwater sample matrices (e.g. OF021). Percent recoveries were within the QC acceptance criterion.

The SRM is considered for data set evaluation only if it is not certified greater than 10 times the MDL. The CASS-6 certified values for Cd, Cr, Cu, and Ni are less than 10 times the MDL.

A salinity standard was used to verify the accuracy of the salinity measurements. The accuracy range was 0.3-1.7PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 1 to 12%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Science Lab	**Service Request No.:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Received:**	03/31/17
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

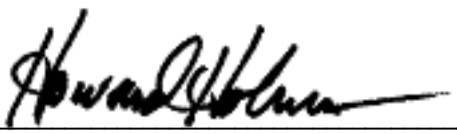
Twenty-six ocean water samples were received for analysis at ALS Environmental on 03/31/17. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Total Phosphorus by EPA Method 365.3:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample AMB23-103/DYOTS was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Ammonia as Nitrogen by Standard Method 4500-NH3 E:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample AMB23-001/PS07 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by 

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17 - 03/29/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB23-001/PS07	K1703145-001	**0.367**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-002/PS01	K1703145-002	**0.364**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-003/PS02	K1703145-003	**0.378**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-004/PS13	K1703145-004	**0.377**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-005/PS12	K1703145-005	**0.371**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-006/M3.1	K1703145-006	**0.363**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-007/PS03	K1703145-007	**0.394**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-008/PS04	K1703145-008	**0.370**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-009/PS04DUP	K1703145-009	**0.373**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-010/PS05	K1703145-010	**0.374**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-011/PS14	K1703145-011	**0.366**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-012/PS06	K1703145-012	**0.367**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-013/PS08	K1703145-013	**0.367**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-014/PS09	K1703145-014	**0.373**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-015/PS15	K1703145-015	**0.367**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-016/PS10	K1703145-016	**0.369**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-017/PS10.1	K1703145-017	**0.365**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-018/PS10.1DUP	K1703145-018	**0.364**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-019/PS11	K1703145-019	**0.362**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-020/PS16	K1703145-020	**0.366**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-021/PS07B	K1703145-021	**0.375**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-101/M6	K1703145-022	**0.326**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-102/M8	K1703145-023	**0.329**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-103/DYOTS	K1703145-024	**0.250**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-104/M5.1	K1703145-025	**0.334**	0.050	0.020	1	04/13/17 14:13	4/13/17	
AMB23-105/PS07C	K1703145-026	**0.357**	0.050	0.020	1	04/13/17 14:13	4/13/17	
Method Blank	K1703145-MB1	**0.021 J**	0.050	0.020	1	04/13/17 14:13	4/13/17	
Method Blank	K1703145-MB2	**0.020 J**	0.050	0.020	1	04/13/17 14:13	4/13/17	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB23-001/PS07	K1703145-001DUP	0.050	0.020	0.367	0.367	0.367	<1	20	04/13/17
AMB23-011/PS14	K1703145-011DUP	0.050	0.020	0.366	0.366	0.366	<1	20	04/13/17
AMB23-021/PS07B	K1703145-021DUP	0.050	0.020	0.375	0.366	0.371	2	20	04/13/17
Batch QC	K1703178-008DUP	0.050	0.020	ND U	ND U	NC	NC	20	04/13/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/13/17
		Date Extracted:	04/13/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB23-001/PS07	**Units:**	mg/L
Lab Code:	K1703145-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703145-001MS			Duplicate Matrix Spike K1703145-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.367	1.38	1.00	102	1.43	1.00	106	90-110	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/13/17
		Date Extracted:	04/13/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB23-011/PS14	**Units:**	mg/L
Lab Code:	K1703145-011	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703145-011MS			Duplicate Matrix Spike K1703145-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.366	1.40	1.00	104	1.41	1.00	104	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/13/17
		Date Extracted:	04/13/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB23-021/PS07B	**Units:**	mg/L
Lab Code:	K1703145-021	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703145-021MS			Duplicate Matrix Spike K1703145-021DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.375	1.39	1.00	102	1.40	1.00	103	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	04/13/17
		Date Extracted:	04/13/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1703178-008	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703178-008MS			**Duplicate Matrix Spike** K1703178-008DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	ND U	0.949	1.00	95	0.987	1.00	99	90-110	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/13/17
Sample Matrix:	Ocean Water	**Date Extracted:**	04/13/17

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	541779

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703145-LCS1	15.2	15.3	99	90-110
Lab Control Sample	K1703145-LCS2	15.4	15.3	101	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1703145
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	541779	KQ1704328-01	04/13/17 14:13	1.00	1.02	102	90-110
CCV2	541779	KQ1704328-02	04/13/17 14:13	1.00	1.04	104	90-110
CCV3	541779	KQ1704328-03	04/13/17 14:13	1.00	1.03	103	90-110
CCV4	541779	KQ1704328-04	04/13/17 14:13	1.00	1.02	102	90-110
CCV5	541779	KQ1704328-05	04/13/17 14:13	1.00	1.03	103	90-110
CCV6	541779	KQ1704328-06	04/13/17 14:13	1.00	1.06	106	90-110
CCV7	541779	KQ1704328-07	04/13/17 14:13	1.00	0.986	99	90-110
CCV8	541779	KQ1704328-08	04/13/17 14:13	1.00	0.964	96	90-110
CCV9	541779	KQ1704328-09	04/13/17 14:13	1.00	1.00	100	90-110
CCV10	541779	KQ1704328-10	04/13/17 14:13	1.00	0.972	97	90-110
CCV11	541779	KQ1704328-11	04/13/17 14:13	1.00	0.955	96	90-110
CCV12	541779	KQ1704328-12	04/13/17 14:13	1.00	1.08	108	90-110
CCV13	541779	KQ1704328-13	04/13/17 14:13	1.00	1.06	106	90-110
CCV14	541779	KQ1704328-14	04/13/17 14:13	1.00	1.09	109	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1703145
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	541779	KQ1704328-15	04/13/17 14:13	0.050	0.020	ND	U
CCB2	541779	KQ1704328-16	04/13/17 14:13	0.050	0.020	ND	U
CCB3	541779	KQ1704328-17	04/13/17 14:13	0.050	0.020	ND	U
CCB4	541779	KQ1704328-18	04/13/17 14:13	0.050	0.020	ND	U
CCB5	541779	KQ1704328-19	04/13/17 14:13	0.050	0.020	ND	U
CCB6	541779	KQ1704328-20	04/13/17 14:13	0.050	0.020	ND	U
CCB7	541779	KQ1704328-21	04/13/17 14:13	0.050	0.020	ND	U
CCB8	541779	KQ1704328-22	04/13/17 14:13	0.050	0.020	ND	U
CCB9	541779	KQ1704328-23	04/13/17 14:13	0.050	0.020	ND	U
CCB10	541779	KQ1704328-24	04/13/17 14:13	0.050	0.020	ND	U
CCB11	541779	KQ1704328-25	04/13/17 14:13	0.050	0.020	ND	U
CCB12	541779	KQ1704328-26	04/13/17 14:13	0.050	0.020	ND	U
CCB13	541779	KQ1704328-27	04/13/17 14:13	0.050	0.020	ND	U
CCB14	541779	KQ1704328-28	04/13/17 14:13	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17 - 03/29/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB23-001/PS07	K1703145-001	**0.080**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-002/PS01	K1703145-002	**0.083**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-003/PS02	K1703145-003	**0.081**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-004/PS13	K1703145-004	**0.086**	0.010	0.004	1	04/06/17 17:17	4/6/17	
AMB23-005/PS12	K1703145-005	**0.079**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-006/M3.1	K1703145-006	**0.075**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-007/PS03	K1703145-007	**0.081**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-008/PS04	K1703145-008	**0.077**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-009/PS04DUP	K1703145-009	**0.082**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-010/PS05	K1703145-010	**0.074**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-011/PS14	K1703145-011	**0.080**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-012/PS06	K1703145-012	**0.081**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-013/PS08	K1703145-013	**0.076**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-014/PS09	K1703145-014	**0.077**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-015/PS15	K1703145-015	**0.076**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-016/PS10	K1703145-016	**0.079**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-017/PS10.1	K1703145-017	**0.076**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-018/PS10.1DUP	K1703145-018	**0.075**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-019/PS11	K1703145-019	**0.077**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-020/PS16	K1703145-020	**0.078**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-021/PS07B	K1703145-021	**0.087**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-101/M6	K1703145-022	**0.063**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-102/M8	K1703145-023	**0.061**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-103/DYOTS	K1703145-024	**0.023**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-104/M5.1	K1703145-025	**0.068**	0.010	0.004	1	04/06/17 16:01	4/6/17	
AMB23-105/PS07C	K1703145-026	**0.083**	0.010	0.004	1	04/06/17 16:01	4/6/17	
Method Blank	K1703145-MB1	ND U	0.010	0.004	1	04/06/17 16:01	4/6/17	
Method Blank	K1703145-MB2	ND U	0.010	0.004	1	04/06/17 16:01	4/6/17	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary

Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB23-004/PS13	K1703145-004DUP	0.010	0.004	0.086	0.085	0.0854	1	20	04/06/17
AMB23-103/DYOTS	K1703145-024DUP	0.010	0.004	0.023	0.050	0.0362	74 *	20	04/06/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/6/17
		Date Extracted:	04/6/17

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB23-004/PS13	**Units:**	mg/L
Lab Code:	K1703145-004	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			**Duplicate Matrix Spike**					
		K1703145-004MS			K1703145-004DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.086	0.547	0.500	92	0.550	0.500	93	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/6/17
		Date Extracted:	04/6/17

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB23-103/DYOTS	**Units:**	mg/L
Lab Code:	K1703145-024	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1703145-024MS			K1703145-024DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.023	0.509	0.500	97	0.513	0.500	98	60-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/06/17
Sample Matrix:	Ocean Water	**Date Extracted:**	04/06/17

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	540928

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703145-LCS1	9.22	8.62	107	85-115
Lab Control Sample	K1703145-LCS2	9.15	8.62	106	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1703145
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	540928	KQ1703996-01	04/06/17 16:01	0.500	0.532	106	90-110
CCV2	540928	KQ1703996-02	04/06/17 16:01	0.500	0.534	107	90-110
CCV3	540928	KQ1703996-03	04/06/17 16:01	0.500	0.535	107	90-110
CCV4	540928	KQ1703996-04	04/06/17 16:01	0.500	0.533	107	90-110
CCV5	540928	KQ1703996-05	04/06/17 16:01	0.500	0.540	108	90-110
CCV6	540928	KQ1703996-06	04/06/17 17:17	0.500	0.537	107	90-110
CCV7	540928	KQ1703996-07	04/06/17 17:17	0.500	0.539	108	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1703145
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	540928	KQ1703996-08	04/06/17 16:01	0.010	0.004	ND	U
CCB2	540928	KQ1703996-09	04/06/17 16:01	0.010	0.004	ND	U
CCB3	540928	KQ1703996-10	04/06/17 16:01	0.010	0.004	ND	U
CCB4	540928	KQ1703996-11	04/06/17 16:01	0.010	0.004	ND	U
CCB5	540928	KQ1703996-12	04/06/17 16:01	0.010	0.004	ND	U
CCB6	540928	KQ1703996-13	04/06/17 17:17	0.010	0.004	ND	U
CCB7	540928	KQ1703996-14	04/06/17 17:17	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17 - 03/29/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB23-001/PS07	K1703145-001	**0.037 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-002/PS01	K1703145-002	**0.047 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-003/PS02	K1703145-003	**0.043 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-004/PS13	K1703145-004	**0.052**	0.050	0.009	1	04/06/17 11:00	
AMB23-005/PS12	K1703145-005	**0.024 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-006/M3.1	K1703145-006	**0.015 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-007/PS03	K1703145-007	**0.038 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-008/PS04	K1703145-008	**0.033 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-009/PS04DUP	K1703145-009	**0.030 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-010/PS05	K1703145-010	**0.028 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-011/PS14	K1703145-011	**0.081**	0.050	0.009	1	04/06/17 11:00	
AMB23-012/PS06	K1703145-012	**0.114**	0.050	0.009	1	04/06/17 11:00	
AMB23-013/PS08	K1703145-013	**0.069**	0.050	0.009	1	04/06/17 11:00	
AMB23-014/PS09	K1703145-014	**0.148**	0.050	0.009	1	04/06/17 11:00	
AMB23-015/PS15	K1703145-015	**0.031 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-016/PS10	K1703145-016	**0.028 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-017/PS10.1	K1703145-017	**0.039 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-018/PS10.1DUP	K1703145-018	**0.042 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-019/PS11	K1703145-019	**0.046 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-020/PS16	K1703145-020	**0.043 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-021/PS07B	K1703145-021	**0.061**	0.050	0.009	1	04/06/17 11:00	
AMB23-101/M6	K1703145-022	**0.064**	0.050	0.009	1	04/06/17 11:00	
AMB23-102/M8	K1703145-023	**0.038 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-103/DYOTS	K1703145-024	**0.043 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-104/M5.1	K1703145-025	**0.032 J**	0.050	0.009	1	04/06/17 11:00	
AMB23-105/PS07C	K1703145-026	**0.047 J**	0.050	0.009	1	04/06/17 11:00	
Method Blank	K1703145-MB1	**0.029 J**	0.050	0.009	1	04/06/17 11:00	
Method Blank	K1703145-MB2	**0.027 J**	0.050	0.009	1	04/06/17 11:00	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB23-001/PS07	K1703145-001DUP	0.050	0.009	0.037 J	0.026 J	0.0315	35 *	20	04/06/17
AMB23-021/PS07B	K1703145-021DUP	0.050	0.009	0.061	0.058	0.0595	5	20	04/06/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/6/17
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB23-001/PS07	**Units:**	mg/L
Lab Code:	K1703145-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1703145-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.037 J	10.5	10.0	105	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	03/28/17
Sample Matrix:	Ocean Water	**Date Received:**	03/31/17
		Date Analyzed:	04/6/17
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB23-021/PS07B	**Units:**	mg/L
Lab Code:	K1703145-021	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1703145-021MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.061	10.8	10.0	107	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/06/17
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	540887

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703145-LCS1	1.98	2.27	87	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703145
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/06/17
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	540906

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703145-LCS2	2.29	2.27	101	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1703145
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	540887	KQ1703976-09	04/06/17 11:00	10.0	9.51	95	90-110
CCV2	540887	KQ1703976-10	04/06/17 11:00	10.0	10.8	108	90-110
CCV3	540887	KQ1703976-11	04/06/17 11:00	10.0	10.9	109	90-110
CCV4	540887	KQ1703976-12	04/06/17 11:00	10.0	9.75	98	90-110
CCV5	540906	KQ1703986-05	04/06/17 11:00	10.0	10.9	109	90-110
CCV6	540906	KQ1703986-06	04/06/17 11:00	10.0	9.75	98	90-110
CCV7	540906	KQ1703986-07	04/06/17 11:00	10.0	10.1	101	90-110
CCV8	540906	KQ1703986-08	04/06/17 11:00	10.0	9.96	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1703145
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	540887	KQ1703976-05	04/06/17 11:00	0.050	0.009	0.030	J
CCB2	540887	KQ1703976-06	04/06/17 11:00	0.050	0.009	0.014	J
CCB3	540887	KQ1703976-07	04/06/17 11:00	0.050	0.009	0.033	J
CCB4	540887	KQ1703976-08	04/06/17 11:00	0.050	0.009	0.025	J
CCB5	540906	KQ1703986-01	04/06/17 11:00	0.050	0.009	0.033	J
CCB6	540906	KQ1703986-02	04/06/17 11:00	0.050	0.009	0.025	J
CCB7	540906	KQ1703986-03	04/06/17 11:00	0.050	0.009	0.042	J
CCB8	540906	KQ1703986-04	04/06/17 11:00	0.050	0.009	0.032	J

ALS ENVIRONMENTAL

Client:	Battelle Marine Science Lab	**Service Request No.:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Received:**	04/07/17
Sample Matrix:	Ocean Water		

Case Narrative

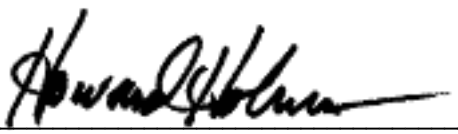
All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eighteen water samples were received for analysis at ALS Environmental on 04/07/17. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by 

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/5/17
Sample Matrix:	Ocean Water	**Date Received:**	04/7/17
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB23-201/WP	K1703450-001	**0.219**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-202/M2	K1703450-002	**0.274**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-203/M2 DEEP	K1703450-003	**0.299**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-204/CLMBAY	K1703450-004	**0.145**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-205/POPISP/ILSP	K1703450-005	**0.223**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-206/M1	K1703450-006	**0.177**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-207/MI DEEP	K1703450-007	**0.261**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-208/POPIPD	K1703450-008	**0.192**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-209/POPIPDDUP	K1703450-009	**0.196**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-210/SN03	K1703450-010	**0.265**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-211/SN05	K1703450-011	**0.229**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-212/M4	K1703450-012	**0.167**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-213/SN10	K1703450-013	**0.081**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-214/SN11	K1703450-014	**0.083**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-215/SN11DUP	K1703450-015	**0.083**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-216/BJEST	K1703450-016	**0.204**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-217/M3.3	K1703450-017	**0.200**	0.050	0.020	1	04/17/17 14:17	4/17/17	
AMB23-218/M3.3DEEP	K1703450-018	**0.272**	0.050	0.020	1	04/17/17 14:17	4/17/17	
Method Blank	K1703450-MB1	**0.022 J**	0.050	0.020	1	04/17/17 14:17	4/17/17	
Method Blank	K1703450-MB2	**0.021 J**	0.050	0.020	1	04/17/17 14:17	4/17/17	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/05/17
Sample Matrix:	Ocean Water	**Date Received:**	04/07/17
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1703333-001DUP	0.050	0.020	1.24	1.24	1.24	<1	20	04/17/17
AMB23-201/WP	K1703450-001DUP	0.050	0.020	0.219	0.232	0.226	6	20	04/17/17
AMB23-205/POPISP/ILSP	K1703450-005DUP	0.050	0.020	0.223	0.221	0.222	<1	20	04/17/17
AMB23-215/SN11DUP	K1703450-015DUP	0.050	0.020	0.083	0.078	0.0805	6	20	04/17/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	04/17/17
		Date Extracted:	04/17/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1703333-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703333-001MS			Duplicate Matrix Spike K1703333-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	1.24	6.37	5.00	102	6.18	5.00	99	90-110	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/05/17
Sample Matrix:	Ocean Water	**Date Received:**	04/07/17
		Date Analyzed:	04/17/17
		Date Extracted:	04/17/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB23-201/WP	**Units:**	mg/L
Lab Code:	K1703450-001	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1703450-001MS			K1703450-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.219	1.24	1.00	102	1.26	1.00	104	90-110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/05/17
Sample Matrix:	Ocean Water	**Date Received:**	04/07/17
		Date Analyzed:	04/17/17
		Date Extracted:	04/17/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB23-205/POPISP/ILSP	**Units:**	mg/L
Lab Code:	K1703450-005	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703450-005MS			Duplicate Matrix Spike K1703450-005DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.223	1.23	1.00	100	1.25	1.00	102	90-110	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/05/17
Sample Matrix:	Ocean Water	**Date Received:**	04/07/17
		Date Analyzed:	04/17/17
		Date Extracted:	04/17/17

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name:	AMB23-215/SN11DUP	**Units:**	mg/L
Lab Code:	K1703450-015	**Basis:**	NA
Analysis Method:	353.2		
Prep Method:	Method		

		Matrix Spike K1703450-015MS			Duplicate Matrix Spike K1703450-015DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate+Nitrite as Nitrogen	0.083	1.10	1.00	102	1.09	1.00	101	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/17/17
Sample Matrix:	Ocean Water	**Date Extracted:**	04/17/17

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	542292

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703450-LCS1	15.0	15.3	98	90-110
Lab Control Sample	K1703450-LCS2	15.4	15.3	100	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1703450
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	542292	KQ1704529-01	04/17/17 14:17	1.00	1.03	103	90-110
CCV2	542292	KQ1704529-02	04/17/17 14:17	1.00	0.993	99	90-110
CCV3	542292	KQ1704529-03	04/17/17 14:17	1.00	0.964	96	90-110
CCV4	542292	KQ1704529-04	04/17/17 14:17	1.00	0.998	100	90-110
CCV5	542292	KQ1704529-05	04/17/17 14:17	1.00	1.00	100	90-110
CCV6	542292	KQ1704529-06	04/17/17 14:17	1.00	1.02	102	90-110
CCV7	542292	KQ1704529-07	04/17/17 14:17	1.00	0.963	96	90-110
CCV8	542292	KQ1704529-08	04/17/17 14:17	1.00	0.952	95	90-110
CCV9	542292	KQ1704529-09	04/17/17 14:17	1.00	0.900	90	90-110
CCV10	542292	KQ1704529-10	04/17/17 14:17	1.00	0.973	97	90-110
CCV11	542292	KQ1704529-11	04/17/17 14:17	1.00	0.979	98	90-110
CCV12	542292	KQ1704529-12	04/17/17 14:17	1.00	0.954	95	90-110
CCV13	542292	KQ1704529-13	04/17/17 14:17	1.00	0.940	94	90-110
CCV14	542292	KQ1704529-14	04/17/17 14:17	1.00	0.906	91	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1703450
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	542292	KQ1704529-16	04/17/17 14:17	0.050	0.020	ND	U
CCB2	542292	KQ1704529-17	04/17/17 14:17	0.050	0.020	ND	U
CCB3	542292	KQ1704529-18	04/17/17 14:17	0.050	0.020	ND	U
CCB4	542292	KQ1704529-19	04/17/17 14:17	0.050	0.020	0.024	J
CCB5	542292	KQ1704529-20	04/17/17 14:17	0.050	0.020	ND	U
CCB6	542292	KQ1704529-21	04/17/17 14:17	0.050	0.020	ND	U
CCB7	542292	KQ1704529-22	04/17/17 14:17	0.050	0.020	ND	U
CCB8	542292	KQ1704529-23	04/17/17 14:17	0.050	0.020	ND	U
CCB9	542292	KQ1704529-24	04/17/17 14:17	0.050	0.020	ND	U
CCB10	542292	KQ1704529-25	04/17/17 14:17	0.050	0.020	ND	U
CCB11	542292	KQ1704529-26	04/17/17 14:17	0.050	0.020	ND	U
CCB12	542292	KQ1704529-27	04/17/17 14:17	0.050	0.020	ND	U
CCB13	542292	KQ1704529-28	04/17/17 14:17	0.050	0.020	ND	U
CCB14	542292	KQ1704529-29	04/17/17 14:17	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/5/17
Sample Matrix:	Ocean Water	**Date Received:**	04/7/17
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB23-201/WP	K1703450-001	**0.062**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-202/M2	K1703450-002	**0.068**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-203/M2 DEEP	K1703450-003	**0.067**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-204/CLMBAY	K1703450-004	**0.060**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-205/POPISP/ILSP	K1703450-005	**0.046**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-206/M1	K1703450-006	**0.051**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-207/MI DEEP	K1703450-007	**0.059**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-208/POPIPD	K1703450-008	**0.049**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-209/POPIPDDUP	K1703450-009	**0.052**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-210/SN03	K1703450-010	**0.050**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-211/SN05	K1703450-011	**0.058**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-212/M4	K1703450-012	**0.047**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-213/SN10	K1703450-013	**0.051**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-214/SN11	K1703450-014	**0.057**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-215/SN11DUP	K1703450-015	**0.056**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-216/BJEST	K1703450-016	**0.063**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-217/M3.3	K1703450-017	**0.043**	0.010	0.004	1	04/14/17 15:54	4/14/17	
AMB23-218/M3.3DEEP	K1703450-018	**0.069**	0.010	0.004	1	04/14/17 15:54	4/14/17	
Method Blank	K1703450-MB1	ND U	0.010	0.004	1	04/14/17 15:54	4/14/17	

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QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/05/17
Sample Matrix:	Ocean Water	**Date Received:**	04/07/17
		Date Analyzed:	04/14/17

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	AMB23-211/SN05	**Units:**	mg/L
Lab Code:	K1703450-011	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1703450-011DUP Result	Average	RPD	RPD Limit
Phosphorus, Total	365.3	0.010	0.004	0.058	0.062	0.0596	7	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/05/17
Sample Matrix:	Ocean Water	**Date Received:**	04/07/17
		Date Analyzed:	04/14/17
		Date Extracted:	04/14/17

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB23-211/SN05	**Units:**	mg/L
Lab Code:	K1703450-011	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1703450-011MS			K1703450-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.058	0.690	0.700	90	0.721	0.700	95	60-135	5	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/14/17
Sample Matrix:	Ocean Water	**Date Extracted:**	04/14/17

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	541942

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703450-LCS1	9.29	8.62	108	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1703450
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	541942	KQ1704405-01	04/14/17 15:54	0.500	0.543	109	90-110
CCV2	541942	KQ1704405-02	04/14/17 15:54	0.500	0.544	109	90-110
CCV3	541942	KQ1704405-03	04/14/17 15:54	0.500	0.543	109	90-110
CCV4	541942	KQ1704405-04	04/14/17 15:54	0.500	0.546	109	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1703450
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Blank (CCB) Summary
Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	541942	KQ1704405-05	04/14/17 15:54	0.010	0.004	ND	U
CCB2	541942	KQ1704405-06	04/14/17 15:54	0.010	0.004	ND	U
CCB3	541942	KQ1704405-07	04/14/17 15:54	0.010	0.004	ND	U
CCB4	541942	KQ1704405-08	04/14/17 15:54	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	04/5/17
Sample Matrix:	Ocean Water	**Date Received:**	04/7/17
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Q
AMB23-201/WP	K1703450-001	**0.013**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-202/M2	K1703450-002	**0.026**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-203/M2 DEEP	K1703450-003	**0.018**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-204/CLMBAY	K1703450-004	**0.016**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-205/POPISP/ILSP	K1703450-005	**0.014**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-206/M1	K1703450-006	**0.012**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-207/MI DEEP	K1703450-007	**0.014**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-208/POPIPD	K1703450-008	**0.011**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-209/POPIPDDUP	K1703450-009	**0.009**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-210/SN03	K1703450-010	**0.068**		0.050	0.009	1	04/11/17 14:00	
AMB23-211/SN05	K1703450-011	**0.023**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-212/M4	K1703450-012	**0.013**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-213/SN10	K1703450-013	**0.01**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-214/SN11	K1703450-014	ND	U	0.050	0.009	1	04/11/17 14:00	
AMB23-215/SN11DUP	K1703450-015	ND	U	0.050	0.009	1	04/11/17 14:00	
AMB23-216/BJEST	K1703450-016	ND	U	0.050	0.009	1	04/11/17 14:00	
AMB23-217/M3.3	K1703450-017	**0.037**	**J**	0.050	0.009	1	04/11/17 14:00	
AMB23-218/M3.3DEEP	K1703450-018	**0.011**	**J**	0.050	0.009	1	04/11/17 14:00	
Method Blank	K1703450-MB1	**0.009**	**J**	0.050	0.009	1	04/11/17 14:00	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	NA
Sample Matrix:	Ocean Water	**Date Received:**	NA
		Date Analyzed:	04/11/17

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1703402-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1703402-001DUP Result	Average	RPD	RPD Limit
Ammonia as Nitrogen	SM 4500-NH3 E	0.050	0.009	ND U	ND U	NC	NC	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	04/11/17
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1703402-001	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1703402-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	ND U	9.16	10.0	92	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1703450
Project:	March 2017 Ambient Monitoring (AMB23)	**Date Analyzed:**	04/11/17
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	541389

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1703450-LCS1	2.08	2.27	92	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1703450
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	541389	KQ1704173-09	04/11/17 14:00	10.0	9.42	94	90-110
CCV2	541389	KQ1704173-10	04/11/17 14:00	10.0	10.9	109	90-110
CCV3	541389	KQ1704173-11	04/11/17 14:00	10.0	10.5	105	90-110
CCV4	541389	KQ1704173-12	04/11/17 14:00	10.0	10.8	108	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1703450
Project: March 2017 Ambient Monitoring (AMB23)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	541389	KQ1704173-05	04/11/17 14:00	0.050	0.009	0.013	J
CCB2	541389	KQ1704173-06	04/11/17 14:00	0.050	0.009	0.031	J
CCB3	541389	KQ1704173-07	04/11/17 14:00	0.050	0.009	0.013	J
CCB4	541389	KQ1704173-08	04/11/17 14:00	0.050	0.009	0.019	J

LOG-IN CHECKLIST Skipped #2093 EG Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 2094-2141 Batch: 65

Project Name: ENVVEST AMB23 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: SW / FW WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☒	Custody seal present Seal intact? YES NO	Cooler 1: LL °C
☒	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)	Cooler 2: LL °C Cooler 3: LL °C Cooler 4: LL °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☒	☐	☐	Were all chain of custody forms signed and dated?	
☒	☐	☐	Were samples filtered at MSL? ALL (HALF) TMS	*Samples must be filtered prior to preservation!*

Sample condition(s): (Acceptable) Other (explain):

Container type: Teflon Poly (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: Strivens Cooler Receipt Date/Time: 20170328 1100

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)		
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐	Complete pH check required for project (use pH meter and record on pH Record form)		
☒	Sample(s) were preserved at MSL		
Type: ☒	0.2% HNO3	Notes: TMS, DMS	Lot# 1214050
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☒	Refrigerate/Freeze	Notes: A: TSS, Nuts F: Tec, Dec WMK	
☐	Other	Notes:	

Completed By: Strivens Preservation Date/Time: 20170328 1700

Storage Shelf:

Comments/Observations:

Battelle Marine Sciences Labs, 1529 West Sequim Bay Rd, Sequim, Washington 98362 PH: (360) 681-4565

SAMPLE CHAIN OF CUSTODY FORM
Date: 20170328
Page: 1 of 1
COC Number: AMB23_2017_03_28

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: **ENVVEST AMB Monitoring**
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB23

Testing Parameters

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road
Sequim, WA 98382
Attention: Jill Brandenberger

