Surface Soil and Sediment Data Report

Former Port Blakely Mill Site
Bainbridge Island, Washington

for
Washington State Department of Ecology

August 12, 2019

GeoEngineers
Earth Science + Technology

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Surface Soil and Sediment Sampling Data Report

Former Port Blakely Mill Site Bainbridge Island, Washington

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August 12, 2019

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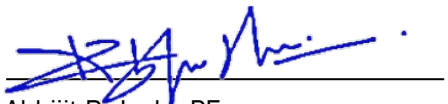

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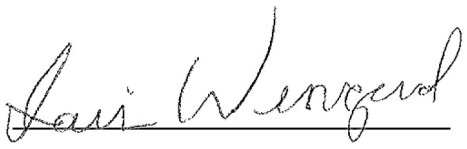

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LIST OF ABBREVIATIONS AND ACRONYMS

ARI	Analytical Resources, Inc.
bgs	below ground surface
bml	below mudline
cm	centimeters
cPAHs	carcinogenic PAHs
CSL	Cleanup Screening Level
DAHP	Department of Archaeology & Historic Preservation
DO	Dissolved Oxygen
Ecology	Washington State Department of Ecology
EIM	Ecology Information Management System
EPA	United States Environmental Protection Agency
GPS	Global Positioning System
LAET/2LAET	Lowest Apparent Effects Threshold/Second LAET
mg/kg	milligrams/kilogram
MTCA	Model Toxics Control Act
ng/kg	nanograms/kilogram
OC	Organic Carbon
ORP	Oxidation Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PQL	Practical Quantitation Limit
SAP	Sampling and Analysis Plan
SCO	Sediment Cleanup Objectives
SCUM	Sediment Cleanup User's Manual
SMS	Sediment Management Standards
SVOCs	Semi-Volatile Organic Compounds
TAT	turn-around time
TCLP	Toxicity Characteristic Leaching Procedure
TEFs	Toxic Equivalency Factors
TEQs	Toxic Equivalency Quotients

TOC	Total Organic Carbon
TS	Total Solids
TVS	Total Volatile Solids
USCS	Unified Soil Classification System
WAC	Washington Administrative Code

1.0 INTRODUCTION

This Data Report presents the results of sampling and chemical analysis conducted to characterize surface soil and sediment within the location of the Former Port Blakely Mill, located at the head of Blakely Harbor on Bainbridge Island, Washington. The former mill was located on a property now owned and managed by the Bainbridge Island Metropolitan Parks and Recreation District (the Park District) as Blakely Harbor Park. The Blakely Harbor Park property was acquired by the Park District in 2000 for passive recreation such as picnicking, kayaking, and wildlife viewing. The location of Blakely Harbor Park property (i.e., project location) is shown on Figure 1. The approximate location of former mill structures in relation to the Blakely Harbor Park property and surrounding property boundaries is shown on Figure 2.

The Former Port Blakely Mill was constructed in 1863 and began sawmilling operations in 1864. The mill was operational until 1922. At one point during its operational history, it became the world's largest sawmill under one roof and its lumber was shipped as far as South America, Europe and Australia. The mill was rebuilt twice following destruction by fires in 1888 and in 1907. The mill was ultimately closed in 1922 and demolished in 1923 after which very few mill structures/buildings remained (Carlsson Architect 1992). The former mill structures shown on Figure 2 are based on a 1917 Port Blakely Milling Company Map and Historical Buildings/Cultural Resources Survey composite mill plan presented in Appendix A. Mill structures remaining in the investigation area include the Former Power House, the pontoon wall and remnant pilings. The former Blakely Harbor Mill area has undergone a nearly 100-year period of limited development and natural recovery since the closure of the mill. However, debris from the former mill, including visible wood debris, remains within Blakely Harbor Park.

The investigation activities described in this data report were completed by GeoEngineers, Inc. on behalf of Washington State Department of Ecology (Ecology). The investigation activities were performed to evaluate contaminant concentrations in surface soil in the upland portion and surface sediment in the nearshore marine portion of the former mill area.

1.1. Previous Environmental Studies

Two environmental studies were previously performed in the former mill area and are described in the following sections.

1.1.1. Environmental Study performed by Port Blakely Tree Farms Company

A study was performed by Shannon & Wilson, Inc. in the early 1990s on behalf of Port Blakely Tree Farms Company. The study was performed as an initial characterization of hazardous substance concentrations in the former mill area. The study included soil sampling from nine test pits (1 through 8 and 10), sediment sampling from seven locations (13 through 19) and groundwater sampling from three locations (W1 through W3) as shown on Figure 3. The soil, sediment and groundwater samples were analyzed for a range of metals (total metals and toxicity characteristic leaching procedure [TCLP] metals) and petroleum hydrocarbons. The results of this study are presented in Project Status Report II (S&W 1992) provided in Appendix B.

1.1.2. Environmental Study performed by the City of Bainbridge Island

A study was performed by Anchor Environmental, L.L.C. in late 2000s on behalf of the City of Bainbridge Island. The study was performed to evaluate a range of potential shoreline restoration options at Blakely Harbor. The study included three diver survey transects, sediment sampling from three test pits (BH-P01 through BH-P03) and 11 sediment cores (BH-01 through BH-11) and collecting three seep samples (BH-21 through BH-23) as shown on Figure 3. The diver survey and sediment sampling were completed to characterize horizontal and vertical extent of wood debris. The approximate extent of visible wood debris identified as part of this study is shown on Figure 3. Sediment samples were also analyzed for the Sediment Management Standards (SMS) list of conventional parameters (total organic carbon, total solids, total volatile solids, ammonia, sulfide and grain size) and chemicals (metals, tributyltin ion, polycyclic aromatic hydrocarbons [PAHs], chlorinated hydrocarbons, phthalates, phenols, miscellaneous extractables, polychlorinated biphenyls [PCBs], and pesticides). Seep samples were analyzed for ammonia and sulfide in addition to collecting field parameters (pH, temperature, dissolved oxygen [DO], turbidity, specific conductivity, salinity and oxidation reduction potential [ORP]). The results of this study are presented in the Intertidal Sampling and Analysis Report (Anchor 2009) provided in Appendix B.

2.0 UPLAND SURFACE SOIL AND NEARSHORE SURFACE SEDIMENT SAMPLING

Upland surface soil and nearshore surface sediment sampling activities were performed by GeoEngineers on behalf of Ecology to characterize surface conditions in the upland portion and nearshore, intertidal marine portion in proximity to historical operations/structures of the former mill area. The sampling activities were performed in accordance with the field procedures described in Ecology-approved Sampling and Analysis Plan (SAP; GeoEngineers 2019). Sampling activities included the following tasks:

- Surface soil sampling at five locations (S-1 through S-5), and
- Nearshore surface sediment sampling at six locations (SED-1 through SED-6).

Sampling activities were performed on June 5, 2019. The soil and sediment samples were collected manually using hand tools. Sediment samples were collected by accessing the sample locations during a low tide. A geographic positioning system (GPS) device was used to identify the proposed sampling locations and document the actual locations where each sample was collected. Table 1 presents the sample collection time, actual sample location coordinates and sample depth at each location and Figure 4 presents the actual soil and sediment sampling locations.

Soil samples S-1 through S-4 were collected from the planned locations. Sample location S-5 was relocated approximately 70 feet to the north in the field as requested by Ecology in response to field conditions, to meet the sampling objectives. Soil samples at S-1, S-2, S-4 and S-5 were collected from the depth of 0 to 1 foot below ground surface (bgs). Minor surficial forest duff (leaves, stems and roots) present at these locations was removed to access the soil for sampling. At S-3, forest duff was present from 0 to 1 foot bgs which was removed and the soil sample was collected from 1 to 2 feet bgs.

Sediment samples at SED-1 through SED-6 were collected from 0 to 10 centimeters (cm) below mudline (bml). Note that the sample identifications for locations SED-4 and SED-6 were switched in the field (i.e., sample location identified as SED-4 and SED-6 in the SAP are identified as SED-6 and SED-4, respectively, in this report). Sample location SED-5 was relocated approximately 17 feet to the northeast in

the field as requested by Ecology in response to field conditions, to meet the sampling objectives. Additionally, sample location SED-4 (identified as SED-6 in the SAP) was relocated approximately 12 feet to the southwest because of and obstruction (a boulder) present at the planned location.

Each sample was collected manually using a decontaminated stainless-steel spoon. Sample material was placed in a decontaminated stainless-steel bowl and mixed thoroughly prior to being placed in laboratory-provided sample containers. Samples for sulfide analysis were collected prior to mixing as described in the SAP. Decontaminated hand tools such as trowel or shovel were used to assist in sample collection, where necessary. Decontamination procedures described in the SAP were followed.

Samples were collected in laboratory provided containers for chemical analysis as described in Section 3.0. Prior to sample collection, sample material was characterized in accordance with Unified Soil Classification System (USCS) as well as field screened (visual, olfactory and water sheen screening) for presence of potential contamination. In general, soil samples consisted of dark brown to reddish brown sand, silt and clay with varying debris content, including organics (roots), brick, wood, shell and vitrified debris fragments. Sediment samples consisted of brown to black silt and sand with varying debris content, including brick, wood, shell and vitrified debris fragments. The results of field screening did not identify the presence of potential contamination. Slight hydrogen sulfide [rotten egg smell] odor was detected at sediment sampling locations SED-1 and SED-2. Petroleum hydrocarbon stain, odor or sheen was not observed at all sampling locations. Table 1 presents descriptions and results of field screening for each sample location.

The sampling activities were observed in the field by a representative of Department of Archaeology & Historic Preservation (DAHP) for presence of any archeological/cultural resources during sampling activities. The presence of archeological/cultural resources were not identified in the field. Ecology personnel were present on the site during field activities.

3.0 CHEMICAL ANALYTICAL RESULTS

Soil and sediment samples were submitted to Analytical Resources Inc. (ARI) of Tukwila, Washington (an Ecology-accredited laboratory) for chemical analysis as described below. Samples were transported to the laboratory in a cooler with ice. Standard chain-of-custody procedures described in the SAP were followed in handling and transport of samples to the laboratory. No deviations from SAP occurred for sample analyses.

3.1. Soil

In accordance with the SAP, soil samples were submitted for a combination of the following analyses on a standard turn-around time (TAT) (i.e., 10 to 15 days):

- Petroleum Hydrocarbons (diesel- and oil-range hydrocarbons);
- Model Toxics Control Act (MTCA) metals (arsenic, cadmium, chromium, lead, and mercury);
- Semi-volatile organic compounds (SVOCs) and/or polycyclic aromatic hydrocarbons (PAHs); and
- Dioxins and furans.

Table 1 identifies the list of analyses that were performed on each soil sample. The chemical analytical results for soil samples are presented in Table 2. In accordance with the SAP, the soil chemical analytical results presented in Table 2 are compared to the Washington State Model Toxics Control Act (MTCA)

Method A/B cleanup levels for unrestricted land use. The toxic equivalency quotients (TEQs) for carcinogenic PAHs and dioxins/furans were calculated using the Environmental Protection Agency's (EPA's) toxic equivalency factors (TEFs) methodology. The results presented in Table 2 are validated and considered acceptable for use based on data validation as described in Section 3.3. The laboratory chemical analytical data reports and chain-of-custody forms are presented in Appendix C.

Arsenic, lead, total cPAHs TEQ and total dioxins/furans TEQ concentrations were observed to exceed the screening levels as described below. The rest of the analytes were either not detected or detected at concentrations less than the screening levels.

- Arsenic was detected in soil at concentrations greater than the MTCA Method B carcinogenic cleanup level of 0.667 milligrams/kilogram (mg/kg) but below the MTCA Method A and B non-carcinogenic cleanup level of 20 and 24 mg/kg, respectively, in soil samples collected from locations S-1 (10.1 mg/kg), S-2 (16.6 mg/kg), S-3 (4.84 mg/kg), S-4 (5.96 mg/kg) and S-5 (5.53 mg/kg).
- Lead was detected at a concentration greater than the MTCA Method A cleanup level of 250 mg/kg in the soil sample collected from S-1 (468 mg/kg).
- Total cPAHs TEQ concentrations were greater than the MTCA Method A cleanup level of 0.1 mg/kg in four of the five soil sample collected from locations S-1 (2.57 mg/kg), S-2 (0.129 mg/kg), S-5 (0.306 mg/kg) and S-6 (2.4 mg/kg). The total cPAHs TEQ concentrations for S-1, S-4 and S-5 were also above MTCA Method B cleanup level of 0.19 mg/kg.
- Total dioxins/furans TEQ concentrations were greater than the MTCA Method B cleanup level of 12.82 nanograms per kilogram (ng/kg) in two of the three soil samples that were analyzed from locations S-1 (116 ng/kg) and S-2 (39.1 ng/kg).

3.2. Sediment

In accordance with the SAP, sediment samples were submitted for a combination of the following analyses on a standard TAT (i.e., 10 to 15 days):

- Conventionals:
    - Total Organic Carbon (TOC);
    - Total volatile solids (TVS);
    - Total solids (TS);
    - Bulk ammonia; and
    - Bulk sulfide.
- Sediment Management Standards (SMS) metals (antimony, arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc);
- SMS SVOCs including PAHs, chlorinated hydrocarbons, phthalates, phenols, and miscellaneous extractables; and
- Dioxin and furans.

Table 1 identifies the list of analyses that were performed on each sediment sample. The chemical analytical results for soil samples are presented in Table 3. Similar to soil chemical analytical results, the

TEQ for cPAHs and dioxins/furans were calculated using EPA's TEFs methodology. Organic carbon (OC) normalization of nonpolar organic data was completed in accordance with Sediment Cleanup User's Manual [SCUM] II (Ecology 2017). Both OC normalized and dry weight data are presented on Table 3. The results presented in Table 3 are validated and considered acceptable for use based on data validation as described in Section 3.3. The laboratory chemical analytical data reports and chain-of-custody forms are presented in Appendix C.

In accordance with the SAP, the sediment chemical analytical results were screened against marine sediment chemical criteria for protection of benthic organisms based on the Sediment Cleanup User's Manual [SCUM] II (Ecology 2017) or the Ecology-accepted PQL, whichever is higher as presented in Table 3. The marine criteria for protection of benthic organisms consists of Sediment Cleanup Objectives (SCO)/ Lowest Apparent Effects Threshold (LAET) and Cleanup Screening Levels (CSL)/Second LAET (2LAET) that include OC normalized and dry weight screening values. In accordance with the SCUM II, the data are compared to both dry weight and OC normalized screening values in Table 3. As the total organic carbon (TOC) concentration for sediment samples SED-1 through SED-6 were outside the recommended range for organic carbon normalization (i.e., 0.5 to 3.5 percent) at 5.14, 6.88, 0.47, 4.09, 16.8 and 6.07 percent, respectively), the results are described below in comparison to dry weight based criteria.

Copper, lead, phenanthrene, benzo(ghi)perylene, phenol and n-nitrosodiphenylamine were observed to exceed the screening levels as described below. The rest of the analytes were either not detected or detected at concentrations less than the screening levels with the exception of dioxins/furans as described further below.

- Copper was detected in sediment above the SCO and CSL of 390 mg/kg in the sample collected from location SED-5 (1,010 mg/kg).
- Lead was detected in sediment above the SCO of 450 mg/kg and CSL of 530 mg/kg in samples collected from locations SED-5 (757 mg/kg) and SED-6 (544 mg/kg).
- Phenanthrene was detected in sediment above the SCO and CSL of 1.5 mg/kg in samples collected from locations SED-5 (2 mg/kg) and SED-6 (1.64 mg/kg).
- Benzo(ghi)perylene was detected in sediment above the SCO of 0.67 mg/kg and CSL of 0.72 mg/kg in samples collected from locations SED-5 (0.746 mg/kg) and SED-6 (0.956 mg/kg).
- Phenol was detected in sediment above the SCO of 0.42 mg/kg and CSL of 1.2 mg/kg in the sample collected from SED-4 (1.67 mg/kg).
- N-Nitrosodiphenylamine was detected in sediment above the SCO of 0.028 mg/kg and CSL of 0.04 mg/kg in samples collected from SED-4 (0.0893 mg/kg), SED-5 (0.183 mg/kg) and SED-6 (0.0825 mg/kg).

Marine sediment chemical criteria for protection of benthic organisms are not available for dioxins/furans and therefore, the total dioxins/furans TEQ concentrations were compared to Ecology's programmatic practical quantitation limit (PQL) of 5 ng/kg per SCUM II, and the results of the screening is the following:

- Total dioxins/furans TEQ concentrations were detected in sediment above Ecology's programmatic PQL in samples collected from SED-5 (5.41 ng/kg) and SED-6 (12.5 ng/kg).

3.3. Data Validation

Both soil and sediment chemical analytical data were validated to ensure that it was scientifically valid and of acceptable accuracy and precision. Data validation was completed by EcoChem, Inc. of Seattle, Washington. The Data Validation Report prepared by EcoChem, Inc. is presented in Appendix D. In accordance with the SAP, EPA-defined Stage 2B validation was performed on organic and inorganic analytical data, except dioxin/furans, in general accordance with the National Functional Guidelines for Superfund Inorganic and Organic Methods Data Review (EPA 2016a and b). An EPA-defined Stage 4 validation was performed for dioxin/furans data in general accordance with the National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review (EPA 2011). The following items were reviewed to verify the data as applicable:

- Holding times
- Initial calibrations
- Continuing calibrations
- Method blanks
- Labeled Compound recoveries
- Estimated and Method Detection limits/Contract Required Reporting Limits
- Ongoing Precision and Recovery Samples
- Matrix spike/matrix spike duplicate samples

Based on the results of data validation (Appendix D), the data, as qualified, is acceptable for use.

4.0 LIMITATIONS

This Data Report has been prepared for the exclusive use of the Washington State Department of Ecology, their authorized agents and regulatory agencies in their evaluation of the Former Port Blakely Mill Site. No other party may rely on the product of our services unless we agree in advance and in writing to such reliance.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, expressed or implied, should be understood.

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5.0 REFERENCES

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Table 1

Sample Locations, Descriptions and List of Analyses

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Bainbridge Island, Washington

Sample Identification	Sampling Date and Time	Sample Location[1]			Sample Description	Petroleum Hydrocarbon Sheen, Odor or Stain?	List of Analyses					
		Coordinates[2]		Depth[3]			Conventionals	Petroleum Hydrocarbons	Metals	PAHs	SVOCs	Dioxin/Furans
		Northing	Easting									
Soil Samples												
S-1	6/5/2019; 12:00PM	222283.04145	1225715.26436	0 to 1 ft	Dark brown to black organic silt with organics (roots), wood debris, vitrified debris and sawdust.	None		X	X	X	X	X
S-2	6/5/2019; 11:30AM	222301.23564	1225614.30459	0 to 1 ft	Dark Brown silty fine to coarse sand with brick fragments, shell fragments and vitrified debris.	None			X	X		X
S-3	6/5/2019; 10:50AM	222511.12564	1225387.31620	1 to 2 ft	Red Brown clay with fine sand and trace organics.	None		X	X	X		
S-4	6/5/2019; 10:30AM	222469.26516	1225510.93341	0 to 1 ft	Dark Brown silt with trace fine sand, organics (roots), brick fragments and shell fragments.	None			X	X		X
S-5	6/5/2019; 12:30PM	222210.73385	1225302.15102	0 to 1 ft	Dark Brown fine to medium sand with silt, brick fragments, concrete pieces and trace organics (roots).	None		X	X	X	X	
Sediment Samples												
SED-1	6/5/2019; 3:20PM	222180.95209	1225121.25309	0 to 10 cm	Brown organic silt with shell fragments. Slight hydrogen sulfide odor.	None	X		X	X		
SED-2	6/5/2019; 3:00PM	222329.52627	1225186.20079	0 to 10 cm	Brown organic silt with shell fragments. Slight hydrogen sulfide odor.	None	X		X	X		
SED-3	6/5/2019; 2:20PM	222107.80066	1225407.57600	0 to 10 cm	Brown fine to coarse sand with gravel, shell fragments, brick pieces and trace wood debris.	None	X		X	X		X
SED-4	6/5/2019; 1:30PM	222117.16547	1225733.57962	0 to 10 cm	Black fine to coarse sand with trace organics, shell pieces, wood chips and trace vitrified debris.	None	X		X	X	X	
SED-5	6/5/2019; 1:00PM	222187.84545	1225774.35775	0 to 10 cm	Black fine to medium sand with gravel, shell fragments, vitrified debris and wood debris.	None	X		X	X	X	X
SED-6	6/5/2019; 2:00PM	222146.98201	1225516.06102	0 to 10 cm	Black fine to coarse sand with trace organics, shell pieces, wood chips and trace vitrified debris.	None	X		X	X	X	X

Notes:

[1] Locations are shown on Figure 4.

[2] Coordinates are presented in North American Datum (NAD) of 1983, Washington State Plane North.

[3] Depth is presented in feet (ft) below ground surface (bgs) for soil samples and centimeter (cm) below mudline (bml) for sediment samples.

PAHs = Polycyclic Aromatic Hydrocarbons

SVOC = Semi-Volatile Organic Compound

Table 2

Summary of Soil Chemical Analytical Results

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Analysis	CAS Number	Units	Soil Screening Levels (SLs)			Target Practical Quantification Limit (PQL)	Chemical Analytical Results				
				MTCA Method B							
			MTCA Method A	Non-Carcinogenic	Carcinogenic		S-1	S-2	S-3	S-4	S-5
Petroleum Hydrocarbons (mg/kg)											
Diesel-Range Hydrocarbons	--	mg/kg	2,000	--	--	50	**161**	--	69.8 U	--	**82.4**
Heavy Oil-Range Hydrocarbons	--	mg/kg	2,000	--	--	100	**366**	--	140 U	--	**287**
Metals (mg/kg)											
Arsenic	7440-38-2	mg/kg	20	24	0.667	5.0	**10.1**	**16.6**	**4.84**	**5.96**	**5.53**
Cadmium	7440-43-9	mg/kg	2	80	--	0.20	**0.40**	**0.61**	**0.07 J**	**0.32**	**0.21**
Chromium (III)	7440-47-3	mg/kg	2,000	120,000	--	0.50	**23.6**	**26.2**	**19.0**	**28.1**	**33.7**
Lead	7439-92-1	mg/kg	250	--	--	2.0	**468**	**133**	**10.8**	**161**	**123**
Mercury	7439-97-6	mg/kg	2	--	--	0.050	**0.319 J**	**0.189 J**	**0.0608 J**	**0.0798 J**	**0.0623 J**
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs) (mg/kg)											
2-Methylnaphthalene	91-57-6	mg/kg	--	320	--	0.0050	**0.163**	**0.0123**	**0.00070 U**	**0.00866**	**0.125**
Acenaphthene	83-32-9	mg/kg	--	4,800	--	0.0050	**0.278**	**0.00561**	**0.00022 J**	**0.00445**	**0.189**
Acenaphthylene	208-96-8	mg/kg	--	--	--	0.0050	**0.336**	**0.0456**	**0.00030 U**	**0.0146**	**0.0638**
Anthracene	120-12-7	mg/kg	--	24,000	--	0.0050	**0.678**	**0.0304**	**0.00052**	**0.0290**	**0.362**
Benzo(ghi)perylene	191-24-2	mg/kg	--	--	--	0.0050	**1.38**	**0.143**	**0.00261 J**	**0.284**	**1.01**
Fluoranthene	206-44-0	mg/kg	--	3,200	--	0.0050	**8.21**	**0.359**	**0.00481**	**0.422**	**6.09**
Fluorene	86-73-7	mg/kg	--	3,200	--	0.0050	**0.208**	**0.00890**	**0.00018 J**	**0.00758**	**0.156**
Naphthalene	91-20-3	mg/kg	5	1,600	--	0.0050	**0.602**	**0.0663**	**0.00407 U**	**0.0355**	**0.229**
Phenanthrene	85-01-8	mg/kg	--	--	--	0.0050	**3.74**	**0.324**	**0.00748**	**0.194**	**5.76**
Pyrene	129-00-0	mg/kg	--	2,400	--	0.0050	**8.48**	**0.293**	**0.00119**	**0.503**	**7.19**
Carcinogenic PAHs (cPAHs) (mg/kg)											
Benzo(a)anthracene	56-55-3	mg/kg	--	--	--	0.0050	**2.4**	**0.102**	**0.00054**	**0.243**	**1.85**
Benzo(a)pyrene	50-32-8	mg/kg	--	24	--	0.0050	**2**	**0.0923**	**0.00064 J**	**0.229**	**2.01**
Benzo(b)fluoranthene	205-99-2	mg/kg	--	--	--	0.0050	**0.994**	**0.0873**	**0.00109 J**	**0.126**	**0.556**
Benzo(k)fluoranthene	207-08-9	mg/kg	--	--	--	0.0050	**0.605**	**0.0488**	**0.00041 J**	**0.0737**	**0.335**
Chrysene	218-01-9	mg/kg	--	--	--	0.0050	**3.26**	**0.186**	**0.00195 J**	**0.264**	**2.43**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	--	--	--	0.0050	**0.276**	**0.0181**	**0.00023 J**	**0.0829**	**0.156**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	--	--	--	0.0050	**1.14**	**0.0912**	**0.00156 J**	**0.214**	**0.741**
Total cPAHs TEQ[1]	--	mg/kg	0.1	--	0.19	0.00705	**2.57**	**0.129**	**0.00104**	**0.306**	**2.40**
Semi-Volatile Organic Compounds (SVOCs) (mg/kg)											
1,2,4-Trichlorobenzene	120-82-1	mg/kg	--	800	34.5	0.067	0.0200 U	--	--	--	0.0199 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	mg/kg	--	7,200	--	0.067	0.0200 U	--	--	--	0.0199 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	mg/kg	--	--	--	0.067	0.0200 U	--	--	--	0.0199 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	mg/kg	--	5,600	185	0.067	0.0200 U	--	--	--	0.0199 U
1-Methylnaphthalene	90-12-0	mg/kg	--	5,600	34.5	0.067	**0.116**	--	--	--	**0.252**
2,2'-Oxybis[1-chloropropane]	108-60-1	mg/kg	--	3200	14.3	0.067	0.0200 U	--	--	--	0.0199 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	--	8,000	--	0.330	0.0998 U	--	--	--	0.0996 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	--	80	90.9	0.330	0.0998 U	--	--	--	0.0996 U
2,4-Dichlorophenol	120-83-2	mg/kg	--	240	--	0.330	0.0998 U	--	--	--	0.0996 U
2,4-Dimethylphenol	105-67-9	mg/kg	--	1,600	--	0.067	0.0998 U	--	--	--	0.0996 U
2,4-Dinitrophenol	51-28-5	mg/kg	--	160	--	0.670	0.200 U	--	--	--	0.199 U
2,4-Dinitrotoluene	121-14-2	mg/kg	--	160	3.23	0.330	0.0998 U	--	--	--	0.0996 U
2,6-Dinitrotoluene	606-20-2	mg/kg	--	24	0.67	0.330	0.0998 U	--	--	--	0.0996 U
2-Chloronaphthalene	91-58-7	mg/kg	--	6400	--	0.067	0.0200 U	--	--	--	0.0199 U
2-Chlorophenol	95-57-8	mg/kg	--	400	--	0.067	0.0200 U	--	--	--	0.0199 U
2-methylphenol (o-Cresol)	95-48-7	mg/kg	--	4,000	--	0.067	**0.0085 J**	--	--	--	0.0199 U
2-Nitroaniline	88-74-4	mg/kg	--	800	--	0.330	0.0998 U	--	--	--	0.0996 U
2-Nitrophenol	88-75-5	mg/kg	--	--	--	0.067	0.0200 U	--	--	--	0.0199 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	--	--	2.22	0.330	0.0998 U	--	--	--	0.0996 U
3-Nitroaniline	99-09-2	mg/kg	--	--	--	0.330	0.0998 U	--	--	--	0.0996 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	--	--	--	0.670	0.2 U	--	--	--	0.199 U
4-Bromophenyl phenyl ether	101-55-3	mg/kg	--	--	--	0.067	0.0200 U	--	--	--	0.0199 U
4-Chloro-3-Methylphenol	59-50-7	mg/kg	--	--	--	0.330	0.0998 U	--	--	--	0.0996 U
4-Chloroaniline	106-47-8	mg/kg	--	320	5	0.330	0.0998 U	--	--	--	0.0996 U
4-Chlorophenyl-Phenylether	7005-72-3	mg/kg	--	--	--	0.067	0.0200 U	--	--	--	0.0199 U
4-methylphenol (p-Cresol)	106-44-5	mg/kg	--	8,000	--	0.067	**0.0234**	--	--	--	0.0199 U
4-Nitroaniline	100-01-6	mg/kg	--	--	--	0.330	0.0998 U	--	--	--	0.0996 U
4-Nitrophenol (p-Nitrophenol)	100-02-7	mg/kg	--	--	--	0.330	0.0998 U	--	--	--	0.0996 U
Benzoic acid	65-85-0	mg/kg	--	320,000	--	0.670	**0.123 J**	--	--	--	0.199 UJ
Benzyl Alcohol	100-51-6	mg/kg	--	8,000	--	0.330	0.0200 U	--	--	--	0.0199 U
Bis(2-Chloroethoxy)methane	111-91-1	mg/kg	--	--	--	0.067	0.0200 U	--	--	--	0.0199 U
Bis(2-Chloroethyl)Ether	111-44-4	mg/kg	--	--	0.91	0.067	0.0200 U	--	--	--	0.0199 U
Bis(2-Ethylhexyl) Phthalate	117-81-7	mg/kg	--	1,600	71.4	0.067	0.0499 U	--	--	--	0.0498 U
Butyl benzyl Phthalate	85-68-7	mg/kg	--	16,000	526	0.067	0.0200 U	--	--	--	0.0199 U
Carbazole	86-74-8	mg/kg	--	--	--	0.067	**0.28**	--	--	--	**0.351**
Dibenzofuran	132-64-9	mg/kg	--	80	--	0.067	0.0200 U	--	--	--	0.0199 U
Dibutyl Phthalate	84-74-2	mg/kg	--	8,000	--	0.067	**0.22**	--	--	--	**0.187**
Diethyl phthalate	84-66-2	mg/kg	--	64,000	--	0.067	0.0200 U	--	--	--	0.0199 U
Dimethyl Phthalate	131-11-3	mg/kg	--	--	--	0.067	0.0200 U	--	--	--	0.0199 U
Di-N-Octyl Phthalate	117-84-0	mg/kg	--	800	--	0.067	0.0200 U	--	--	--	0.0199 U
Hexachlorobenzene	118-74-1	mg/kg	--	64	0.625	0.067	0.0200 U	--	--	--	0.0199 U
Hexachlorobutadiene	87-68-3	mg/kg	--	80	12.8	0.067	0.0200 U	--	--	--	0.0199 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	--	480	--	0.330	0.0998 U	--	--	--	0.0996 U
Hexachloroethane	67-72-1	mg/kg	--	56	25	0.067	0.0200 U	--	--	--	0.0199 U
Isophorone	78-59-1	mg/kg	--	16,000	1,053	0.067	0.0200 U	--	--	--	0.0199 U
Nitrobenzene	98-95-3	mg/kg	--	160	--	0.067	0.0200 U	--	--	--	0.0199 U
N-Nitrosodi-n-propylamine	621-64-7	mg/kg	--	--	0.143	0.067	0.0200 U	--	--	--	0.0199 U
N-Nitrosodiphenylamine (as diphenylamine)	86-30-6	mg/kg	--	--	204	0.067	0.0200 U	--	--	--	0.0199 U
Pentachlorophenol	87-86-5	mg/kg	--	400	2.5	0.330	0.0998 UJ	--	--	--	0.0996 UJ
Phenol	108-95-2	mg/kg	--	24,000	--	0.067	**0.0238**	--	--	--	0.0199 U