Observations, Instructions

3106 * TOT / DISS

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	TMS	Toc	Doc	TSS	Nutrients	No. of containers	StationID	Comments	
	AMB23-01	PS07	3/28/17 8:55	Sea	x	x	x	x	x	5	PS07	2094	2095
	AMB23-02	PS01	3/28/17 9:11	Sea							PS01	2096	2097
	AMB23-03	PS02	3/28/17 9:30	Sea							PS02	2098	2099
	AMB23-04	PS13	3/28/17 9:42	Sea							PS13	2100	2101
	AMB23-05	PS12	3/28/17 10:00	Sea							PS12	2102	2103
	AMB23-06	M3.1	3/28/17 10:20	Sea							M3.1	2104	2105
	AMB23-07	PS03	3/28/17 11:03	Sea							PS03	2106	2107
	AMB23-08	PS04	3/28/17 11:18	Sea							PS04	2108	2109
	AMB23-09	PS04DUP	3/28/17 11:18	Sea							PS04	Field Dup 2110	2111
	AMB23-10	PS05	3/28/17 11:35	Sea							PS05	2112	2113
	AMB23-11	PS14	3/28/17 11:45	Sea							PS14	2014	2115
	AMB23-12	PS06	3/28/17 11:58	Sea							PS06	2116	2117
	AMB23-13	PS08	3/28/17 12:14	Sea							PS08	2118	2119
	AMB23-14	PS09	3/28/17 12:28	Sea							PS09	2120	2121
	AMB23-15	PS15	3/28/17 12:45	Sea							PS15	2122	2123
	AMB23-16	PS10	3/28/17 12:54	Sea							PS10	2124	2125
	AMB23-17	PS10.1	3/28/17 13:20	Sea							PS10.1	2126	2127
	AMB23-18	PS10.1DUP	3/28/17 13:20	Sea							PS10.1	field dup 2128	2129
	AMB23-19	PS11	3/28/17 13:36	Sea							PS11	2130	2131
	AMB23-20	PS16	3/28/17 13:45	Sea							PS16	2 sea lions 2132	2133
	AMB23-21	PS07B	3/28/17 14:10	Sea							PS07B	2134	2135

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Relinquished by: Strivens — 20170328 — 1600
Signature — Date — Time
Printed Name — Company PNNL

Received by: Strivens
Signature
Printed Name

Total # of Containers 1
Shipment Method: PNNL staff
Shipment Method:
Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CUSTODY RECORD

(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/28/17

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVVEST - AMB 23
Project Manager: Brandenberger
Phone Number: 14504

Shipment Method: HAND DELIVERED BY PNNL STAFF
Preservation: ICE

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: TMe	TOC/DOC	TSS	TOX	3106* TOT / DISS Laboratory ID	Observations/Comments
1	OF 18	20170328 8:45	SEA WATER	5	X	X	X	X	2136 / 2137	Tox Samples Sent
2	OF 19	↓ 12:29	↓	5	X	X	X	X	2138 / 2139	to SEAWORKS
3	OF 21	↓ 9:30	FRESHWATER	5	X	X	X	X	2140 / 2141	
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Relinquished By:	Company:	Received By:	Company:
Strauss	PNNL	Strauss	PNNL
Signature/Printed Name	20170328 1730 Date/Time	Signature/Printed Name	20170328 1730 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/29/17 (samples arrived 3/28/17, logged in 3/29/17)
Batch: 65
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-001	PS07-TME	TME	PS07	3106-2094	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-001	PS07-DME	DME	PS07	3106-2095	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-002	PS01-TME	TME	PS01	3106-2096	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-002	PS01-DME	DME	PS01	3106-2097	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-003	PS02-TME	TME	PS02	3106-2098	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-003	PS02-DME	DME	PS02	3106-2099	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-004	PS13-TME	TME	PS13	3106-2100	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-004	PS13-DME	DME	PS13	3106-2101	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-005	PS12-TME	TME	PS12	3106-2102	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-005	PS12-DME	DME	PS12	3106-2103	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-006	M3.1-TME	TME	M3.1	3106-2104	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-006	M3.1-DME	DME	M3.1	3106-2105	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-007	PS03-TME	TME	PS03	3106-2106	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-007	PS03-DME	DME	PS03	3106-2107	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-008	PS04-TME	TME	PS04	3106-2108	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-008	PS04-DME	DME	PS04	3106-2109	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-009	PS04DUP-TME	TME	PS04DUP	3106-2110	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-009	PS04DUP-DME	DME	PS04DUP	3106-2111	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-010	PS05-TME	TME	PS05	3106-2112	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-010	PS05-DME	DME	PS05	3106-2113	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-011	PS14-TME	TME	PS14	3106-2114	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-011	PS14-DME	DME	PS14	3106-2115	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-012	PS06-TME	TME	PS06	3106-2116	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-012	PS06-DME	DME	PS06	3106-2117	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-013	PS08-TME	TME	PS08	3106-2118	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-013	PS08-DME	DME	PS08	3106-2119	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-014	PS09-TME	TME	PS09	3106-2120	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-014	PS09-DME	DME	PS09	3106-2121	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-015	PS15-TME	TME	PS15	3106-2122	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-015	PS15-DME	DME	PS15	3106-2123	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-016	PS10-TME	TME	PS10	3106-2124	Seawater	PREP LAB	Total Metals, Hg	03/28/17

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/29/17 (samples arrived 3/28/17, logged in 3/29/17)
Batch: 65
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle *The Business of Innovation*

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-016	PS10-DME	DME	PS10	3106-2125	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-017	PS10.1-TME	TME	PS10.1	3106-2126	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-017	PS10.1-DME	DME	PS10.1	3106-2127	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-018	PS10.1DUP-TME	TME	PS10.1DUP	3106-2128	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-018	PS10.1DUP-DME	DME	PS10.1DUP	3106-2129	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-019	PS11-TME	TME	PS11	3106-2130	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-019	PS11-DME	DME	PS11	3106-2131	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-020	PS16-TME	TME	PS16	3106-2132	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-020	PS16-DME	DME	PS16	3106-2133	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-021	PS07B-TME	TME	PS07B	3106-2134	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-021	PS07B-DME	DME	PS07B	3106-2135	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-DD001	OF018-TME	TME	OF018	3106-2136	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-DD001	OF018-DME	DME	OF018	3106-2137	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-DD002	OF019-TME	TME	OF019	3106-2138	Seawater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-DD002	OF019-DME	DME	OF019	3106-2139	Seawater	PREP LAB	Dissolved Metals, Hg	03/28/17
AMB23-DD003	OF021-TME	TME	OF021	3106-2140	Freshwater	PREP LAB	Total Metals, Hg	03/28/17
AMB23-DD003	OF021-DME	DME	OF021	3106-2141	Freshwater	PREP LAB	Dissolved Metals, Hg	03/28/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/29/17 (samples arrived 3/28/17, logged in 3/29/17)
Batch: 65
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-001	PS07-TOC	TOC	PS07	3106-2094	Seawater	MSL	TOC	03/28/17
AMB23-002	PS01-TOC	TOC	PS01	3106-2096	Seawater	MSL	TOC	03/28/17
AMB23-003	PS02-TOC	TOC	PS02	3106-2098	Seawater	MSL	TOC	03/28/17
AMB23-004	PS13-TOC	TOC	PS13	3106-2100	Seawater	MSL	TOC	03/28/17
AMB23-005	PS12-TOC	TOC	PS12	3106-2102	Seawater	MSL	TOC	03/28/17
AMB23-006	M3.1-TOC	TOC	M3.1	3106-2104	Seawater	MSL	TOC	03/28/17
AMB23-007	PS03-TOC	TOC	PS03	3106-2106	Seawater	MSL	TOC	03/28/17
AMB23-008	PS04-TOC	TOC	PS04	3106-2108	Seawater	MSL	TOC	03/28/17
AMB23-009	PS04DUP-TOC	TOC	PS04DUP	3106-2110	Seawater	MSL	TOC	03/28/17
AMB23-010	PS05-TOC	TOC	PS05	3106-2112	Seawater	MSL	TOC	03/28/17
AMB23-011	PS14-TOC	TOC	PS14	3106-2114	Seawater	MSL	TOC	03/28/17
AMB23-012	PS06-TOC	TOC	PS06	3106-2116	Seawater	MSL	TOC	03/28/17
AMB23-013	PS08-TOC	TOC	PS08	3106-2118	Seawater	MSL	TOC	03/28/17
AMB23-014	PS09-TOC	TOC	PS09	3106-2120	Seawater	MSL	TOC	03/28/17
AMB23-015	PS15-TOC	TOC	PS15	3106-2122	Seawater	MSL	TOC	03/28/17
AMB23-016	PS10-TOC	TOC	PS10	3106-2124	Seawater	MSL	TOC	03/28/17
AMB23-017	PS10.1-TOC	TOC	PS10.1	3106-2126	Seawater	MSL	TOC	03/28/17
AMB23-018	PS10.1DUP-TOC	TOC	PS10.1DUP	3106-2128	Seawater	MSL	TOC	03/28/17
AMB23-019	PS11-TOC	TOC	PS11	3106-2130	Seawater	MSL	TOC	03/28/17
AMB23-020	PS16-TOC	TOC	PS16	3106-2132	Seawater	MSL	TOC	03/28/17
AMB23-021	PS07B-TOC	TOC	PS07B	3106-2134	Seawater	MSL	TOC	03/28/17
AMB23-DD001	OF018-TOC	TOC	OF018	3106-2136	Seawater	MSL	TOC	03/28/17
AMB23-DD002	OF019-TOC	TOC	OF019	3106-2138	Seawater	MSL	TOC	03/28/17
AMB23-DD003	OF021-TOC	TOC	OF021	3106-2140	Freshwater	MSL	TOC	03/28/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/29/17 (samples arrived 3/28/17, logged in 3/29/17)
Batch: 65
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-001	PS07-DOC	DOC	PS07	3106-2095	Seawater	MSL	DOC	03/28/17
AMB23-002	PS01-DOC	DOC	PS01	3106-2097	Seawater	MSL	DOC	03/28/17
AMB23-003	PS02-DOC	DOC	PS02	3106-2099	Seawater	MSL	DOC	03/28/17
AMB23-004	PS13-DOC	DOC	PS13	3106-2101	Seawater	MSL	DOC	03/28/17
AMB23-005	PS12-DOC	DOC	PS12	3106-2103	Seawater	MSL	DOC	03/28/17
AMB23-006	M3.1-DOC	DOC	M3.1	3106-2105	Seawater	MSL	DOC	03/28/17
AMB23-007	PS03-DOC	DOC	PS03	3106-2107	Seawater	MSL	DOC	03/28/17
AMB23-008	PS04-DOC	DOC	PS04	3106-2109	Seawater	MSL	DOC	03/28/17
AMB23-009	PS04DUP-DOC	DOC	PS04DUP	3106-2111	Seawater	MSL	DOC	03/28/17
AMB23-010	PS05-DOC	DOC	PS05	3106-2113	Seawater	MSL	DOC	03/28/17
AMB23-011	PS14-DOC	DOC	PS14	3106-2115	Seawater	MSL	DOC	03/28/17
AMB23-012	PS06-DOC	DOC	PS06	3106-2117	Seawater	MSL	DOC	03/28/17
AMB23-013	PS08-DOC	DOC	PS08	3106-2119	Seawater	MSL	DOC	03/28/17
AMB23-014	PS09-DOC	DOC	PS09	3106-2121	Seawater	MSL	DOC	03/28/17
AMB23-015	PS15-DOC	DOC	PS15	3106-2123	Seawater	MSL	DOC	03/28/17
AMB23-016	PS10-DOC	DOC	PS10	3106-2125	Seawater	MSL	DOC	03/28/17
AMB23-017	PS10.1-DOC	DOC	PS10.1	3106-2127	Seawater	MSL	DOC	03/28/17
AMB23-018	PS10.1DUP-DOC	DOC	PS10.1DUP	3106-2129	Seawater	MSL	DOC	03/28/17
AMB23-019	PS11-DOC	DOC	PS11	3106-2131	Seawater	MSL	DOC	03/28/17
AMB23-020	PS16-DOC	DOC	PS16	3106-2133	Seawater	MSL	DOC	03/28/17
AMB23-021	PS07B-DOC	DOC	PS07B	3106-2135	Seawater	MSL	DOC	03/28/17
AMB23-DD001	OF018-DOC	DOC	OF018	3106-2137	Seawater	MSL	DOC	03/28/17
AMB23-DD002	OF019-DOC	DOC	OF019	3106-2139	Seawater	MSL	DOC	03/28/17
AMB23-DD003	OF021-DOC	DOC	OF021	3106-2141	Freshwater	MSL	DOC	03/28/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/29/17 (samples arrived 3/28/17, logged in 3/29/17)
Batch: 65
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-001	PS07-TSS/OSAL	TSS/OSAL	PS07	3106-2094	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-002	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-2096	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-003	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-2098	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-004	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-2100	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-005	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-2102	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-006	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-2104	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-007	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-2106	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-008	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-2108	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-009	PS04DUP-TSS/OSAL	TSS/OSAL	PS04DUP	3106-2110	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-010	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-2112	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-011	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-2114	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-012	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-2116	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-013	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-2118	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-014	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-2120	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-015	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-2122	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-016	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-2124	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-017	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-2126	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-018	PS10.1DUP-TSS/OSAL	TSS/OSAL	PS10.1DUP	3106-2128	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-019	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-2130	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-020	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-2132	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-021	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-2134	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-DD001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-2136	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-2138	Seawater	MSL	TSS/OSAL	03/28/17
AMB23-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-2140	Freshwater	MSL	TSS/OSAL	03/28/17

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: Block Sample No(s): 2142-2151 Batch: 66

Project Name: ENVVEST AMB23 Project Manager: Brandbigge

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: SW WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☑	Custody seal present Seal intact? YES NO	Cooler 1: 4c °C
☑	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)	Cooler 2: °C
				Cooler 3: °C
				Cooler 4: °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☑	☐	☐	Were all chain of custody forms signed and dated?	
☑	☐	☐	Were samples filtered at MSL? ALL HALF (metals)	*Samples must be filtered prior to preservation!*

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: Strivers Cooler Receipt Date/Time: 20170329 1600

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes: metals	Lot# 1214050
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☑	Refrigerate/Freeze	Notes: R: TSS, Nutrients F: Toc, Doc	WHK in
☐	Other	Notes:	

Completed By: Strivers Preservation Date/Time: 20170329 1700

Storage Shelf:

Comments/Observations:

SAMPLE CHAIN OF CUSTODY FORM
Date: 20170329
Page: 1 of 1
COC Number: AMB23_2017_03_29

Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Project No.: **ENVVEST AMB Monitoring**
Project Name:
Project Manager: Jill Brandenberger
Phone: (360) 681-3668

EVENT: AMB23

Laboratory: Battelle MSL
Address: 1529 W. Sequim Bay Road, Sequim, WA 98382
Attention: Jill Brandenberger

Testing Parameters: Metals, Toc, Doc, TSS, Nutrients

Observations, Instructions: 3106*

Lab. Use only: Lab ID	Sample ID	Sample Lable	Collection Date/Time	Matrix	No. of containers	StationID	Comments: TOT	Comments: DISS
	AMB23-101	M6	3/29/17 9:06	Sea	5	PS07	2142	2143
	AMB23-102	M8	3/29/17 9:30	Sea	5	PS01	2144	2145
	AMB23-103	DYOTS	3/29/17 9:58	Sea	5	PS02	2146	2147
	AMB23-104	M5.1	3/29/17 11:15	Sea	5	PS13	2148	2149
	AMB23-105	PS07C	3/29/17 12:26	Sea	5	PS12	2150	2151

Cut short due to weather

Relinquished by: Signature, Printed Name — Date: 20170329 — Time: 1600 — Company: PNNL
Received by: Signature, Printed Name

Relinquished by: Signature, Printed Name — Date — Time — Company
Received by: Signature, Printed Name

Total # of Containers: 25
Shipment Method: PNNL staff
Sample Disposition:

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/30/17 (samples arrived 3/29/17, logged in 3/30/17)
Batch: 66
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-101	M6-TME	TME	M6	3106-2142	Seawater	PREP LAB	Total Metals, Hg	03/29/17
AMB23-101	M6-DME	DME	M6	3106-2143	Seawater	PREP LAB	Dissolved Metals, Hg	03/29/17
AMB23-102	M8-TME	TME	M8	3106-2144	Seawater	PREP LAB	Total Metals, Hg	03/29/17
AMB23-102	M8-DME	DME	M8	3106-2145	Seawater	PREP LAB	Dissolved Metals, Hg	03/29/17
AMB23-103	DYOTS-TME	TME	DYOTS	3106-2146	Seawater	PREP LAB	Total Metals, Hg	03/29/17
AMB23-103	DYOTS-DME	DME	DYOTS	3106-2147	Seawater	PREP LAB	Dissolved Metals, Hg	03/29/17
AMB23-104	M5.1-TME	TME	M5.1	3106-2148	Seawater	PREP LAB	Total Metals, Hg	03/29/17
AMB23-104	M5.1-DME	DME	M5.1	3106-2149	Seawater	PREP LAB	Dissolved Metals, Hg	03/29/17
AMB23-105	PS07C-TME	TME	PS07C	3106-2150	Seawater	PREP LAB	Total Metals, Hg	03/29/17
AMB23-105	PS07C-DME	DME	PS07C	3106-2151	Seawater	PREP LAB	Dissolved Metals, Hg	03/29/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/30/17 (samples arrived 3/29/17, logged in 3/30/17)
Batch: 66
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-101	M6-TOC	TOC	M6	3106-2142	Seawater	MSL	TOC	03/29/17
AMB23-102	M8-TOC	TOC	M8	3106-2144	Seawater	MSL	TOC	03/29/17
AMB23-103	DYOTS-TOC	TOC	DYOTS	3106-2146	Seawater	MSL	TOC	03/29/17
AMB23-104	M5.1-TOC	TOC	M5.1	3106-2148	Seawater	MSL	TOC	03/29/17
AMB23-105	PS07C-TOC	TOC	PS07C	3106-2150	Seawater	MSL	TOC	03/29/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/30/17 (samples arrived 3/29/17, logged in 3/30/17)
Batch: 66
Login Designee: Suslick

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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-101	M6-DOC	DOC	M6	3106-2143	Seawater	MSL	DOC	03/29/17
AMB23-102	M8-DOC	DOC	M8	3106-2145	Seawater	MSL	DOC	03/29/17
AMB23-103	DYOTS-DOC	DOC	DYOTS	3106-2147	Seawater	MSL	DOC	03/29/17
AMB23-104	M5.1-DOC	DOC	M5.1	3106-2149	Seawater	MSL	DOC	03/29/17
AMB23-105	PS07C-DOC	DOC	PS07C	3106-2151	Seawater	MSL	DOC	03/29/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 03/30/17 (samples arrived 3/29/17, logged in 3/30/17)
Batch: 66
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 2)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-101	M6-TSS/OSAL	TSS/OSAL	M6	3106-2142	Seawater	MSL	TSS/OSAL	03/29/17
AMB23-102	M8-TSS/OSAL	TSS/OSAL	M8	3106-2144	Seawater	MSL	TSS/OSAL	03/29/17
AMB23-103	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-2146	Seawater	MSL	TSS/OSAL	03/29/17
AMB23-104	M5.1-TSS/OSAL	TSS/OSAL	M5.1	3106-2148	Seawater	MSL	TSS/OSAL	03/29/17
AMB23-105	PS07C-TSS/OSAL	TSS/OSAL	PS07C	3106-2150	Seawater	MSL	TSS/OSAL	03/29/17

LOG-IN CHECKLIST

DAY 3

Reference SOP# MSL-A-001

Central File #: 31062 Sample No(s): 2152-2191 Batch: 67

Project Name: ENVVEST FY17 TASK 2 AMB23 Project Manager: Brandon Berger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WP# N 00039

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☑	Custody seal present Seal intact? YES NO	
☑	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)	Cooler 1: 2.4 °C; Cooler 2: 2.4 °C; Cooler 3: 2.4 °C; Cooler 4: 2.4 °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☑	☐	☐	Were all chain of custody forms signed and dated?	
☑	☐	☐	Were samples filtered at MSL? ALL (HALF)	Metals Samples must be filtered prior to preservation!

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: Strivers Cooler Receipt Date/Time: 20170405 1730

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☑ Sample(s) were preserved at MSL

Type: ☑	0.2% HNO3	Notes:	Metals (TMC, DMC) Lot# 121405
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☑	Refrigerate/Freeze	Notes:	R: TSS/SSC, Nutr. F: TOC, DOC
☐	Other	Notes:	

Completed By: Strivers Preservation Date/Time: 20170405 1832

Storage Shelf:

Comments/Observations:

SAMPLE CHAIN OF CUSTODY FORM

Date: 20170405

Page: 1 of 1

COC Number: NA

Project No.:
Project Name:
Project Manager:
Phone:

EVENT: AMB23
2017-04-05

Testing Parameters (as per SOW)

310L* TGT / DISS Lab. Use only: Lab ID		Sample ID	Sample Label	4/5/2017 Collection Date/Time	Matrix	Metals	Toc	DOC	TSS/SAL	Nutr					No. of containers	StationID	Comments
2152	2153	AMB23-201	WP	0922	SW	x	x	x	x	x					5		
2154	2155	202	M2	0940													
2156	2157	203	M2 DEEP	0942													
2158	2159	204	CLAM BAY	0956													
2160	2161	205	POP DEEP	1035													
2162	2163	206	M1	1100													
2164	2165	207	M1 DEEP	1100													
2166	2167	208	POP IPD	1120													
2168	2169	209	POP IPD DUP	1120													
2170	2171	210	SN03	1209													
2172	2173	211	SN05	1222													
2174	2175	212	M4	1235													
2176	2177	213	SN10	1247													
2178	2179	214	SN11	1259													
2180	2181	215	SN11 DUP	1257													
2182	2183	216	BJEST	1320													
2184	2185	217	M3.3	1335													
2186	2187	218	M3.3 DEEP	1335													
2188	2189	219	PS09	1350													
2190	2191	220	PS16	1445													

Observations, Instructions

Relinquished by: Strivens — 20170405 — 1730
Signature — Date — Time
Strivens — PNNL
Printed Name — Company

Received by: Strivens
Signature
Printed Name

Total # of Containers 100
Shipment Method: PNNL STAFF
Shipment Method:

Sample Disposition: Positive

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 04/05/17 (samples collected 4/05/17, logged in 4/06/17)
Batch: 67
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 3)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-201	WP-TME	TME	WP	3106-2152	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-201	WP-DME	DME	WP	3106-2153	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-202	M2-TME	TME	M2	3106-2154	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-202	M2-DME	DME	M2	3106-2155	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-203	M2DEEP-TME	TME	M2DEEP	3106-2156	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-203	M2DEEP-DME	DME	M2DEEP	3106-2157	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-204	CLMBAY-TME	TME	CLMBAY	3106-2158	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-204	CLMBAY-DME	DME	CLMBAY	3106-2159	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-205	POPISP-TME	TME	POPISP	3106-2160	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-205	POPISP-DME	DME	POPISP	3106-2161	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-206	M1-TME	TME	M1	3106-2162	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-206	M1-DME	DME	M1	3106-2163	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-207	M1DEEP-TME	TME	M1DEEP	3106-2164	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-207	M1DEEP-DME	DME	M1DEEP	3106-2165	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-208	POPIPD-TME	TME	POPIPD	3106-2166	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-208	POPIPD-DME	DME	POPIPD	3106-2167	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-209	POPIPDDUP-TME	TME	POPIPDDUP	3106-2168	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-209	POPIPDDUP-DME	DME	POPIPDDUP	3106-2169	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-210	SN03-TME	TME	SN03	3106-2170	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-210	SN03-DME	DME	SN03	3106-2171	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-211	SN05-TME	TME	SN05	3106-2172	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-211	SN05-DME	DME	SN05	3106-2173	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-212	M4-TME	TME	M4	3106-2174	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-212	M4-DME	DME	M4	3106-2175	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-213	SN10-TME	TME	SN10	3106-2176	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-213	SN10-DME	DME	SN10	3106-2177	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-214	SN11-TME	TME	SN11	3106-2178	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-214	SN11-DME	DME	SN11	3106-2179	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-215	SN11DUP-TME	TME	SN11DUP	3106-2180	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-215	SN11DUP-DME	DME	SN11DUP	3106-2181	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-216	BJEST-TME	TME	BJEST	3106-2182	Seawater	PREP LAB	Total Metals, Hg	04/05/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 04/05/17 (samples collected 4/05/17, logged in 4/06/17)
Batch: 67
Login Designee: Suslick

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 3)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-216	BJEST-DME	DME	BJEST	3106-2183	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-217	M3.3-TME	TME	M3.3	3106-2184	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-217	M3.3-DME	DME	M3.3	3106-2185	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-218	M3.3DEEP-TME	TME	M3.3DEEP	3106-2186	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-218	M3.3DEEP-DME	DME	M3.3DEEP	3106-2187	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-219	PS09-TME	TME	PS09	3106-2188	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-219	PS09-DME	DME	PS09	3106-2189	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17
AMB23-220	PS16-TME	TME	PS16	3106-2190	Seawater	PREP LAB	Total Metals, Hg	04/05/17
AMB23-220	PS16-DME	DME	PS16	3106-2191	Seawater	PREP LAB	Dissolved Metals, Hg	04/05/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 04/05/17 (samples collected 4/05/17, logged in 4/06/17)
Batch: 67
Login Designee: Suslick

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1529 West Sequim Bay Road
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PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 3)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-201	WP-TOC	TOC	WP	3106-2152	Seawater	MSL	TOC	04/05/17
AMB23-202	M2-TOC	TOC	M2	3106-2154	Seawater	MSL	TOC	04/05/17
AMB23-203	M2DEEP-TOC	TOC	M2DEEP	3106-2156	Seawater	MSL	TOC	04/05/17
AMB23-204	CLMBAY-TOC	TOC	CLMBAY	3106-2158	Seawater	MSL	TOC	04/05/17
AMB23-205	POPISP-TOC	TOC	POPISP	3106-2160	Seawater	MSL	TOC	04/05/17
AMB23-206	M1-TOC	TOC	M1	3106-2162	Seawater	MSL	TOC	04/05/17
AMB23-207	M1DEEP-TOC	TOC	M1DEEP	3106-2164	Seawater	MSL	TOC	04/05/17
AMB23-208	POPIPD-TOC	TOC	POPIPD	3106-2166	Seawater	MSL	TOC	04/05/17
AMB23-209	POPIPDDUP-TOC	TOC	POPIPDDUP	3106-2168	Seawater	MSL	TOC	04/05/17
AMB23-210	SN03-TOC	TOC	SN03	3106-2170	Seawater	MSL	TOC	04/05/17
AMB23-211	SN05-TOC	TOC	SN05	3106-2172	Seawater	MSL	TOC	04/05/17
AMB23-212	M4-TOC	TOC	M4	3106-2174	Seawater	MSL	TOC	04/05/17
AMB23-213	SN10-TOC	TOC	SN10	3106-2176	Seawater	MSL	TOC	04/05/17
AMB23-214	SN11-TOC	TOC	SN11	3106-2178	Seawater	MSL	TOC	04/05/17
AMB23-215	SN11DUP-TOC	TOC	SN11DUP	3106-2180	Seawater	MSL	TOC	04/05/17
AMB23-216	BJEST-TOC	TOC	BJEST	3106-2182	Seawater	MSL	TOC	04/05/17
AMB23-217	M3.3-TOC	TOC	M3.3	3106-2184	Seawater	MSL	TOC	04/05/17
AMB23-218	M3.3DEEP-TOC	TOC	M3.3DEEP	3106-2186	Seawater	MSL	TOC	04/05/17
AMB23-219	PS09-TOC	TOC	PS09	3106-2188	Seawater	MSL	TOC	04/05/17
AMB23-220	PS16-TOC	TOC	PS16	3106-2190	Seawater	MSL	TOC	04/05/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 04/05/17 (samples collected 4/05/17, logged in 4/06/17)
Batch: 67
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 3)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-201	WP-DOC	DOC	WP	3106-2153	Seawater	MSL	DOC	04/05/17
AMB23-202	M2-DOC	DOC	M2	3106-2155	Seawater	MSL	DOC	04/05/17
AMB23-203	M2DEEP-DOC	DOC	M2DEEP	3106-2157	Seawater	MSL	DOC	04/05/17
AMB23-204	CLMBAY-DOC	DOC	CLMBAY	3106-2159	Seawater	MSL	DOC	04/05/17
AMB23-205	POPISP-DOC	DOC	POPISP	3106-2161	Seawater	MSL	DOC	04/05/17
AMB23-206	M1-DOC	DOC	M1	3106-2163	Seawater	MSL	DOC	04/05/17
AMB23-207	M1DEEP-DOC	DOC	M1DEEP	3106-2165	Seawater	MSL	DOC	04/05/17
AMB23-208	POPIPD-DOC	DOC	POPIPD	3106-2167	Seawater	MSL	DOC	04/05/17
AMB23-209	POPIPDDUP-DOC	DOC	POPIPDDUP	3106-2169	Seawater	MSL	DOC	04/05/17
AMB23-210	SN03-DOC	DOC	SN03	3106-2171	Seawater	MSL	DOC	04/05/17
AMB23-211	SN05-DOC	DOC	SN05	3106-2173	Seawater	MSL	DOC	04/05/17
AMB23-212	M4-DOC	DOC	M4	3106-2175	Seawater	MSL	DOC	04/05/17
AMB23-213	SN10-DOC	DOC	SN10	3106-2177	Seawater	MSL	DOC	04/05/17
AMB23-214	SN11-DOC	DOC	SN11	3106-2179	Seawater	MSL	DOC	04/05/17
AMB23-215	SN11DUP-DOC	DOC	SN11DUP	3106-2181	Seawater	MSL	DOC	04/05/17
AMB23-216	BJEST-DOC	DOC	BJEST	3106-2183	Seawater	MSL	DOC	04/05/17
AMB23-217	M3.3-DOC	DOC	M3.3	3106-2185	Seawater	MSL	DOC	04/05/17
AMB23-218	M3.3DEEP-DOC	DOC	M3.3DEEP	3106-2187	Seawater	MSL	DOC	04/05/17
AMB23-219	PS09-DOC	DOC	PS09	3106-2189	Seawater	MSL	DOC	04/05/17
AMB23-220	PS16-DOC	DOC	PS16	3106-2191	Seawater	MSL	DOC	04/05/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 04/05/17 (samples collected 4/05/17, logged in 4/06/17)
Batch: 67
Login Designee: Suslick

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, MARCH 2017 (AMB23, DAY 3)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB23-201	WP-TSS/OSAL	TSS/OSAL	WP	3106-2152	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-202	M2-TSS/OSAL	TSS/OSAL	M2	3106-2154	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-203	M2DEEP-TSS/OSAL	TSS/OSAL	M2DEEP	3106-2156	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-204	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-2158	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-205	POPISP-TSS/OSAL	TSS/OSAL	POPISP	3106-2160	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-206	M1-TSS/OSAL	TSS/OSAL	M1	3106-2162	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-207	M1DEEP-TSS/OSAL	TSS/OSAL	M1DEEP	3106-2164	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-208	POPIPD-TSS/OSAL	TSS/OSAL	POPIPD	3106-2166	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-209	POPIPDDUP-TSS/OSAL	TSS/OSAL	POPIPDDUP	3106-2168	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-210	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-2170	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-211	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-2172	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-212	M4-TSS/OSAL	TSS/OSAL	M4	3106-2174	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-213	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-2176	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-214	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-2178	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-215	SN11DUP-TSS/OSAL	TSS/OSAL	SN11DUP	3106-2180	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-216	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-2182	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-217	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-2184	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-218	M3.3DEEP-TSS/OSAL	TSS/OSAL	M3.3DEEP	3106-2186	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-219	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-2188	Seawater	MSL	TSS/OSAL	04/05/17
AMB23-220	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-2190	Seawater	MSL	TSS/OSAL	04/05/17

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31CC Sample No(s): 2088-2092 Batch: CC4

Project Name: ENVVEST AMB 23 Project Manager: Brandenburger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: FW & SW WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☐	☒	Custody seal present Seal intact? YES NO	Cooler 1: °C
☐	☐	☒	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)	Cooler 2: °C Cooler 3: °C Cooler 4: °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☒	☐	☐	Were all chain of custody forms signed and dated? 2088-2090	
☒	☐	☐	Were samples filtered at MSL? ALL HALF	*Samples must be filtered prior to preservation!*

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: ST Rivera Cooler Receipt Date/Time: 20170321

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type:		Notes:	Lot#
☒	0.2% HNO3		171450
☐	0.5% HCl (Hg samples)		
☐	Refrigerate/Freeze		
☐	Other		

Completed By: ST Rivera Preservation Date/Time: 20170321 1530

Storage Shelf: K-5-A

Comments/Observations:

Battelle Marine Sciences Labs, 1529 West Sequim Bay Rd, Sequim, Washington 98362 PH: (360) 681-4565

SAMPLE CUSTODY RECORD
(SOP#: MSL-A-001 & MSL-A-002)

Date: 3/21/2017

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Name: ENVVEST AMB23
Project Manager: Brandenberger
Phone Number: 14564

Shipment Method: N/A
Preservation: 0.2% HNO3 Lot# 1214050
K-5-A

Pacific Northwest Division
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Line	Field Sample ID	Collection Date/Time	Matrix	No. of Containers	Test Parameters: Al, Cd, Cr, Cu, Ni, Pb, Zn	Test Parameters: Hg				Laboratory ID	Observations/Comments
1	Filter blank A	3/21/2017 1430	FW	2	x	x				3106-2088	Secondary aliquot stored in 50mL analytical tube, others in 500mL sample bottles
2	Filter blank B	3/21/2017 1430	FW	2	x	x				3106-2089	
3	Filter blank C	3/21/2017 1430	FW	2	x	x				3106-2090	
4	Tank 4 Feed	3/21/2017 1445	SW	1	x	x				3106-2091	
5	20 min GoFlow	3/21/2017 1505	SW	1	x	x				3106-2092	
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Relinquished By:	Company:	Received By:	Company:
Strivens	PNNL	Strivens	PNNL
Signature/Printed Name	3/21/2017 Date/Time	Signature/Printed Name	3/21/2017 Date/Time
Relinquished By:	Company:	Received By:	Company:
Signature/Printed Name	Date/Time	Signature/Printed Name	Date/Time

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 3/21/2017
Batch: 64
Login Designee: Strivens
Project: ENVVEST AMB 23

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date	Collection Time
NA	Vac Filter blank A	3106-2088	FW	k-5-a	Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg	03/21/17	1430
NA	Vac Filter blank B	3106-2089	FW	k-5-a	Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg	03/21/17	1430
NA	Vac Filter blank C	3106-2090	FW	k-5-a	Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg	03/21/17	1430
NA	Tank 4 Feed	3106-2091	SW	k-5-a	Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg	03/21/17	1445
NA	20min GoFlow	3106-2092	SW	k-5-a	Al, Cd, Cr, Cu, Ni, Pb, Zn, Hg	03/21/17	1505

PROJECT ENVVEST
Project Name: MARCH 2017 Ambient Monitoring (AMB23)
SAMPLE TEAM: Navy, Battelle
DATE: 3/30/2017
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

K1703145

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB23-001	PS07	03/28/2017 08:55:00 AM	Seawater			X				1	
AMB23-002	PS01	03/28/2017 09:11:00 AM	Seawater			X				1	
AMB23-003	PS02	03/28/2017 09:30:00 AM	Seawater			X				1	
AMB23-004	PS13	03/28/2017 09:42:00 AM	Seawater			X				1	
AMB23-005	PS12	03/28/2017 10:00:00 AM	Seawater			X				1	
AMB23-006	M3.1	03/28/2017 10:20:00 AM	Seawater			X				1	
AMB23-007	PS03	03/28/2017 11:03:00 AM	Seawater			X				1	
AMB23-008	PS04	03/28/2017 11:18:00 AM	Seawater			X				1	
AMB23-009	PS04DUP	03/28/2017 11:18:00 AM	Seawater			X				1	
AMB23-010	PS05	03/28/2017 11:35:00 AM	Seawater			X				1	
AMB23-011	PS14	03/28/2017 11:45:00 AM	Seawater			X				1	
AMB23-012	PS06	03/28/2017 11:58:00 AM	Seawater			X				1	
AMB23-013	PS08	03/28/2017 12:14:00 PM	Seawater			X				1	
AMB23-014	PS09	03/28/2017 12:28:00 PM	Seawater			X				1	
AMB23-015	PS15	03/28/2017 12:45:00 PM	Seawater			X				1	
AMB23-016	PS10	03/28/2017 12:54:00 PM	Seawater			X				1	
AMB23-017	PS10.1	03/28/2017 13:20:00 PM	Seawater			X				1	
AMB23-018	PS10.1DUP	03/28/2017 13:20:00 PM	Seawater			X				1	
AMB23-019	PS11	03/28/2017 13:36:00 PM	Seawater			X				1	
AMB23-020	PS16	03/28/2017 13:45:00 PM	Seawater			X				1	
AMB23-021	PS07B	03/28/2017 14:10:00 PM	Seawater			X				1	
AMB23-101	M6	03/29/2017 09:06:00 AM	Seawater			X				1	
AMB23-102	M8	03/28/2017 09:30:00 AM	Seawater			X				1	
AMB23-103	DYOTS	03/28/2017 09:58:00 AM	Seawater			X				1	

PROJECT ENVVEST
Project Name: MARCH 2017 Ambient Monitoring (AMB23)
SAMPLE TEAM: Navy, Battelle
DATE: 3/30/2017
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

K1703145

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB23-104	M5.1	03/28/2017 11:15:00 AM	Seawater			X				1	
AMB23-105	PS07C	03/28/2017 12:26:00 PM	Seawater			X				1	
--end											

Total: 26

Relinquished By: J. Strivens — Company: Battelle MSL — 3/30/2017
Signature/Printed Name — Date/Time

Received By: SWOLF — Company: ALS — 3/31/17 1000
Signature/Printed Name — Date/Time

PC H2

Cooler Receipt and Preservation Form

Client Battelle Service Request K17 03145

Received: 3/31/17 Opened: 3/31/17 By: S Unloaded: 3/31/17 By: S

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2, front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.7	1.6	2.7	2.6	-0.1	349		773782989369	

4. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

PROJECT ENVVEST
Project Name: MARCH 2017 Ambient Monitoring (AMB23)
SAMPLE TEAM: Navy, Battelle
DATE: 4/6/2017
Laboratory: ALS Kelso, WA

CHAIN OF CUSTODY FORM

These are the samples collected on Day 3 (delayed collectiondue to weather issues)

K1703450

Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
AMB23-201	WP	04/05/2017 09:22:00 AM	Seawater			X				1	
AMB23-202	M2	04/05/2017 09:40:00 AM	Seawater			X				1	
AMB23-203	M2DEEP	04/05/2017 09:42:00 AM	Seawater			X				1	
AMB23-204	CLMBAY	04/05/2017 09:56:00 AM	Seawater			X				1	
AMB23-205	POPISP	04/05/2017 10:35:00 AM	Seawater			X				1	Bottle is labelled IL SP
AMB23-206	M1	04/05/2017 11:00:00 AM	Seawater			X				1	
AMB23-207	M1DEEP	04/05/2017 11:00:00 AM	Seawater			X				1	
AMB23-208	POPIPD	04/05/2017 11:20:00 AM	Seawater			X				1	
AMB23-209	POPIPDDUP	04/05/2017 11:20:00 AM	Seawater			X				1	
AMB23-210	SN03	04/05/2017 12:09:00 PM	Seawater			X				1	
AMB23-211	SN05	04/05/2017 12:22:00 PM	Seawater			X				1	
AMB23-212	M4	04/05/2017 12:35:00 PM	Seawater			X				1	
AMB23-213	SN10	04/05/2017 12:47:00 PM	Seawater			X				1	
AMB23-214	SN11	04/05/2017 12:59:00 PM	Seawater			X				1	
AMB23-215	SN11DUP	04/05/2017 12:59:00 PM	Seawater			X				1	
AMB23-216	BJEST	04/05/2017 13:20:00 PM	Seawater			X				1	
AMB23-217	M3.3	04/05/2017 13:35:00 PM	Seawater			X				1	
AMB23-218	M3.3DEEP	04/05/2017 13:35:00 PM	Seawater			X				1	
~~AMB23-219~~	PS09	~~04/05/2017 13:50:00 PM~~	Seawater			X				1	20170405
~~AMB23-220~~	PS16	~~04/05/2017 14:45:00 PM~~	Seawater			X				1	
--end											

Total: ~~20~~ 18

Relinquished By: J. Strivens — Company: Battelle MSL — 4/6/2017
Signature/Printed Name — Date/Time

Received By: ALS — Company: 4/7/17 0940
Signature/Printed Name — Date/Time

PC #2

Cooler Receipt and Preservation Form

Client Battelle Service Request K17 03450

Received: 4/7/17 Opened: 4/7/17 By: KD Unloaded: 4/7/17 By: KD

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 1, Front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
2.1	2.1	4.7	4.7	0	328		778843492404	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

AMB23 Outfall Compositing

OF018 (PW5)- New inline-piston autosampler system installed and tested for calibration accuracy in week prior to event. No problems found. Passcode for programming is 1062.

20170327- 8 pump cycles in previous 24 hours. Programmed to 1-25mL aliquot every 65 seconds during pumpdowns (~1hr ea). First sample taken at 0948 (~10 minutes into an active pumpdown). Grease coating in sampler port was wiped out with paper towels until no black coloring was evident on the towel.

20170328- 8 pumpdown cycles occurred during the sampling event which was stopped at 0845. 507 total aliquots collected. Average pumpdown time was 1.14hrs. Collection jar overflowed; suspect problem with calibration must have occurred due to aliquot*volume<15L. Split were taken from the sample in collection jug.

OF019 (PW6)- Signal line to ISCO was non-functional.

20170327- 26 pump cycles in previous 24 hours. Set up a direct collection line from port on ceiling with plastic valve ~0.5m prior to collection jug. Plan was to collect 5 manual grabs over 24 hours. First grab occurred at 1208, second at 1250. At 1400 Rory found that shut-off valve failed and collection jar overflowed. Sample was dumped.

20170328- Collected single grab sample at 1029.

OF021 (steamplant)- Autosampler did not give option for aliquot number, and automatically reverted to continuous mode.

20170327- Set to take 156mL aliquot every 15 minutes starting at 1109.

20170328- Collected jug at 0930 (~90% full). 89 successful aliquots.

Analytical Chemistry Data Package

Project: ENVVEST Ambient Monitoring August 2017 (AMB24)

Seawater and Freshwater Chemistry

PNNL Project No. 69647
CF No. 3106
Date Submitted: September 26, 2017

Marine Sciences Laboratory
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Sequim, WA 98382
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BATTELLE MARINE SCIENCE LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382-9099
360/681-4564

Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Collection Date	Salinity	TSS [1]	TOC/ DOC	TOC/ DOC
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
Laboratory Achieved Detection Limits (Seawater)						**0.01**	**0.42**	**0.049**	**4.08**
Seawater Reporting Limit (MDL* 3.18)								**0.156**	**13.0**
Laboratory Achieved Detection Limits (Freshwater)						--	--	--	--
Freshwater Reporting Limit (MDL* 3.18)						--	--	--	--
AMB23									
AMB24-001	PS03	Total	Seawater	3106-2213	08/22/17	28.8	1.57	1.60	134
AMB24-001	PS03	Diss	Seawater	3106-2214	08/22/17	--	--	1.40	116
AMB24-002	M4	Total	Seawater	3106-2215	08/22/17	29.0	18.8	16.3	1361
AMB24-002	M4	Diss	Seawater	3106-2216	08/22/17	--	--	7.62	635
AMB24-003	PS01	Total	Seawater	3106-2217	08/22/17	28.2	1.98	1.64	136
AMB24-003	PS01	Diss	Seawater	3106-2218	08/22/17	--	--	1.37	114
AMB24-004	PS02	Total	Seawater	3106-2219	08/22/17	28.3	1.40	1.64	137
AMB24-004	PS02	Diss	Seawater	3106-2220	08/22/17	--	--	1.39	116
AMB24-005	PS13	Total	Seawater	3106-2221	08/22/17	28.5	1.66	1.80	150
AMB24-005	PS13	Diss	Seawater	3106-2222	08/22/17	--	--	1.42	119
AMB24-006	BJEST	Total	Seawater	3106-2223	08/22/17	24.5	3.68	2.26	188
AMB24-006	BJEST	Diss	Seawater	3106-2224	08/22/17	--	--	1.82	151
AMB24-007	BJESTDUP	Total	Seawater	3106-2225	08/22/17	25.2	3.10	2.11	176
AMB24-007	BJESTDUP	Diss	Seawater	3106-2226	08/22/17	--	--	1.79	149
AMB24-008	M3.1	Total	Seawater	3106-2227	08/22/17	28.6	1.63	1.96	163
AMB24-008	M3.1	Diss	Seawater	3106-2228	08/22/17	--	--	1.44	120
AMB24-009	PS12	Total	Seawater	3106-2229	08/22/17	29.1	1.46	1.45	121
AMB24-009	PS12	Diss	Seawater	3106-2230	08/22/17	--	--	1.16	97.0
AMB24-010	M3.3	Total	Seawater	3106-2231	08/22/17	28.1	2.50	2.45	204
AMB24-010	M3.3	Diss	Seawater	3106-2232	08/22/17	--	--	1.67	139
AMB24-011	PS05	Total	Seawater	3106-2233	08/22/17	28.5	1.15	1.84	154
AMB24-011	PS05	Diss	Seawater	3106-2234	08/22/17	--	--	1.43	119
AMB24-012	PS04	Total	Seawater	3106-2235	08/22/17	28.7	1.45	1.90	158
AMB24-012	PS04	Diss	Seawater	3106-2236	08/22/17	--	--	1.37	114
AMB24-013	PS14	Total	Seawater	3106-2237	08/22/17	28.4	1.14	2.02	169
AMB24-013	PS14	Diss	Seawater	3106-2238	08/22/17	--	--	1.46	121
AMB24-014	PS06	Total	Seawater	3106-2239	08/22/17	25.1	1.84	1.21	101
AMB24-014	PS06	Diss	Seawater	3106-2240	08/22/17	--	--	1.07	88.9
AMB24-015	PS07	Total	Seawater	3106-2241	08/22/17	27.9	1.72	1.24	103
AMB24-015	PS07	Diss	Seawater	3106-2242	08/22/17	--	--	1.11	92.2
AMB24-016	PS07DUP	Total	Seawater	3106-2243	08/22/17	28.0	1.68	1.23	103
AMB24-016	PS07DUP	Diss	Seawater	3106-2244	08/22/17	--	--	1.08	89.9
AMB24-017	PS08	Total	Seawater	3106-2245	08/22/17	28.6	2.80	1.68	140
AMB24-017	PS08	Diss	Seawater	3106-2246	08/22/17	--	--	1.31	109
AMB24-018	PS15	Total	Seawater	3106-2247	08/22/17	28.7	3.83	2.06	171
AMB24-018	PS15	Diss	Seawater	3106-2248	08/22/17	--	--	1.45	120
AMB24-019	PS09	Total	Seawater	3106-2249	08/22/17	28.9	1.66	1.59	133

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Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Collection Date	**Salinity**	**TSS** [1]	**TOC/ DOC**	**TOC/ DOC**
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
AMB24-019	PS09	Diss	Seawater	3106-2250	08/22/17	--	--	1.22	101
AMB24-020	PS10	Total	Seawater	3106-2251	08/22/17	29.1	1.53	1.68	140
AMB24-020	PS10	Diss	Seawater	3106-2252	08/22/17	--	--	1.29	108
AMB24-021	PS10.1	Total	Seawater	3106-2253	08/22/17	29.3	3.14	1.77	148
AMB24-021	PS10.1	Diss	Seawater	3106-2254	08/22/17	--	--	1.32	110
AMB24-022	PS11	Total	Seawater	3106-2255	08/22/17	29.0	3.13	2.10	175
AMB24-022	PS11	Diss	Seawater	3106-2256	08/22/17	--	--	1.32	110
AMB24-023	PS16	Total	Seawater	3106-2257	08/22/17	29.1	3.47	2.26	189
AMB24-023	PS16	Diss	Seawater	3106-2258	08/22/17	--	--	1.29	107
AMB24-024	PS03B	Total	Seawater	3106-2259	08/22/17	27.92	2.44	1.95	163
AMB24-024	PS03B	Diss	Seawater	3106-2260	08/22/17	--	--	1.42	118
AMB24-DD001	OF018	Total	Seawater	3106-2261	08/22/17	22.7	0.723	1.21	101
AMB24-DD001	OF018	Diss	Seawater	3106-2262	08/22/17	--	--	0.987	82.2
AMB24-DD002	OF019	Total	Seawater	3106-2263	08/22/17	19.5	0.42 U	1.01	84.1
AMB24-DD002	OF019	Diss	Seawater	3106-2264	08/22/17	--	--	0.901	75.1
AMB24-DD003	OF021	Total	Freshwater	3106-2265	08/22/17	0.09	0.42 U	3.26	272
AMB24-DD003	OF021	Diss	Freshwater	3106-2266	08/22/17	--	--	1.71	142
AMB24-201	M6	Total	Seawater	3106-2267	08/23/17	29.4	2.46	1.66	138
AMB24-201	M6	Diss	Seawater	3106-2268	08/23/17	--	--	1.26	105
AMB24-202	M8	Total	Seawater	3106-2269	08/23/17	29.0	5.21	3.04	253
AMB24-202	M8	Diss	Seawater	3106-2270	08/23/17	--	--	1.46	122
AMB24-203	DYOTS	Total	Seawater	3106-2271	08/23/17	29.1	2.33	1.86	155
AMB24-203	DYOTS	Diss	Seawater	3106-2272	08/23/17	--	--	1.25	104
AMB24-204	WP	Total	Seawater	3106-2273	08/23/17	29.3	1.43	1.54	128
AMB24-204	WP	Diss	Seawater	3106-2274	08/23/17	--	--	1.16	96.9
AMB24-205	WP DUP	Total	Seawater	3106-2275	08/23/17	29.3	1.59	1.53	128
AMB24-205	WP DUP	Diss	Seawater	3106-2276	08/23/17	--	--	1.19	99.5
AMB24-206	M2	Total	Seawater	3106-2277	08/23/17	29.8	3.17	1.26	105
AMB24-206	M2	Diss	Seawater	3106-2278	08/23/17	--	--	0.926	77.1
AMB24-207	M2 DEEP	Total	Seawater	3106-2279	08/23/17	30.0	1.35	1.23	103
AMB24-207	M2 DEEP	Diss	Seawater	3106-2280	08/23/17	--	--	0.939	78.3
AMB24-208	CLMBAY	Total	Seawater	3106-2281	08/23/17	29.9	3.53	1.50	125
AMB24-208	CLMBAY	Diss	Seawater	3106-2282	08/23/17	--	--	0.956	79.7
AMB24-209	ILSP	Total	Seawater	3106-2283	08/23/17	29.7	4.06	2.44	204
AMB24-209	ILSP	Diss	Seawater	3106-2284	08/23/17	--	--	1.06	88.2
AMB24-210	M1	Total	Seawater	3106-2285	08/23/17	29.6	4.29	3.48	290
AMB24-210	M1	Diss	Seawater	3106-2286	08/23/17	--	--	1.21	100
AMB24-211	M1 DEEP	Total	Seawater	3106-2287	08/23/17	29.9	0.903	1.30	108
AMB24-211	M1 DEEP	Diss	Seawater	3106-2288	08/23/17	--	--	1.02	85.2
AMB24-212	POPIPD	Total	Seawater	3106-2289	08/23/17	29.7	2.74	2.05	171
AMB24-212	POPIPD	Diss	Seawater	3106-2290	08/23/17	--	--	1.22	101
AMB24-213	SN03	Total	Seawater	3106-2291	08/23/17	26.6	26.1	66.3	5526

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Collection Date	**Salinity**	**TSS** [1]	**TOC/ DOC**	**TOC/ DOC**
				Instrument:		Units (PSU)	mg/L	HTCO (mg/L)	HTCO (µM)
AMB24-213	SN03	Diss	Seawater	3106-2292	08/23/17	--	--	50.0	4164
AMB24-214	SN05	Total	Seawater	3106-2293	08/23/17	29.0	8.83	2.45	204
AMB24-214	SN05	Diss	Seawater	3106-2294	08/23/17	--	--	1.47	122
AMB24-215	SN08	Total	Seawater	3106-2295	08/23/17	27.1	2.30	1.93	161
AMB24-215	SN08	Diss	Seawater	3106-2296	08/23/17	--	--	1.59	133
AMB24-216	SN11	Total	Seawater	3106-2297	08/23/17	28.9	3.09	1.87	156
AMB24-216	SN11	Diss	Seawater	3106-2298	08/23/17	--	--	1.24	103
AMB24-217	SN10	Total	Seawater	3106-2299	08/23/17	29.3	9.05	4.44	370
AMB24-217	SN10	Diss	Seawater	3106-2300	08/23/17	--	--	1.61	134
AMB24-218	M3.3	Total	Seawater	3106-2301	08/23/17	29.2	1.57	2.07	173
AMB24-218	M3.3	Diss	Seawater	3106-2302	08/23/17	--	--	1.30	108
AMB24-219	M3.3 DUP	Total	Seawater	3106-2303	08/23/17	29.2	1.94	2.23	185
AMB24-219	M3.3 DUP	Diss	Seawater	3106-2304	08/23/17	--	--	1.37	114
AMB24-220	M3.3 DEEP	Total	Seawater	3106-2305	08/23/17	29.5	4.63	2.54	212
AMB24-220	M3.3 DEEP	Diss	Seawater	3106-2306	08/23/17	--	--	1.18	98.0
AMB24-221	PS03C	Total	Seawater	3106-2307	08/23/17	28.8	2.89	2.17	181
AMB24-221	PS03C	Diss	Seawater	3106-2308	08/23/17	--	--	1.35	112
	Filter Blank A		Fresh Water	3106-2208	08/17/17	--	--	--	--
	Filter Blank B		Fresh Water	3106-2209	08/17/17	--	--	--	--
	Filter Blank C		Fresh Water	3106-2210	08/17/17	--	--	--	--

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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg		Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF		ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
Laboratory Achieved Detection Limits (Seawater)					**0.10**		**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**
Seawater Reporting Limit (MDL* 3.18)					**0.32**		**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**
Laboratory Achieved Detection Limits (Freshwater)					**0.10**		**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**
Freshwater Reporting Limit (MDL* 3.18)					**0.32**		**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**
AMB23													
AMB24-001	PS03	Total	Seawater	3106-2213	0.883		11.0	0.0384	0.150	1.60	0.508	0.0843	1.94
AMB24-001	PS03	Diss	Seawater	3106-2214	0.437		1.00	0.0376	0.156	1.44	1.14	0.0196	1.67
AMB24-002	M4	Total	Seawater	3106-2215	5.04		24.1	0.493	0.216	1.47	0.679	0.126	8.16
AMB24-002	M4	Diss	Seawater	3106-2216	2.19		1.32	0.206	0.125	0.918	0.468	0.0163	5.22
AMB24-003	PS01	Total	Seawater	3106-2217	0.925		15.3	0.0423	0.247	1.13	0.570	0.130	3.52
AMB24-003	PS01	Diss	Seawater	3106-2218	0.389		1.14	0.0376	0.226	0.851	0.565	0.0234	3.14
AMB24-004	PS02	Total	Seawater	3106-2219	1.11		13.0	0.0366	0.200	2.96	0.676	0.0901	1.87
AMB24-004	PS02	Diss	Seawater	3106-2220	0.508		1.23	0.0343	0.171	1.02	0.577	0.0187	1.66
AMB24-005	PS13	Total	Seawater	3106-2221	0.718		14.1	0.0367	0.145	1.44	0.569	0.0864	1.71
AMB24-005	PS13	Diss	Seawater	3106-2222	0.268	J	1.10	0.0325	0.129	1.13	0.501	0.0170	1.42
AMB24-006	BJEST	Total	Seawater	3106-2223	1.20		51.9	0.0348	0.507	1.22	0.905	0.154	2.14
AMB24-006	BJEST	Diss	Seawater	3106-2224	0.360		2.67	0.0254	0.290	0.848	1.04	0.0119	1.18
AMB24-007	BJESTDUP	Total	Seawater	3106-2225	1.05		44.1	0.0297	0.467	1.10	0.931	0.120	1.61
AMB24-007	BJESTDUP	Diss	Seawater	3106-2226	0.334		3.23	0.0249	0.314	0.789	1.08	0.0104	1.13
AMB24-008	M3.1	Total	Seawater	3106-2227	0.786		21.3	0.0453	0.207	0.962	0.692	0.112	1.36
AMB24-008	M3.1	Diss	Seawater	3106-2228	0.298	J	0.959	0.0385	0.127	0.756	0.494	0.0218	1.50
AMB24-009	PS12	Total	Seawater	3106-2229	1.06		15.9	0.0567	0.152	1.42	0.787	0.132	4.64
AMB24-009	PS12	Diss	Seawater	3106-2230	0.302	J	0.834	0.0519	0.123	1.13	0.553	0.0302	4.09
AMB24-010	M3.3	Total	Seawater	3106-2231	2.06		23.1	0.198	0.214	1.28	0.594	0.115	3.46
AMB24-010	M3.3	Diss	Seawater	3106-2232	0.641		1.87	0.0911	0.244	0.944	0.920	0.0135	1.77
AMB24-011	PS05	Total	Seawater	3106-2233	0.729		13.6	0.0366	0.152	1.50	0.512	0.0831	1.80
AMB24-011	PS05	Diss	Seawater	3106-2234	0.369		1.20	0.0344	0.157	1.17	0.489	0.0195	1.69
AMB24-012	PS04	Total	Seawater	3106-2235	0.843		9.65	0.0441	0.143	1.80	0.587	0.0799	2.72
AMB24-012	PS04	Diss	Seawater	3106-2236	0.423		1.46	0.0409	0.148	1.57	0.538	0.0246	2.75
AMB24-013	PS14	Total	Seawater	3106-2237	0.785		17.4	0.0384	0.200	1.26	0.651	0.0942	2.18
AMB24-013	PS14	Diss	Seawater	3106-2238	0.330		1.03	0.0347	0.129	1.04	0.540	0.0187	1.63
AMB24-014	PS06	Total	Seawater	3106-2239	2.55		37.6	0.0600	0.215	1.41	0.792	0.257	4.99
AMB24-014	PS06	Diss	Seawater	3106-2240	0.789		0.841	0.0534	0.170	0.822	0.758	0.0353	4.55
AMB24-015	PS07	Total	Seawater	3106-2241	1.55		34.1	0.0614	0.156	1.25	0.662	0.172	5.04
AMB24-015	PS07	Diss	Seawater	3106-2242	0.549		0.912	0.0567	0.151	0.960	0.847	0.0323	4.55
AMB24-016	PS07DUP	Total	Seawater	3106-2243	1.48		22.4	0.0582	0.246	1.40	1.36	0.152	5.13
AMB24-016	PS07DUP	Diss	Seawater	3106-2244	0.538		0.912	0.0553	0.117	1.06	0.702	0.0295	5.36
AMB24-017	PS08	Total	Seawater	3106-2245	2.49		70.7	0.0507	0.271	1.96	0.752	0.319	5.01
AMB24-017	PS08	Diss	Seawater	3106-2246	0.324		1.22	0.0392	0.131	1.09	0.565	0.0371	3.22
AMB24-018	PS15	Total	Seawater	3106-2247	0.722		16.9	0.0365	0.152	0.942	0.518	0.0920	1.28
AMB24-018	PS15	Diss	Seawater	3106-2248	0.303		0.989	0.0326	0.153	0.870	0.563	0.0216	0.815
AMB24-019	PS09	Total	Seawater	3106-2249	1.17		14.7	0.0553	0.130	1.70	0.532	0.123	4.20