Table 2

Summary of Soil Chemical Analytical Results

Surface Soil and Sediment Data Report, Former Port Blakely Mill Site

Bainbridge Island, Washington

Analysis	CAS Number	Units	Soil Screening Levels (SLs)			Target Practical Quantification Limit (PQL)	Chemical Analytical Results				
			MTCA Method A	MTCA Method B Non-Carcinogenic	MTCA Method B Carcinogenic		S-1	S-2	S-3	S-4	S-5
Dixons/Furans (ng/kg)											
2,3,7,8-TCDD	1746-01-6	ng/kg	--	93	--	--	7.88	2.96	--	0.517 U	--
2,3,7,8-TCDF	51207-31-9	ng/kg	--	--	--	--	56.4 J	20.1 J	--	3.28 J	--
1,2,3,7,8-PeCDD	40321-76-4	ng/kg	--	--	--	--	46.8	16.7	--	2.46	--
1,2,3,7,8-PeCDF	57117-41-6	ng/kg	--	--	--	--	47.1 J	15.8 J	--	2.46 J	--
2,3,4,7,8-PeCDF	57117-31-4	ng/kg	--	--	--	--	51.5	13.1	--	1.92	--
1,2,3,4,7,8-HxCDD	39227-28-6	ng/kg	--	--	--	--	31.5	10.7	--	1.56	--
1,2,3,6,7,8-HxCDD	57653-85-7	ng/kg	--	--	--	--	66.2	26.1	--	2.74 U	--
1,2,3,7,8,9-HXCDD	19408-74-3	ng/kg	--	--	--	--	56.3	23.5	--	3.21 U	--
1,2,3,4,7,8-HxCDF	70648-26-9	ng/kg	--	--	--	--	60.8 J	19.2 J	--	2.35	--
1,2,3,6,7,8-HxCDF	57117-44-9	ng/kg	--	--	--	--	46.7	11.3 J	--	2.09	--
1,2,3,7,8,9-HxCDF	72918-21-9	ng/kg	--	--	--	--	9.05	2.11	--	0.545 J	--
2,3,4,6,7,8-HxCDF	60851-34-5	ng/kg	--	--	--	--	48.3	9.57	--	1.75	--
1,2,3,4,6,7,8-HpCDD	35822-46-9	ng/kg	--	--	--	--	368	197	--	36.5	--
1,2,3,4,6,7,8-HpCDF	67562-39-4	ng/kg	--	--	--	--	324	66.7	--	7.89	--
1,2,3,4,7,8,9-HpCDF	55673-89-7	ng/kg	--	--	--	--	9.96	2.92	--	1.01 U	--
1,2,3,4,6,7,8,9-OCDD	3268-87-9	ng/kg	--	--	--	--	919	495	--	581	--
1,2,3,4,6,7,8,9-OCDF	39001-02-0	ng/kg	--	--	--	--	86.0 J	21.4 J	--	7.10 J	--
Total Dioxins/Furans TEQ (ND=0)[1]	--	ng/kg	--	--	12.82	5[2]	116	39.1	--	4.89	--
Total Dioxins/Furans TEQ (ND=0.5)[1]	--	ng/kg	--	--	12.82	5[2]	116	39.1	--	5.25	--

Notes:

[1] The chemical analytical results of individual compounds were used to calculate the toxic equivalency quotient (TEQ) concentration in accordance with Environmental Protection Agency's toxicity equivalency factor methodology. For non-detect results, both one-half the practical quantitation limit (PQL) value (ND = 0.5) and zero value for PQL (ND = 0) were used in the TEQ calculations as shown.

[2] PQL for Dioxins/Furans TEQ is the Programmatic PQL values from Ecology's SCUM II guidance (Table 11-1; Ecology, 2017).

CAS = Chemical Abstract Services

MTCA = Model Toxics Control Act

PQL = Practical Quantitation Limit

TEQ = toxic equivalency quotient

TCDD = Tetrachloro dibenzo-p-dioxin; PeCDD = Pentachloro dibenzo-p-dioxin; HxCDD = Hexachloro dibenzo-p-dioxin; HpCDD = Heptachloro dibenzo-p-dioxin; OCDD = Octachloro dibenzo-p-dioxin

TCDF = Tetrachloro dibenzofuran; PeCDF = Pentachloro dibenzofuran; HxCDF = Hexachloro dibenzofuran; HpCDF = Heptachloro dibenzofuran; OCDF = Octachloro dibenzofuran

mg/kg = milligrams/kilogram

ng/kg = nanograms/kilogram

"--" = Not Available or Not Analyzed

U = Laboratory qualifier indicating that the analyte was not detected above the identified reporting limit

J = Laboratory qualifier indicating that the result is an estimated concentration below the reporting limit

Red border indicates concentration exceeds MTCA Method A Screening Level

Orange shading indicates concentration exceeds MTCA Method B Carcinogenic Screening Level

Table 3

Summary of Sediment Chemical Analytical Results

Surface Soil and Sediment Data Report, Former Port Blakely Mill Site

Bainbridge Island, Washington

Analysis	CAS Number	Units	Sediment Screening Levels (SLs)		Target Practical Quantification Limit (PQL)	Chemical Analytical Results					
			Protection of Benthic Organisms[1]								
			SCO/ LAET	CSL/ 2LAET		SED-1	SED-2	SED-3	SED-4	SED-5	SED-6
Conventionals											
Total Organic Carbon (TOC)	--	%	--	--	0.1	5.14	6.88	0.470	4.09	16.8	6.07
Total Volatile Solids (TVS)	--	%	--	--	0.1	8.66 J	14.69 J	3.20 J	9.20 J	22.27 J	9.97 J
Total Solids (TS)	--	%	--	--	0.1	55.18	45.59	84.62	52.65	68.99	60.94
Total Ammonia	7664-41-7	mg/kg	--	--	1	2.84 J	11.9 J	0.47 UJ	27.5 J	0.42 UJ	7.45 J
Total Sulfides	18496-25-8	mg/kg	--	--	1	105 J	348 J	1.17 UJ	1110 J	1.29 UJ	341 J
Metals (mg/kg)											
Arsenic	7440-38-2	mg/kg	57	93	5	20.2	9.62	9.18	9.01	30.1	16.0
Cadmium	7440-43-9	mg/kg	5.1	6.7	0.2	0.29	0.72	0.07 J	0.59	0.20	0.21
Chromium	7440-47-3	mg/kg	260	270	0.5	15.6	26.4	35.3	11.4	22.3	23.4
Copper	7440-50-8	mg/kg	390	390	0.2	52.3	59.1	77.6	53.3	1,010	118
Lead	7439-92-1	mg/kg	450	530	2	45.8	98.5	55.6	90.0	757	544
Mercury	7439-97-6	mg/kg	0.41	0.59	0.05	0.115	0.329	0.0213 U	0.0602	0.150	0.0479
Selenium	7782-49-2	mg/kg	--	--	0.5	1.02	1.26	1.93	0.92 U	1.08	1.10
Silver	7440-22-4	mg/kg	6.1	6.1	0.3	0.17 J	0.29 J	0.10 J	0.13 J	0.20 J	0.17 J
Zinc	7440-66-6	mg/kg	410	960	1	77.1	138	176	79.2	301	202
Low Molecular Weight Polycyclic Aromatic Hydrocarbons[2] (LPAHs) (Dry Weight)											
Total LPAH[3]	NA	mg/kg	5.2	5.2	0.005	2.02	2.22	0.0236	1.78	2.99	2.54
2-Methylnaphthalene	91-57-6	mg/kg	0.67	0.67	0.005	0.0817	0.0977	0.00136	0.0532	0.38	0.115
Acenaphthene	83-32-9	mg/kg	0.5	0.5	0.005	0.0778	0.0622	0.00074	0.0780	0.128	0.144
Acenaphthylene	208-96-8	mg/kg	1.3	1.3	0.005	0.0987	0.14	0.00179	0.0603	0.101	0.0517
Anthracene	120-12-7	mg/kg	0.96	0.96	0.005	0.165	0.133	0.00335	0.188	0.406	0.371
Fluorene	86-73-7	mg/kg	0.54	0.54	0.005	0.0765	0.0735	0.00097	0.107	0.148	0.153
Naphthalene	91-20-3	mg/kg	2.1	2.1	0.005	0.845	0.99	0.00640 U	0.154	0.209	0.178
Phenanthrene	85-01-8	mg/kg	1.5	1.5	0.005	0.752	0.818	0.0167	1.19	2	1.64
Low Molecular Weight Polycyclic Aromatic Hydrocarbons[2] (LPAHs) (OC Normalized)											
Total LPAH[3]	NA	mg/kg OC	370	780	NA	39.3	32.3	5.02	43.5	17.8	41.8
2-Methylnaphthalene	91-57-6	mg/kg OC	38	64	NA	1.59	1.42	0.289	1.30	2.30	1.89
Acenaphthene	83-32-9	mg/kg OC	16	57	NA	1.51	0.904	0.160	1.91	0.762	2.37
Acenaphthylene	208-96-8	mg/kg OC	66	66	NA	1.92	2.00	0.381	1.47	0.601	0.852
Anthracene	120-12-7	mg/kg OC	220	1,200	NA	3.21	1.93	0.713	4.60	2.42	6.11
Fluorene	86-73-7	mg/kg OC	23	79	NA	1.49	1.07	0.210	2.62	0.881	2.52
Naphthalene	91-20-3	mg/kg OC	99	170	NA	16.4	14.0	1.36 U	3.77	1.24	2.93
Phenanthrene	85-01-8	mg/kg OC	100	480	NA	14.6	11.9	3.55	29.1	10.0	27.0
High Molecular Weight Polycyclic Aromatic Hydrocarbons[2] (HPAHs) (Dry Weight)											
Total HPAH[4]	NA	mg/kg	12	17	0.005	2.48	3.26	0.137	4.84	6.68	7.44
Benzo(a)anthracene	56-55-3	mg/kg	1.3	1.6	0.005	0.228	0.223	0.0133	0.412	0.691	0.725
Benzo(a)pyrene	50-32-8	mg/kg	1.6	1.6	0.005	0.21	0.277	0.0130	0.463	0.651	0.707
Total benzofluoranthenes	NA	mg/kg	3.2	3.6	0.005	0.178	0.341	0.0172	0.311	0.468	0.534
Benzo(ghi)perylene	191-24-2	mg/kg	0.67	0.72	0.005	0.246	0.364	0.0184	0.534	0.746	0.956
Chrysene	218-01-9	mg/kg	1.4	2.8	0.005	0.246	0.316	0.0136	0.51	0.921	0.793
Dibenzo(a,h)anthracene	53-70-3	mg/kg	0.23	0.23	0.005	0.0486 J	0.0622	0.00323	0.105	0.157	0.164
Fluoranthene	206-44-0	mg/kg	1.7	2.5	0.005	0.573	0.74	0.0231	1.09	1.24	1.51
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	0.6	0.69	0.005	0.193	0.243	0.0133	0.276	0.402	0.458
Pyrene	129-00-0	mg/kg	2.6	3.3	0.005	0.557	0.697	0.0215	1.14	1.4	1.59
High Molecular Weight Polycyclic Aromatic Hydrocarbons[2] (HPAHs) (OC Normalized)											
Total HPAH[4]	NA	mg/kg OC	960	5,300	NA	48.2	47.4	29.1	118	39.8	123
Benzo(a)anthracene	56-55-3	mg/kg OC	110	270	NA	4.44	3.24	2.83	10.1	4.11	11.9
Benzo(a)pyrene	50-32-8	mg/kg OC	99	210	NA	4.10	4.03	2.77	11.3	3.88	11.6
Total benzofluoranthenes	NA	mg/kg OC	230	450	NA	3.46	4.96	3.66	7.60	2.79	8.80
Benzo(ghi)perylene	191-24-2	mg/kg OC	31	78	NA	4.79	5.29	3.91	13.1	4.44	15.7
Chrysene	218-01-9	mg/kg OC	110	460	NA	4.79	4.59	2.89	12.0	5.48	13.1
Dibenzo(a,h)anthracene	53-70-3	mg/kg OC	12	33	NA	0.946	0.904	0.687	2.57	0.935	2.70
Fluoranthene	206-44-0	mg/kg OC	160	1,200	NA	11.1	11.0	4.91	26.7	7.38	24.9
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg OC	34	88	NA	3.75	3.53	2.83	6.75	2.39	7.55
Pyrene	129-00-0	mg/kg OC	1,000	1,400	NA	10.8	10.1	4.57	27.9	8.30	26.2
Carcinogenic PAHs (cPAHs) (Dry Weight)											
Total cPAHs - TEQ[5]	--	mg/kg	--	--	0.00705	0.284	0.369	0.0180	0.601	0.860	0.945
Chlorinated Hydrocarbons (Dry Weight)											
1,2,4-Trichlorobenzene	120-82-1	mg/kg	0.031	0.051	0.02	--	--	--	0.0200 U	0.0200 U	0.0199 U
1,2-Dichlorobenzene[2]	95-50-1	mg/kg	0.035	0.005	0.02	--	--	--	0.0050 U	0.0050 U	0.0050 U
1,4-Dichlorobenzene	106-46-7	mg/kg	0.11	0.11	0.02	--	--	--	0.0200 U	0.0200 U	0.0199 U
Hexachlorobenzene (HCB)[2]	118-74-1	mg/kg	0.022	0.07	0.005	--	--	--	0.0050 U	0.0050 U	0.0050 U
Chlorinated Hydrocarbons (OC Normalized)											
1,2,4-Trichlorobenzene	120-82-1	mg/kg OC	0.81	31	NA	--	--	--	0.489 U	0.119 U	0.328 U
1,2-Dichlorobenzene[2]	95-50-1	mg/kg OC	2.3	35	NA	--	--	--	0.120 U	0.0300 U	0.0820 U
1,4-Dichlorobenzene	106-46-7	mg/kg OC	3.1	110	NA	--	--	--	0.489 U	0.119 U	0.328 U
Hexachlorobenzene (HCB)[2]	118-74-1	mg/kg OC	0.38	22	NA	--	--	--	0.120 U	0.0300 U	0.0820 U