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Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB24-019	PS09	Diss	Seawater	3106-2250	0.322	0.681	0.0505	0.133	1.62	0.847	0.0326	3.78
AMB24-020	PS10	Total	Seawater	3106-2251	0.666	13.9	0.0467	0.135	1.31	0.536	0.0949	2.75
AMB24-020	PS10	Diss	Seawater	3106-2252	0.300 J	0.831	0.0451	0.204	1.21	1.27	0.0279	2.35
AMB24-021	PS10.1	Total	Seawater	3106-2253	1.02	18.3	0.0538	0.148	1.60	0.536	0.123	5.13
AMB24-021	PS10.1	Diss	Seawater	3106-2254	0.364	1.09	0.0438	0.108	1.19	0.580	0.0269	4.48
AMB24-022	PS11	Total	Seawater	3106-2255	3.72	31.7	0.0604	0.196	1.91	0.656	0.371	13.2
AMB24-022	PS11	Diss	Seawater	3106-2256	0.379	1.03	0.0448	0.111	1.19	0.584	0.0368	3.93
AMB24-023	PS16	Total	Seawater	3106-2257	1.21	19.0	0.0545	0.157	1.24	0.563	0.135	2.96
AMB24-023	PS16	Diss	Seawater	3106-2258	0.367	0.918	0.0436	0.141	1.04	0.588	0.0291	3.28
AMB24-024	PS03B	Total	Seawater	3106-2259	12.4	14.4	0.0450	0.198	1.83	0.656	0.154	2.81
AMB24-024	PS03B	Diss	Seawater	3106-2260	4.65	1.17	0.0407	0.172	1.59	0.696	0.0332	2.34
AMB24-DD001	OF018	Total	Seawater	3106-2261	9.36	14.0	0.0916	1.49	5.50	3.72	0.163	45.7
AMB24-DD001	OF018	Diss	Seawater	3106-2262	3.11	0.547	0.0959	0.379	4.32	3.89	0.0218	44.9
AMB24-DD002	OF019	Total	Seawater	3106-2263	5.09	5.96	0.0728	0.208	1.11	1.63	0.0320	12.3
AMB24-DD002	OF019	Diss	Seawater	3106-2264	3.00	0.385	0.0702	0.173	1.04	1.81	0.00578	13.1
AMB24-DD003	OF021	Total	Freshwater	3106-2265	2.56	9.20	0.000922 J	1.09	1.10	1.41	0.00533	1.06
AMB24-DD003	OF021	Diss	Freshwater	3106-2266	2.48	7.67	0.000892 J	1.05	1.08	1.84	0.00763	0.950
AMB24-201	M6	Total	Seawater	3106-2267	1.07	23.6	0.0425	0.134	0.643	0.602	0.163	0.670
AMB24-201	M6	Diss	Seawater	3106-2268	0.267 J	1.21	0.0344	0.0986	0.496	0.511	0.0492	0.813
AMB24-202	M8	Total	Seawater	3106-2269	1.45	38.3	0.0749	0.192	0.730	0.593	0.220	1.08
AMB24-202	M8	Diss	Seawater	3106-2270	0.335	1.13	0.0501	0.108	0.561	0.542	0.0423	0.716
AMB24-203	DYOTS	Total	Seawater	3106-2271	0.764	21.0	0.0687	0.156	0.598	0.601	0.114	1.10
AMB24-203	DYOTS	Diss	Seawater	3106-2272	0.307 J	1.32	0.0448	0.105	0.542	0.555	0.0278	0.693
AMB24-204	WP	Total	Seawater	3106-2273	0.858	21.5	0.0615	0.135	0.652	0.501	0.111	0.847
AMB24-204	WP	Diss	Seawater	3106-2274	0.266 J	0.585	0.0522	0.124	0.670	0.871	0.0274	0.598
AMB24-205	WP DUP	Total	Seawater	3106-2275	0.813	19.4	0.0505	0.169	1.26	0.559	0.106	1.08
AMB24-205	WP DUP	Diss	Seawater	3106-2276	0.263 J	1.36	0.0482	0.122	0.629	0.534	0.0238	0.830
AMB24-206	M2	Total	Seawater	3106-2277	0.745	32.9	0.0681	0.166	0.495	0.459	0.0951	0.628
AMB24-206	M2	Diss	Seawater	3106-2278	0.207 J	0.595	0.0639	0.102	0.374	0.438	0.0121	0.404
AMB24-207	M2 DEEP	Total	Seawater	3106-2279	0.577	22.2	0.0679	0.156	0.532	0.760	0.0787	0.520
AMB24-207	M2 DEEP	Diss	Seawater	3106-2280	0.279 J	0.547	0.0636	0.0987	0.375	0.455	0.0130	1.19
AMB24-208	CLMBAY	Total	Seawater	3106-2281	0.564	31.8	0.0718	0.171	0.482	0.595	0.0760	0.741
AMB24-208	CLMBAY	Diss	Seawater	3106-2282	0.306 J	7.48	0.0663	0.108	0.495	0.494	0.0129	0.957
AMB24-209	ILSP	Total	Seawater	3106-2283	0.654	18.3	0.0919	0.137	0.495	0.441	0.0705	0.896
AMB24-209	ILSP	Diss	Seawater	3106-2284	0.259 J	0.457	0.0571	0.108	0.411	0.537	0.0169	1.15
AMB24-210	M1	Total	Seawater	3106-2285	0.567	20.4	0.0720	0.174	0.519	0.560	0.0647	0.642
AMB24-210	M1	Diss	Seawater	3106-2286	0.215 J	0.403	0.0434	0.0784 J	0.375	0.414	0.0103	0.264
AMB24-211	M1 DEEP	Total	Seawater	3106-2287	0.702	14.3	0.0616	0.170	0.515	0.504	0.0637	0.506
AMB24-211	M1 DEEP	Diss	Seawater	3106-2288	0.184 J	0.917	0.0551	0.196	0.451	0.522	0.0145	2.42
AMB24-212	POPIPD	Total	Seawater	3106-2289	0.469	17.3	0.0501	0.141	0.534	0.474	0.0588	0.507
AMB24-212	POPIPD	Diss	Seawater	3106-2290	0.214 J	0.555	0.0443	0.108	0.455	0.489	0.0161	0.329
AMB24-213	SN03	Total	Seawater	3106-2291	9.24	21.7	1.38	0.323	2.07	0.673	0.104	19.8

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Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	Al	Cd	Cr	Cu	Ni	Pb	Zn
				Instrument:	CVAF	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
AMB24-213	SN03	Diss	Seawater	3106-2292	2.19	2.71	0.273	0.237	0.916	0.551	0.0112	5.42
AMB24-214	SN05	Total	Seawater	3106-2293	3.94	188	0.0899	0.574	1.38	0.854	0.517	2.85
AMB24-214	SN05	Diss	Seawater	3106-2294	0.397	1.58	0.0623	0.110	0.627	0.521	0.0406	1.48
AMB24-215	SN08	Total	Seawater	3106-2295	1.16	47.7	0.0542	0.347	1.00	0.550	0.153	1.58
AMB24-215	SN08	Diss	Seawater	3106-2296	0.490	2.61	0.0500	0.229	0.856	0.476	0.0227	1.19
AMB24-216	SN11	Total	Seawater	3106-2297	0.894	18.8	0.0425	0.141	0.932	0.474	0.120	1.83
AMB24-216	SN11	Diss	Seawater	3106-2298	0.237 J	0.623	0.0379	0.0882	0.755	0.463	0.0212	1.61
AMB24-217	SN10	Total	Seawater	3106-2299	1.62	14.2	0.0957	0.130	1.35	0.502	0.103	4.11
AMB24-217	SN10	Diss	Seawater	3106-2300	0.344	0.632	0.0542	0.108	1.03	0.515	0.0174	3.05
AMB24-218	M3.3	Total	Seawater	3106-2301	0.792	13.2	0.0414	0.134	1.00	0.495	0.0898	1.72
AMB24-218	M3.3	Diss	Seawater	3106-2302	0.295 J	0.696	0.0372	0.0950	0.856	0.442	0.0194	1.27
AMB24-219	M3.3 DUP	Total	Seawater	3106-2303	0.796	13.4	0.0411	0.129	0.959	0.463	0.0898	1.61
AMB24-219	M3.3 DUP	Diss	Seawater	3106-2304	0.345	1.12	0.0370	0.108	0.901	0.472	0.0209	1.36
AMB24-220	M3.3 DEEP	Total	Seawater	3106-2305	0.845	14.7	0.0626	0.133	1.12	0.488	0.107	1.32
AMB24-220	M3.3 DEEP	Diss	Seawater	3106-2306	0.194 J	0.685	0.0485	0.0877	0.692	0.456	0.0205	0.983
AMB24-221	PS03C	Total	Seawater	3106-2307	19.4	16.1	0.0509	0.239	1.70	0.598	0.165	2.83
AMB24-221	PS03C	Diss	Seawater	3106-2308	10.1	1.04	0.0456	0.169	1.43	0.572	0.0308	2.40
	Filter Blank A		Fresh Water	3106-2208	0.10 U	0.0531 J	0.0006 U	0.02 U	0.0010 U	0.0022 U	0.0004 U	0.0479
	Filter Blank B		Fresh Water	3106-2209	0.10 U	0.0992	0.000913 J	0.0505 J	0.0303	0.129	0.00624	0.183
	Filter Blank C		Fresh Water	3106-2210	0.10 U	0.102	0.0006 U	0.02 U	0.0120	0.0254	0.000927 J	0.0148 J

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ENVVEST Aug 2017
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UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al, Cr	Cd, Cu, Ni, Pb, Zn	SAL	TOC/DOC	TSS
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
Laboratory Achieved Detection Limits (Seawater)										
Seawater Reporting Limit (MDL* 3.18)										
Laboratory Achieved Detection Limits (Freshwater)										
Freshwater Reporting Limit (MDL* 3.18)										
AMB23										
AMB24-001	PS03	Total	Seawater	3106-2213	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-001	PS03	Diss	Seawater	3106-2214	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-002	M4	Total	Seawater	3106-2215	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-002	M4	Diss	Seawater	3106-2216	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-003	PS01	Total	Seawater	3106-2217	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-003	PS01	Diss	Seawater	3106-2218	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-004	PS02	Total	Seawater	3106-2219	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-004	PS02	Diss	Seawater	3106-2220	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-005	PS13	Total	Seawater	3106-2221	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-005	PS13	Diss	Seawater	3106-2222	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-006	BJEST	Total	Seawater	3106-2223	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-006	BJEST	Diss	Seawater	3106-2224	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-007	BJESTDUP	Total	Seawater	3106-2225	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-007	BJESTDUP	Diss	Seawater	3106-2226	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-008	M3.1	Total	Seawater	3106-2227	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-008	M3.1	Diss	Seawater	3106-2228	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-009	PS12	Total	Seawater	3106-2229	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-009	PS12	Diss	Seawater	3106-2230	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-010	M3.3	Total	Seawater	3106-2231	082817HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-010	M3.3	Diss	Seawater	3106-2232	082817HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-011	PS05	Total	Seawater	3106-2233	082917HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-011	PS05	Diss	Seawater	3106-2234	082917HGA	Q091417A	Q0911/1917A	--	091417HTCO	--
AMB24-012	PS04	Total	Seawater	3106-2235	082917HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-012	PS04	Diss	Seawater	3106-2236	082917HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-013	PS14	Total	Seawater	3106-2237	082917HGA	Q091417A	Q091217A	082717Osal	083017HTCO	082717Nu
AMB24-013	PS14	Diss	Seawater	3106-2238	082917HGA	Q091417A	Q091117A	--	091417HTCO	--
AMB24-014	PS06	Total	Seawater	3106-2239	082917HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-014	PS06	Diss	Seawater	3106-2240	082917HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-015	PS07	Total	Seawater	3106-2241	082917HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-015	PS07	Diss	Seawater	3106-2242	082917HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-016	PS07DUP	Total	Seawater	3106-2243	082917HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-016	PS07DUP	Diss	Seawater	3106-2244	082917HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-017	PS08	Total	Seawater	3106-2245	082917HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-017	PS08	Diss	Seawater	3106-2246	082917HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-018	PS15	Total	Seawater	3106-2247	082917HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-018	PS15	Diss	Seawater	3106-2248	082917HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-019	PS09	Total	Seawater	3106-2249	092317HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu

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Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al, Cr	Cd, Cu, Ni, Pb, Zn	SAL	TOC/DOC	TSS
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB24-019	PS09	Diss	Seawater	3106-2250	082917HGA	Q091417A	Q0911/1917A	--	091517HTCO	--
AMB24-020	PS10	Total	Seawater	3106-2251	082917HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-020	PS10	Diss	Seawater	3106-2252	082917HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-021	PS10.1	Total	Seawater	3106-2253	092317HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-021	PS10.1	Diss	Seawater	3106-2254	090517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-022	PS11	Total	Seawater	3106-2255	090517HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-022	PS11	Diss	Seawater	3106-2256	090517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-023	PS16	Total	Seawater	3106-2257	090517HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-023	PS16	Diss	Seawater	3106-2258	090517HGA	Q091417A	Q0911/1917A	--	091517HTCO	--
AMB24-024	PS03B	Total	Seawater	3106-2259	090517HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-024	PS03B	Diss	Seawater	3106-2260	090517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-DD001	OF018	Total	Seawater	3106-2261	090517HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-DD001	OF018	Diss	Seawater	3106-2262	090517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-DD002	OF019	Total	Seawater	3106-2263	090517HGA	Q091417A	Q091217A	082717Osal	083117HTCO	082717Nu
AMB24-DD002	OF019	Diss	Seawater	3106-2264	090517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-DD003	OF021	Total	Freshwater	3106-2265	090517HGA	Q091817A	Q091817A	082717Osal	083117HTCO	082717Nu
AMB24-DD003	OF021	Diss	Freshwater	3106-2266	090517HGA	Q091817A	Q091817A	--	091517HTCO	--
AMB24-201	M6	Total	Seawater	3106-2267	090517HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-201	M6	Diss	Seawater	3106-2268	090517HGA	Q091417A	Q0911/1917A	--	091517HTCO	--
AMB24-202	M8	Total	Seawater	3106-2269	090517HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-202	M8	Diss	Seawater	3106-2270	090517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-203	DYOTS	Total	Seawater	3106-2271	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-203	DYOTS	Diss	Seawater	3106-2272	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-204	WP	Total	Seawater	3106-2273	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-204	WP	Diss	Seawater	3106-2274	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-205	WP DUP	Total	Seawater	3106-2275	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-205	WP DUP	Diss	Seawater	3106-2276	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-206	M2	Total	Seawater	3106-2277	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-206	M2	Diss	Seawater	3106-2278	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-207	M2 DEEP	Total	Seawater	3106-2279	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-207	M2 DEEP	Diss	Seawater	3106-2280	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-208	CLMBAY	Total	Seawater	3106-2281	092317HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-208	CLMBAY	Diss	Seawater	3106-2282	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-209	ILSP	Total	Seawater	3106-2283	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-209	ILSP	Diss	Seawater	3106-2284	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-210	M1	Total	Seawater	3106-2285	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-210	M1	Diss	Seawater	3106-2286	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-211	M1 DEEP	Total	Seawater	3106-2287	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-211	M1 DEEP	Diss	Seawater	3106-2288	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-212	POPIPD	Total	Seawater	3106-2289	090817HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu
AMB24-212	POPIPD	Diss	Seawater	3106-2290	090817HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-213	SN03	Total	Seawater	3106-2291	091517HGA	Q091417A	Q091217A	082817Osal	083117HTCO	082817Nu

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Metals in Water
UNITS: µg/L and ng/L for Hg

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	Hg	Al, Cr	Cd, Cu, Ni, Pb, Zn	SAL	TOC/DOC	TSS
				Instrument:	CVAF Batch ID	ICP-MS Batch ID	ICP-MS Batch ID	OSAL Batch ID	HTCO Batch ID	TSS Batch ID
AMB24-213	SN03	Diss	Seawater	3106-2292	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-214	SN05	Total	Seawater	3106-2293	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-214	SN05	Diss	Seawater	3106-2294	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-215	SN08	Total	Seawater	3106-2295	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-215	SN08	Diss	Seawater	3106-2296	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-216	SN11	Total	Seawater	3106-2297	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-216	SN11	Diss	Seawater	3106-2298	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-217	SN10	Total	Seawater	3106-2299	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-217	SN10	Diss	Seawater	3106-2300	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-218	M3.3	Total	Seawater	3106-2301	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-218	M3.3	Diss	Seawater	3106-2302	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-219	M3.3 DUP	Total	Seawater	3106-2303	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-219	M3.3 DUP	Diss	Seawater	3106-2304	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-220	M3.3 DEEP	Total	Seawater	3106-2305	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-220	M3.3 DEEP	Diss	Seawater	3106-2306	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
AMB24-221	PS03C	Total	Seawater	3106-2307	091517HGA	Q091417A	Q091217A	082817Osal	091317HTCO	082817Nu
AMB24-221	PS03C	Diss	Seawater	3106-2308	091517HGA	Q091417A	Q091117A	--	091517HTCO	--
	Filter Blank A		Fresh Water	3106-2208	092517HGA	Q091817A	Q091817A	--	--	--
	Filter Blank B		Fresh Water	3106-2209	092517HGA	Q091817A	Q091817A	--	--	--
	Filter Blank C		Fresh Water	3106-2210	092517HGA	Q091817A	Q091817A	--	--	--

BATTELLE MARINE SCIENCE LABORATORIES
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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**		
Seawater Reporting Limit (MDL* 3.18)					**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**		
METHOD BLANKS													
MB		Seawater	BLANK R1		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R2		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R3		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R4		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R5		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R6		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R7		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R8		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MB		Seawater	BLANK R9		0.107 U	0.003 U	0.025 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091217A	Q091417A
MEAN REAGENT BLANK					**0.107 U**	**0.0030 U**	**0.025 U**	**0.061 U**	**0.043 U**	**0.0010 U**	**0.013 U**		
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R1		0.897	0.0723	0.105	0.247	0.374	0.00367	0.264	Q091217A	Q091417A
LCS		Seawater	SB LCS R1		2.38	2.36	2.07	2.33	2.57	2.18	2.40	Q091217A	Q091417A
			Percent Recovery, LCS		**74%**	**114%**	**98%**	**104%**	**110%**	**109%**	**107%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R2		1.15	0.0724	0.110	0.247	0.374	0.00364	0.267	Q091217A	Q091417A
LCS		Seawater	SB LCS R2		2.30	2.36	2.10	2.34	2.61	2.17	2.42	Q091217A	Q091417A
			Percent Recovery, LCS		**57% ***	**114%**	**99%**	**105%**	**112%**	**109%**	**108%**		
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB R3		1.45	0.0705	0.117	0.231	0.345	0.00366	0.256	Q091217A	Q091417A
LCS		Seawater	SB LCS R3		2.25	2.28	2.09	2.15	2.37	2.19	2.27	Q091217A	Q091417A
			Percent Recovery, LCS		**40% ***	**110%**	**99%**	**96%**	**101%**	**109%**	**101%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
MATRIX SPIKE RESULTS													
AMB24-007	BJESTDUP	Total	Seawater	3106-2225	44.1	0.0297	0.467	1.10	0.931	0.120	1.61	Q091217A	Q091417A
MS				3106-2225 MS	45.4	1.11	1.41	6.25	1.97	1.20	6.71	Q091217A	Q091417A
MSD				3106-2225 MSD	42.5	1.11	1.41	6.47	1.94	1.18	6.75	Q091217A	Q091417A
				Spike concentration	5	1	1	5	1	1	5	Q091217A	Q091417A
				Percent Recovery, MS	**27%** *	**108%**	**95%**	**103%**	**104%**	**108%**	**102%**		
				Percent Recovery, MSD	**-32%** *	**108%**	**94%**	**107%**	**101%**	**106%**	**103%**		
				RPD	**3%**	**0%**	**0%**	**2%**	**1%**	**1%**	**0%**		
AMB24-018	PS15	Total	Seawater	3106-2247	16.9	0.0365	0.152	0.942	0.518	0.0920	1.28	Q091217A	Q091417A
MS				3106-2247 MS	22.7	1.13	1.15	2.03	1.60	1.18	7.16	Q091217A	Q091417A
MSD				3106-2247 MSD	22.3	1.11	1.15	1.98	1.57	1.17	6.50	Q091217A	Q091417A
				Spike concentration	5	1	1	1	1	1	5	Q091217A	Q091417A
				Percent Recovery, MS	**115%**	**109%**	**100%**	**108%**	**108%**	**109%**	**118%**		
				Percent Recovery, MSD	**108%**	**107%**	**100%**	**103%**	**105%**	**108%**	**104%**		
				RPD	**1%**	**1%**	**0%**	**1%**	**1%**	**1%**	**5%**		
AMB24-217	SN10	Total	Seawater	3106-2299	14.2	0.0957	0.130	1.35	0.502	0.103	4.11	Q091217A	Q091417A
MS				3106-2299 MS	18.6	1.19	1.16	6.45	1.51	1.22	9.42	Q091217A	Q091417A
MSD				3106-2299 MSD	18.4	1.18	1.17	6.44	1.51	1.23	9.41	Q091217A	Q091417A
				Spike concentration	5	1	1	5	1	1	5	Q091217A	Q091417A
				Percent Recovery, MS	**88%**	**109%**	**103%**	**102%**	**100%**	**111%**	**106%**		
				Percent Recovery, MSD	**84%**	**108%**	**104%**	**102%**	**101%**	**112%**	**106%**		
				RPD	**1%**	**1%**	**1%**	**0%**	**0%**	**0%**	**0%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Total Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
REPLICATE PRECISION													
AMB24-011	PS05	Total	Seawater	3106-2233 R1	13.6	0.0366	0.152	1.50	0.512	0.0831	1.80	Q091217A	Q091417A
DUP				3106-2233 R2	13.2	0.0369	0.160	1.51	0.498	0.0848	2.07	Q091217A	Q091417A
				Mean	*13.4*	*0.0368*	*0.156*	*1.50*	*0.505*	*0.0840*	*1.93*		
				RPD	**3%**	**1%**	**5%**	**1%**	**3%**	**2%**	**14%**		
AMB24-019	PS09	Total	Seawater	3106-2249 R1	14.7	0.0553	0.130	1.70	0.532	0.123	4.20	Q091217A	Q091417A
DUP				3106-2249 R2	14.9	0.0544	0.126	1.69	0.526	0.119	4.24	Q091217A	Q091417A
				Mean	*14.8*	*0.0549*	*0.128*	*1.69*	*0.529*	*0.121*	*4.22*		
				RPD	**2%**	**2%**	**3%**	**0%**	**1%**	**3%**	**1%**		
AMB24-218	M3.3	Total	Seawater	3106-2301 R1	13.2	0.0414	0.134	1.00	0.495	0.0898	1.72	Q091217A	Q091417A
DUP				3106-2301 R2	13.3	0.0402	0.126	0.989	0.476	0.0870	1.61	Q091217A	Q091417A
				Mean	*13.3*	*0.0408*	*0.130*	*1.00*	*0.486*	*0.0884*	*1.66*		
				RPD	**0%**	**3%**	**6%**	**1%**	**4%**	**3%**	**7%**		
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-6		Total	Seawater	CASS-6 R1	3.73	0.0239	0.0929	0.524	0.465	0.0111	1.27	Q091217A	Q091417A
SRM CASS-6		Total	Seawater	CASS-6 R2	3.78	0.0240	0.100	0.522	0.461	0.0109	1.26	Q091217A	Q091417A
SRM CASS-6		Total	Seawater	CASS-6 R3	3.90	0.0225	0.0973	0.479	0.418	0.0109	1.17	Q091217A	Q091417A
				Certified Value	NC	**0.0217**	**0.100**	**0.530**	**0.418**	**0.0106**	**1.27**		
						±0.0018	**±0.016**	**±0.032**	**±0.040**	**±0.0040**	**±0.18**		
				PD	**--**	**10%**	**7%**	**1%**	**11%**	**5%**	**0%**		
				PD	**--**	**11%**	**0%**	**2%**	**10%**	**3%**	**1%**		
				PD	**--**	**4%**	**3%**	**10%**	**0%**	**3%**	**8%**		
				RSD	**2%**								
STANDARD REFERENCE MATERIAL, matrix matched													
1640A		Total	matix	1640A-10X R1	51.8	--	39.6	--	--	--	--	--	Q091417A
1640A		Total	matix	1640A-10X R2	51.7	--	39.3	--	--	--	--	--	Q091417A
1640A		Total	matix	1640A-10X R3	51.3	--	40.3	--	--	--	--	--	Q091417A
				Certified Value	**53.0**	--	**40.54**	--	--	--	--		
				PD	**2%**	--	**2%**	--	--	--	--		
				PD	**2%**	--	**3%**	--	--	--	--		
				PD	**3%**	--	**1%**	--	--	--	--		

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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
			Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
Laboratory Achieved Detection Limits (Seawater)					**0.107**	**0.003**	**0.0250**	**0.061**	**0.043**	**0.0010**	**0.013**		
Seawater Reporting Limit (MDL* 3.18)					**0.340**	**0.010**	**0.0795**	**0.194**	**0.137**	**0.0032**	**0.041**		
METHOD BLANKS													
MB		Seawater	BLANK R1		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R2		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R3		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R4		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R5		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R6		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R7		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R8		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R9		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091117A	Q091417A
MB		Seawater	BLANK R9		0.107 U	0.003 U	0.0250 U	0.061 U	0.043 U	0.0010 U	0.013 U	Q091917A	--
MEAN REAGENT BLANK		Seawater			**0.107 U**	**0.003 U**	**0.0250 U**	**0.061 U**	**0.043 U**	**0.0010 U**	**0.013 U**		
LABORATORY CONTROL SAMPLES													
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**		
LCS Blank		Seawater	SB Blank R1		0.639	0.0712	0.117	0.253	0.377	0.00353	0.265	Q091117A	Q091417A
LCS		Seawater	SB LCS R1		2.53	2.26	2.15	2.51	2.76	2.14	2.50	Q091117A	Q091417A
		Percent Recovery, LCS			**95%**	**110%**	**102%**	**113%**	**119%**	**107%**	**112%**		
Spiking Level					**2**	**10**	**2**	**10**	**10**	**10**	**10**		
LCS Blank		Seawater	SB Blank R2		0.570	0.0707	0.116	0.271	0.400	0.00404	0.277	Q091117A	Q091417A
LCS		Seawater	SB LCS R2		2.43	11.19	2.14	11.4	12.2	10.3	11.0	Q091117A	Q091417A
		Percent Recovery, LCS			**93%**	**111%**	**101%**	**111%**	**118%**	**103%**	**108%**		
Spiking Level					**2**	**10**	**2**	**10**	**10**	**10**	**10**		
LCS Blank		Seawater	SB Blank R3		0.500	0.0686	0.107	0.251	0.369	0.00392	0.265	Q091117A	Q091417A
LCS		Seawater	SB LCS R3		2.38	10.9	2.08	10.7	11.3	10.4	10.5	Q091117A	Q091417A
		Percent Recovery, LCS			**94%**	**108%**	**98%**	**104%**	**109%**	**104%**	**103%**		
		RSD SB Blanks			**12%**	**2%**	**5%**	**4%**	**4%**	**7%**	**3%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
MATRIX SPIKE RESULTS													
AMB24-004	PS02	Diss	Seawater	3106-2220	1.23	0.0343	0.171	1.02	0.577	0.0187	1.66	Q091117A	Q091417A
MS				3106-2220 MS	2.17	1.10	1.19	6.62	1.72	1.07	6.97	Q091117A	Q091417A
MSD				3106-2220 MSD	2.09	1.11	1.21	6.70	1.75	1.06	6.96	Q091117A	Q091417A
				Spike concentration	1	1	1	5	1	1	5	Q091117A	Q091417A
				Percent Recovery, MS	**93%**	**107%**	**102%**	**112%**	**114%**	**105%**	**106%**		
				Percent Recovery, MSD	**85%**	**107%**	**104%**	**114%**	**117%**	**104%**	**106%**		
				RPD	**2%**	**0%**	**1%**	**1%**	**1%**	**0%**	**0%**		
AMB24-DD002	OF019	Diss	Seawater	3106-2264	0.385	0.0702	0.173	1.04	1.81	0.00578	13.1	Q091117A	Q091417A
MS				3106-2264 MS	1.37	1.12	1.19	6.63	7.49	1.01	19.1	Q091117A	Q091417A
MSD				3106-2264 MSD	1.35	1.11	1.20	6.58	7.42	0.994	19.2	Q091117A	Q091417A
				Spike concentration	1	1	1	5	5	1	5	Q091117A	Q091417A
				Percent Recovery, MS	**98%**	**105%**	**102%**	**112%**	**114%**	**100%**	**121%**		
				Percent Recovery, MSD	**96%**	**104%**	**103%**	**111%**	**112%**	**99%**	**122%**		
				RPD	**1%**	**0%**	**1%**	**0%**	**0%**	**1%**	**0%**		
AMB24-220	M3.3 DEEP	Diss	Seawater	3106-2306	0.685	0.0485	0.0877	0.692	0.456	0.0205	0.983	Q091117A	Q091417A
MS				3106-2306 MS	1.55	1.10	1.10	1.77	1.53	1.09	5.97	Q091117A	Q091417A
MSD				3106-2306 MSD	1.76	1.08	1.10	1.77	1.53	1.07	6.04	Q091117A	Q091417A
				Spike concentration	1	1	1	1	1	1	5	Q091117A	Q091417A
				Percent Recovery, MS	**87%**	**105%**	**101%**	**108%**	**107%**	**107%**	**100%**		
				Percent Recovery, MSD	**108%**	**104%**	**101%**	**108%**	**108%**	**105%**	**101%**		
				RPD	**6%**	**1%**	**0%**	**0%**	**0%**	**1%**	**1%**		

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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Dissolved Metals in Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*Cd, Cu, Ni, Pb, Zn*	*Al, Cr*
REPLICATE PRECISION													
AMB24-001	PS03	Diss	Seawater	3106-2214 R1	1.00	0.0376	0.156	1.44	1.14	0.0196	1.67	Q091117A	Q091417A
DUP				3106-2214 R2	1.12	0.0384	0.170	1.48	1.15	0.0210	1.76	Q091117A	Q091417A
				Mean	*1.06*	*0.0380*	*0.163*	*1.46*	*1.15*	*0.0203*	*1.72*		
				RPD	**11%**	**2%**	**8%**	**3%**	**1%**	**7%**	**5%**		
AMB24-204	WP	Diss	Seawater	3106-2274 R1	0.585	0.0522	0.124	0.670	0.871	0.0274	0.598	Q091117A	Q091417A
DUP				3106-2274 R2	0.637	0.0522	0.118	0.634	0.853	0.0267	0.583	Q091117A	Q091417A
				Mean	*0.611*	*0.0522*	*0.121*	*0.652*	*0.862*	*0.0271*	*0.590*		
				RPD	**8%**	**0%**	**5%**	**6%**	**2%**	**3%**	**2%**		
AMB24-213	SN03	Diss	Seawater	3106-2292 R1	2.71	0.273	0.237	0.916	0.551	0.0112	5.42	Q091117A	Q091417A
DUP				3106-2292 R2	2.13	0.277	0.240	0.870	0.548	0.0104	5.49	Q091117A	Q091417A
				Mean	*2.42*	*0.275*	*0.238*	*0.893*	*0.549*	*0.0108*	*5.46*		
				RPD	**24%**	**2%**	**1%**	**5%**	**1%**	**7%**	**1%**		
STANDARD REFERENCE MATERIAL, Seawater													
SRM CASS-6		Total	Seawater	CASS-6 R1	3.88	0.0232	0.0984	0.551	0.485	0.0109	1.28	Q091117A	Q091417A
SRM CASS-6		Total	Seawater	CASS-6 R2	3.78	0.0234	0.0959	0.565	0.488	0.0109	1.28	Q091117A	Q091417A
SRM CASS-6		Total	Seawater	CASS-6 R3 R	3.73	0.0227	0.107	0.541	0.460	0.0107	1.24	Q091117A	Q091417A
SRM CASS-6		Total	Seawater	CASS-6 R4	--	--	--	0.541	0.440	--	1.27	Q091917A	--
				Certified Value	NC	**0.0217**	**0.100**	**0.530**	**0.418**	**0.0106**	**1.27**		
				PD	**--**	**7%**	**2%**	**4%**	**16%**	**3%**	**1%**		
				PD	**--**	**8%**	**4%**	**7%**	**17%**	**3%**	**1%**		
				PD	**--**	**5%**	**7%**	**2%**	**10%**	**1%**	**2%**		
				PD	**--**	**--**	**--**	**2%**	**5%**	**--**	**0%**		
				RSD	**2%**								