Table 3

Summary of Sediment Chemical Analytical Results

Surface Soil and Sediment Data Report, Former Port Blakely Mill Site

Bainbridge Island, Washington

Analysis	CAS Number	Units	Sediment Screening Levels (SLs)		Target Practical Quantification Limit (PQL)	Chemical Analytical Results					
			Protection of Benthic Organisms[1]								
			SCO/ LAET	CSL/ 2LAET		SED-1	SED-2	SED-3	SED-4	SED-5	SED-6
Phthalates (Dry Weight)											
Bis(2-ethylhexyl) phthalate	117-81-7	mg/kg	1.3	1.9	0.02	--	--	--	**0.0309 J**	0.0499 U	**0.0293 J**
Butyl benzyl phthalate	85-68-7	mg/kg	0.063	0.9	0.02	--	--	--	0.0200 U	0.0200 U	0.0199 U
Di-n-butyl phthalate	84-74-2	mg/kg	1.4	1.4	0.02	--	--	--	0.0200 U	0.0200 U	0.0199 U
Diethyl phthalate	84-66-2	mg/kg	0.2	>1.2	0.02	--	--	--	**0.0094 J**	**0.0058 J**	0.0199 U
Dimethyl phthalate	131-11-3	mg/kg	0.071	0.16	0.02	--	--	--	0.0200 U	0.0200 U	0.0199 U
Di-n-octyl phthalate	117-84-0	mg/kg	6.2	6.2	0.02	--	--	--	0.0200 U	0.0200 U	0.0199 U
Phthalates (OC Normalized)											
Bis(2-ethylhexyl) phthalate	117-81-7	mg/kg OC	47	78	NA	--	--	--	**0.756**	0.297 U	**0.483**
Butyl benzyl phthalate	85-68-7	mg/kg OC	4.9	64	NA	--	--	--	0.489 U	0.119 U	0.328 U
Di-n-butyl phthalate	84-74-2	mg/kg OC	220	1,700	NA	--	--	--	0.489 U	0.119 U	0.328 U
Diethyl phthalate	84-66-2	mg/kg OC	61	110	NA	--	--	--	**0.230**	**0.0350**	0.328 U
Dimethyl phthalate	131-11-3	mg/kg OC	53	53	NA	--	--	--	0.489 U	0.119 U	0.328 U
Di-n-octyl phthalate	117-84-0	mg/kg OC	58	4,500	NA	--	--	--	0.489 U	0.119 U	0.328 U
Phenols (Dry Weight)											
2,4-Dimethylphenol[2]	105-67-9	mg/kg	0.029	0.029	0.025	--	--	--	**0.0085 J**	0.0200 UJ	**0.0045 J**
2-Methylphenol	95-48-7	mg/kg	0.063	0.063	0.020	--	--	--	**0.0092 J**	0.0200 U	0.0199 U
4-Methylphenol	106-44-5	mg/kg	0.67	0.67	0.020	--	--	--	**0.0849**	**0.0312 J**	**0.0285**
Pentachlorophenol[2]	87-86-5	mg/kg	0.36	0.69	0.020	--	--	--	**0.0072 J**	0.0200 UJ	**0.0021 J**
Phenol	108-95-2	mg/kg	0.42	1.2	0.020	--	--	--	**1.67**	**0.0317**	**0.107**
Miscellaneous Extractables (Dry Weight)											
Dibenzofuran	132-64-9	mg/kg	0.54	0.54	0.020	--	--	--	**0.111 J**	**0.23 J**	0.199 UJ
Hexachlorobutadiene[2]	87-68-3	mg/kg	0.011	0.12	0.020	--	--	--	0.0200 U	0.0200 U	0.0199 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	0.028	0.04	0.020	--	--	--	**0.0893**	**0.183**	**0.0825**
Benzoic Acid	65-85-0	mg/kg	0.65	0.65	0.10	--	--	--	0.0050 U	0.0050 U	0.0050 U
Benzyl Alcohol	100-51-6	mg/kg	0.057	0.057	0.020	--	--	--	0.0200 U	0.0200 U	0.0199 U
Miscellaneous Extractables (OC Normalized)											
Dibenzofuran	132-64-9	mg/kg OC	15	58	NA	--	--	--	**2.18**	**1.09**	**1.36**
Hexachlorobutadiene	87-68-3	mg/kg OC	3.9	6.2	NA	--	--	--	0.120 U	0.0300 U	0.0820 U
N-Nitrosodiphenylamine	86-30-6	mg/kg OC	11	11	NA	--	--	--	0.489 U	0.119 U	0.328 U
Dixons/Furans											
2,3,7,8-TCDD	1746-01-6	ng/kg	--	--	--	--	--	0.387 U	--	0.712 U	1.14 U
2,3,7,8-TCDF	51207-31-9	ng/kg	--	--	--	--	--	1.25 J	--	3.60 J	4.87 J
1,2,3,7,8-PeCDD	40321-76-4	ng/kg	--	--	--	--	--	0.839 U	--	1.96	5.88
1,2,3,7,8-PeCDF	57117-41-6	ng/kg	--	--	--	--	--	1.10 J	--	2.56 J	4.72 J
2,3,4,7,8-PeCDF	57117-31-4	ng/kg	--	--	--	--	--	0.720 J	--	2.98	3.58
1,2,3,4,7,8-HxCDD	39227-28-6	ng/kg	--	--	--	--	--	0.375 J	--	1.12	4.86
1,2,3,6,7,8-HxCDD	57653-85-7	ng/kg	--	--	--	--	--	0.789 U	--	1.87	8.66
1,2,3,7,8,9-HXCDD	19408-74-3	ng/kg	--	--	--	--	--	1.17 U	--	1.68	7.86
1,2,3,4,7,8-HxCDF	70648-26-9	ng/kg	--	--	--	--	--	1.67	--	2.49	6.00
1,2,3,6,7,8-HxCDF	57117-44-9	ng/kg	--	--	--	--	--	0.634 U	--	3.21	3.60
1,2,3,7,8,9-HxCDF	72918-21-9	ng/kg	--	--	--	--	--	0.191 U	--	0.985 J	0.886 J
2,3,4,6,7,8-HxCDF	60851-34-5	ng/kg	--	--	--	--	--	0.532 J	--	2.86	3.60
1,2,3,4,6,7,8-HpCDD	35822-46-9	ng/kg	--	--	--	--	--	8.59	--	15.1	56.7
1,2,3,4,6,7,8-HpCDF	67562-39-4	ng/kg	--	--	--	--	--	5.10	--	15.2	23.8
1,2,3,4,7,8,9-HpCDF	55673-89-7	ng/kg	--	--	--	--	--	0.204 J	--	1.40	1.23
1,2,3,4,6,7,8,9-OCDD	3268-87-9	ng/kg	--	--	--	--	--	80.8	--	78.4	175
1,2,3,4,6,7,8,9-OCDF	39001-02-0	ng/kg	--	--	--	--	--	2.58 J	--	14.3 J	10.7 J
Total Dioxins/Furans - TEQ (ND = 0)[5]	--	ng/kg	--	--	5[6]	--	--	0.796	--	5.06	12.0
Total Dioxins/Furans - TEQ (ND = 0.5)[5]	--	ng/kg	--	--	5[6]	--	--	1.54	--	5.41	12.5

Notes:

[1] The organic carbon normalized SCO/CSL criteria are applicable to sediment with a total organic carbon (TOC) concentration ranging from 0.5 to 3.5 percent. Sediment with TOC concentrations outside of the 0.5 to 3.5 percent range are screened against the AET Screening Level on a dry weight basis.

[2] To achieve PQLs lower than the applicable screening levels, these chemicals are run by SIM method by the laboratory.

[3] Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LPAHs) include the summation of detected naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene compounds.

[4] High Molecular Weight Polycyclic Aromatic Hydrocarbons (HPAHs) include the summation of detected fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(ghi)perylene compounds.

[5] Toxic equivalency quotients (TEQs) were calculated using Environmental Protection Agency's (EPA's) toxic equivalency factors (TEF) methodology. For non-detect results, both one-half the practical quantitation limit (PQL) value (ND = 0.5) and zero value for PQL (ND = 0) were used in the TEQ calculations as shown.

[6] PQL for Dioxin/Furans TEQ is the Programmatic PQL values from Ecology's SCUM II guidance (Table 11-1; Ecology, 2017).

LAET = Lowest Apparent Effects Threshold
2LAET = Second Lowest Apparent Effects Threshold
mg/kg = milligrams/kilogram
ng/kg = nanograms/kilogram
CAS = Chemical Abstract Services
MTCA = Model Toxics Control Act
OC = organic carbon
SCO = Sediment Cleanup Objective
CSL = Cleanup Screening Level
PQL = Practical Quantitation Limit
"--" = Not Available or Not Analyzed
U = Laboratory qualifier indicating that the analyte was not detected above the identified reporting limit
J = Laboratory qualifier indicating that the result is an estimated concentration below the reporting limit

Red border indicates concentration exceeds SCO/LAET

Orange shading indicates concentration exceeds CSL/2LAET

Blue shading indicates concentration exceeds Ecology's Programmatic PQL

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

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Vicinity Map

Former Port Blakely Mill Site
Bainbridge Island, Washington

GeoEngineers

Figure 1

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Notes:

1. Former mill structures are based on 1917 Port Blakely Milling Co. Map and Historical Buildings/Cultural Resources Survey composite mill plan (Appendix A). The locations of all the Mill structures are not known/shown on this figure.
2. The locations of all features shown are approximate.
3. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Aerial from Google Earth, 2018, Property and Parcel Boundaries from Kitsap County Geographic Information Systems (GIS).

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Legend

- Approximate Former Mill Structures[1]
- Blakely Harbor Park Property Boundary
- Tax Parcel Boundary

N W E S

200 0 200

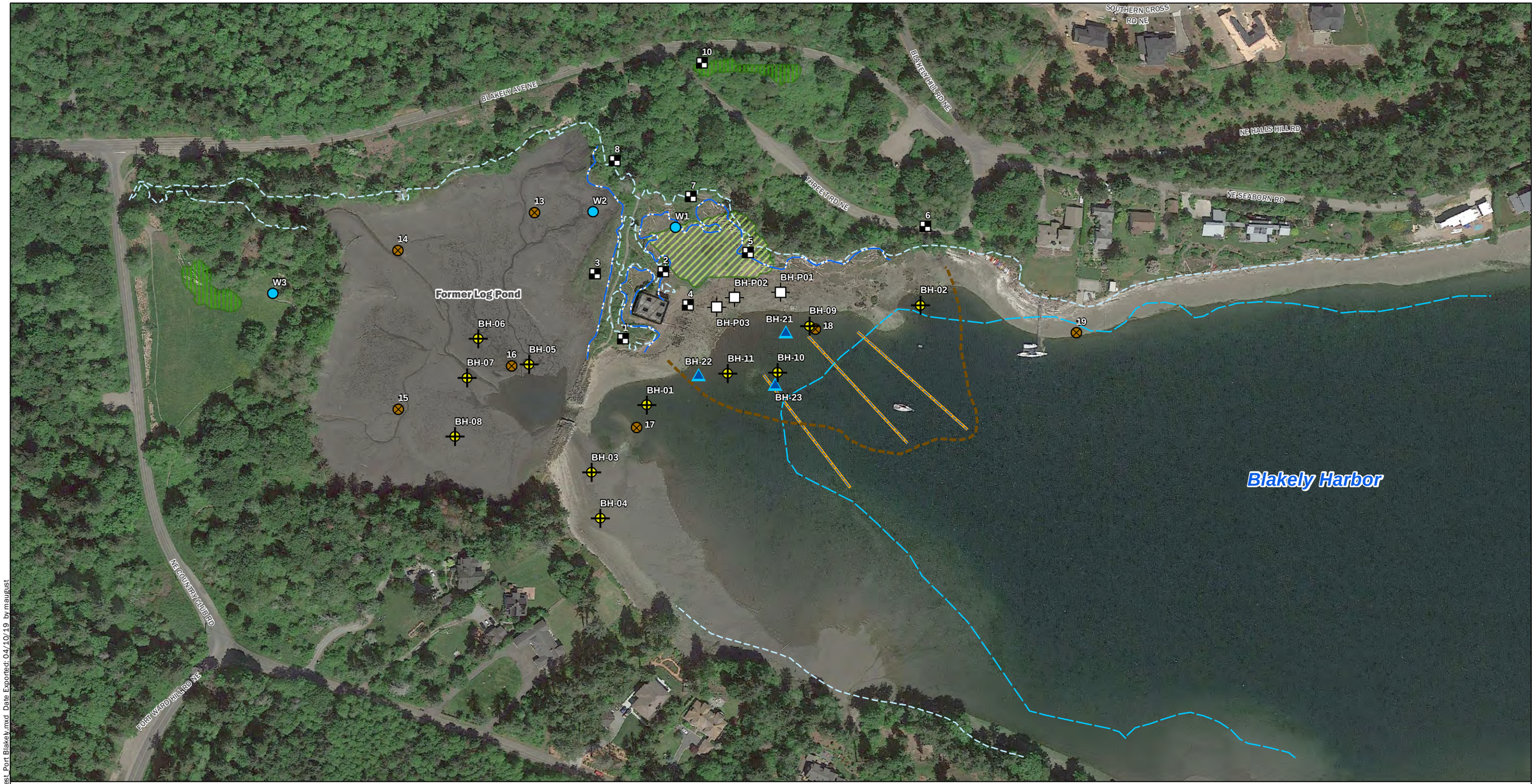
Feet

Former Mill Structures and Current Property Boundaries

Former Port Blakely Mill Site
Bainbridge Island, Washington

GeoEngineers

Figure 2



Notes:

1. Bainbridge Metro Parks Survey dated May 15, 2007.
2. MHHW Elevation from Seattle NOAA Station 9447130. NAVD88 to MLLW conversion based on WSDOT Monument 5139 at Eagle Harbor as per Anchor 2009.
3. The locations of all features shown are approximate.
4. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Aerial from Google Earth, 2018, Property and Parcel Boundaries from Kitsap County Geographic Information Systems (GIS) and rest of the data from Intertidal Sampling and Analysis Report (Anchor 2009).