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QC Results for ICP-MS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Fresh Water
UNITS: µg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Al	Cd	Cr	Cu	Ni	Pb	Zn	ICP-MS Batch ID
				Instrument:	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	*ICP-MS*	
Laboratory Achieved Detection Limits (Freshwater)					**0.02**	**0.0006**	**0.02**	**0.001**	**0.0022**	**0.0004**	**0.01**	
Freshwater Reporting Limit (MDL* 3.18)					**0.06**	**0.0019**	**0.06**	**0.003**	**0.0070**	**0.0013**	**0.03**	
METHOD BLANKS												
MB		Diss	Freshwater	Direct Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091817A
MB		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091817A
LABORATORY CONTROL SAMPLES												
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Diss	Freshwater	Direct Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091817A
LCS		Diss	Freshwater	Direct LCS	1.99	2.01	1.99	2.01	2.01	2.00	2.01	Q091817A
				Percent Recovery, LCS	**100%**	**101%**	**100%**	**101%**	**100%**	**100%**	**100%**	
Spiking Level					**2**	**2**	**2**	**2**	**2**	**2**	**2**	
LCS Blank		Total	Freshwater	TRM Blank	0.02 U	0.0006 U	0.02 U	0.001 U	0.0022 U	0.0004 U	0.01 U	Q091817A
LCS		Total	Freshwater	TRM LCS	2.02	2.01	2.01	2.02	2.00	2.02	2.02	Q091817A
				Percent Recovery, LCS	**101%**	**101%**	**100%**	**101%**	**100%**	**101%**	**101%**	
MATRIX SPIKE RESULTS												
AMB24-DD003	OF021	Diss	Freshwater	3106-2266	7.67	0.000892 J	1.05	1.08	1.84	0.00763	0.950	Q091817A
MS				3106-2266 MS	12.5	1.01	6.07	5.89	6.62	0.983	1.94	Q091817A
MSD				3106-2266 MSD	12.7	1.04	6.16	6.01	6.73	1.011	1.96	Q091817A
				spiked concentration	5	1	5	5	5	1	1	Q091817A
				Percent Recovery, MS	**97%**	**101%**	**100%**	**96%**	**96%**	**98%**	**99%**	
				Percent Recovery, MSD	**101%**	**103%**	**102%**	**99%**	**98%**	**100%**	**101%**	
				RPD	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**0%**	
REPLICATE PRECISION												
AMB24-DD003	OF021	Total	Freshwater	3106-2265 R1	9.20	0.000922 J	1.09	1.10	1.41	0.00533	1.06	Q091817A
DUP				3106-2265 R2	9.31	0.000336 J	1.13	1.12	1.42	0.00514	1.04	Q091817A
				Mean	*9.26*	*0.000629* J	*1.11*	*1.11*	*1.42*	*0.00524*	*1.05*	
				RPD	**1%**	**93%** *	**3%**	**2%**	**0%**	**4%**	**2%**	
STANDARD REFERENCE MATERIAL												
INSTRUMENT CHECK SAMPLE/Freshwater SRM												
SRM 1640a		Diss	Freshwater	1640A 10X Direct	53.8	4.00	39.7	85.4	24.9	12.2	56.0	Q091817A
SRM 1640a		Total	Freshwater	1640a 10X TRM	54.3	4.04	40.0	85.6	24.9	12.2	56.4	Q091817A
				Certified Value	**53.0**	**3.99**	**40.5**	**85.8**	**25.3**	**12.1**	**55.6**	
				PD	**2%**	**0%**	**2%**	**0%**	**2%**	**1%**	**1%**	
				PD	**2%**	**1%**	**1%**	**0%**	**2%**	**1%**	**1%**	

BATTELLE MARINE SCIENCE LABORATORIES
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QC Sample Results for CVAF
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
Laboratory Achieved Detection Limits					**0.10**	
Reporting Limit (MDL* 3.18)					**0.320**	
METHOD BLANKS						
MB-1		TME	Water	Method Blank1	0.10 U	082817HGA
MB-2		TME	Water	Method Blank2	0.10 U	082817HGA
MB-3		TME	Water	Method Blank3	0.10 U	082817HGA
MB-4		TME	Water	Method Blank1	0.10 U	082917HGA
MB-5		TME	Water	Method Blank2	0.10 U	082917HGA
MB-6		TME	Water	Method Blank3	0.10 U	082917HGA
MB-7		TME	Water	Method Blank1	0.10 U	090517HGA
MB-8		TME	Water	Method Blank2	0.10 U	090517HGA
MB-9		TME	Water	Method Blank3	0.10 U	090517HGA
MB-10		TME	Water	Method Blank1	0.10 U	090817HGA
MB-11		TME	Water	Method Blank2	0.10 U	090817HGA
MB-12		TME	Water	Method Blank3	0.10 U	090817HGA
MB-13		TME	Water	Method Blank1	0.10 U	091517HGA
MB-14		TME	Water	Method Blank2	0.10 U	091517HGA
MB-15		TME	Water	Method Blank3	0.10 U	091517HGA
MB-16		TME	Water	Method Blank1	0.10 U	092317HGA
MB-17		TME	Water	Method Blank2	0.10 U	092317HGA
MB-18		TME	Water	Method Blank3	0.10 U	092317HGA

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QC Sample Results for CVAF
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	**MSL Code**	**Hg**	CVAF Batch ID
				Instrument:	*CVAF*	
LABORATORY CONTROL SAMPLES						
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 082817 run1	5.38	082817HGA
LCS (2)	TME		Water	OPR 082817 run2	5.32	082817HGA
LCS Blank (1)	TME		Water	BLANK 082817	0.183 J	082817HGA
				Percent Recovery, LCS 1	**105%**	
				Percent Recovery, LCS 2	**104%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 082817 run1	5.42	082917HGA
LCS (2)	TME		Water	OPR 082817 run2	5.05	082917HGA
LCS Blank (1)	TME		Water	BLANK 082817	0.161 J	082917HGA
				Percent Recovery, LCS 1	**106%**	
				Percent Recovery, LCS 2	**99%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 083117 run1	5.25	090517HGA
LCS (2)	TME		Water	OPR 083117 run2	5.21	090517HGA
LCS Blank (1)	TME		Water	BLANK 083117	0.100 U	090517HGA
				Percent Recovery, LCS 1	**106%**	
				Percent Recovery, LCS 2	**105%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 090717 run1	5.06	090817HGA
LCS (2)	TME		Water	OPR 090717 run2	4.97	090817HGA
LCS Blank (1)	TME		Water	BLANK 090717	0.100 U	090817HGA
				Percent Recovery, LCS 1	**102%**	
				Percent Recovery, LCS 2	**100%**	
Spiking Level					4.96	
LCS (1)	TME		Water	OPR 091517 run1	4.86	091517HGA
LCS (2)	TME		Water	OPR 091517 run2	5.04	091517HGA
LCS Blank (1)	TME		Water	BLANK 091517	0.108 J	091517HGA
				Percent Recovery, LCS 1	**96%**	
				Percent Recovery, LCS 2	**99%**	
Spiking Level					5.00	
LCS (1)	TME		Water	OPR 091917 run1	5.41	092317HGA
LCS (2)	TME		Water	OPR 091917 run2	4.65	092317HGA
LCS Blank (1)	TME		Water	BLANK 091917	0.100 U	092317HGA
				Percent Recovery, LCS 1	**108%**	
				Percent Recovery, LCS 2	**93%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
MATRIX SPIKE RESULTS						
AMB24-004	PS02	Diss	Seawater	3106-2220	0.508	082817HGA
MS				3106-2220 MS	7.88	082817HGA
MSD				3106-2220 MSD	7.96	082817HGA
				Spiking Level, MS	6.92	082817HGA
				Spiking Level, MSD	7.03	082817HGA
				Percent Recovery, MS	**107%**	
				Percent Recovery, MSD	**106%**	
				RPD	**0.6%**	
AMB24-007	BJESTDUP	Total	Seawater	3106-2225	1.05	082817HGA
MS				3106-2225 MS	8.37	082817HGA
MSD				3106-2225 MSD	8.20	082817HGA
				Spiking Level, MS	6.96	082817HGA
				Spiking Level, MSD	7.02	082817HGA
				Percent Recovery, MS	**105%**	
				Percent Recovery, MSD	**102%**	
				RPD	**3.2%**	
AMB24-012	PS04	Diss	Seawater	3106-2236	0.423	082917HGA
MS				3106-2236 MS	7.51	082917HGA
MSD				3106-2236 MSD	7.48	082917HGA
				Spiking Level, MS	7.05	082917HGA
				Spiking Level, MSD	6.85	082917HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**103%**	
				RPD	**2.5%**	
AMB24-018	PS15	Total	Seawater	3106-2247	0.722	082917HGA
MS				3106-2247 MS	7.71	082917HGA
MSD				3106-2247 MSD	7.65	082917HGA
				Spiking Level, MS	6.91	082917HGA
				Spiking Level, MSD	6.83	082917HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**101%**	
				RPD	**0.4%**	
AMB24-024	PS03B	Total	Seawater	3106-2259	12.4	090517HGA
MS				3106-2259 MS	18.4	090517HGA
MSD				3106-2259 MSD	17.9	090517HGA
				Spiking Level, MS	7.07	090517HGA
				Spiking Level, MSD	6.81	090517HGA
				Percent Recovery, MS	**85%**	
				Percent Recovery, MSD	**81%**	
				RPD	**5.2%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
AMB24-DD002	OF019	Diss	Seawater	3106-2264	3.00	090517HGA
MS				3106-2264 MS	10.7	090517HGA
MSD				3106-2264 MSD	10.3	090517HGA
				Spiking Level, MS	7.09	090517HGA
				Spiking Level, MSD	6.85	090517HGA
				Percent Recovery, MS	**108%**	
				Percent Recovery, MSD	**106%**	
				RPD	**2.4%**	
AMB24-203	DYOTS	Diss	Seawater	3106-2272	0.30	090817HGA
MS				3106-2272 MS	7.40	090817HGA
MSD				3106-2272 MSD	7.37	090817HGA
				Spiking Level, MS	7.05	090817HGA
				Spiking Level, MSD	7.04	090817HGA
				Percent Recovery, MS	**101%**	
				Percent Recovery, MSD	**100%**	
				RPD	**0.2%**	
AMB24-212	POPIPD	Total	Seawater	3106-2289	0.469	090817HGA
MS				3106-2289 MS	7.61	090817HGA
MSD				3106-2289 MSD	7.60	090817HGA
				Spiking Level, MS	6.54	090817HGA
				Spiking Level, MSD	6.96	090817HGA
				Percent Recovery, MS	**109%**	
				Percent Recovery, MSD	**103%**	
				RPD	**6.2%**	
AMB24-217	SN10	Total	Seawater	3106-2299	1.62	091517HGA
MS				3106-2299 MS	9.01	091517HGA
MSD				3106-2299 MSD	8.94	091517HGA
				Spiking Level, MS	7.20	091517HGA
				Spiking Level, MSD	6.79	091517HGA
				Percent Recovery, MS	**103%**	
				Percent Recovery, MSD	**108%**	
				RPD	**4.9%**	
AMB24-220	M3.3 DEEP	Diss	Seawater	3106-2306	0.194	091517HGA
MS				3106-2306 MS	7.94	091517HGA
MSD				3106-2306 MSD	7.44	091517HGA
				Spiking Level, MS	7.01	091517HGA
				Spiking Level, MSD	6.91	091517HGA
				Percent Recovery, MS	**110%**	
				Percent Recovery, MSD	**105%**	
				RPD	**5.1%**	
N/A	N/A	Total	Seawater	3106-2211	1.23	092317HGA
MS				3106-2211 MS	6.51	092317HGA
MSD				3106-2211 MSD	6.32	092317HGA
				Spiking Level, MS	5.37	092317HGA
				Spiking Level, MSD	5.08	092317HGA
				Percent Recovery, MS	**98%**	
				Percent Recovery, MSD	**100%**	
				RPD	**1.7%**	

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QC Sample Results for CVAF
Ambient Monitoring - AMB24
ENVVEST Aug 2017
Metals in Water
UNITS: ng/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Hg	CVAF Batch ID
				Instrument:	*CVAF*	
REPLICATE PRECISION						
AMB24-001	PS03	Diss	Seawater	3106-2214 R1	0.437	082817HGA
DUP				3106-2214 R2	0.404	082817HGA
				Mean	*0.421*	
				RPD	**8%**	
AMB24-019	PS09	Total	Seawater	3106-2249 R1	1.48	082917HGA
DUP				3106-2249 R2	0.934	082917HGA
				Mean	*1.21*	
				RPD	**46% ***	
AMB24-019	PS09	Total	Seawater	3106-2249 R1_R	1.40	082917HGA
DUP				3106-2249 R2_R	0.928	082917HGA
				Mean	*1.16*	
				RPD	**40% ***	
AMB24-022	PS11	Total	Seawater	3106-2255	3.72	090517HGA
DUP				3106-2255 DUP	3.28	090517HGA
				Mean	*3.50*	
				RPD	**12%**	
AMB24-204	WP	Diss	Seawater	3106-2274 R1	0.266	090817HGA
DUP				3106-2274 R2	0.260	090817HGA
				Mean	*0.26*	
				RPD	**2%**	
AMB24-213	SN03	Diss	Seawater	3106-2292 R1	2.19	091517HGA
DUP				3106-2292 R2	2.09	091517HGA
				Mean	*2.14*	
				RPD	**5%**	
AMB24-218	M3.3	Total	Seawater	3106-2301 R1	0.792	091517HGA
DUP				3106-2301 R2	0.713	091517HGA
				Mean	*0.75*	
				RPD	**11%**	
N/A	N/A	Total	Seawater	3342-1319 R1	28.5	092317HGA
DUP				3342-1319 R2	29.1	092317HGA
				Mean	*28.8*	
				RPD	**2%**	
STANDARD REFERENCE MATERIAL						
SRM 1641 (1)		Total	Freshwater	1641d 082817	1625964	082817HGA
SRM 1641 (2)		Total	Freshwater	1641d 082917	1562515	082917HGA
SRM 1641 (3)		Total	Freshwater	1641d 090517	1657517	090517HGA
SRM 1641 (4)		Total	Freshwater	1641d 090817	1614137	090817HGA
SRM 1641 (5)		Total	Freshwater	1641d 091517	1634523	091517HGA
SRM 1641 (6)		Total	Freshwater	1641d 092317	1591253	092317HGA
				Certified Value	**1557000**	
				range	**±20000**	
	SRM 1641 (1)			**PD**	**4%**	
	SRM 1641 (2)			**PD**	**0%**	
	SRM 1641 (3)			**PD**	**6%**	
	SRM 1641 (4)			**PD**	**4%**	
	SRM 1641 (5)			**PD**	**5%**	
	SRM 1641 (6)			**PD**	**2%**	

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB24
ENVVEST Aug 2017
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Laboratory Achieved Detection Limits (Seawater)					**0.0490**	**4.08**		
Seawater Reporting Limit (MDL* 3.18)					**0.156**	**13.0**		
				Instrument:	HTCO	HTCO		
Method Blanks								
MB-1			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	083017HTCO
MB-2			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	083117HTCO
MB-3			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	083117HTCO
MB-4			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	091317HTCO
MB-5			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	091317HTCO
MB-6			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	091417HTCO
MB-7			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	091517HTCO
MB-8			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	091517HTCO
MB-9			DI Water	ACIDIFIED_DIW	0.0490	4.08	U	091517HTCO
REPLICATE PRECISION								
AMB24-016	PS07DUP	Total	Seawater	3106-2243	1.23	103		083117HTCO
DUP				3106-2243 R2	1.23	102		083117HTCO
				Mean	*1.23*	*103*		
				RPD	**0.3%**	**0.3%**		
AMB24-016	PS07DUP	Diss	Seawater	3106-2244	1.08	89.9		091517HTCO
DUP				3106-2244 R2	1.09	90.5		091517HTCO
				Mean	*1.08*	*90.2*		
				RPD	**0.6%**	**0.6%**		
AMB24-205	WP DUP	Total	Seawater	3106-2275	1.53	128		083117HTCO
DUP				3106-2275 R2	1.65	137		083117HTCO
				Mean	*1.59*	*132*		
				RPD	**7.2%**	**7.2%**		
AMB24-205	WP DUP	Diss	Seawater	3106-2276	1.19	99.5		091517HTCO
DUP				3106-2276 R2	1.15	96.0		091517HTCO
				Mean	*1.17*	*97.7*		
				RPD	**3.6%**	**3.6%**		
AMB24-221	PS03C	Diss	Seawater	3106-2308	1.35	112		091517HTCO
DUP				3106-2308 R2	1.37	114		091517HTCO
				Mean	*1.36*	*113*		
				RPD	**1.3%**	**1.3%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB24
ENVVEST Aug 2017
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
Consensus Value for Interlaboratory Sample[2]								
CRM-1		DOC	Seawater	CRM	0.480	40.0		083017HTCO
CRM-2		DOC	Seawater	CRM	0.560	46.7		083017HTCO
CRM-3		DOC	Seawater	CRM	0.507	42.3		083117HTCO
CRM-4		DOC	Seawater	CRM	0.535	44.5		083117HTCO
CRM-5		DOC	Seawater	CRM	0.522	43.5		083117HTCO
CRM-6		DOC	Seawater	CRM	0.538	44.9		083117HTCO
CRM-7		DOC	Seawater	CRM	0.536	44.7		091317HTCO
CRM-8		DOC	Seawater	CRM	0.562	46.8		091317HTCO
CRM-9		DOC	Seawater	CRM	0.569	47.4		091317HTCO
CRM-10		DOC	Seawater	CRM	0.539	44.9		091417HTCO
CRM-11		DOC	Seawater	CRM	0.540	45.0		091417HTCO
CRM-12		DOC	Seawater	CRM	0.525	43.8		091517HTCO
CRM-13		DOC	Seawater	CRM	0.501	41.8		091517HTCO
CRM-14		DOC	Seawater	CRM	0.516	43.0		091517HTCO
CRM-15		DOC	Seawater	CRM	0.500	41.6		091517HTCO
CRM-16		DOC	Seawater	CRM	0.497	41.4		091517HTCO
				Average Consensus Value	0.528	44.0		
				Range	0.516-0.540	43-45		
	CRM-1			PD	**9.0%**	**9.0%**		
	CRM-2			PD	**6.1%**	**6.1%**		
	CRM-3			PD	**4.0%**	**4.0%**		
	CRM-4			PD	**1.2%**	**1.2%**		
	CRM-5			PD	**1.2%**	**1.2%**		
	CRM-6			PD	**2.0%**	**2.0%**		
	CRM-7			PD	**1.6%**	**1.6%**		
	CRM-8			PD	**6.5%**	**6.5%**		
	CRM-9			PD	**7.8%**	**7.8%**		
	CRM-10			PD	**2.1%**	**2.1%**		
	CRM-11			PD	**2.3%**	**2.3%**		
	CRM-12			PD	**0.5%**	**0.5%**		
	CRM-13			PD	**5.1%**	**5.1%**		
	CRM-14			PD	**2.3%**	**2.3%**		
	CRM-15			PD	**5.3%**	**5.3%**		
	CRM-16			PD	**5.9%**	**5.9%**		

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QC Sample Results for TOC/DOC by HTCO
Ambient Monitoring - AMB24
ENVVEST Aug 2017
UNITS: mg/L and µM

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	TOC/DOC mg/L	TOC/DOC µM		Batch ID
CALIBRATION RESULTS								
ICV/CCV-1				ICV_1PPM	0.873	72.8		083017HTCO
ICV/CCV-2				CCV_1PPM	1.13	94.5		083017HTCO
ICV/CCV-3				CCV_1PPM	1.01	84.4		083117HTCO
ICV/CCV-4				CCV_1PPM	0.994	82.9		083117HTCO
ICV/CCV-5				CCV_1PPM	1.07	89.2		083117HTCO
ICV/CCV-6				CCV_1PPM	1.16	96.3		083117HTCO
ICV/CCV-7				ICV_1PPM	0.961	80.1		091317HTCO
ICV/CCV-8				CCV_1PPM	1.02	84.7		091317HTCO
ICV/CCV-9				CCV_1PPM	1.19	98.9		091317HTCO
ICV/CCV-10				ICV_1PPM	0.992	82.7		091417HTCO
ICV/CCV-11				CCV_1PPM	0.981	81.7		091417HTCO
ICV/CCV-12				CCV_1PPM	0.996	83.0		091517HTCO
ICV/CCV-13				CCV_1PPM	0.961	80.0		091517HTCO
ICV/CCV-14				CCV_1PPM	0.972	81.0		091517HTCO
ICV/CCV-15				CCV_1PPM	0.933	77.8		091517HTCO
ICV/CCV-16				CCV_1PPM	1.00	83.6		091617HTCO
				TRUE VALUE	*1.0*			
	ICV/CCV-1			Percent Recovery, CV	**87%**			
	ICV/CCV-2			Percent Recovery, CV	**113%**			
	ICV/CCV-3			Percent Recovery, CV	**101%**			
	ICV/CCV-4			Percent Recovery, CV	**99%**			
	ICV/CCV-5			Percent Recovery, CV	**107%**			
	ICV/CCV-6			Percent Recovery, CV	**116%**			
	ICV/CCV-7			Percent Recovery, CV	**96%**			
	ICV/CCV-8			Percent Recovery, CV	**102%**			
	ICV/CCV-9			Percent Recovery, CV	**119%**			
	ICV/CCV-10			Percent Recovery, CV	**99%**			
	ICV/CCV-11			Percent Recovery, CV	**98%**			
	ICV/CCV-12			Percent Recovery, CV	**100%**			
	ICV/CCV-13			Percent Recovery, CV	**96%**			
	ICV/CCV-14			Percent Recovery, CV	**97%**			
	ICV/CCV-15			Percent Recovery, CV	**93%**			
	ICV/CCV-16			Percent Recovery, CV	**100%**			

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QC Sample Results for TSS
Ambient Monitoring - AMB24
ENVVEST Aug 2017
UNITS: mg/L

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code		TSS	Units	Batch ID
					Method:	SM2540D		
					MDL	*0.42*	mg/L	
Method Blanks								
MB1		TME	Seawater	Blank 1		0.42 U	mg/L	082717Nu
MB2		TME	Seawater	Blank 2		0.42 U	mg/L	082717Nu
MB3		TME	Seawater	Blank 3		0.42 U	mg/L	082717Nu
MB4		TME	Seawater	Blank 4		0.42 U	mg/L	082817Nu
MB5		TME	Seawater	Blank 5		0.42 U	mg/L	082817Nu
MB6		TME	Seawater	Blank 6		0.42 U	mg/L	082817Nu
LABORATORY CONTROL SAMPLES								
LCS-1				LCS r1		36.4	mg/L	082717Nu
LCS-2				LCS r2		36.0	mg/L	082717Nu
LCS-3				LCS r3		38.8	mg/L	082717Nu
LCS-4				LCS r4		37.0	mg/L	082817Nu
LCS-5				LCS r5		37.4	mg/L	082817Nu
LCS-6				LCS r6		38.1	mg/L	082817Nu
					TRUE VALUE	*40*	mg/L	
	LCS-1				**Percent Recovery, LCS**	**91%**		
	LCS-2				**Percent Recovery, LCS**	**90%**		
	LCS-3				**Percent Recovery, LCS**	**97%**		
	LCS-1				**Percent Recovery, LCS**	**93%**		
	LCS-2				**Percent Recovery, LCS**	**94%**		
	LCS-3				**Percent Recovery, LCS**	**95%**		
LABORATORY DUPLICATES								
AMB24-010	M3.3	Total	Seawater	3106-2231		2.50	mg/L	082717Nu
DUP	M3.3			3106-2231 R2		2.81	mg/L	082717Nu
					Mean	2.66		
					RPD	**12%**		
AMB24-018	PS15	Total	Seawater	3106-2247		3.83	mg/L	082717Nu
DUP	PS15			3106-2247 R2		3.51	mg/L	082717Nu
					Mean	3.67		
					RPD	**9%**		
AMB24-209	ILSP	Total	Seawater	3106-2283		4.06	mg/L	082817Nu
DUP	ILSP			3106-2283 R2		4.03	mg/L	082817Nu
					Mean	4.04		
					RPD	**1%**		
AMB24-216	SN11	Total	Seawater	3106-2297		3.09	mg/L	082817Nu
DUP	SN11			3106-2297 R2		2.77	mg/L	082817Nu
					Mean	2.93		
					RPD	**11%**		

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QC Sample Results for Salinity
Ambient Monitoring - AMB24
ENVVEST Aug 2017
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
				Instrument:	*YSI S-C-T Probe, S/N 15J101379*			
				MDL	*0.01*		*PSU*	
Method Blanks								
MB1		Total	Seawater	DIW Blank 1	0.01	U	PSU	082717Osal
MB2		Total	Seawater	DIW Blank 2	0.01	U	PSU	082717Osal
MB3		Total	Seawater	DIW Blank 3	0.01	U	PSU	082717Osal
MB4		Total	Seawater	DIW Blank 4	0.01	U	PSU	082717Osal
MB5		Total	Seawater	DIW Blank 5	0.01	U	PSU	082817Osal
MB6		Total	Seawater	DIW Blank 6	0.01	U	PSU	082817Osal
MB7		Total	Seawater	DIW Blank 7	0.01	U	PSU	082817Osal
MB8		Total	Seawater	DIW Blank 8	0.01	U	PSU	082817Osal
STANDARD REFERENCE MATERIAL								
SRM-1		Total	Seawater	Salinity Standard 1	35.1		PSU	082717Osal
SRM-2		Total	Seawater	Salinity Standard 2	34.9		PSU	082717Osal
SRM-3		Total	Seawater	Salinity Standard 3	35.4		PSU	082717Osal
SRM-4		Total	Seawater	Salinity Standard 4	35.4		PSU	082717Osal
SRM-5		Total	Seawater	Salinity Standard 5	35.4		PSU	082817Osal
SRM-6		Total	Seawater	Salinity Standard 6	35.7		PSU	082817Osal
SRM-7		Total	Seawater	Salinity Standard 7	35.8		PSU	082817Osal
SRM-8		Total	Seawater	Salinity Standard 8	35.7		PSU	082817Osal
				Certified Value	*35.00*		PSU	
SRM-1				**PD**	**0.3%**			
SRM-2				**PD**	**0.3%**			
SRM-3				**PD**	**1.2%**			
SRM-4				**PD**	**1.1%**			
SRM-5				**PD**	**1.2%**			
SRM-6				**PD**	**1.9%**			
SRM-7				**PD**	**2.2%**			
SRM-8				**PD**	**2.1%**			
LABORATORY CONTROL SAMPLES								
LCS-1				LCS1	20.1		PSU	082717Osal
LCS-2				LCS2	20.0		PSU	082717Osal
LCS-3				LCS3	20.2		PSU	082717Osal
LCS-4				LCS4	20.3		PSU	082717Osal
LCS-5				LCS5	20.4		PSU	082817Osal
LCS-6				LCS6	20.4		PSU	082817Osal
LCS-7				LCS7	20.3		PSU	082817Osal
LCS-8				LCS8	20.3		PSU	082817Osal
				TRUE VALUE	*20.0*		PSU	
LCS-1				**Percent Recovery, LCS**	**101%**			
LCS-2				**Percent Recovery, LCS**	**100%**			
LCS-3				**Percent Recovery, LCS**	**101%**			
LCS-4				**Percent Recovery, LCS**	**101%**			
LCS-5				**Percent Recovery, LCS**	**102%**			
LCS-6				**Percent Recovery, LCS**	**102%**			
LCS-7				**Percent Recovery, LCS**	**101%**			
LCS-8				**Percent Recovery, LCS**	**102%**			

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QC Sample Results for Salinity
Ambient Monitoring - AMB24
ENVVEST Aug 2017
UNITS: PSU

Sample ID - Metals	Station Code	Fraction (Total/Diss)	Sample Type	MSL Code	Salinity		Units	Batch ID
CALIBRATION RESULTS								
ICV-1				YSI 50 ms/cm ICV	50.0		mS	082717Osal
CCV-1				YSI 50 ms/cmCCV1	49.9		mS	082717Osal
CCV-2				YSI 50 ms/cmCCV2	49.8		mS	082717Osal
CCV-3				YSI 50 ms/cmCCV3	50.2		mS	082717Osal
CCV-4				YSI 50 ms/cmCCV4	49.8		mS	082717Osal
CCV-5				YSI 50 ms/cmCCV5	49.9		mS	082717Osal
CCV-6				YSI 50 ms/cmCCV6	50.7		mS	082717Osal
ICV-2				YSI 50 ms/cmICV-2	50.0		mS	082817Osal
CCV-7				YSI 50 ms/cmCCV7	50.1		mS	082817Osal
CCV-8				YSI 50 ms/cmCCV8	50.5		mS	082817Osal
CCV-9				YSI 50 ms/cmCCV9	50.4		mS	082817Osal
CCV-10				YSI 50 ms/cmCCV10	50.6		mS	082817Osal
CCV-11				YSI 50 ms/cmCCV11	50.6		mS	082817Osal
				TRUE VALUE	*50.0*		mS	
	ICV-1			**Percent Recovery, CV**	**100%**			
	CCV-1			**Percent Recovery, CV**	**100%**			
	CCV-2			**Percent Recovery, CV**	**100%**			
	CCV-3			**Percent Recovery, CV**	**100%**			
	CCV-4			**Percent Recovery, CV**	**100%**			
	CCV-5			**Percent Recovery, CV**	**100%**			
	CCV-6			**Percent Recovery, CV**	**101%**			
	ICV-2			**Percent Recovery, CV**	**100%**			
	CCV-7			**Percent Recovery, CV**	**100%**			
	CCV-8			**Percent Recovery, CV**	**101%**			
	CCV-9			**Percent Recovery, CV**	**101%**			
	CCV-10			**Percent Recovery, CV**	**101%**			
	CCV-11			**Percent Recovery, CV**	**101%**			

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Data Qualifiers
Ambient Monitoring - AMB24
ENVVEST Aug 2017

DATA QUALIFIERS:

c	Exceeds DQO but meets contingency criteria of either:
1	SRM certified <10x MDL
2	Insufficient spiking level relative to native sample concentrations
U	Analyte not detected at or above the MDL, MDL reported
J	Analyte detected above the MDL, but less than the RL
--	Not analyzed
NA	Not applicable/available
N	Spiked sample recovery outside QC criterion of 70-130%
NC	Not Certified
&	Accuracy result outside QC criterion of ≤20% PD
*	Precision result outside QC criterion of <30%
NS	Sample not spiked for this analyte
B	Analyte detected in the method blank > RL
	and sample concentration < 10 times detected blank value
b	Data are blank corrected using the batch specific procedural blank
[1]	Reported from the nucleopore filtration method instead of GF/C filters
[2]	Seawater DOC CRM and low carbon water (LCW) were purchased from University of Miami http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html
[3]	Sample bottle cracked, no data reported
[4]	The laboratory DI water was found to be elevated in OC. The samples were not impacted by the DI water issue. See the QC narrative for more discussion.
HTCO	High Temperature Catalytic Oxidation

PROJECT: Sinclair and Dyes Inlet Ambient Monitoring, August 2017 (AMB24)

PARAMETER: Total and Dissolved Metals – Al (total only), Cd, Cr, Cu, Ni, Pb, Zn, Hg
Total Suspended Solids (TSS), Salinity (OSAL), Dissolved Organic Carbon (DOC), and Total Organic Carbon (TOC)

LABORATORY: Battelle Marine Sciences Laboratory (MSL), Sequim, Washington

MATRIX: Seawater and Freshwater

SAMPLE CUSTODY AND PROCESSING: Samples were collected from Sinclair and Dyes Inlet region by MSL and the U.S. Navy on 08/22/2017 and 08/23/2017. Samples were hand delivered to MSL by the field team. All samples were received in good condition. Samples were assigned a Battelle Central File (CF) identification number (3106) and were entered into Battelle's sample tracking system. Upon receipt at MSL, the samples designated for total and dissolved metals (TME/DME) were shaken vigorously and approximately 500mL was filtered through a pre-cleaned 0.45µm polyvinylidene fluoride (PVDF) filter membrane inside a class 100 clean bench and the filtrate was transferred to a trace metal clean Teflon bottle. The dissolved and total fractions were each acidified to a pH of < 2.0 with double distilled nitric acid. The samples for TSS and OSAL were stored at 4.0±2°C in low density polyethylene bottles prior to analysis. The samples for TOC and DOC were collected in pre-cleaned glass and stored at -20°C until analyses.

The following lists information on sample receipt and processing activities:

Sample Receipt Dates:	08/22/2017 and 08/23/2017
Cooler temp. on arrival	All coolers were <6.0°C on arrival
Collection dates	08/22/2017 and 08/23/2017
TSS analysis dates	08/27/17 and 08/28/17
OSAL analysis dates	08/27/17 and 08/28/17
CVAF analysis dates (Hg)	08/28/17 - 09/23/17
TRM Prep/Freshwater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/11/17 – 09/18/17
Online Preconcentration/Direct Seawater Analysis by ICP-MS (Al, Cd, Cr, Cu, Ni, Pb, Zn)	09/11/17 – 09/19/17
TOC/DOC Analysis Date	08/30/17 – 09/16/17

QA/QC DATA QUALITY OBJECTIVES FOR SEAWATER SAMPLES:

Analyte	Analytical Method for Seawater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
OSAL	Probe	NA	≤20%	≤30%	0.01 PSU	NA
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.107 µg/L	0.340 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.003 µg/L	0.010 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.0250 µg/L	0.0795 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.061 µg/L	0.194 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.043 µg/L	0.137 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0010 µg/L	0.0032 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.013 µg/L	0.041 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

QA/QC DATA QUALITY OBJECTIVES FOR FRESHWATER SAMPLES:

Analyte	Analytical Method for Freshwater	MS Range of Recovery	SRM Percent Difference	Replicate Precision	Method Detection Limits	Reporting Limits
TSS	SM2540D	NA	≤20%	NA	0.42 mg/L	0.42 mg/L
TOC/DOC	HTCO	NA	≤20%	≤30%	0.049 mg/L	0.156 mg/L
Aluminum	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Cadmium	ICP-MS	70-130%	≤20%	≤30%	0.0006 µg/L	0.0019 µg/L
Chromium	ICP-MS	70-130%	≤20%	≤30%	0.02 µg/L	0.06 µg/L
Copper	ICP-MS	70-130%	≤20%	≤30%	0.001 µg/L	0.003 µg/L
Nickel	ICP-MS	70-130%	≤20%	≤30%	0.0022 µg/L	0.0070 µg/L
Lead	ICP-MS	70-130%	≤20%	≤30%	0.0004 µg/L	0.0013 µg/L
Zinc	ICP-MS	70-130%	≤20%	≤30%	0.01 µg/L	0.03 µg/L
Mercury	CVAF	70-130%	≤20%	≤30%	0.10 ng/L	0.32 ng/L

METHODS:

Freshwater and seawater samples were analyzed for eight metals: aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), nickel (Ni), lead (Pb), zinc (Zn), and mercury (Hg). Samples were submitted for analyses by MSL methods.

Both freshwater and seawater samples were analyzed for Hg by Cold Vapor Atomic Fluorescence (CVAF) in accordance with Battelle SOP *MSL-I-013, Total Mercury in Aqueous Samples by CVAF*, following EPA Method 1631 revision E. The Hg data are reported in ng/L.

Seawater samples were analyzed for Al and Cr via direct injection at 15x dilution. All other metals were analyzed using a preconcentration via seaFast chelation step in accordance with Battelle SOP *MSL-I-022, Methods of Sample Preconcentration: Online Preconcentration for Trace Metals Analysis in Water*. Seawater samples were analyzed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) in accordance with Battelle SOP *MSL-I-022, Determination of Elements in Aqueous and Digestate*

METHODS (cont): *Samples by ICP/MS*. The base methods for this procedure are EPA Method 1638 and EPA Method 1640. The ICP-MS data were reported in units of µg/L. Freshwater samples identified as <5% seawater were analyzed for all metals, other than Hg, by ICP-MS following the preparation method for total recoverable metals (TRM) described in EPA Method 1640. The analysis for Hg does not require a different method for freshwater versus saltwater.

The preconcentration procedure for seawater samples analyzed by ICP-MS for events prior to AMB20 included the addition of chelating agents to induce precipitation of metals under specific conditions. Therefore the ICP-MS method included a matrix match step to correct for trace impurities of metals added during the preconcentration step. In previous AMB data sets, the mean reagent blank for each analytical batch was subtracted from the reported sample concentration after the analyses were completed and data were qualified with a "b". The new ICP-MS analytical method does not require this type of correction. No flags are required for this data set. This method shift has been documented in a manuscript entitled *Method Review for Trace Metals in Seawater: Automated Online Pre-concentration vs Borohydride Reductive Precipitation of Nearshore Seawater Samples for Analysis of Ni, Cu, Zn, Cd, and Pb via ICP-MS*, where events 17 and 19 were analyzed using both methods.

The TSS samples were analyzed following SM2540Dmod using a gravimetric analysis. A modification occurs in the use of a polycarbonate filter versus a glass fiber filter. A comparison between the glass fiber filters (GF/C) and the polycarbonate was conducted on AMB10 and AMB11 samples. In almost all cases the GF/C filters over estimated the TSS concentration. MSL SOP I-041-00 has been modified to reflect the changes in the type of filter used for isolation of the TSS. No other changes were made to the standard method protocol. The data are reported in units of mg/L.

The OSAL samples were measured using a YSI-30 S-C-T probe. The data are reported in practical salinity units (PSU).

The TOC and DOC samples were analyzed using a High Temperature Catalytic Oxidation (HTCO) method: *MSL-W-011 Determination of Total and Dissolved Organic Carbon in Seawater by high Temperature Catalytic Oxidation*. The instrument is specially equipped with a high-salt sample combustion tube kit and halogen scrubber for seawater analysis. Seawater samples were acidified to pH <2 by concentrated hydrochloric acid (trace metal grade, Fisher Chemical) prior to analysis then sparged for 2 minutes to remove inorganic carbon (IC). The non-purgeable organic carbons (NPOC) in samples were further converted to CO_2 by oxidation at 680°C with a platinum catalyst. A non-dispersive infrared detector (NDIR) was used to detect the converted CO_2 for quantification of NPOC. The data are reported as both mg/L and µM.

HOLDING TIMES: All samples were analyzed within the established holding times of 90 days for Hg, six months for all other metals, 28 days for OC, and 7 days between collection and filtration for TSS.

DETECTION LIMITS: Laboratory method detection limits (MDLs) for seawater were reported from an Annually Verified Seawater MDL Study as determined by seven replicates of NASS Seawater. The freshwater MDL was reported from the Annually Verified Freshwater MDL Study determined using seven replicates of deionized water prepared using the TRM preparation. Reporting limits are determined as 3.18 times the laboratory achieved MDL. The data are evaluated and flagged as follows:

U Analyte not detected at or above the MDL, MDL reported
J Analyte detected above the MDL, but less than the RL

DETECTION LIMITS (Continued):

N Spiked sample recovery outside QC criterion of 70-130%
& Accuracy result outside QC criterion of ≤20% PD
* Precision result outside QC criterion of <30%
B Analyte detected in the method blank > RL and sample concentration < 10 times detected blank value
c Exceeds data quality objective but meets one of the following contingency criterion:
  1 SRM certified <10x MDL or
  2 Insufficient spiking level relative to native sample concentrations

METHOD BLANKS:

A minimum of three method blanks were analyzed by each instrument with each analytical batch for metals. All method blanks for each batch were less than the DL.

A triplicate analysis of 0.45µm PVDF dissolved trace metals filters was performed following a 5% HNO_3 cleaning. Values were flagged in comparison to freshwater reporting limits; only low level Zn and Ni may have seen an impact at seawater reporting limits. For dissolved Zn data, filter blank levels likely contribute to samples AMB24-207 and AMB24-211. For Ni, filter blank levels likely contribute to samples AMB24-001, AMB24-010, AMB24-020 and AMB24-204. Re-analysis of the listed dissolved samples verified the reported values. Dissolve Ni is not included in the project SOW, but is included as supporting data at no additional cost.

The method blank for TSS is a polycarbonate filter (Nucleopore) taken through the analytical process with each batch of samples. The blanks were all less than the MDL.

The method blanks for TOC and DOC were deionized water and all were below the MDL. In addition, low carbon water (LCW) purchased from University of Miami was analyzed at a rate of 1 per 8 samples to demonstrate that the instrumentation was not contributing carbon.

LABORATORY CONTROL SAMPLES:

A minimum of one LCS (OPR or blank spike) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for LCS samples were within the QC acceptance criterion of 70% to 130% for all metals with the exception of total Al. The MS/MSD recoveries show this to be a spiking error, and there is no effect to the field data. The LCS matrix for the seawater samples was Sequim Bay Seawater prepared as both spiked and unspiked samples (e.g. SB LCS and SB Blank, respectively).

MATRIX SPIKE ACCURACY:

A minimum of one set of duplicate matrix spikes (MS/MSD) was prepared and analyzed with each analytical batch of 20 or fewer samples for metals. Percent recoveries for matrix spikes were within the QC limits of 70% to 130% for all metals spiked at sufficient levels relative to native sample concentrations.

REPLICATE PRECISION:

Laboratory precision was expressed as the relative percent difference (RPD) between laboratory duplicates. The RPD values for the laboratory duplicates were within the QC acceptance criterion of ±30% for all parameters detected above the RL, with the exception of THg samples. THg replication was affect by high TSS levels observed in this event; THg MSD values verify replication.

STANDARD REFERENCE MATERIAL ACCURACY:

Standard reference materials (SRM) were prepared and analyzed with each analytical batch at a minimum frequency of 1 per 20 or fewer samples. Analytical accuracy was expressed as the percent difference (PD) between the measured and the certified/ reference values. The SRM for Hg was 1641d, a freshwater SRM, as no seawater SRM was available. The SRM for Cd, Cr, Cu, Ni, Pb, and Zn, CASS-6, provides certified values for Cd, Cu, Ni, Pb, and Zn and a reference value for Cr. There is no seawater SRM for Al, for which accuracy is demonstrated by MS/MSD recovery of High Purity

STANDARD

REFERENCE MATERIAL ACCURACY (Continued):

standards. The PDs were within the QC acceptance criterion of ≤ 20%.

The freshwater SRM 1640a demonstrated analytical accuracy for each batch analyzed by ICP-MS with freshwater sample matrices (e.g. OF021). Percent recoveries were within the QC acceptance criterion.

The SRM is considered for data set evaluation only if it is not certified greater than 10 times the MDL. The CASS-6 certified values for Cd, Cr, Cu, and Ni are less than 10 times the MDL.

A salinity standard was used to verify the accuracy of the salinity measurements. The accuracy range was 0.3-2.1 PD for all salinity measurements.

There are no SRMs available for TOC or DOC. University of Miami provides a laboratory consensus value for DOC in estuarine water http://yyy.rsmas.miami.edu/groups/biogeochem/CRM.html The average of the reference value range was used to calculate the PD for each replicate. The PDs ranged from 1 to 9%.

ALS ENVIRONMENTAL

Client:	Battelle Marine Sciences Lab	**Service Request No.:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Received:**	08/25/17
Sample Matrix:	Ocean Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Forty-four ocean water samples were received for analysis at ALS Environmental on 08/25/17. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Ammonia by SM 4500-NH3 E:
The Relative Percent Difference (RPD) criterion for the replicate analysis in sample AMB24-006/BJEST was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB24-001/PS03	K1709013-001	ND	U	0.050	0.020	1	08/31/17 11:28	8/31/17	
AMB24-002/M4	K1709013-002	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-003/PS01	K1709013-003	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-004/PS02	K1709013-004	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-005/PS13	K1709013-005	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-006/BJEST	K1709013-006	**0.117**		0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-007/BJESTDUP	K1709013-007	**0.119**		0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-008/M3.1	K1709013-008	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-009/PS12	K1709013-009	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-010/M3.3	K1709013-010	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-011/PS05	K1709013-011	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-012/PS04	K1709013-012	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-013/PS14	K1709013-013	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-014/PS06	K1709013-014	**0.039**	**J**	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-015/PS07	K1709013-015	**0.040**	**J**	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-016/PS07DUP	K1709013-016	**0.039**	**J**	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-017/PS08	K1709013-017	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-018/PS15	K1709013-018	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-019/PS09	K1709013-019	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-020/PS10	K1709013-020	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
AMB24-021/PS10.1	K1709013-021	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-022/PS11	K1709013-022	**0.027**	**J**	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-023/PS16	K1709013-023	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-024/PS03B	K1709013-024	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-201/M6	K1709013-025	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-202/M8	K1709013-026	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-203/DYOTS	K1709013-027	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-204/WP	K1709013-028	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-205/WP DUP	K1709013-029	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-206/M2	K1709013-030	**0.065**		0.050	0.020	1	09/08/17 10:47	9/8/17	
AMB24-207/M2 DEEP	K1709013-031	**0.067**		0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-208/CLMBAY	K1709013-032	**0.057**		0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-209/ILSP	K1709013-033	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-210/M1	K1709013-034	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-211/M1 DEEP	K1709013-035	**0.044**	**J**	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-212/POPIPD	K1709013-036	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB24-213/SN03	K1709013-037	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-214/SN05	K1709013-038	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-215/SN08	K1709013-039	**0.022**	**J**	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-216/SN11	K1709013-040	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-217/SN10	K1709013-041	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-218/M3.3	K1709013-042	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-219/M3.3 DUP	K1709013-043	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
AMB24-220/M3.3 DEEP	K1709013-044	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	
Method Blank	K1709013-MB1	ND	U	0.050	0.020	1	08/31/17 11:28	8/31/17	
Method Blank	K1709013-MB2	ND	U	0.050	0.020	1	09/08/17 00:00	9/8/17	
Method Blank	K1709013-MB3	ND	U	0.050	0.020	1	09/08/17 10:47	9/8/17	
Method Blank	K1709013-MB4	ND	U	0.050	0.020	1	09/11/17 10:20	9/8/17	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	08/31/17
Sample Matrix:	Ocean Water	**Date Extracted:**	08/31/17

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	560005

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS1	11.7	10.9	107	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	09/08/17
Sample Matrix:	Ocean Water	**Date Extracted:**	09/08/17

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	560925

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS2	11.5	10.9	105	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	09/08/17
Sample Matrix:	Ocean Water	**Date Extracted:**	09/08/17

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	560957

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS3	10.7	10.9	98	90-110

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	09/11/17
Sample Matrix:	Ocean Water	**Date Extracted:**	09/08/17

Lab Control Sample Summary
Nitrate+Nitrite as Nitrogen

Analysis Method:	353.2	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	561114

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS4	11.7	10.9	107	90-110

Client: Battelle Marine Sciences Lab **Service Request:** K1709013
Project: AUGUST 2017 ENVVEST (AMB24)

Continuing Calibration Verification (CCV) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	560005	KQ1712528-06	08/31/17 11:28	1.00	1.10	110	90-110
CCV2	560005	KQ1712528-07	08/31/17 11:28	1.00	1.09	109	90-110
CCV3	560005	KQ1712528-08	08/31/17 11:28	1.00	1.09	109	90-110
CCV4	560005	KQ1712528-09	08/31/17 11:28	1.00	1.07	107	90-110
CCV5	560005	KQ1712528-10	08/31/17 11:28	1.00	1.05	105	90-110
CCV6	560925	KQ1712931-05	09/08/17 00:00	1.00	1.10	110	90-110
CCV7	560925	KQ1712931-06	09/08/17 00:00	1.00	1.08	108	90-110
CCV8	560925	KQ1712931-07	09/08/17 00:00	1.00	1.06	106	90-110
CCV9	560925	KQ1712931-08	09/08/17 00:00	1.00	1.05	105	90-110
CCV10	560957	KQ1712940-08	09/08/17 10:47	1.00	0.995	100	90-110
CCV11	560957	KQ1712940-09	09/08/17 10:47	1.00	0.999	100	90-110
CCV12	560957	KQ1712940-10	09/08/17 10:47	1.00	0.999	100	90-110
CCV13	560957	KQ1712940-11	09/08/17 10:47	1.00	1.00	100	90-110
CCV14	560957	KQ1712940-12	09/08/17 10:47	1.00	1.01	101	90-110
CCV15	560957	KQ1712940-13	09/08/17 10:47	1.00	1.02	102	90-110
CCV16	560957	KQ1712940-14	09/08/17 10:47	1.00	1.02	102	90-110
CCV17	560957	KQ1712940-16	09/08/17 10:47	1.00	0.949	95	90-110
CCV18	561114	KQ1713096-10	09/11/17 10:20	1.00	1.04	104	90-110
CCV19	561114	KQ1713096-11	09/11/17 10:20	1.00	1.09	109	90-110
CCV20	561114	KQ1713096-12	09/11/17 10:20	1.00	1.09	109	90-110
CCV21	561114	KQ1713096-13	09/11/17 10:20	1.00	1.08	108	90-110
CCV22	561114	KQ1713096-14	09/11/17 10:20	1.00	1.09	109	90-110
CCV23	561114	KQ1713096-15	09/11/17 10:20	1.00	1.09	109	90-110
CCV24	561114	KQ1713096-16	09/11/17 10:20	1.00	1.10	110	90-110
CCV25	561114	KQ1713096-17	09/11/17 10:20	1.00	1.08	108	90-110
CCV26	561114	KQ1713096-18	09/11/17 10:20	1.00	1.08	108	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1709013
Project: AUGUST 2017 ENVVEST (AMB24)

Continuing Calibration Blank (CCB) Summary

Nitrate+Nitrite as Nitrogen

Analysis Method: 353.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	560005	KQ1712528-01	08/31/17 11:28	0.050	0.020	ND	U
CCB2	560005	KQ1712528-02	08/31/17 11:28	0.050	0.020	ND	U
CCB3	560005	KQ1712528-03	08/31/17 11:28	0.050	0.020	ND	U
CCB4	560005	KQ1712528-04	08/31/17 11:28	0.050	0.020	ND	U
CCB5	560005	KQ1712528-05	08/31/17 11:28	0.050	0.020	ND	U
CCB6	560925	KQ1712931-01	09/08/17 00:00	0.050	0.020	ND	U
CCB7	560925	KQ1712931-02	09/08/17 00:00	0.050	0.020	ND	U
CCB8	560925	KQ1712931-03	09/08/17 00:00	0.050	0.020	ND	U
CCB9	560925	KQ1712931-04	09/08/17 00:00	0.050	0.020	ND	U
CCB10	560957	KQ1712940-01	09/08/17 10:47	0.050	0.020	ND	U
CCB11	560957	KQ1712940-02	09/08/17 10:47	0.050	0.020	ND	U
CCB12	560957	KQ1712940-03	09/08/17 10:47	0.050	0.020	ND	U
CCB13	560957	KQ1712940-04	09/08/17 10:47	0.050	0.020	ND	U
CCB14	560957	KQ1712940-05	09/08/17 10:47	0.050	0.020	ND	U
CCB15	560957	KQ1712940-06	09/08/17 10:47	0.050	0.020	ND	U
CCB16	560957	KQ1712940-07	09/08/17 10:47	0.050	0.020	ND	U
CCB17	560957	KQ1712940-15	09/08/17 10:47	0.050	0.020	ND	U
CCB18	561114	KQ1713096-01	09/11/17 10:20	0.050	0.020	ND	U
CCB19	561114	KQ1713096-02	09/11/17 10:20	0.050	0.020	ND	U
CCB20	561114	KQ1713096-03	09/11/17 10:20	0.050	0.020	ND	U
CCB21	561114	KQ1713096-04	09/11/17 10:20	0.050	0.020	ND	U
CCB22	561114	KQ1713096-05	09/11/17 10:20	0.050	0.020	ND	U
CCB23	561114	KQ1713096-06	09/11/17 10:20	0.050	0.020	ND	U
CCB24	561114	KQ1713096-07	09/11/17 10:20	0.050	0.020	ND	U
CCB25	561114	KQ1713096-08	09/11/17 10:20	0.050	0.020	ND	U
CCB26	561114	KQ1713096-09	09/11/17 10:20	0.050	0.020	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB24-001/PS03	K1709013-001	**0.040**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-002/M4	K1709013-002	**0.444**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-003/PS01	K1709013-003	**0.043**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-004/PS02	K1709013-004	**0.038**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-005/PS13	K1709013-005	**0.035**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-006/BJEST	K1709013-006	**0.051**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-007/BJESTDUP	K1709013-007	**0.054**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-008/M3.1	K1709013-008	**0.038**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-009/PS12	K1709013-009	**0.054**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-010/M3.3	K1709013-010	**0.041**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-011/PS05	K1709013-011	**0.036**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-012/PS04	K1709013-012	**0.047**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-013/PS14	K1709013-013	**0.032**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-014/PS06	K1709013-014	**0.101**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-015/PS07	K1709013-015	**0.083**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-016/PS07DUP	K1709013-016	**0.080**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-017/PS08	K1709013-017	**0.046**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-018/PS15	K1709013-018	**0.038**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-019/PS09	K1709013-019	**0.054**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-020/PS10	K1709013-020	**0.045**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-021/PS10.1	K1709013-021	**0.050**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-022/PS11	K1709013-022	**0.048**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-023/PS16	K1709013-023	**0.053**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-024/PS03B	K1709013-024	**0.046**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-201/M6	K1709013-025	**0.050**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-202/M8	K1709013-026	**0.067**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-203/DYOTS	K1709013-027	**0.054**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-204/WP	K1709013-028	**0.047**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-205/WP DUP	K1709013-029	**0.047**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-206/M2	K1709013-030	**0.060**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-207/M2 DEEP	K1709013-031	**0.056**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-208/CLMBAY	K1709013-032	**0.064**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-209/ILSP	K1709013-033	**0.056**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-210/M1	K1709013-034	**0.060**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-211/M1 DEEP	K1709013-035	**0.057**	0.010	0.004	1	08/29/17 16:29	8/29/17	
AMB24-212/POPIPD	K1709013-036	**0.041**	0.010	0.004	1	08/29/17 16:29	8/29/17	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Phosphorus, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
AMB24-213/SN03	K1709013-037	**1.50**	0.050	0.020	5	08/29/17 16:29	8/29/17	
AMB24-214/SN05	K1709013-038	**0.085**	0.010	0.004	1	08/30/17 13:26	8/30/17	
AMB24-215/SN08	K1709013-039	**0.049**	0.010	0.004	1	08/30/17 13:26	8/30/17	
AMB24-216/SN11	K1709013-040	**0.055**	0.010	0.004	1	08/30/17 13:26	8/30/17	
AMB24-217/SN10	K1709013-041	**0.085**	0.010	0.004	1	08/30/17 13:26	8/30/17	
AMB24-218/M3.3	K1709013-042	**0.041**	0.010	0.004	1	08/30/17 13:26	8/30/17	
AMB24-219/M3.3 DUP	K1709013-043	**0.042**	0.010	0.004	1	08/30/17 13:26	8/30/17	
AMB24-220/M3.3 DEEP	K1709013-044	**0.065**	0.010	0.004	1	08/30/17 13:26	8/30/17	
Method Blank	K1709013-MB1	ND U	0.010	0.004	1	08/29/17 16:29	8/29/17	
Method Blank	K1709013-MB2	ND U	0.010	0.004	1	08/29/17 16:29	8/29/17	
Method Blank	K1709013-MB3	ND U	0.010	0.004	1	08/30/17 13:26	8/30/17	

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Replicate Sample Summary
Phosphorus, Total

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
AMB24-001/PS03	K1709013-001DUP	0.010	0.004	0.040	0.038	0.0391	4	20	08/29/17
AMB24-019/PS09	K1709013-019DUP	0.010	0.004	0.054	0.054	0.0537	<1	20	08/29/17
AMB24-214/SN05	K1709013-038DUP	0.010	0.004	0.085	0.083	0.0841	2	20	08/30/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
		Date Analyzed:	08/29/17
		Date Extracted:	08/29/17

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB24-001/PS03	**Units:**	mg/L
Lab Code:	K1709013-001	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1709013-001MS			K1709013-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.040	0.361	0.500	64	0.362	0.500	64	60-135	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
		Date Analyzed:	08/29/17
		Date Extracted:	08/29/17

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB24-019/PS09	**Units:**	mg/L
Lab Code:	K1709013-019	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1709013-019MS			K1709013-019DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.054	0.371	0.500	64	0.371	0.500	63	60-135	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
		Date Analyzed:	08/30/17
		Date Extracted:	08/30/17

Duplicate Matrix Spike Summary
Phosphorus, Total

Sample Name:	AMB24-214/SN05	**Units:**	mg/L
Lab Code:	K1709013-038	**Basis:**	NA
Analysis Method:	365.3		
Prep Method:	Method		

		Matrix Spike			Duplicate Matrix Spike					
		K1709013-038MS			K1709013-038DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phosphorus, Total	0.085	0.409	0.500	65	0.396	0.500	62	60-135	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	08/29/17
Sample Matrix:	Ocean Water	**Date Extracted:**	08/29/17

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	559676

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS1	8.38	8.62	97	85-115
Lab Control Sample	K1709013-LCS2	8.32	8.62	97	85-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	08/30/17
Sample Matrix:	Ocean Water	**Date Extracted:**	08/30/17

Lab Control Sample Summary
Phosphorus, Total

Analysis Method:	365.3	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	559776

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS3	8.48	8.62	98	85-115

Client: Battelle Marine Sciences Lab **Service Request:** K1709013
Project: AUGUST 2017 ENVVEST (AMB24)

Continuing Calibration Verification (CCV) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	559676	KQ1712405-01	08/29/17 16:29	0.500	0.522	104	90-110
CCV2	559676	KQ1712405-02	08/29/17 16:29	0.500	0.526	105	90-110
CCV3	559676	KQ1712405-03	08/29/17 16:29	0.500	0.523	105	90-110
CCV4	559676	KQ1712405-04	08/29/17 16:29	0.500	0.529	106	90-110
CCV5	559676	KQ1712405-05	08/29/17 16:29	0.500	0.525	105	90-110
CCV6	559676	KQ1712405-06	08/29/17 16:29	0.500	0.534	107	90-110
CCV7	559676	KQ1712405-07	08/29/17 16:29	0.500	0.524	105	90-110
CCV8	559676	KQ1712405-08	08/29/17 16:29	0.500	0.522	104	90-110
CCV9	559676	KQ1712405-09	08/29/17 16:29	0.500	0.526	105	90-110
CCV10	559676	KQ1712405-10	08/29/17 16:29	0.500	0.528	106	90-110
CCV11	559776	KQ1712461-01	08/30/17 13:26	0.500	0.498	100	90-110
CCV12	559776	KQ1712461-02	08/30/17 13:26	0.500	0.506	101	90-110
CCV13	559776	KQ1712461-03	08/30/17 13:26	0.500	0.500	100	90-110
CCV14	559776	KQ1712461-04	08/30/17 13:26	0.500	0.507	101	90-110
CCV15	559776	KQ1712461-05	08/30/17 13:26	0.500	0.508	102	90-110
CCV16	559776	KQ1712461-06	08/30/17 13:26	0.500	0.503	101	90-110
CCV17	559776	KQ1712461-07	08/30/17 13:26	0.500	0.507	101	90-110
CCV18	559776	KQ1712461-08	08/30/17 13:26	0.500	0.498	100	90-110
CCV19	559776	KQ1712461-09	08/30/17 13:26	0.500	0.506	101	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1709013
Project: AUGUST 2017 ENVVEST (AMB24)

Continuing Calibration Blank (CCB) Summary

Phosphorus, Total

Analysis Method: 365.3 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	559676	KQ1712405-11	08/29/17 16:29	0.010	0.004	ND	U
CCB2	559676	KQ1712405-12	08/29/17 16:29	0.010	0.004	ND	U
CCB3	559676	KQ1712405-13	08/29/17 16:29	0.010	0.004	ND	U
CCB4	559676	KQ1712405-14	08/29/17 16:29	0.010	0.004	ND	U
CCB5	559676	KQ1712405-15	08/29/17 16:29	0.010	0.004	ND	U
CCB6	559676	KQ1712405-16	08/29/17 16:29	0.010	0.004	ND	U
CCB7	559676	KQ1712405-17	08/29/17 16:29	0.010	0.004	ND	U
CCB8	559676	KQ1712405-18	08/29/17 16:29	0.010	0.004	ND	U
CCB9	559676	KQ1712405-19	08/29/17 16:29	0.010	0.004	ND	U
CCB10	559676	KQ1712405-20	08/29/17 16:29	0.010	0.004	ND	U
CCB11	559776	KQ1712461-10	08/30/17 13:26	0.010	0.004	ND	U
CCB12	559776	KQ1712461-11	08/30/17 13:26	0.010	0.004	0.007	J
CCB13	559776	KQ1712461-12	08/30/17 13:26	0.010	0.004	ND	U
CCB14	559776	KQ1712461-13	08/30/17 13:26	0.010	0.004	0.004	J
CCB15	559776	KQ1712461-14	08/30/17 13:26	0.010	0.004	ND	U
CCB16	559776	KQ1712461-15	08/30/17 13:26	0.010	0.004	ND	U
CCB17	559776	KQ1712461-16	08/30/17 13:26	0.010	0.004	ND	U
CCB18	559776	KQ1712461-17	08/30/17 13:26	0.010	0.004	ND	U
CCB19	559776	KQ1712461-18	08/30/17 13:26	0.010	0.004	ND	U