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Legend

- Former Mill Power House
- Kitsap County GIS Wetland
- Surveyed Wetland[1]
- Visible Wood at Surface
- Mean Higher High Water (MHHW)
- Ordinary High Water (OHW)
- Mean Lower Low Water (MLLW)

MHHW = 11.4 ft MLLW[2]
NAVD88 = 2.5 ft MLLW[2]
MLLW = 0 ft
NAVD88 = North American Vertical Datum of 1988

Previous Investigation (Approximate Location and Identification)

- W2 — Groundwater Sample (Shannon & Wilson 1992)
- 3 — Sediment Sample (Shannon & Wilson 1992)
- 8 — Test Pit (Shannon & Wilson 1992)
- BH-08 — Sediment Core (Anchor 2009)
- BH-P02 — Test Pit (Anchor 2009)
- BH-22 — Seep Sample (Anchor 2009)
- Diver Survey Transect (Anchor 2009)

N W E S

200 0 200
Feet

Previous Investigation Locations

Former Port Blakely Mill Site
Bainbridge Island, Washington

GeoEngineers

Figure 3

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Notes:
1. See Figure 2 for additional details.
2. MHHW Elevation from Seattle NOAA Station 9447130 and NAVD88 to MLLW conversion based on WSDOT Monument 5139 at Eagle Harbor as per Anchor 2009.
3. The locations of all features shown are approximate.
4. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Aerial from Google Earth, 2018.

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Legend

- Approximate Former Mill Structures[1]
- Kitsap County GIS Wetland
- Visible Wood at Surface
- Mean Higher High Water (MHHW)
- Ordinary High Water (OHW)
- Mean Lower Low Water (MLLW)

Investigation Location and Identification

- S-1 — Surface Soil Sampling Location
- SED-1 — Surface Sediment Sampling Location

MHHW = 11.4 ft MLLW[3]
NAVD88 = 2.5 ft MLLW[3]
MLLW = 0 ft
NAVD88 = North American Vertical Datum of 1988

N W E S

100 0 100
Feet

Surface Soil and Sediment Sampling Locations

Former Port Blakely Mill Site
Bainbridge Island, Washington

GeoEngineers

Figure 4

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APPENDIX A
Historical Maps of Former Port Blakely Mill

399D

SEATTLE WASH. VOL.

PORT BLAKELY

SCALE 100 FT. TO AN INCH

2009.12.3

PORT BLAKELY MILLING CO.

SAW MILL & PLANING MILL

SAW MILL CAPACITY: 175,000 FT.

-NOT IN OPERATION SINCE SEPT. 1914-

2 DAY & 2 NIGHT WATCHMEN, NEWMAN CLOCKS, 10 & 11 STATIONS RESPECTIVELY, HOURLY ROUNDS; SEMI HOURLY IN MILL; POWER STEAM & ELEC. (ELEC. GENERATED BY SEMI DIESEL ENG. WHILE PLANT IS CLOSED DOWN) FUEL: MILL REFUSE & OIL; LIGHTS: ELEC. LEP & OIL LAMPS; BUILDINGS SO DESIGNATED ARE EQUIPPED WITH GRINNELL AUTO. SPRINKLERS, WET SYSTEM, IN BLDGS. A, B, C, D, E & F. BLOCK 608, DRY SYSTEM IN REMAINING SPRINKLERED BLDGS.; ABOUT 1090 HEADS SPRINKLERS & HYDS. NORTH OF HARBOR SUPPLIED BY 2 EARTH RESERVOIRS, CAPCY: ONE MILLION GALS. EACH, LOCATED ABOUT 700 & 1300 FT. RESPECTIVELY NORTH OF OFFICE & ELEVD. 115' & 140' RESPECTIVELY ABOVE SAW MILL FLOOR; RESERVOIR FILLED WITH SALT WATER BY FAIRBANKS MORSE ELEC. PUMP, CAPCY.: 250 GALS. PER MINUTE, (14"X7"X10" WORTHINGTON DUPLEX STEAM PUMP WHEN PLANT IS IN OPERATION) THROUGH 4" PIPE INCREASED TO 8"X10"; SPRINKLERS & HYDRANTS SOUTH OF HARBOR SUPPLIED BY 2 EARTH RESERVOIRS, CAPCY. ABOUT 750,000 GALS. EACH, LOCATED ABOUT 600 & 1000' RESPECTIVELY, SOUTH OF PLANING MILL & ELEVATED 62' & 18.4' RESPECTIVELY ABOVE FLOOR OF SAME. RESERVOIRS FILLED BY FAIRBANKS MORSE ELEC. PUMP (SEE ABOVE) (18"X10"X12" MANISTEE STEAM PUMP, WHEN PLANT IS IN OPERATION) THROUGH 3" PIPE INCREASED TO 6" TO EACH RESERVOIR; HYDRANTS & HOSE AS SHOWN.

Mc ATEER SHIP BUILDING CO. LESSEES
NOT IN OPERATION 1916

Port Blakely Harbor

WHARF

BAY

LUMBER SHED

GENERAL W. NO.

POST OFFICE

OFFICE

MACHINE SHOP

PLANING MILL 1st LUMBER STORAGE 2nd

RE SAW SHED

STEAM DRY KILNS

SAW MILL

TRANSFER TABLE

ROAD

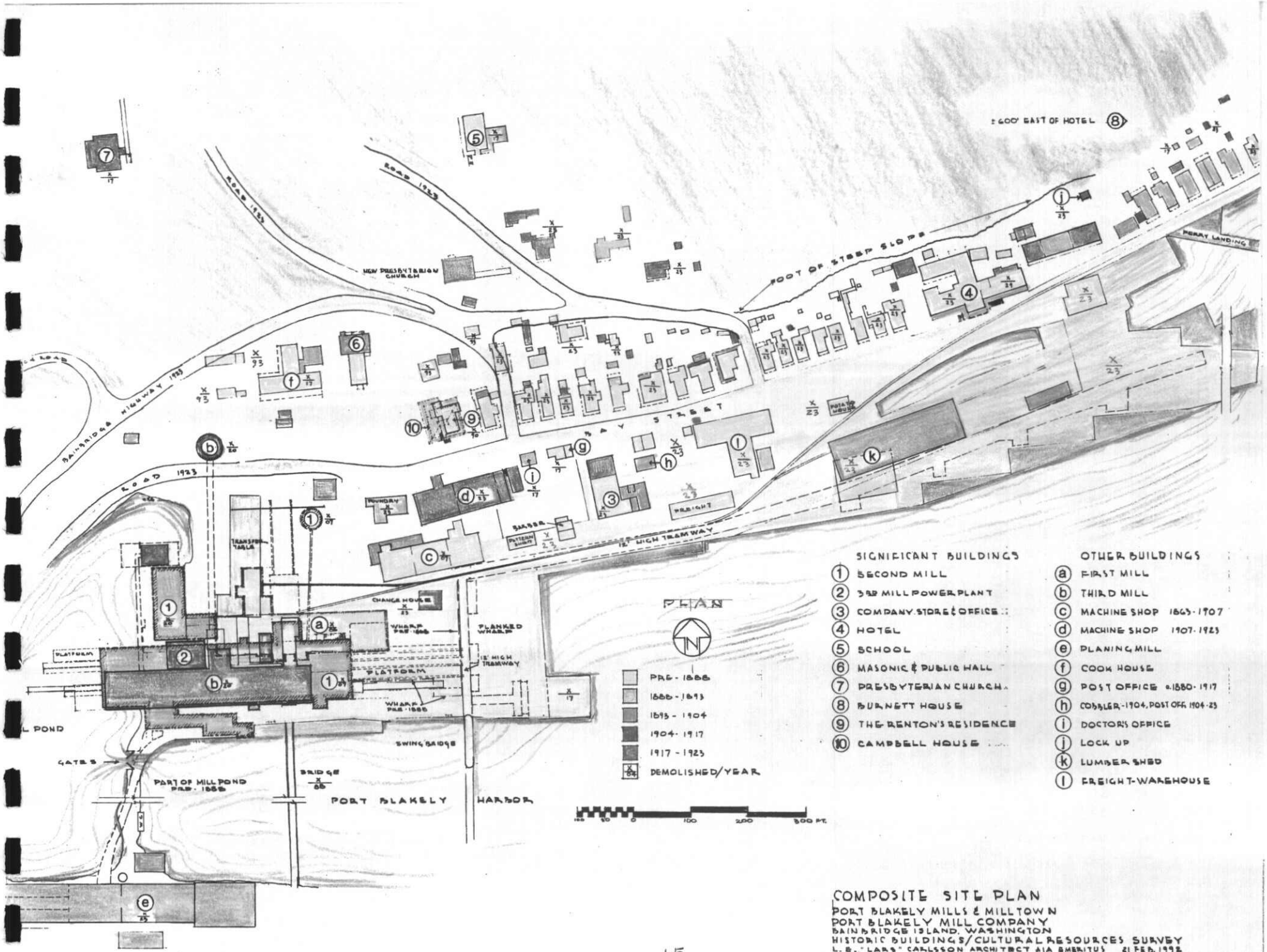
WHARF

PUBLIC SCHOOL
NO EXPOSURES
For Location See Above

SCHOOL DETACHMENT
See Below

Scale 100 Ft. to One Inch.

1917



COMPOSITE SITE PLAN

PORT BLAKELY MILLS & MILLTOWN
PORT BLAKELY MILL COMPANY
BAINBRIDGE ISLAND, WASHINGTON
HISTORIC BUILDINGS/CULTURAL RESOURCES SURVEY
L. B. "LARS" CARLSSON ARCHITECT AIA EMERITUS 21 FEB. 1992

APPENDIX B
Previous Environmental Studies

T-1198-02

Project Status Report II
Environmental Site Assessment
Old Port Blakely Mill
Bainbridge Island, Washington

September 1992

Port Blakely Tree Farms
500 Union Street, Suite 830
Seattle, WA 98101

SHANNON & WILSON, INC.
400 N. 34th St., Suite 100
P.O. Box C-30313
Seattle, WA 98103
(206) 632-8020

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

SEATTLE
EVERETT
KENNEWICK
FAIRBANKS
ANCHORAGE
SAINT LOUIS

September 16, 1992

Port Blakely Tree Farms
500 Union Street, Suite 830
Seattle, Washington 98101

DRAFT
REVISIONS

Attn: Mr. Charles Wilson

RE: PROJECT STATUS REPORT II: ENVIRONMENTAL SITE ASSESSMENT OLD PORT BLAKELY MILL SITE, BAINBRIDGE ISLAND, WASHINGTON

Shannon & Wilson, Inc. (S&W) has performed an environmental site assessment in the vicinity of the Old Port Blakely Mill Site, Port Blakely, Bainbridge Island, Washington as shown in Figures 1, 2, and 3. Groundwater, test pit soil samples, and former log pond sediment sampling locations are identified in Figure 3, Exploration Locations. Field services were rendered during April 3rd through July 14, 1992 as outlined in the proposed scope modifications section of S&W's Project Status Report, dated March 1991.

You will find the analytical results reported for selected soil, groundwater, and sediment samples in Tables 1 through 6 correlated to specific sampling areas immediately surrounding Port Blakely Harbor.

Upon your review, Shannon & Wilson, Inc. will address each comment or question and submit a final report.

At your convenience, please contact Kimberly Fenske or Frank Pita at (206) 632-8020.

Respectfully,

SHANNON & WILSON, INC.

Kimberly A. K. Fenske
Geoenvironmental Engineer

Frank W. Pita, P.E. P.G.
Vice President Environmental Services

Enclosure: Project Status Report II

T-1198-02

400 NORTH 34TH STREET • SUITE 100
P.O. BOX 300303
SEATTLE, WASHINGTON 98103
206 • 632 • 8020 FAX 206 • 633 • 6777

EXECUTIVE SUMMARY

This report is a continuation of an environmental site assessment at Port Blakely Harbor, Bainbridge Island, Washington, which includes limited soil and groundwater sampling activities focused on the former mill site area. The purpose of this work was to assess levels of specific metals reported in S&W's March 1991, Project Status Report.

Four additional field activities were recommended in the "1991 report" to further assess metal concentration levels in groundwater and soil matrices in the immediate vicinity of the former mill site. These recommended activities are the subject of this report. State and federal regulatory levels are applied to the analytical results for illustrative comparisons and should not be construed as quantitative comparisons, or a statement of legally applicable standards.

The results indicate that the metal concentration levels in soil, sediment, and groundwater samples are below stringent cleanup levels promulgated by the state of Washington's Model Toxics Control Act (MTCA) and Sediment Quality Standards. Soil, groundwater, and sediment analytical results are listed in Tables 1, 2, and 5, respectively. The toxicity characteristic leachate procedure (TCLP) has been applied to soil samples from test pit nos. 1 and 10 with concentration level results below federal regulatory levels as listed in Table 4. Test pit and sediment samples reported in the "1991 report" are included for comparison in Table 3 entitled,Test Pit Soil Sample Comparisons and Table 6 entitled, Log Pond Sediment Comparisons.

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PROJECT STATUS REPORT II
ENVIRONMENTAL SITE ASSESSMENT
OLD MILL SITE, PORT BLAKELY HARBOR
BAINBRIDGE ISLAND, WASHINGTON

1.0 INTRODUCTION

This report is a continuation of an environmental site assessment at Port Blakely Harbor, Bainbridge Island, Washington, which includes limited soil and groundwater sampling activities focused on the former mill site area. The purpose of this work was to assess levels of specific metals reported in S&W's March 1991, Project Status Report. The previous report will be referred to as the "1991 report" throughout the following discussions.

2.0 PROPERTY LOCATION

Port Blakely Harbor is located near the southeastern corner of Bainbridge Island, Washington, as illustrated in the Vicinity Map, Figure 1 and the Site and Exploration Plan, Figure 2. The property occupies approximately 1,060 acres encircling Port Blakely Harbor as delineated in Figure 1. Environmental site assessment activities were focused on the former millsite area primarily located northeast of the former log pond area or western end of Port Blakely Harbor.

3.0 ENVIRONMENTAL SITE ASSESSMENT

3.1 Project Status Report, March 1991

Shannon & Wilson's "1991 report" indicated that total metal levels were detected in soil and groundwater in the vicinity of the old mill site area and were detected higher than comparable Port Blakely sediments. At the time of the "1991 report", total petroleum hydrocarbons were not detected in any collected samples of soil or groundwater.

The "1991 report" proposed additional work to establish concentration levels of inorganic metals in the immediate mill site area and to determine if the detected levels of arsenic and lead (one sample) were an artifact or representative of general conditions. The present report, Project Status Report II coupled with "1991 report" data results, presents inorganic metal concentrations that have been identified in the former mill site area and Port Blakely Harbor sediments to aid in the assessment of inorganic metal concentration levels in the old mill site vicinity.

In addition, this Project Status Report II compares the sampled concentration levels to the most conservative, potentially applicable, regulatory standards in the state of Washington along with other risk-based standards. The regulations under the State Model Toxics Control Act (MTCA) provide three methods of determining cleanup standards. The Method "A" standards provide the most conservative cleanup level. The Method "A" level for arsenic is based on the Department of Ecology's identification of the background levels in the State Method "A" levels are used here for purposes of comparison to the states most stringent standard.

3.2 Project Status Report II: Field Screening Activities

The Project Status Report II's primary field objective consisted of determining if there was potential risk, as determined by the toxicity characteristic leachate procedure (TCLP), associated with the levels of contamination (i.e., arsenic and lead in groundwater samples) detected and reported in the "1991 report". Soil, groundwater, and sediment samples were taken as described in the four subsections below.

3.2.1 Metal Concentrations In Groundwater and Soil

Three groundwater samples were obtained from the former mill site area at the west coastal end of Port Blakely Harbor as indicated in Figure 3. Well points were driven to 10, 8, and 14-foot depths for wells designated, W1, W2, and W3, respectively. The total metal (unfiltered) analytical results reported for the three groundwater samples were compared to samples obtained for the "1991 report" and available regional (Kitsap county) information concerning the background concentration of metals in groundwater in the Port Blakely area. Analytical results and published Kitsap County data are collated in Table 2 entitled, Groundwater Sample Results, and are for illustrative comparisons.

The Kitsap County groundwater data for shallow wells were far below state and federal regulatory levels. The three groundwater samples collected from the former mill site area were below the state of Washington's MTCA cleanup levels for groundwater.

During field sampling, salt water was evident in the first two groundwater samples (T1198-WP001-100-GW-0 and T1198-WP002-101-GW-0 (W1 and W2)), but not apparent for the third sample designated, W3. Since arsenic is a naturally occurring constituent in freshwater and saltwater, a water sample (T1198-BG004-103-GW-0) from Port Blakely Harbor's former

log pond area was retrieved to serve as a relative metal concentration comparison for the three groundwater samples as listed in Table 3.

A soil sample (T1198-BG-012-SL-0, Table 1) was collected from test pit No. BG (Figure 3) upgradient from the historic mill site area to further assess metal concentration levels. As a comparison, total metal concentrations in the upgradient soil sample were below or equal (Cadmium, 2 ppm.) to the State of Washington's Model Toxic Control Act, Method "A" cleanup levels for soil.

Several pieces of "slag-like" material were discovered during a low tide interval in the former log pond area near the west end of Port Blakely Harbor. The historic use of foundry slag as ship ballast is inferred and its occasional presence may provide the source for the low levels of inorganic metals.

3.2.2 Old Mill Site Test Pit Soil Samples

Test pit soil samples were obtained in close proximity to previous test pit soil sample locations used for the "1991 report". Previous test pit locations were easily identifiable due to surface disturbances and backfill settlement depressions. Test pit locations closely correlated with previous test pit locations to adhere to an imposed protocol of consistent soil sampling approximately one foot above the quasi-static water level in the test pit. In S&W's opinion, this would enable the determination of appreciable change(s) in metal levels and toxicity characteristic leachate procedure results. Observational care was taken to locate the test pits outside the influence of the previous test pit disturbances, but close enough to observe similar undisturbed soil layers as illustrated in the field correlated Logs of Field Test Pits, Appendix A. The field test pit logs were produced during compilation of the "1991 report" and were used as field references.

Soil samples generally consisted of brown, gravelly, silty, fine to medium sand with intermittent debris of red brick fragments, sawdust, and burned wood material. Test pit soil samples were retrieved during a high interval tide cycle. During test pit excavation activities, a waiting period provided time for the water entering the pit bottom to reach a quasi-static level determined by observing water surface movement and periodically measuring the water surface from existing grade level of the test pit rim.

Two duplicate soil samples (T1198-TP1-004-SL-1 and T1198-TP10-011-SL-1) were submitted to the laboratory from Test Pit Nos. 1 and 10 for quality assurance and quality control (QA/QC). Soil samples were collected during a high tide interval approximately one foot above the water level encountered in the test pit.

3.2.3 Toxicity Characteristic Leachate Procedure

Two sample locations (test pit nos. 1 and 10) were chosen to provide a plausible north to south precipitation infiltration range to assess leaching characteristics utilizing the toxicity characteristic leachate procedure (TCLP). The same sampling protocol was utilized as described in the first paragraph of section 3.2.2 : Old Mill Site Test Pit Soil Samples.

The TCLP was employed as an indicator for the potential leaching of low levels of contaminants and to determine if the soils pose a substantial presence or potential hazard to human health or the environment. Both samples tested below TCLP federal regulatory levels.

3.2.4 Former Log Pond Sediment Samples

Sediment samples were taken from the former log pond area and at locations along the northerly coastal edge of Port Blakely Harbor as designated and illustrated in Figure 3. Analytical results are collated in Table 5 listing sediment concentration levels for total metals.

The "1991 report" contained samples designated, PBTF-Sed 4a and PBTF-Sed 4b, which are included for comparison in Table 6. Sediments sampled were compared to sediment quality standards of the State of Washington Administrative Code 173-204 (Chapter 173-204 WAC), which while not applicable here, provides a basis of comparison. Sediment sample concentrations occurred below levels regulated by the Washington state sediment standards, widely recognized as the most stringent in the nation.

3.3 Discussion of Field Screening Results

Sources of trace metals are commonly associated with natural processes of chemical weathering, soil leaching, and human activities (Viessman, 1985). When illustratively compared, groundwater metal concentration levels were below state (MTCA) and most federal regulatory levels (except, Barium and Zinc) as shown in Table 2 entitled, Groundwater Sample Results. Copper and zinc regulatory concentrations are secondary standards (aesthetics concerns) recommended for contaminant levels within the interim drinking water standards of the EPA Office of Water

Supply (Viessman, 1985) and currently not included within the State of Washington's Model Toxics Control Act cleanup standards. Total metal analyses for shallow and deep wells on Bainbridge Island were obtained from the Public Utility District No. 1 of Kitsap County (Kitsap County, 1991) located in Poulsbo, Washington for a regional comparison. Kitsap county's groundwater metal concentration levels were below state and federal regulatory levels used in the comparison. It should be noted that this groundwater is not considered a drinking water source.

Table 3 lists test pit total metal concentrations for the sampling event and includes two preliminary soil sample concentrations (TP1-S1 and TP8-S2) previously reported in the "1991 report". Because the sampling was not from an identical test pit, a comparison is made for illustrative purposes, and must not be interpreted quantitatively. Based on these comparisons, the concentration levels of Arsenic, Cadmium, Chromium, Mercury, Selenium, Silver, Copper, Nickel, and Zinc have diminished. The concentration level reduction may be the combined result of different localized soil conditions, higher water solubilities, tidal "flushing", and/or error in test results. Lead concentrations decreased from the preliminary sample designated, TP8-S2, which may be the result of localized conditions produced by historic mill site operations. Barium tends to have a lower solubility in groundwater and this attribute may account for its fairly stable value. None of the regulated metals reported for the test pit soil samples exceeded the State of Washington's MTCA Method "A" cleanup levels for soil.

As indicated in Tables 4 and 5, all TCLP and sediment sample analytical results were well below the federal regulatory levels and State Sediment Quality Standards, respectively.

4.0 CONCLUSIONS

This report presents the results of the environmental site assessment, Project Status Report II, to identify inorganic metal concentration levels in the vicinity of the former mill site area in Port Blakely on Bainbridge Island, Washington. Concentrations of all test pit soil samples, TCLP results, and sediment samples were significantly below or equaled the most stringent state or federal regulatory standards. Groundwater metal concentration levels are low when illustratively compared to current regional, state, and federal regulatory levels.

5.0 LIMITATIONS

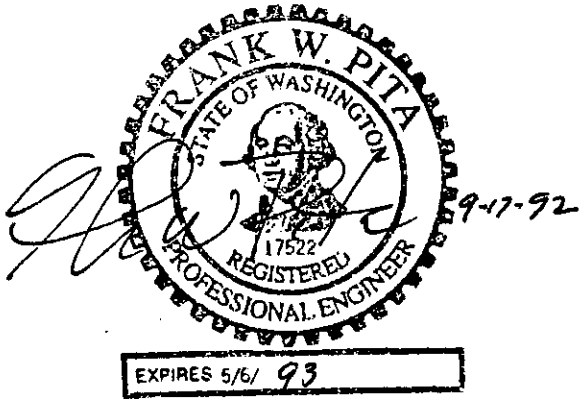
The findings we have presented within this Project Status Report II are based on limited research at the facility. They should not be construed as a definite statement regarding all conditions at the property. Shannon & Wilson, Inc. performed this work phase employing our best professional judgment to describe conditions at the property.

The data presented in this Project Status Report II should be considered representative at the time of our observations. Changes in the conditions of the property can occur with time from both natural processes and human activities. Due to such changes, our observations and recommendations applicable to this facility may need to be revised wholly or in part, due to changes beyond our control.

This Project Status Report II was prepared for the exclusive use of Port Blakely Tree Farms, Inc.

SHANNON & WILSON INC.

Kimberly A. L. Fenske
Geoenvironmental Engineer



Frank W. Pita, P.E., P.G.
Vice President - Environmental Services

KLF:FWP/klf

9-17-92/T1198-02.LTR/T1198-lkd/lkd

REFERENCES

Public Utility District No. 1 of Kitsap County, Kitsap County Groundwater Management Plan (Draft), dated April 1991.

Viessman, Warren, Jr., and Hammer, Mark J., Water Supply and Pollution Control, Fourth Edition, Harper and Row Publishers, 1985.

TABLE 1
PORT BLAKELY TREE FARM : PORT BLAKELY MILLSITE
TOTAL METALS (1)
TEST PIT SOIL RESULTS (2)

SAMPLE DESIGNATION	FIGURE 3 DESIGNATION	ARSENIC ppm, (3)	BARIUM (ppm)	CADMIUM (ppm)	CHROMIUM (ppm)	LEAD (ppm)	MERCURY (ppm)	SELENIUM (ppm)	SILVER (ppm)	COPPER (ppm)	NICKEL (ppm)	ZINC (ppm)
T1198-TP1-003-SL-0	1	11	85	<1	12	55	<1	<1	<1	9	11	27
T1198-TP1-004-SL-1, (4)	1	9	45	<1	9	13	<1	1	<1	8	8	23
T1198-TP2-006-SL-0	2	5	26	<1	19	7	<1	<1	<1	34	16	34
T1198-TP3-002-SL-0	3	3	5	<1	2	120	<1	<1	<1	24	2	13
T1198-TP4-005-SL-0	4	<1	1	<1	<1	18	<1	<1	<1	7	<1	19
T1198-TP5-009-SL-0	5	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
T1198-TP6-008-SL-0	6	<1	1	<1	<1	1	<1	<1	<1	2	1	5
T1198-TP7-007-SL-0	7	4	18	<1	14	7	<1	<1	<1	34	16	34
T1198-TP8-001-SL-0	8	6	300, (5)	<1	10	26	<1	<1	<1	55	10	60
T1198-TP10-010-SL-0	10	5	19	<1	27	7	<1	2	<1	51	26	35
T1198-TP10-011-SL-1, (4)	10	7	23	<1	30	8	<1	<1	<1	46	29	37
T1198-BG-012-SL-0	BG	8	270, (5)	2, (6) (j)	49	10	<1	2	<1	84	25	51
Potential Regulatory Levels, (6)		20.0		2.0	100.0	250.0	1.0					

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010.

(2) As reported by Friedman and Bruya, Inc., Seattle, Washington.

(3) Parts Per Million (ppm).

(4) QA/QC duplicate.

(5) The value reported exceeded the calibration range established for the sample.

(6) Model Toxic Control Act dated February 1991, Method "A" soil cleanup levels; only for comparison purposes.

(j) Soil sample retrieved outside former mill site area; cleanup level based on plant protection.

TABLE 2
PORT BLAKELY TREE FARM : PORT BLAKELY MILLSITE
TOTAL METALS (1)
GROUNDWATER SAMPLE RESULTS (2)

SAMPLE DESIGNATION	FIGURE 3 DESIGNATION	ARSENIC (ppm) (3)	BARIUM (ppm)	CADMIUM (ppm)	CHROMIUM (ppm)	LEAD (ppm)	MERCURY (ppm)	SELENIUM (ppm)	SILVER (ppm)	COPPER (ppm)	NICKEL (ppm)	ZINC (ppm)
T1198-WP001-100-GW-0	W1	<2	3	<0.5	1	<0.5	<1	<1	<0.5	1	1	3
T1198-WP002-101-GW-0	W2	<2	3	<0.5	<0.5	<0.5	<1	<1	<0.5	1	<0.5	7.6
T1198-WP003-102-GW-0	W3	2	4	<0.5	1	<0.5	<1	<1	<0.5	1	0.5	2
T1198-BG004-103-GW-0	PORT BLAKELY	<2	<1	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	2
KITSAP COUNTY, (4)		0.00981	0.195	0.002	0.00872	0.010		0.00481	0.00781			0.00
POTENTIAL REGULATORY LEVELS		5.0, (5)	1.0, (6)	5.0 (5)	50.0, (5)	5.0, (5)	2.0, (5)	10.0, (6)	50.0, (6)	1, (6)		5, (6)
(5) (6)												

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010.
(2) As reported by Friedman and Bruya, Inc., Seattle, Washington.
(3) Parts Per Million (ppm)
(4) Kitsap County Groundwater Management Plan (Draft) dated April 1991, Appendix H - Shallow Wells.
(5) Model Toxic Control Act dated February 1991, Method "A" for groundwater cleanup levels; only for comparison purposes.
(6) Interim Drinking Water Standards of the EPA Office of Water Supply, EPA 570/9-76-003 (Viessman, p. 218-9); only for comparison purposes.