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB24-001/PS03	K1709013-001	**0.558**	0.050	0.009	1	09/12/17 11:10	
AMB24-002/M4	K1709013-002	**0.026 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-003/PS01	K1709013-003	**0.014 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-004/PS02	K1709013-004	**0.010 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-005/PS13	K1709013-005	**0.014 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-006/BJEST	K1709013-006	**0.019 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-007/BJESTDUP	K1709013-007	**0.028 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-008/M3.1	K1709013-008	**0.028 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-009/PS12	K1709013-009	**0.042 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-010/M3.3	K1709013-010	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-011/PS05	K1709013-011	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-012/PS04	K1709013-012	**0.024 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-013/PS14	K1709013-013	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-014/PS06	K1709013-014	**0.113**	0.050	0.009	1	09/12/17 11:10	
AMB24-015/PS07	K1709013-015	**0.087**	0.050	0.009	1	09/12/17 11:10	
AMB24-016/PS07DUP	K1709013-016	**0.062**	0.050	0.009	1	09/12/17 11:10	
AMB24-017/PS08	K1709013-017	**0.014 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-018/PS15	K1709013-018	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-019/PS09	K1709013-019	**0.026 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-020/PS10	K1709013-020	**0.011 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-021/PS10.1	K1709013-021	**0.014 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-022/PS11	K1709013-022	**0.014 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-023/PS16	K1709013-023	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-024/PS03B	K1709013-024	**0.020 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-201/M6	K1709013-025	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-202/M8	K1709013-026	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-203/DYOTS	K1709013-027	**0.021 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-204/WP	K1709013-028	**0.012 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-205/WP DUP	K1709013-029	**0.011 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-206/M2	K1709013-030	**0.013 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-207/M2 DEEP	K1709013-031	**0.021 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-208/CLMBAY	K1709013-032	**0.020 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-209/ILSP	K1709013-033	**0.009 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-210/M1	K1709013-034	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-211/M1 DEEP	K1709013-035	**0.010 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-212/POPIPD	K1709013-036	ND U	0.050	0.009	1	09/12/17 11:10	

Analytical Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
AMB24-213/SN03	K1709013-037	**0.053**	0.050	0.009	1	09/12/17 11:10	
AMB24-214/SN05	K1709013-038	**0.027 J**	0.050	0.009	1	09/12/17 11:10	
AMB24-215/SN08	K1709013-039	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-216/SN11	K1709013-040	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-217/SN10	K1709013-041	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-218/M3.3	K1709013-042	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-219/M3.3 DUP	K1709013-043	ND U	0.050	0.009	1	09/12/17 11:10	
AMB24-220/M3.3 DEEP	K1709013-044	ND U	0.050	0.009	1	09/12/17 11:10	
Method Blank	K1709013-MB1	**0.022 J**	0.050	0.009	1	09/12/17 11:10	
Method Blank	K1709013-MB2	**0.013 J**	0.050	0.009	1	09/12/17 11:10	
Method Blank	K1709013-MB3	ND U	0.050	0.009	1	09/12/17 11:10	

QA/QC Report

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17 - 08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Replicate Sample Summary
Ammonia as Nitrogen

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1708949-036DUP	0.25	0.05	153	150	151	2	20	09/12/17
AMB24-006/BJEST	K1709013-006DUP	0.050	0.009	0.019 J	0.015 J	0.0169	22 *	20	09/12/17
AMB24-202/M8	K1709013-026DUP	0.050	0.009	ND U	ND U	NC	NC	20	09/12/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	N/A
Sample Matrix:	Ocean Water	**Date Received:**	N/A
		Date Analyzed:	09/12/17
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1708949-036	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1708949-036MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	153	194	50.0	82	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/22/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
		Date Analyzed:	09/12/17
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB24-006/BJEST	**Units:**	mg/L
Lab Code:	K1709013-006	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1709013-006MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.019 J	8.94	10.0	89	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Collected:**	08/23/17
Sample Matrix:	Ocean Water	**Date Received:**	08/25/17
		Date Analyzed:	09/12/17
		Date Extracted:	NA

Matrix Spike Summary
Ammonia as Nitrogen

Sample Name:	AMB24-202/M8	**Units:**	mg/L
Lab Code:	K1709013-026	**Basis:**	NA
Analysis Method:	SM 4500-NH3 E		
Prep Method:	None		

Matrix Spike
K1709013-026MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	ND U	10.2	10.0	102	80-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	09/12/17
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	561265

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS1	2.13	2.27	94	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	09/12/17
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	561302

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS2	2.38	2.27	105	80-115

Client:	Battelle Marine Sciences Lab	**Service Request:**	K1709013
Project:	AUGUST 2017 ENVVEST (AMB24)	**Date Analyzed:**	09/12/17
Sample Matrix:	Ocean Water	**Date Extracted:**	NA

Lab Control Sample Summary
Ammonia as Nitrogen

Analysis Method:	SM 4500-NH3 E	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	561321

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1709013-LCS3	2.02	2.27	89	80-115

Client: Battelle Marine Sciences Lab **Service Request:** K1709013
Project: AUGUST 2017 ENVVEST (AMB24)

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	561265	KQ1713111-09	09/12/17 11:10	10.0	9.76	98	90-110
CCV2	561265	KQ1713111-10	09/12/17 11:10	10.0	10.4	104	90-110
CCV3	561265	KQ1713111-11	09/12/17 11:10	10.0	9.26	93	90-110
CCV4	561265	KQ1713111-12	09/12/17 11:10	10.0	10.6	106	90-110
CCV5	561302	KQ1713121-09	09/12/17 11:10	10.0	9.26	93	90-110
CCV6	561302	KQ1713121-10	09/12/17 11:10	10.0	10.6	106	90-110
CCV7	561302	KQ1713121-11	09/12/17 11:10	10.0	9.80	98	90-110
CCV8	561302	KQ1713121-12	09/12/17 11:10	10.0	9.08	91	90-110
CCV9	561321	KQ1713130-09	09/12/17 11:10	10.0	9.80	98	90-110
CCV10	561321	KQ1713130-10	09/12/17 11:10	10.0	9.08	91	90-110
CCV11	561321	KQ1713130-11	09/12/17 11:10	10.0	9.29	93	90-110
CCV12	561321	KQ1713130-12	09/12/17 11:10	10.0	9.38	94	90-110
CCV13	561321	KQ1713130-14	09/12/17 11:10	10.0	9.94	99	90-110

Client: Battelle Marine Sciences Lab **Service Request:**K1709013
Project: AUGUST 2017 ENVVEST (AMB24)

Continuing Calibration Blank (CCB) Summary

Ammonia as Nitrogen

Analysis Method: SM 4500-NH3 E **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	561265	KQ1713111-05	09/12/17 11:10	0.050	0.009	0.028	J
CCB2	561265	KQ1713111-06	09/12/17 11:10	0.050	0.009	0.021	J
CCB3	561265	KQ1713111-07	09/12/17 11:10	0.050	0.009	0.035	J
CCB4	561265	KQ1713111-08	09/12/17 11:10	0.050	0.009	0.015	J
CCB5	561302	KQ1713121-05	09/12/17 11:10	0.050	0.009	0.035	J
CCB6	561302	KQ1713121-06	09/12/17 11:10	0.050	0.009	0.015	J
CCB7	561302	KQ1713121-07	09/12/17 11:10	0.050	0.009	ND	U
CCB8	561302	KQ1713121-08	09/12/17 11:10	0.050	0.009	0.029	J
CCB9	561321	KQ1713130-05	09/12/17 11:10	0.050	0.009	ND	U
CCB10	561321	KQ1713130-06	09/12/17 11:10	0.050	0.009	0.029	J
CCB11	561321	KQ1713130-07	09/12/17 11:10	0.050	0.009	0.027	J
CCB12	561321	KQ1713130-08	09/12/17 11:10	0.050	0.009	0.011	J
CCB13	561321	KQ1713130-13	09/12/17 11:10	0.050	0.009	0.018	J

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/22/2017

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COC Number: COCAMB24

FC2017_08_22_AMB24

Project No.: ENVEST

Project Name: FY17

Project Manager: Brandenburger

Phone:

EVENT: AMB24

DAY1

Testing Parameters (as per SOW)

Observations, Instructions

3100 TOT | DISS Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Trace Met	Toc	Doc	TSS/OSG	Nutr					No. of containers	StationID	Comments
2213	2214	AMB24-01	PS03	0845	SEA	X	X	X	X	X					5	PS03	CUTY at PD
2215	2216	02	M4	0908												M4	Algae Bloom
2217	2218	03	PS01	0926												PS01	
2219	2220	04	PS02	0940												PS02	
2221	2222	05	PS13	0955												PS13	Lots of Slime/Algae
2223	2224	06	BJEST	1010												BJEST	Tide is Far Out
2225	2226	07	BJESTDUP	1010												DJEST	"
2227	2228	08	M3.1	1027												M3.1	Convergence Zone
2229	2230	09	PS12 ~~PS05~~	1054												PS12	
2231	2232	10	M3.3	1106												M3.3	Algae bloom
2233	2234	11	PS05	1208												PS05	
2235	2236	12	PS04	1215												PS04	
2237	2238	13	PS14	1226												PS14	
2239	2240	14	PS06	1235												PS06	
2241	~~2235~~	15	PS07	1240												PS07	
2243	~~2233~~	16	PS07DUP	1240												PS07	
2245	~~2235~~	17	PS08	1312												PS08	
2247	~~2237~~	18	PS15	1322												PS15	
2249	~~2239~~	19	PS09	1338												PS09	
2251	2252	20	PS10	1350												PS10	

Relinquished by: Strivens — Signature — 20170822 — Date — 1520 — Time

Printed Name — Company PNNL

Received by: Strivens — Signature

Printed Name

Total # of Containers 100

Shipment Method: HAND Delivered

Shipment Method: by PNNL

Sample Disposition:

Relinquished by: Signature — Date — Time

Printed Name — Company

Received by: Signature

Printed Name

Distribution:

1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

8/22/2017

Date: 8/22/2017

FC2017_08_22_AMB24

Page: 2 of 2

COC Number: COCAMB24

Project No.: ENVV23T
Project Name: FY17
Project Manager: Brandenberger
Phone:

EVENT: AMB24

DAY 1

Testing Parameters (as per SOW)

3/106 TOT | DISS Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Trace met	Toc	Dpc	TSS/orgC	DNutr					No. of containers	StationID	Comments
2253	2254	AMB24- 21	PS10.1	8/22/2017 1401	Sea	X	X	X	X	X					5	PS10.1	
2255	2256	22	PS11	1408	↓	↓	↓	↓	↓	↓					↓	PS11	
2257	2258	23	PS16	1420												PS16	
2259	2260	24	PS03B	1435	↓	↓	↓	↓	↓	↓					↓	PS03B	

Observations, Instructions

Relinquished by: Strivens — Signature — 20170822 Date — 1520 Time
Printed Name — Company PNNL

Received by: Strivens — Signature
Printed Name

Total # of Containers 20
Shipment Method: Hand delivered by PNNL staff
Sample Disposition:

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Signature
Printed Name

Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/22/17

Page: 1 of 1

COC Number: AMB 24

FC2017_08_22_AMB24

Project No.: ENVVEST
Project Name: FY17
Project Manager: Brandenburger
Phone:

EVENT: AMB24

DAY 1

Testing Parameters (as per SOW)

3106 TOT / DISS Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	TIN	TOC	DOC	TSS/OSM					No. of containers	StationID	Comments
2264 / 2262	AMB24-DD001	OF018	1222	SW	↓	↓	↓	↓					4		PW5
2263 / 2264	AMB24-DD002	OF019	1318	SW									↓		PW6
2265 / 2266	AMB24-DD003	OF021	1405	FW	↓	↓	↓	↓					↓		SP

Observations, Instructions

Relinquished by:	Received by:	
Signature: Struwe — Date: 20170822 — Time: 1520	Signature: Struwe	Total # of Containers: 12
Printed Name: — Company: PNNL	Printed Name:	Shipment Method: Hand delivered by PNNL staff
		Sample Disposition:
Relinquished by:	Received by:	Distribution:
Signature — Date — Time	Signature	1) 2 copies to the Laboratory
Printed Name — Company	Printed Name	2) 1 copy to project manager
		3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31060 Sample No(s): 2213- Batch: 69

Project Name: ENVEST AMB 24, FY17 Project Manager: Brandenburger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: Seawater / FW WP# N93629

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☒	Custody seal present Seal intact? YES NO
☒	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)

Cooler 1: 5 °C
Cooler 2: 5 °C
Cooler 3: 5 °C
Cooler 4: 5 °C

Comment/Remedy:

☒	☐	☐	Were all chain of custody forms signed and dated? DMB
☒	☐	☐	Were samples filtered at MSL? ALL (HALF)

Samples must be filtered prior to preservation!

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) (Poly) (Glass) Cap. Vial Baggie Other:

Notes:

Completed By: [signature] Cooler Receipt Date/Time: 20170822 1845

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type:			
☒	0.2% HNO3	Notes: TMB, DMB	Lot# 121660550
☐	0.5% HCl (Hg samples)	Notes:	Lot#
☒	Refrigerate/Freeze	Notes: TOC, DOC → Freezer, TSS/OSAL, Nutr → Ref	
☐	Other	Notes:	

Completed By: [signature] Preservation Date/Time: 20170822 1845

Storage Shelf:

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/22/2017
Batch: 69
Login Designee: Suslick/Kuo

Pacific Northwest NATIONAL LABORATORY | Battelle *The Business of Innovation*

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-001	PS03-TME	TME	PS03	3106-2213	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-001	PS03-DME	DME	PS03	3106-2214	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-002	M4-TME	TME	M4	3106-2215	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-002	M4-DME	DME	M4	3106-2216	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-003	PS01-TME	TME	PS01	3106-2217	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-003	PS01-DME	DME	PS01	3106-2218	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-004	PS02-TME	TME	PS02	3106-2219	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-004	PS02-DME	DME	PS02	3106-2220	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-005	PS13-TME	TME	PS13	3106-2221	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-005	PS13-DME	DME	PS13	3106-2222	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-006	BJEST-TME	TME	BJEST	3106-2223	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-006	BJEST-DME	DME	BJEST	3106-2224	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-007	BJESTDUP-TME	TME	BJESTDUP	3106-2225	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-007	BJESTDUP-DME	DME	BJESTDUP	3106-2226	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-008	M3.1-TME	TME	M3.1	3106-2227	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-008	M3.1-DME	DME	M3.1	3106-2228	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-009	PS12-TME	TME	PS12	3106-2229	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-009	PS12-DME	DME	PS12	3106-2230	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-010	M3.3-TME	TME	M3.3	3106-2231	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-010	M3.3-DME	DME	M3.3	3106-2232	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-011	PS05-TME	TME	PS05	3106-2233	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-011	PS05-DME	DME	PS05	3106-2234	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-012	PS04-TME	TME	PS04	3106-2235	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-012	PS04-DME	DME	PS04	3106-2236	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-013	PS14-TME	TME	PS14	3106-2237	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-013	PS14-DME	DME	PS14	3106-2238	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-014	PS06-TME	TME	PS06	3106-2239	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-014	PS06-DME	DME	PS06	3106-2240	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-015	PS07B-TME	TME	PS07B	3106-2241	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-015	PS07B-DME	DME	PS07B	3106-2242	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-016	PS07DU[-TME	TME	PS07DU[	3106-2243	Seawater	PREP LAB	Total Metals, Hg	08/22/17

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/22/2017
Batch: 69
Login Designee: Suslick/Kuo
Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 1)**

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-016	PS07DU[-DME	DME	PS07DU[	3106-2244	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-017	PS08-TME	TME	PS08	3106-2245	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-017	PS08-DME	DME	PS08	3106-2246	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-018	PS15-TME	TME	PS15	3106-2247	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-018	PS15-DME	DME	PS15	3106-2248	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-019	PS09-TME	TME	PS09	3106-2249	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-019	PS09-DME	DME	PS09	3106-2250	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-020	PS10-TME	TME	PS10	3106-2251	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-020	PS10-DME	DME	PS10	3106-2252	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-021	PS10.1-TME	TME	PS10.1	3106-2253	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-021	PS10.1-DME	DME	PS10.1	3106-2254	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-022	PS11-TME	TME	PS11	3106-2255	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-022	PS11-DME	DME	PS11	3106-2256	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-023	PS16-TME	TME	PS16	3106-2257	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-023	PS16-DME	DME	PS16	3106-2258	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-024	PS03B-TME	TME	PS03B	3106-2259	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-024	PS03B-DME	DME	PS03B	3106-2260	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-DD001	OF018-TME	TME	OF018	3106-2261	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-DD001	OF018-DME	DME	OF018	3106-2262	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-DD002	OF019-TME	TME	OF019	3106-2263	Seawater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-DD002	OF019-DME	DME	OF019	3106-2264	Seawater	PREP LAB	Dissolved Metals, Hg	08/22/17
AMB24-DD003	OF021-TME	TME	OF021	3106-2265	Freshwater	PREP LAB	Total Metals, Hg	08/22/17
AMB24-DD003	OF021-DME	DME	OF021	3106-2266	Freshwater	PREP LAB	Dissolved Metals, Hg	08/22/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/22/2017
Batch: 69
Login Designee: Suslick/Kuo

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-001	PS03-TOC	TOC	PS03	3106-2213	Seawater	MSL	TOC	08/22/17
AMB24-002	M4-TOC	TOC	M4	3106-2215	Seawater	MSL	TOC	08/22/17
AMB24-003	PS01-TOC	TOC	PS01	3106-2217	Seawater	MSL	TOC	08/22/17
AMB24-004	PS02-TOC	TOC	PS02	3106-2219	Seawater	MSL	TOC	08/22/17
AMB24-005	PS13-TOC	TOC	PS13	3106-2221	Seawater	MSL	TOC	08/22/17
AMB24-006	BJEST-TOC	TOC	BJEST	3106-2223	Seawater	MSL	TOC	08/22/17
AMB24-007	BJESTDUP-TOC	TOC	BJESTDUP	3106-2225	Seawater	MSL	TOC	08/22/17
AMB24-008	M3.1-TOC	TOC	M3.1	3106-2227	Seawater	MSL	TOC	08/22/17
AMB24-009	PS12-TOC	TOC	PS12	3106-2229	Seawater	MSL	TOC	08/22/17
AMB24-010	M3.3-TOC	TOC	M3.3	3106-2231	Seawater	MSL	TOC	08/22/17
AMB24-011	PS05-TOC	TOC	PS05	3106-2233	Seawater	MSL	TOC	08/22/17
AMB24-012	PS04-TOC	TOC	PS04	3106-2235	Seawater	MSL	TOC	08/22/17
AMB24-013	PS14-TOC	TOC	PS14	3106-2237	Seawater	MSL	TOC	08/22/17
AMB24-014	PS06-TOC	TOC	PS06	3106-2239	Seawater	MSL	TOC	08/22/17
AMB24-015	PS07B-TOC	TOC	PS07B	3106-2241	Seawater	MSL	TOC	08/22/17
AMB24-016	PS07DU[-TOC	TOC	PS07DU[	3106-2243	Seawater	MSL	TOC	08/22/17
AMB24-017	PS08-TOC	TOC	PS08	3106-2245	Seawater	MSL	TOC	08/22/17
AMB24-018	PS15-TOC	TOC	PS15	3106-2247	Seawater	MSL	TOC	08/22/17
AMB24-019	PS09-TOC	TOC	PS09	3106-2249	Seawater	MSL	TOC	08/22/17
AMB24-020	PS10-TOC	TOC	PS10	3106-2251	Seawater	MSL	TOC	08/22/17
AMB24-021	PS10.1-TOC	TOC	PS10.1	3106-2253	Seawater	MSL	TOC	08/22/17
AMB24-022	PS11-TOC	TOC	PS11	3106-2255	Seawater	MSL	TOC	08/22/17
AMB24-023	PS16-TOC	TOC	PS16	3106-2257	Seawater	MSL	TOC	08/22/17
AMB24-024	PS03B-TOC	TOC	PS03B	3106-2259	Seawater	MSL	TOC	08/22/17
AMB24-DD001	OF018-TOC	TOC	OF018	3106-2261	Seawater	MSL	TOC	08/22/17
AMB24-DD002	OF019-TOC	TOC	OF019	3106-2263	Seawater	MSL	TOC	08/22/17
AMB24-DD003	OF021-TOC	TOC	OF021	3106-2265	Freshwater	MSL	TOC	08/22/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/22/2017
Batch: 69
Login Designee: Suslick/Kuo

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-001	PS03-DOC	DOC	PS03	3106-2214	Seawater	MSL	DOC	08/22/17
AMB24-002	M4-DOC	DOC	M4	3106-2216	Seawater	MSL	DOC	08/22/17
AMB24-003	PS01-DOC	DOC	PS01	3106-2218	Seawater	MSL	DOC	08/22/17
AMB24-004	PS02-DOC	DOC	PS02	3106-2220	Seawater	MSL	DOC	08/22/17
AMB24-005	PS13-DOC	DOC	PS13	3106-2222	Seawater	MSL	DOC	08/22/17
AMB24-006	BJEST-DOC	DOC	BJEST	3106-2224	Seawater	MSL	DOC	08/22/17
AMB24-007	BJESTDUP-DOC	DOC	BJESTDUP	3106-2226	Seawater	MSL	DOC	08/22/17
AMB24-008	M3.1-DOC	DOC	M3.1	3106-2228	Seawater	MSL	DOC	08/22/17
AMB24-009	PS12-DOC	DOC	PS12	3106-2230	Seawater	MSL	DOC	08/22/17
AMB24-010	M3.3-DOC	DOC	M3.3	3106-2232	Seawater	MSL	DOC	08/22/17
AMB24-011	PS05-DOC	DOC	PS05	3106-2234	Seawater	MSL	DOC	08/22/17
AMB24-012	PS04-DOC	DOC	PS04	3106-2236	Seawater	MSL	DOC	08/22/17
AMB24-013	PS14-DOC	DOC	PS14	3106-2238	Seawater	MSL	DOC	08/22/17
AMB24-014	PS06-DOC	DOC	PS06	3106-2240	Seawater	MSL	DOC	08/22/17
AMB24-015	PS07B-DOC	DOC	PS07B	3106-2242	Seawater	MSL	DOC	08/22/17
AMB24-016	PS07DU[-DOC	DOC	PS07DU[	3106-2244	Seawater	MSL	DOC	08/22/17
AMB24-017	PS08-DOC	DOC	PS08	3106-2246	Seawater	MSL	DOC	08/22/17
AMB24-018	PS15-DOC	DOC	PS15	3106-2248	Seawater	MSL	DOC	08/22/17
AMB24-019	PS09-DOC	DOC	PS09	3106-2250	Seawater	MSL	DOC	08/22/17
AMB24-020	PS10-DOC	DOC	PS10	3106-2252	Seawater	MSL	DOC	08/22/17
AMB24-021	PS10.1-DOC	DOC	PS10.1	3106-2254	Seawater	MSL	DOC	08/22/17
AMB24-022	PS11-DOC	DOC	PS11	3106-2256	Seawater	MSL	DOC	08/22/17
AMB24-023	PS16-DOC	DOC	PS16	3106-2258	Seawater	MSL	DOC	08/22/17
AMB24-024	PS03B-DOC	DOC	PS03B	3106-2260	Seawater	MSL	DOC	08/22/17
AMB24-DD001	OF018-DOC	DOC	OF018	3106-2262	Seawater	MSL	DOC	08/22/17
AMB24-DD002	OF019-DOC	DOC	OF019	3106-2264	Seawater	MSL	DOC	08/22/17
AMB23-DD003	OF021-DOC	DOC	OF021	3106-2266	Freshwater	MSL	DOC	08/22/17

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/22/2017
Batch: 69
Login Designee: Suslick/Kuo

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 1)**

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-001	PS03-TSS/OSAL	TSS/OSAL	PS03	3106-2213	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-002	M4-TSS/OSAL	TSS/OSAL	M4	3106-2215	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-003	PS01-TSS/OSAL	TSS/OSAL	PS01	3106-2217	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-004	PS02-TSS/OSAL	TSS/OSAL	PS02	3106-2219	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-005	PS13-TSS/OSAL	TSS/OSAL	PS13	3106-2221	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-006	BJEST-TSS/OSAL	TSS/OSAL	BJEST	3106-2223	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-007	BJESTDUP-TSS/OSAL	TSS/OSAL	BJESTDUP	3106-2225	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-008	M3.1-TSS/OSAL	TSS/OSAL	M3.1	3106-2227	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-009	PS12-TSS/OSAL	TSS/OSAL	PS12	3106-2229	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-010	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-2231	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-011	PS05-TSS/OSAL	TSS/OSAL	PS05	3106-2233	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-012	PS04-TSS/OSAL	TSS/OSAL	PS04	3106-2235	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-013	PS14-TSS/OSAL	TSS/OSAL	PS14	3106-2237	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-014	PS06-TSS/OSAL	TSS/OSAL	PS06	3106-2239	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-015	PS07B-TSS/OSAL	TSS/OSAL	PS07B	3106-2241	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-016	PS07DU[-TSS/OSAL	TSS/OSAL	PS07DU[	3106-2243	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-017	PS08-TSS/OSAL	TSS/OSAL	PS08	3106-2245	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-018	PS15-TSS/OSAL	TSS/OSAL	PS15	3106-2247	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-019	PS09-TSS/OSAL	TSS/OSAL	PS09	3106-2249	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-020	PS10-TSS/OSAL	TSS/OSAL	PS10	3106-2251	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-021	PS10.1-TSS/OSAL	TSS/OSAL	PS10.1	3106-2253	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-022	PS11-TSS/OSAL	TSS/OSAL	PS11	3106-2255	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-023	PS16-TSS/OSAL	TSS/OSAL	PS16	3106-2257	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-024	PS03B-TSS/OSAL	TSS/OSAL	PS03B	3106-2259	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-DD001	OF018-TSS/OSAL	TSS/OSAL	OF018	3106-2261	Seawater	MSL	TSS/OSAL	08/22/17
AMB24-DD002	OF019-TSS/OSAL	TSS/OSAL	OF019	3106-2263	Seawater	MSL	TSS/OSAL	08/22/17
AMB23-DD003	OF021-TSS/OSAL	TSS/OSAL	OF021	3106-2265	Freshwater	MSL	TSS/OSAL	08/22/17

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/23/2017
Page: 1 of 2
COC Number: COC AMB24-Day2

23
8/22/2017
FC2017_08_22_AMB24 2017_08_23

Project No.:
Project Name: ENVVEST
Project Manager: Braden Soreyer
Phone:

EVENT: AMB24

Lab. Use only: Lab ID		Sample ID	Sample Label	Collection Date/Time	Matrix	Testing Parameters (as per SOW): Metals	Nutr	TOC	DOC	TSS/OSAL	No. of containers	StationID	Comments
31066 TOT | DUP		8/23/17 AMB24-		8/23/2017	Sea water								
2267	2268	201	M6	850	Sea	x	x	x	x	x	5	M6	Ostrich Bay, Naval
2269	2270	202	M8	914	✓							M8	Oyster Bay
2271	2272	203	DYOTS	0935	Sea!							DYOTS	Old Town Silverdale
2273	2274	204	WP	1028	sea							WP	Watermen Point
2275	2276	205	WP-DUP	1028	sea							WP	
2277	2278	206	M2	1059	sea							M2	~~University Point~~ Rich Passage
2279	2280	207	M2DEEP	1104	sea							M2	5M sample depth
2281	2282	208	CLMBAY	1125								CLMBAY	Clam Bay
2283	2284	209	ILSP	1147								ILSP	Illahee State Park
2285	2286	210	M1	1231								M1	POP at University Point
2287	2288	211	M1DEEP	1242								M1	Sample from 3.5M depth
2289	2290	212	POPIPD	1303								POPIPD	Illahee Port Dock
2291	2292	213	SN03	1330								SN03	10ts of Algae Brown
2293	2294	214	SN05	1340								SN05	↑
2295	2296	215	SN08	1351								SN08	
2297	2298	216	SN11	1405								SN11	
2299	2300	217	SN10	1415								SN10	14 dead harbor seals
2301	2302	218	M3.3	1426								M3.3	
2303	2304	219	M3.3 DUP	1426								M3.3DUP	
2305	2306	220	M3.3 DEEP	1435	✓	↓	↓	↓	↓	↓	↓	M3.3 Deep	

Observations, Instructions

Relinquished by:
Striveny — Signature — 20170823 — Date — 1630 — Time
Printed Name — Company PNNL

Relinquished by:
Signature — Date — Time
Printed Name — Company

Received by:
Striveny
Signature
Printed Name

Received by:
Signature
Printed Name

Total # of Containers 100
Shipment Method: Hand delivered by
Shipment Method: PNNL staff

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

SAMPLE CHAIN OF CUSTODY FORM

Date: 8/23/17
Page: 2 of 2
COC Number: AMB24 - Day 2

23
8/22/2017

~~FC2017_08_22_AMB24~~
2017-08-23

Project No.: ENVVEST
Project Name:
Project Manager: Brandenburger
Phone:

EVENT: AMB24

Testing Parameters (as per SOW)

Lab. Use only: Lab ID	Sample ID	Sample Label	Collection Date/Time	Matrix	Metals	Nutr.	TOC	DOC	TSS/OSAC					No. of containers	StationID	Comments
Block TOT/DISS	8/23/17 AMB24-															
2307 2308	221	P303C	1455	SW	X	X	X	X	X					5	P303C	

Observations, Instructions

Relinquished by: Strivens
Signature 20170823 Date 1630 Time
Printed Name Company PNNL

Received by: Strivens
Signature
Printed Name

Total # of Containers 5
Shipment Method: Hand delivered by PNNL staff

Relinquished by:
Signature Date Time
Printed Name Company

Received by:
Signature
Printed Name

Sample Disposition:
Distribution:
1) 2 copies to the Laboratory
2) 1 copy to project manager
3) Return completed original to Battelle Marine Sciences Laboratory

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 31062 Sample No(s): 2267-2308 Batch: 70

Project Name: ENVVEST AMB24, FY17 Project Manager: Brandenberger

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: SW WP# N93C029

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☐	☒	Custody seal present Seal intact? YES NO
☒	☐	☐	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)
☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL? ALL HALF

Cooler 1: 4.5 °C
Cooler 2: 4.5 °C
Cooler 3: 4.5 °C
Cooler 4: 4.5 °C

Comment/Remedy:

Samples must be filtered prior to preservation!