TABLE 3
PORT BLAKELY TREE FARM : PORT BLAKELY MILLSITE
TOTAL METALS (1)
TEST PIT SOIL SAMPLE COMPARISONS (2)

SAMPLE DESIGNATION	FIGURE 3 DESIGNATION	ARSENIC ppm, (3)	BARIUM (ppm)	CADMIUM (ppm)	CHROMIUM (ppm)	LEAD (ppm)	MERCURY (ppm)	SELENIUM (ppm)	SILVER (ppm)	COPPER (ppm)	NICKEL (ppm)	ZINC (ppm)
T1198-TP1-003-SL-0, (6)	1	11	85	<1	12	55	<1	<1	<1	9	11	27
TP1-S1, (7)	1	60	87	8	14	49	2	18	3	26	21	75
T1198-TP1-004-SL-1, (5)	1	9	45	<1	9	13	<1	1	<1	8	8	23
T1198-TP2-006-SL-0	2	5	26	<1	19	7	<1	<1	<1	34	16	34
T1198-TP3-002-SL-0	3	3	5	<1	2	120	<1	<1	<1	24	2	13
T1198-TP4-005-SL-0	4	<1	1	<1	<1	18	<1	<1	<1	7	<1	19
T1198-TP5-009-SL-0	5	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
T1198-TP6-008-SL-0	6	<1	1	<1	<1	1	<1	<1	<1	2	1	5
T1198-TP7-007-SL-0	7	4	18	<1	14	7	<1	<1	<1	34	16	34
T1198-TP8-001-SL-0, (6)	8	6	300, (4)	<1	10	26	<1	<1	<1	55	10	60
TP8-S2, (7)	8	110	290	10	29	77	10	25	14	68	30	89
T1198-TP10-010-SL-0	10	5	19	<1	27	7	<1	2	<1	51	26	35
T1198-TP10-011-SL-1, (5)	10	7	23	<1	30	8	<1	<1	<1	46	29	37
T1198-BG-012-SL-0	BG	8	270, (4)	2	49	10	<1	2	<1	84	25	51
Potential Regulatory Levels, (8)		20.0		2.0	100.0	250.0	1.0					

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010.

(2) As reported by Friedman and Bruya, Inc., Seattle, Washington.

(3) Parts Per Million (ppm)

(4) The value reported exceeded the calibration range established for the sample.

(5) QA/QC duplicate.

(6) Sampled April 3, 1992.

(7) Sampled October 2, 1990 from same location.

(8) Model Toxic Control Act dated February 1991, Method "A" soil cleanup levels; only for comparison purposes.

TABLE 4
PORT BLAKELY TREE FARM : PORT BLAKELY MILLSITE
TOXICITY CHARACTERISTIC LEACHATE PROCEDURE (1)
TEST PIT SOIL RESULTS (2)

SAMPLE DESIGNATION	FIGURE 3 DESIGNATION	ARSENIC ppm, (3)	BARIUM (ppm)	CADMIUM (ppm)	CHROMIUM (ppm)	LEAD (ppm)	MERCURY (ppm)	SELENIUM (ppm)	SILVER (ppm)	COPPER (ppm)	NICKEL (ppm)	ZINC (ppm)
T1198-TP1-003-SL-0	1	<0.5	0.1	<0.5	<0.5	0.1	<0.1	0.1	<0.1	<0.5	<0.5	<0.5
T1198-TP10-010-SL-0	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
Potential Regulatory Levels, (1)		5.0	100	1.0	5.0	5.0	0.2	1.0	5.0	a	a	a

Notes

(1) TCLP metals in accordance with 40 CFR ParT 261 et al., only for comparison purposes.

(2) As reported by Friedman and Bruya, Inc., Seattle, Washington.

(3) Parts Per Million (ppm)

a - Not a TCLP analyte.

TABLE 5
PORT BLAKELY TREE FARM : PORT BLAKELY MILLSITE
TOTAL METALS (1)
LOG POND SEDIMENT RESULTS (2)

SAMPLE DESIGNATION	FIGURE 3 DESIGNATION	ARSENIC ppm, (3)	BARIUM (ppm)	CADMIUM (ppm)	CHROMIUM (ppm)	LEAD (ppm)	MERCURY (ppm)	SELENIUM (ppm)	SILVER (ppm)	COPPER (ppm)	NICKEL (ppm)	ZINC (ppm)
T1198-LP-013-SL-0	13	6	7	<0.5	6	38	<1	<1	<0.5	24	4	22
T1198-LP-014-SL-0	14	6	11	<0.5	11	41	<1	1	<0.5	27	8	37
T1198-LP-015-SL-0	15	6	9	<0.5	6	29	<1	<1	<0.5	16	5	23
T1198-LP-016-SL-0	16	9	10	<0.5	5	41	<1	<1	<0.5	31	5	15
T1198-LP-017-SL-0	17	8	11	<0.5	7	11	<1	<1	<0.5	9	8	25
T1198-LP-018-SL-0	18	9	8	<0.5	4	51	<1	<1	<0.5	21	3	25
T1198-LP-019-SL-0	19	5	10	<0.5	9	34	<1	<1	<0.5	44	8	37
T1198-LP-020-SL-0	20	5	12	<0.5	9	54	<1	<1	<0.5	31	10	41
Potential Regulatory Levels, (5)		57.0		5.1	260	450	0.41		6.1			410

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010.

(2) As reported by Friedman and Bruya, Inc., Seattle, Washington.

(3) Parts Per Million (ppm)

(4) Comparison values.

(5) Sediment Management Standards, Table 1, Chapter 173-204 WAC, dated April 1991; only for comparison purposes.

TABLE 6
PORT BLAKELY TREE FARM : PORT BLAKELY MILLSITE
TOTAL METALS (1)
LOG POND SEDIMENT COMPARISONS (2)

SAMPLE DESIGNATION	FIGURE 3 DESIGNATION	ARSENIC ppm, (3)	BARIUM (ppm)	CADMIUM (ppm)	CHROMIUM (ppm)	LEAD (ppm)	MERCURY (ppm)	SELENIUM (ppm)	SILVER (ppm)	COPPER (ppm)	NICKEL (ppm)	ZINC (ppm)
PBTF-Sed 4a, (4)		12, (a)	8.5	0.3	3.6	4.1	0.8, (a)	3.7	0.6	4.1, (a)	4.3	7.0, (a)
PBTF-Sed 4b, (4)		15, (a)	2.8	0.3	4.4	4.7	0.9, (a)	4.7	0.4	3.4, (a)	6.0	8.7, (a)
T1198-LP-013-SL-0	13	6	7	<0.5	6	38	<1	<1	<0.5	24	4	22
T1198-LP-014-SL-0	14	6	11	<0.5	11	41	<1	1	<0.5	27	8	37
T1198-LP-015-SL-0	15	6	9	<0.5	6	29	<1	<1	<0.5	16	5	23
T1198-LP-016-SL-0	16	9	10	<0.5	5	41	<1	<1	<0.5	31	5	15
T1198-LP-017-SL-0	17	8	11	<0.5	7	11	<1	<1	<0.5	9	8	25
T1198-LP-018-SL-0	18	9	8	<0.5	4	51	<1	<1	<0.5	21	3	25
T1198-LP-019-SL-0	19	5	10	<0.5	9	34	<1	<1	<0.5	44	8	37
T1198-LP-020-SL-0	20	5	12	<0.5	9	54	<1	<1	<0.5	31	10	41
Potential Regulatory Levels, (5)		57.0		5.1	260	450	0.41		6.1			410

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010.

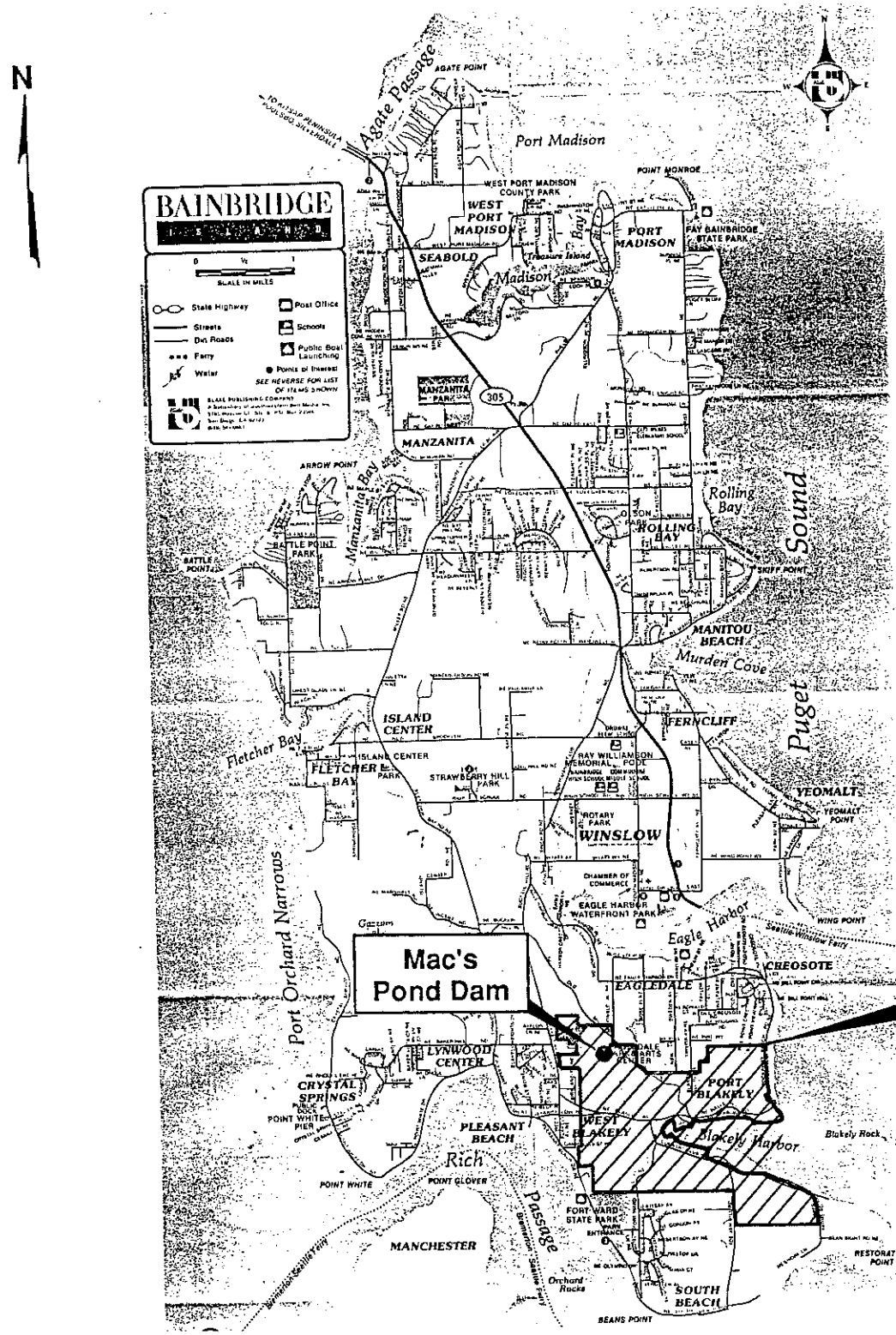
(2) As reported by Friedman and Bruya, Inc., Seattle, Washington.

(3) Parts Per Million (ppm)

(4) Sampled October 2, 1990 from same approximate location.

(5) Sediment Management Standards, Table 1, Chapter 173-204 WAC, dated April 1991; only for comparison purposes.

a : The analyte indicated was also found in the blank sample.



NOTE

Map was adapted from the Bainbridge Island Chamber of Commerce map, 1987.

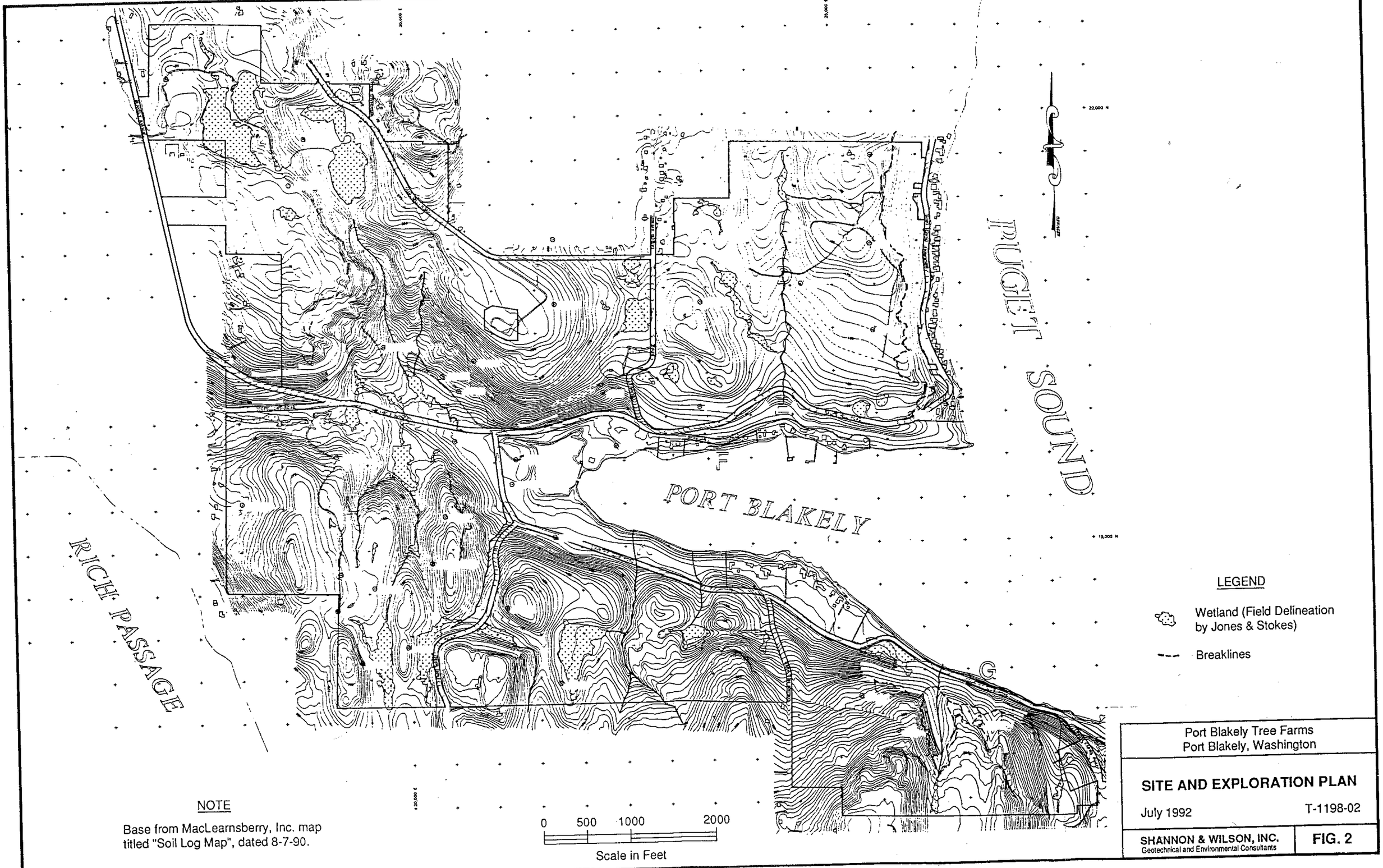
Port Blakely Tree Farms
Port Blakely, Washington

VICINITY MAP

July 1992 T-1198-02

SHANNON & WILSON, INC.
Geotechnical Consultants

FIG. 1



NOTE

Base from MacLearnsberry, Inc. map titled "Soil Log Map", dated 8-7-90.