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: Strivens Cooler Receipt Date/Time: 20170823 1930

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type:
- ☒ 0.2% HNO3 Notes: TMe, DMe Lot# 121C0850
- ☐ 0.5% HCl (Hg samples) Notes: Lot#
- ☒ Refrigerate/Freeze Notes: Ref: T&S/OSM, Nutr., Frz: TOC, DOC
- ☐ Other Notes:

Completed By: Strivens Preservation Date/Time: 20170823 2000

Storage Shelf:

Comments/Observations:

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/23/2017
Batch: 70
Login Designee: Strivens
Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 2)**

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Metals: Prep Lab

rest of samples are stored in walkin coldroom
GRAB
COMPOSITE

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-201	M6-TME	TME	M6	3106-2267	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-201	M6-DME	DME	M6	3106-2268	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-202	M8-TME	TME	M8	3106-2269	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-202	M8-DME	DME	M8	3106-2270	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-203	DYOTS-TME	TME	DYOTS	3106-2271	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-203	DYOTS-DME	DME	DYOTS	3106-2272	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-204	WP-TME	TME	WP	3106-2273	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-204	WP-DME	DME	WP	3106-2274	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-205	WP DUP-TME	TME	WP DUP	3106-2275	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-205	WP DUP-DME	DME	WP DUP	3106-2276	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-206	M2-TME	TME	M2	3106-2277	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-206	M2-DME	DME	M2	3106-2278	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-207	M2 DEEP-TME	TME	M2 DEEP	3106-2279	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-207	M2 DEEP-DME	DME	M2 DEEP	3106-2280	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-208	CLMBAY-TME	TME	CLMBAY	3106-2281	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-208	CLMBAY-DME	DME	CLMBAY	3106-2282	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-209	ILSP-TME	TME	ILSP	3106-2283	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-209	ILSP-DME	DME	ILSP	3106-2284	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-210	M1-TME	TME	M1	3106-2285	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-210	M1-DME	DME	M1	3106-2286	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-211	M1 DEEP-TME	TME	M1 DEEP	3106-2287	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-211	M1 DEEP-DME	DME	M1 DEEP	3106-2288	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-212	POPIPD-TME	TME	POPIPD	3106-2289	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-212	POPIPD-DME	DME	POPIPD	3106-2290	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-213	SN03-TME	TME	SN03	3106-2291	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-213	SN03-DME	DME	SN03	3106-2292	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-214	SN05-TME	TME	SN05	3106-2293	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-214	SN05-DME	DME	SN05	3106-2294	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-215	SN08-TME	TME	SN08	3106-2295	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-215	SN08-DME	DME	SN08	3106-2296	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-216	SN11-TME	TME	SN11	3106-2297	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-216	SN11-DME	DME	SN11	3106-2298	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-217	SN10-TME	TME	SN10	3106-2299	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-217	SN10-DME	DME	SN10	3106-2300	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-218	M3.3-TME	TME	M3.3	3106-2301	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-218	M3.3-DME	DME	M3.3	3106-2302	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-219	M3.3 DUP-TME	TME	M3.3 DUP	3106-2303	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-219	M3.3 DUP-DME	DME	M3.3 DUP	3106-2304	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-220	M3.3 DEEP-TME	TME	M3.3 DEEP	3106-2305	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-220	M3.3 DEEP-DME	DME	M3.3 DEEP	3106-2306	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17
AMB24-221	PS03C-TME	TME	PS03C	3106-2307	Seawater	PREP LAB	Total Metals, Hg	08/23/17
AMB24-221	PS03C-DME	DME	PS03C	3106-2308	Seawater	PREP LAB	Dissolved Metals, Hg	08/23/17

GRAB	AMB24- 201	08/23/2017	08:50:00 AM
GRAB	AMB24- 201	08/23/2017	08:50:00 AM
GRAB	AMB24- 202	08/23/2017	09:14:00 AM
GRAB	AMB24- 202	08/23/2017	09:14:00 AM
GRAB	AMB24- 203	08/23/2017	09:35:00 AM
GRAB	AMB24- 203	08/23/2017	09:35:00 AM
GRAB	AMB24- 204	08/23/2017	10:28:00 AM
GRAB	AMB24- 204	08/23/2017	10:28:00 AM
GRAB	AMB24- 205	08/23/2017	10:28:00 AM
GRAB	AMB24- 205	08/23/2017	10:28:00 AM
GRAB	AMB24- 206	08/23/2017	10:59:00 AM
GRAB	AMB24- 206	08/23/2017	10:59:00 AM
GRAB	AMB24- 207	08/23/2017	11:04:00 AM
GRAB	AMB24- 207	08/23/2017	11:04:00 AM
GRAB	AMB24- 208	08/23/2017	11:25:00 AM
GRAB	AMB24- 208	08/23/2017	11:25:00 AM
GRAB	AMB24- 209	08/23/2017	11:47:00 AM
GRAB	AMB24- 209	08/23/2017	11:47:00 AM
GRAB	AMB24- 210	08/23/2017	12:31:00 AM
GRAB	AMB24- 210	08/23/2017	12:31:00 AM
GRAB	AMB24- 211	08/23/2017	12:42:00 AM
GRAB	AMB24- 211	08/23/2017	12:42:00 AM
GRAB	AMB24- 212	08/23/2017	1:03:00 PM
GRAB	AMB24- 212	08/23/2017	1:03:00 PM
GRAB	AMB24- 213	08/23/2017	1:30:00 PM
GRAB	AMB24- 213	08/23/2017	1:30:00 PM
GRAB	AMB24- 214	08/23/2017	1:40:00 PM
GRAB	AMB24- 214	08/23/2017	1:40:00 PM
GRAB	AMB24- 215	08/23/2017	1:51:00 PM
GRAB	AMB24- 215	08/23/2017	1:51:00 PM
GRAB	AMB24- 216	08/23/2017	2:05:00 PM
GRAB	AMB24- 216	08/23/2017	2:05:00 PM
GRAB	AMB24- 217	08/23/2017	2:15:00 PM
GRAB	AMB24- 217	08/23/2017	2:15:00 PM
GRAB	AMB24- 218	08/23/2017	2:26:00 PM
GRAB	AMB24- 218	08/23/2017	2:26:00 PM
GRAB	AMB24- 219	08/23/2017	2:26:00 PM
GRAB	AMB24- 219	08/23/2017	2:26:00 PM
GRAB	AMB24- 220	08/23/2017	2:35:00 PM
GRAB	AMB24- 220	08/23/2017	2:35:00 PM
GRAB	AMB24- 221	08/23/2017	2:55:00 PM
GRAB	AMB24- 221	08/23/2017	2:55:00 PM

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/23/2017
Batch: 70
Login Designee: Strivens
Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 2)**

Pacific Northwest NATIONAL LABORATORY | Battelle *The Business of Innovation*

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Metals: Prep Lab

rest of samples are stored in walkin coldroom
GRAB
COMPOSITE

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-201	M6-TOC	TOC	M6	3106-2267	Seawater	MSL	TOC	08/23/17
AMB24-202	M8-TOC	TOC	M8	3106-2269	Seawater	MSL	TOC	08/23/17
AMB24-203	DYOTS-TOC	TOC	DYOTS	3106-2271	Seawater	MSL	TOC	08/23/17
AMB24-204	WP-TOC	TOC	WP	3106-2273	Seawater	MSL	TOC	08/23/17
AMB24-205	WP DUP-TOC	TOC	WP DUP	3106-2275	Seawater	MSL	TOC	08/23/17
AMB24-206	M2-TOC	TOC	M2	3106-2277	Seawater	MSL	TOC	08/23/17
AMB24-207	M2 DEEP-TOC	TOC	M2 DEEP	3106-2279	Seawater	MSL	TOC	08/23/17
AMB24-208	CLMBAY-TOC	TOC	CLMBAY	3106-2281	Seawater	MSL	TOC	08/23/17
AMB24-209	ILSP-TOC	TOC	ILSP	3106-2283	Seawater	MSL	TOC	08/23/17
AMB24-210	M1-TOC	TOC	M1	3106-2285	Seawater	MSL	TOC	08/23/17
AMB24-211	M1 DEEP-TOC	TOC	M1 DEEP	3106-2287	Seawater	MSL	TOC	08/23/17
AMB24-212	POPIPD-TOC	TOC	POPIPD	3106-2289	Seawater	MSL	TOC	08/23/17
AMB24-213	SN03-TOC	TOC	SN03	3106-2291	Seawater	MSL	TOC	08/23/17
AMB24-214	SN05-TOC	TOC	SN05	3106-2293	Seawater	MSL	TOC	08/23/17
AMB24-215	SN08-TOC	TOC	SN08	3106-2295	Seawater	MSL	TOC	08/23/17
AMB24-216	SN11-TOC	TOC	SN11	3106-2297	Seawater	MSL	TOC	08/23/17
AMB24-217	SN10-TOC	TOC	SN10	3106-2299	Seawater	MSL	TOC	08/23/17
AMB24-218	M3.3-TOC	TOC	M3.3	3106-2301	Seawater	MSL	TOC	08/23/17
AMB24-219	M3.3 DUP-TOC	TOC	M3.3 DUP	3106-2303	Seawater	MSL	TOC	08/23/17
AMB24-220	M3.3 DEEP-TOC	TOC	M3.3 DEEP	3106-2305	Seawater	MSL	TOC	08/23/17
AMB24-221	PS03C-TOC	TOC	PS03C	3106-2307	Seawater	MSL	TOC	08/23/17

GRAB	AMB24- 201	08/23/2017	08:50:00 AM
GRAB	AMB24- 202	08/23/2017	09:14:00 AM
GRAB	AMB24- 203	08/23/2017	09:35:00 AM
GRAB	AMB24- 204	08/23/2017	10:28:00 AM
GRAB	AMB24- 205	08/23/2017	10:28:00 AM
GRAB	AMB24- 206	08/23/2017	10:59:00 AM
GRAB	AMB24- 207	08/23/2017	11:04:00 AM
GRAB	AMB24- 208	08/23/2017	11:25:00 AM
GRAB	AMB24- 209	08/23/2017	11:47:00 AM
GRAB	AMB24- 210	08/23/2017	12:31:00 AM
GRAB	AMB24- 211	08/23/2017	12:42:00 AM
GRAB	AMB24- 212	08/23/2017	1:03:00 PM
GRAB	AMB24- 213	08/23/2017	1:30:00 PM
GRAB	AMB24- 214	08/23/2017	1:40:00 PM
GRAB	AMB24- 215	08/23/2017	1:51:00 PM
GRAB	AMB24- 216	08/23/2017	2:05:00 PM
GRAB	AMB24- 217	08/23/2017	2:15:00 PM
GRAB	AMB24- 218	08/23/2017	2:26:00 PM
GRAB	AMB24- 219	08/23/2017	2:26:00 PM
GRAB	AMB24- 220	08/23/2017	2:35:00 PM
GRAB	AMB24- 221	08/23/2017	2:55:00 PM

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/23/2017
Batch: 70
Login Designee: Strivens
Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 2)**

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Metals: Prep Lab

rest of samples are stored in walkin coldroom
GRAB
COMPOSITE

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
AMB24-201	M6-DOC	DOC	M6	3106-2268	Seawater	MSL	DOC	08/23/17
AMB24-202	M8-DOC	DOC	M8	3106-2270	Seawater	MSL	DOC	08/23/17
AMB24-203	DYOTS-DOC	DOC	DYOTS	3106-2272	Seawater	MSL	DOC	08/23/17
AMB24-204	WP-DOC	DOC	WP	3106-2274	Seawater	MSL	DOC	08/23/17
AMB24-205	WP DUP-DOC	DOC	WP DUP	3106-2276	Seawater	MSL	DOC	08/23/17
AMB24-206	M2-DOC	DOC	M2	3106-2278	Seawater	MSL	DOC	08/23/17
AMB24-207	M2 DEEP-DOC	DOC	M2 DEEP	3106-2280	Seawater	MSL	DOC	08/23/17
AMB24-208	CLMBAY-DOC	DOC	CLMBAY	3106-2282	Seawater	MSL	DOC	08/23/17
AMB24-209	ILSP-DOC	DOC	ILSP	3106-2284	Seawater	MSL	DOC	08/23/17
AMB24-210	M1-DOC	DOC	M1	3106-2286	Seawater	MSL	DOC	08/23/17
AMB24-211	M1 DEEP-DOC	DOC	M1 DEEP	3106-2288	Seawater	MSL	DOC	08/23/17
AMB24-212	POPIPD-DOC	DOC	POPIPD	3106-2290	Seawater	MSL	DOC	08/23/17
AMB24-213	SN03-DOC	DOC	SN03	3106-2292	Seawater	MSL	DOC	08/23/17
AMB24-214	SN05-DOC	DOC	SN05	3106-2294	Seawater	MSL	DOC	08/23/17
AMB24-215	SN08-DOC	DOC	SN08	3106-2296	Seawater	MSL	DOC	08/23/17
AMB24-216	SN11-DOC	DOC	SN11	3106-2298	Seawater	MSL	DOC	08/23/17
AMB24-217	SN10-DOC	DOC	SN10	3106-2300	Seawater	MSL	DOC	08/23/17
AMB24-218	M3.3-DOC	DOC	M3.3	3106-2302	Seawater	MSL	DOC	08/23/17
AMB24-219	M3.3 DUP-DOC	DOC	M3.3 DUP	3106-2304	Seawater	MSL	DOC	08/23/17
AMB24-220	M3.3 DEEP-DOC	DOC	M3.3 DEEP	3106-2306	Seawater	MSL	DOC	08/23/17
AMB24-221	PS03C-DOC	DOC	PS03C	3106-2308	Seawater	MSL	DOC	08/23/17

GRAB	AMB24- 201	08/23/2017	08:50:00 AM
GRAB	AMB24- 202	08/23/2017	09:14:00 AM
GRAB	AMB24- 203	08/23/2017	09:35:00 AM
GRAB	AMB24- 204	08/23/2017	10:28:00 AM
GRAB	AMB24- 205	08/23/2017	10:28:00 AM
GRAB	AMB24- 206	08/23/2017	10:59:00 AM
GRAB	AMB24- 207	08/23/2017	11:04:00 AM
GRAB	AMB24- 208	08/23/2017	11:25:00 AM
GRAB	AMB24- 209	08/23/2017	11:47:00 AM
GRAB	AMB24- 210	08/23/2017	12:31:00 AM
GRAB	AMB24- 211	08/23/2017	12:42:00 AM
GRAB	AMB24- 212	08/23/2017	1:03:00 PM
GRAB	AMB24- 213	08/23/2017	1:30:00 PM
GRAB	AMB24- 214	08/23/2017	1:40:00 PM
GRAB	AMB24- 215	08/23/2017	1:51:00 PM
GRAB	AMB24- 216	08/23/2017	2:05:00 PM
GRAB	AMB24- 217	08/23/2017	2:15:00 PM
GRAB	AMB24- 218	08/23/2017	2:26:00 PM
GRAB	AMB24- 219	08/23/2017	2:26:00 PM
GRAB	AMB24- 220	08/23/2017	2:35:00 PM
GRAB	AMB24- 221	08/23/2017	2:55:00 PM

SOP#: MSL-A-001

SAMPLE LOGIN

Project Manager: Brandenberger/Strivens
Date Received: 8/23/2017
Batch: 70
Login Designee: Strivens
Project: **ENVVEST Ambient Monitoring, AUGUST 2017 (AMB24, DAY 2)**

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Metals: Prep Lab

rest of samples are stored in walkin coldroom
GRAB
COMPOSITE

Sponsor ID	Sample Label	Portion	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date			
AMB24-201	M6-TSS/OSAL	TSS/OSAL	M6	3106-2267	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 201	08/23/2017 08:50:00 AM
AMB24-202	M8-TSS/OSAL	TSS/OSAL	M8	3106-2269	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 202	08/23/2017 09:14:00 AM
AMB24-203	DYOTS-TSS/OSAL	TSS/OSAL	DYOTS	3106-2271	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 203	08/23/2017 09:35:00 AM
AMB24-204	WP-TSS/OSAL	TSS/OSAL	WP	3106-2273	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 204	08/23/2017 10:28:00 AM
AMB24-205	WP DUP-TSS/OSAL	TSS/OSAL	WP DUP	3106-2275	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 205	08/23/2017 10:28:00 AM
AMB24-206	M2-TSS/OSAL	TSS/OSAL	M2	3106-2277	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 206	08/23/2017 10:59:00 AM
AMB24-207	M2 DEEP-TSS/OSAL	TSS/OSAL	M2 DEEP	3106-2279	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 207	08/23/2017 11:04:00 AM
AMB24-208	CLMBAY-TSS/OSAL	TSS/OSAL	CLMBAY	3106-2281	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 208	08/23/2017 11:25:00 AM
AMB24-209	ILSP-TSS/OSAL	TSS/OSAL	ILSP	3106-2283	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 209	08/23/2017 11:47:00 AM
AMB24-210	M1-TSS/OSAL	TSS/OSAL	M1	3106-2285	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 210	08/23/2017 12:31:00 AM
AMB24-211	M1 DEEP-TSS/OSAL	TSS/OSAL	M1 DEEP	3106-2287	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 211	08/23/2017 12:42:00 AM
AMB24-212	POPIPD-TSS/OSAL	TSS/OSAL	POPIPD	3106-2289	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 212	08/23/2017 1:03:00 PM
AMB24-213	SN03-TSS/OSAL	TSS/OSAL	SN03	3106-2291	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 213	08/23/2017 1:30:00 PM
AMB24-214	SN05-TSS/OSAL	TSS/OSAL	SN05	3106-2293	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 214	08/23/2017 1:40:00 PM
AMB24-215	SN08-TSS/OSAL	TSS/OSAL	SN08	3106-2295	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 215	08/23/2017 1:51:00 PM
AMB24-216	SN11-TSS/OSAL	TSS/OSAL	SN11	3106-2297	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 216	08/23/2017 2:05:00 PM
AMB24-217	SN10-TSS/OSAL	TSS/OSAL	SN10	3106-2299	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 217	08/23/2017 2:15:00 PM
AMB24-218	M3.3-TSS/OSAL	TSS/OSAL	M3.3	3106-2301	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 218	08/23/2017 2:26:00 PM
AMB24-219	M3.3 DUP-TSS/OSAL	TSS/OSAL	M3.3 DUP	3106-2303	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 219	08/23/2017 2:26:00 PM
AMB24-220	M3.3 DEEP-TSS/OSAL	TSS/OSAL	M3.3 DEEP	3106-2305	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 220	08/23/2017 2:35:00 PM
AMB24-221	PS03C-TSS/OSAL	TSS/OSAL	PS03C	3106-2307	Seawater	MSL	TSS/OSAL	08/23/17	GRAB	AMB24- 221	08/23/2017 2:55:00 PM
Send to ALS/CAS 8/24/17											
AMB24-201	M6-NUT	NUT	M6	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 201	08/23/2017 08:50:00 AM
AMB24-202	M8-NUT	NUT	M8	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 202	08/23/2017 09:14:00 AM
AMB24-203	DYOTS-NUT	NUT	DYOTS	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 203	08/23/2017 09:35:00 AM
AMB24-204	WP-NUT	NUT	WP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 204	08/23/2017 10:28:00 AM
AMB24-205	WP DUP-NUT	NUT	WP DUP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 205	08/23/2017 10:28:00 AM
AMB24-206	M2-NUT	NUT	M2	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 206	08/23/2017 10:59:00 AM
AMB24-207	M2 DEEP-NUT	NUT	M2 DEEP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 207	08/23/2017 11:04:00 AM
AMB24-208	CLMBAY-NUT	NUT	CLMBAY	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 208	08/23/2017 11:25:00 AM
AMB24-209	ILSP-NUT	NUT	ILSP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 209	08/23/2017 11:47:00 AM
AMB24-210	M1-NUT	NUT	M1	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 210	08/23/2017 12:31:00 AM
AMB24-211	M1 DEEP-NUT	NUT	M1 DEEP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 211	08/23/2017 12:42:00 AM
AMB24-212	POPIPD-NUT	NUT	POPIPD	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 212	08/23/2017 1:03:00 PM
AMB24-213	SN03-NUT	NUT	SN03	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 213	08/23/2017 1:30:00 PM
AMB24-214	SN05-NUT	NUT	SN05	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 214	08/23/2017 1:40:00 PM
AMB24-215	SN08-NUT	NUT	SN08	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 215	08/23/2017 1:51:00 PM
AMB24-216	SN11-NUT	NUT	SN11	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 216	08/23/2017 2:05:00 PM
AMB24-217	SN10-NUT	NUT	SN10	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 217	08/23/2017 2:15:00 PM
AMB24-218	M3.3-NUT	NUT	M3.3	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 218	08/23/2017 2:26:00 PM
AMB24-219	M3.3 DUP-NUT	NUT	M3.3 DUP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 219	08/23/2017 2:26:00 PM
AMB24-220	M3.3 DEEP-NUT	NUT	M3.3 DEEP	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 220	08/23/2017 2:35:00 PM
AMB24-221	PS03C-NUT	NUT	PS03C	--	Seawater	CAS	Nutrients	08/23/17	GRAB	AMB24- 221	08/23/2017 2:55:00 PM

SOP#: MSL-A-001

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3106 Sample No(s): 2192-2212 Batch: 68

Project Name: ENVVEST AMB 24 Project Manager: JB/JS

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WP#

Special Instructions:

See LIMS Sample Tracking for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box		
		X	Custody seal present	Seal intact? YES NO	Cooler 1: °C
		X	Cooler temperature (acceptable range: less than 6°C or solids:frozen) (if multiple coolers, note temp. of each cooler)		Cooler 2: °C Cooler 3: °C Cooler 4: °C
X			Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)		
			Comment/Remedy:		
X			Were all chain of custody forms signed and dated?		
		X	Were samples filtered at MSL?	ALL HALF	*Samples must be filtered prior to preservation!*

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Baggie Other:

Notes:

Completed By: Cooler Receipt Date/Time: 8/17/17 10:00

SAMPLE PRESERVATION

- [ ] Sample(s) were preserved prior to arrival at MSL (noted on: CoC / Sample / per PM Instruction)
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)
- [ ] Sample(s) were preserved at MSL

Type:
- [X] 0.2% HNO3 Notes: stock) 2200-2212 Lot# 12/6050
- [ ] 0.5% HCl (Hg samples) Notes: Lot#
- [ ] Refrigerate/Freeze Notes:
- [ ] Other Notes:

Completed By: Preservation Date/Time: 8/17/17 10:00 + 8/18/17 15:00

Storage Shelf: K-4-B

Comments/Observations:

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger/Strivens
Date Received: 8/17/2017
Batch: 68
Login Designee: Schlafer
Project: **ENVVEST AMB 24 Equipment Blanks**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date	Collection Time
Filter Blank 1		3106-2208	Water	Lab 231	Cd, Cr, Cu, Ni, Pb, Zn	08/17/17	
Filter Blank 2		3106-2209	Water	Lab 231	Cd, Cr, Cu, Ni, Pb, Zn	08/17/17	
Filter Blank 3		3106-2210	Water	Lab 231	Cd, Cr, Cu, Ni, Pb, Zn	08/17/17	
Filtered seawater		3106-2211	Seawater	Lab 231	Cd, Cr, Cu, Ni, Pb, Zn	08/18/17	
Go Flow		3106-2212	Seawater	Lab 231	Cd, Cr, Cu, Ni, Pb, Zn	08/18/17	

SOP#: MSL-A-001

PROJECT ENVVEST				CHAIN OF CUSTODY FORM								
Project Name: AUGUST 2017 Ambient Monitoring (AMB24)												K1709013
SAMPLE TEAM:	Navy, Battelle											
DATE:	8/24/2017											
Laboratory:	ALS Kelso, WA											
Sample ID	**STATION ID**	**Collection Date/Time**	**Matrix**	COPPER TOXICITY	COMPLEXATION CAPACITY	**Nutrients (TP, NH4, NO3+NO2)**	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	**No. of containers**	**COMMENTS**	
AMB24-001	PS03	08/22/2017 08:45:00 AM	Seawater			X				1		
AMB24-002	M4	08/22/2017 09:08:00 AM	Seawater			X				1		
AMB24-003	PS01	08/22/2017 09:26:00 AM	Seawater			X				1		
AMB24-004	PS02	08/22/2017 09:40:00 AM	Seawater			X				1		
AMB24-005	PS13	08/22/2017 09:55:00 AM	Seawater			X				1		
AMB24-006	BJEST	08/22/2017 10:10:00 AM	Seawater			X				1		
AMB24-007	BJESTDUP	08/22/2017 10:10:00 AM	Seawater			X				1		
AMB24-008	M3.1	08/22/2017 10:27:00 AM	Seawater			X				1		
AMB24-009	PS12	08/22/2017 10:54:00 AM	Seawater			X				1		
AMB24-010	M3.3	08/22/2017 11:06:00 AM	Seawater			X				1		
AMB24-011	PS05	08/22/2017 12:08:00 PM	Seawater			X				1		
AMB24-012	PS04	08/22/2017 12:15:00 PM	Seawater			X				1		
AMB24-013	PS14	08/22/2017 12:26:00 PM	Seawater			X				1		
AMB24-014	PS06	08/22/2017 12:35:00 PM	Seawater			X				1		
AMB24-015	PS07	08/22/2017 12:40:00 PM	Seawater			X				1		
AMB24-016	PS07DUP	08/22/2017 12:40:00 PM	Seawater			X				1		
AMB24-017	PS08	08/22/2017 13:12:00 PM	Seawater			X				1		
AMB24-018	PS15	08/22/2017 13:22:00 PM	Seawater			X				1		
AMB24-019	PS09	08/22/2017 13:38:00 PM	Seawater			X				1		
AMB24-020	PS10	08/22/2017 13:50:00 PM	Seawater			X				1		
AMB24-021	PS10.1	08/22/2017 14:01:00 PM	Seawater			X				1		
AMB24-022	PS11	08/22/2017 14:08:00 PM	Seawater			X				1		
AMB24-023	PS16	08/22/2017 14:20:00 PM	Seawater			X				1		
AMB24-024	PS03B	08/22/2017 14:35:00 PM	Seawater			X				1		
AMB24-201	M6	08/23/2017 08:50:00 AM	Seawater			X				1		
AMB24-202	M8	08/23/2017 09:14:00 AM	Seawater			X				1		

PROJECT ENVVEST													
Project Name: AUGUST 2017 Ambient Monitoring (AMB24)							**CHAIN OF CUSTODY FORM**						K1709013
SAMPLE TEAM:	Navy, Battelle												
DATE:	8/24/2017												
Laboratory:	ALS Kelso, WA												

	Sample ID	STATION ID	Collection Date/Time	Matrix	COPPER TOXICITY	COMPLEXATION CAPACITY	Nutrients (TP, NH4, NO3+NO2)	Oil and Grease	Total/Dissolved Metals	Oceanographic Salinity	No. of containers	COMMENTS
27	AMB24-203	DYOTS	08/23/2017 09:35:00 AM	Seawater			X				1	
28	AMB24-204	WP	08/23/2017 10:28:00 AM	Seawater			X				1	
29	AMB24-205	WP DUP	08/23/2017 10:28:00 AM	Seawater			X				1	
30	AMB24-206	M2	08/23/2017 10:59:00 AM	Seawater			X				1	
31	AMB24-207	M2 DEEP	08/23/2017 11:04:00 AM	Seawater			X				1	
32	AMB24-208	CLMBAY	08/23/2017 11:25:00 AM	Seawater			X				1	
33	AMB24-209	ILSP	08/23/2017 11:47:00 AM	Seawater			X				1	
34	AMB24-210	M1	08/23/2017 12:31:00 AM	Seawater			X				1	
35	AMB24-211	M1 DEEP	08/23/2017 12:42:00 AM	Seawater			X				1	
36	AMB24-212	POPIPD	08/23/2017 1:03:00 PM	Seawater			X				1	
37	AMB24-213	SN03	08/23/2017 1:30:00 PM	Seawater			X				1	
38	AMB24-214	SN05	08/23/2017 1:40:00 PM	Seawater			X				1	
39	AMB24-215	SN08	08/23/2017 1:51:00 PM	Seawater			X				1	
40	AMB24-216	SN11	08/23/2017 2:05:00 PM	Seawater			X				1	
41	AMB24-217	SN10	08/23/2017 2:15:00 PM	Seawater			X				1	
42	AMB24-218	M3.3	08/23/2017 2:26:00 PM	Seawater			X				1	
43	AMB24-219	M3.3 DUP	08/23/2017 2:26:00 PM	Seawater			X				1	
44	AMB24-220	M3.3 DEEP	08/23/2017 2:35:00 PM	Seawater			X				1	
	--end											
										Total:	44	

Relinquished By:	Company: Battelle MSL	
J. Strivens	8/24/2017 1305	
Signature/Printed Name	Date/Time	
Received By:	Company:	
DAVID SKIVIS	ALS KELSO	8/25/17 0920
Signature/Printed Name	Date/Time	

PC 42

Cooler Receipt and Preservation Form

Client Battelle Service Request *K17* 09013

Received: 8/25/17 Opened: 8/25 By: SD Unloaded: 8/25 By: SD

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2-Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.9	2.1	3.7	3.9	+0.2	325		770106918448	

Packing material: *Inserts* *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____

Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N

Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N

Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N

Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N

Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N

Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

es, Discrepancies, & Resolutions: _____

AMB24 Outfall Compositing

OF018 (PW5)-

20170821- 6 pump cycles in previous 24 hours. Next pump-down cycle ~4 hours from program initiation. Auto-sampler (piston type) was programmed to take 1-25mL aliquot every 57s with a 3s pulse time; 60s cycles. Program was initiated at 1315 to run for 24 hours.

20170822- 6 pumpdown cycles were successfully captured; 342 aliquots total when collected at 1222; average pumpdown time 1.42 hours. 10L sample jug was ~90% full. Note: Pumpwell workers were using a grinder and welder to install new hand-railing ~15ft from sample jar prior to collection.

OF019 (PW6)-

20170821- 23 cycles in previous 24 hours. Started ISCO at 1342 using program modification form 20170804 notes.

20170822- 10L sampling jar ~95% full when collected at 1318. 29 pumpdown cycles were captures; 163 aliquots total.

OF021 (steamplant)-

20170821- Autosampler was started in timed composite mode at 1430; to sample every 15 minutes; 156mL per aliquot; 96 total reps.

20170822- 94 aliquots were successfully collected at time of jug collection, 1405; 1 sample was missed; 1 sample was remaining in program. Sample jug was ~95% full.

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