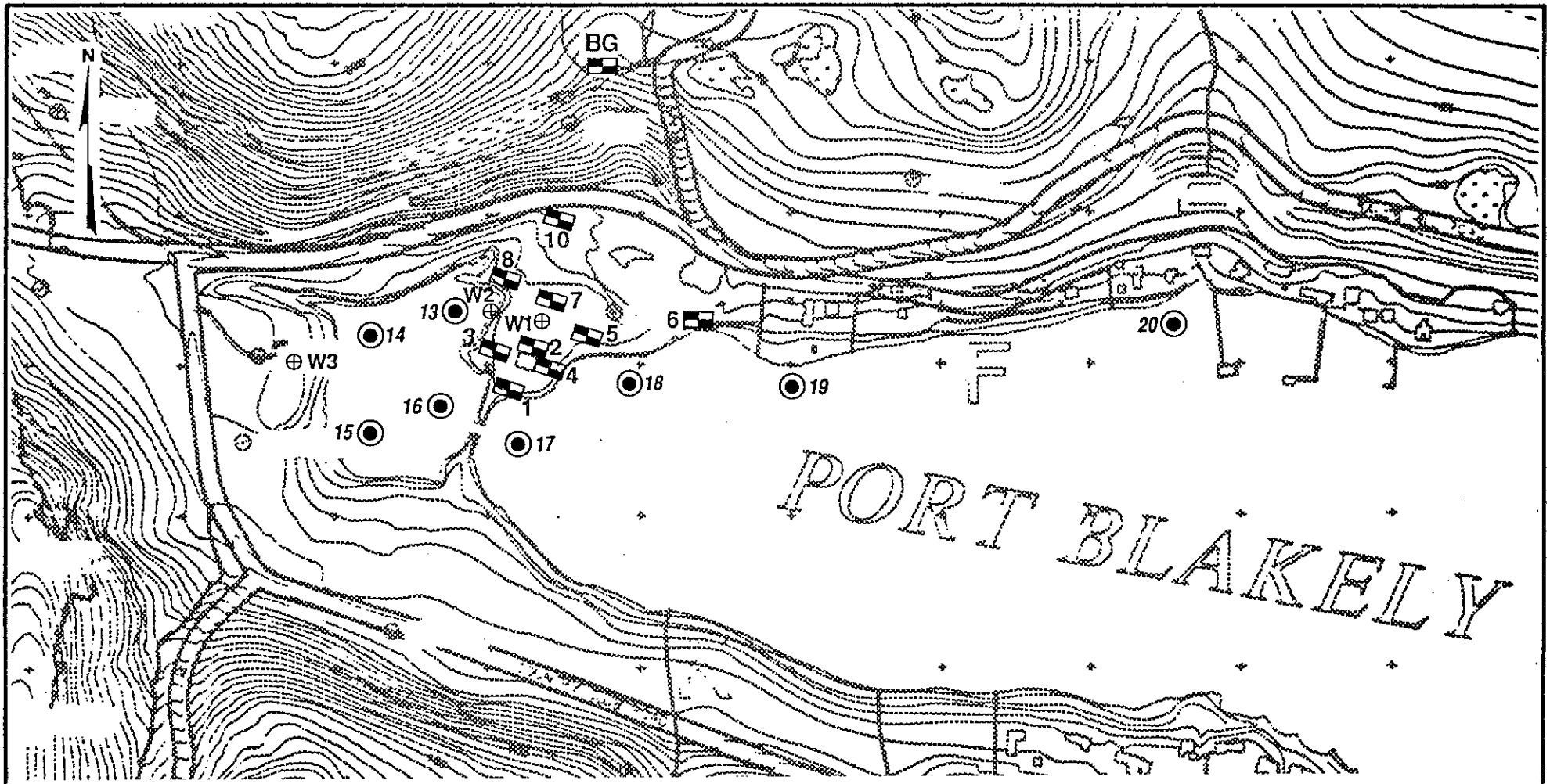
Port Blakely Tree Farms
Port Blakely, Washington

SITE AND EXPLORATION PLAN

July 1992 T-1198-02

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 2



LEGEND

1 — Test Pit Designation and Approximate Location

14 — Log Pond/Sediment Sample Designation and Approximate Location

W1 — Groundwater Sample Designation and Approximate Location

0 500 1000

Scale in Feet

NOTE

Base from MacLearnsberry, Inc. map titled "Soil Log Map", dated 8-7-90.

Port Blakely Tree Farms
Port Blakely, Washington

EXPLORATION LOCATIONS

July 1992 T-1198-02

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 3

FIG. 3

APPENDIX A

LOGS OF FIELD TEST PITS

SHANNON & WILSON, INC.
Geotechnical Consultants

LOG OF TEST PIT TP-1

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

PROJECT: Port Blakely Tree Farm

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
① Loose, brown silty, sandy GRAVEL; dry			S-1 (Jar)	0
② Loose, black silty, sandy GRAVEL; abundant charcoal and burned timbers; dry; trash includes wire mats and a metal pipe				2
③ Loose, black silty, sandy GRAVEL; abundant charcoal and burned timbers; moist; soil becomes sandier with depth - brief rotten egg odor at 6.5 feet - no reading on MSA				4
				6
				8
				10
				12

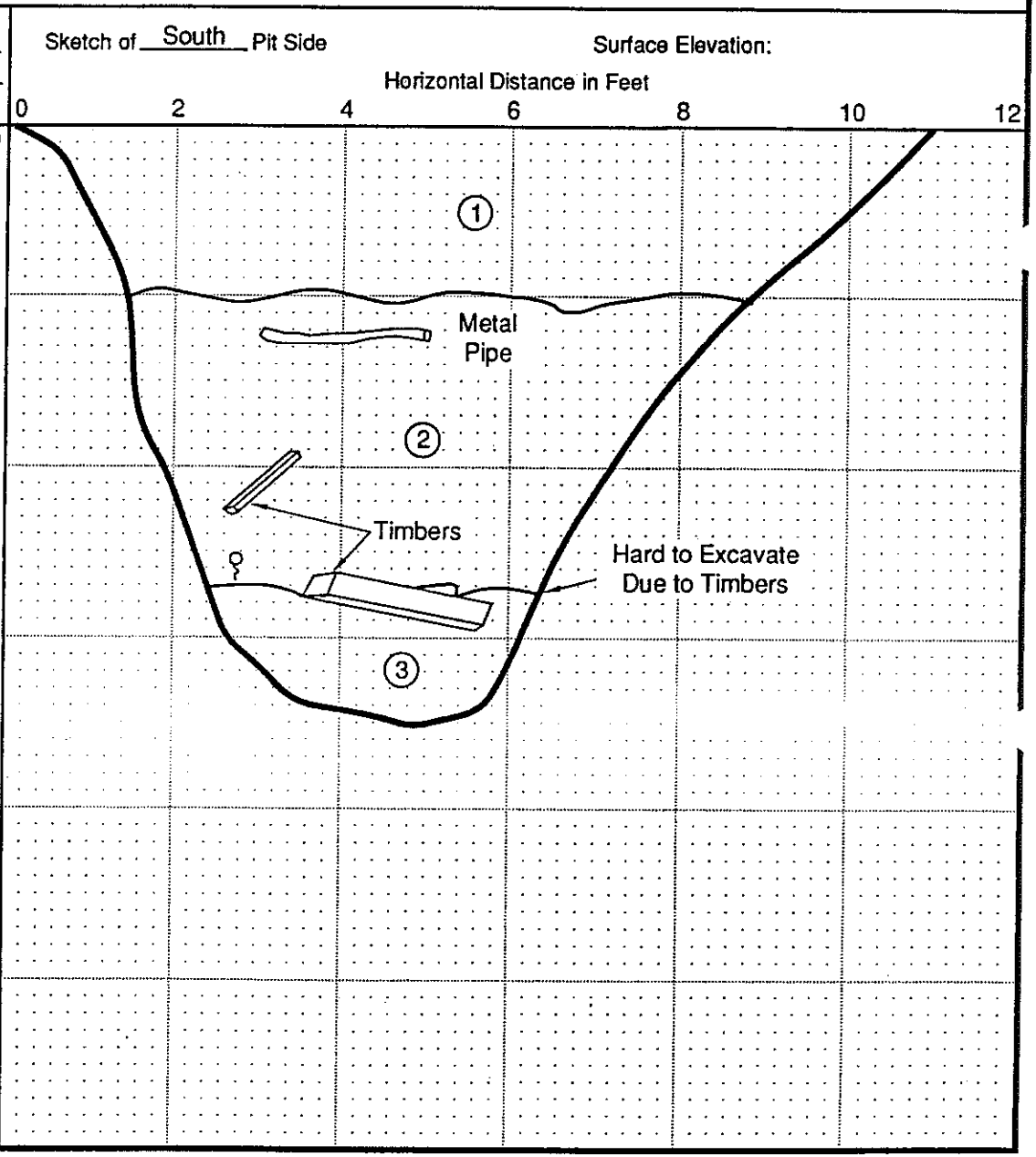


FIG. O

SHANNON & WILSON, INC.
Geotechnical Consultants

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

PROJECT: Port Blakely Tree Farm

LOG OF TEST PIT TP-2

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
(1) Loose, dark brown, silty, medium SAND; dry (TOPSOIL)				0
(2) Red masonry brick mixed in with topsoil; grades into next layer; dry				2
(3) Very loose, brown, medium SAND with shell fragments; stratified layers of SAND with 5-12% shell fragments and layers of SAND with >12% shell fragments; layers are 1/2" to 3" thick; moist (BEACH SANDS)				4
				6
				8
				10
				12

NOTE:

Ended test pit due to sides sloughing intensely.

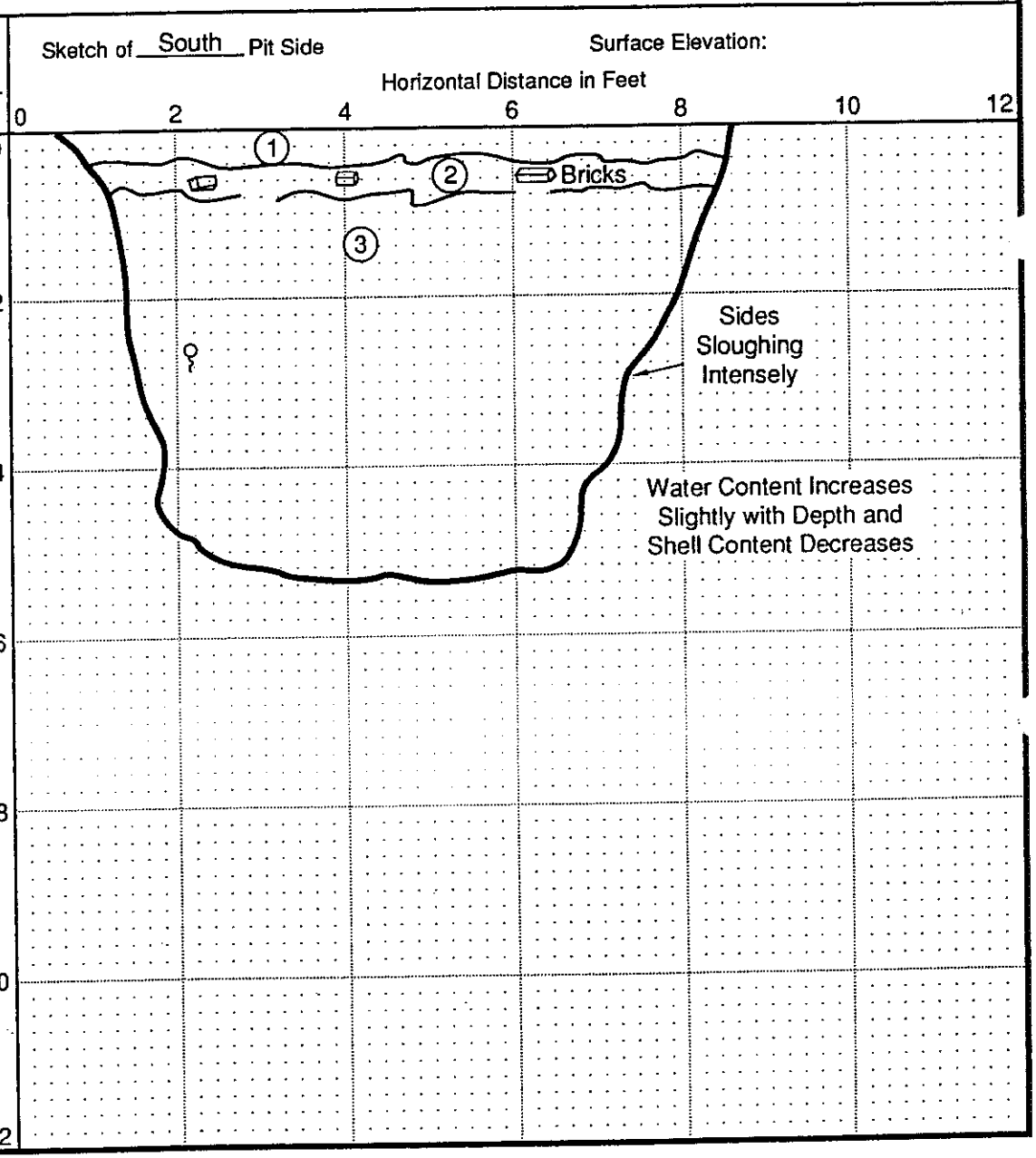


FIG. O

SHANNON & WILSON, INC.
Geotechnical Consultants

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

PROJECT: Port Blakely Tree Farm

LOG OF TEST PIT TP-3

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
(1) Loose, black SILT; abundant burned timbers; moist; roots in the top 0.5 feet - rotten egg odors at 3 and 4.5 feet - no readings on the MSA				0
(2) Loose, reddish-brown silty, sandy GRAVEL interspersed with loose, gray, silty, sandy GRAVEL; wet				2
				4
				6
				8
				10
				12

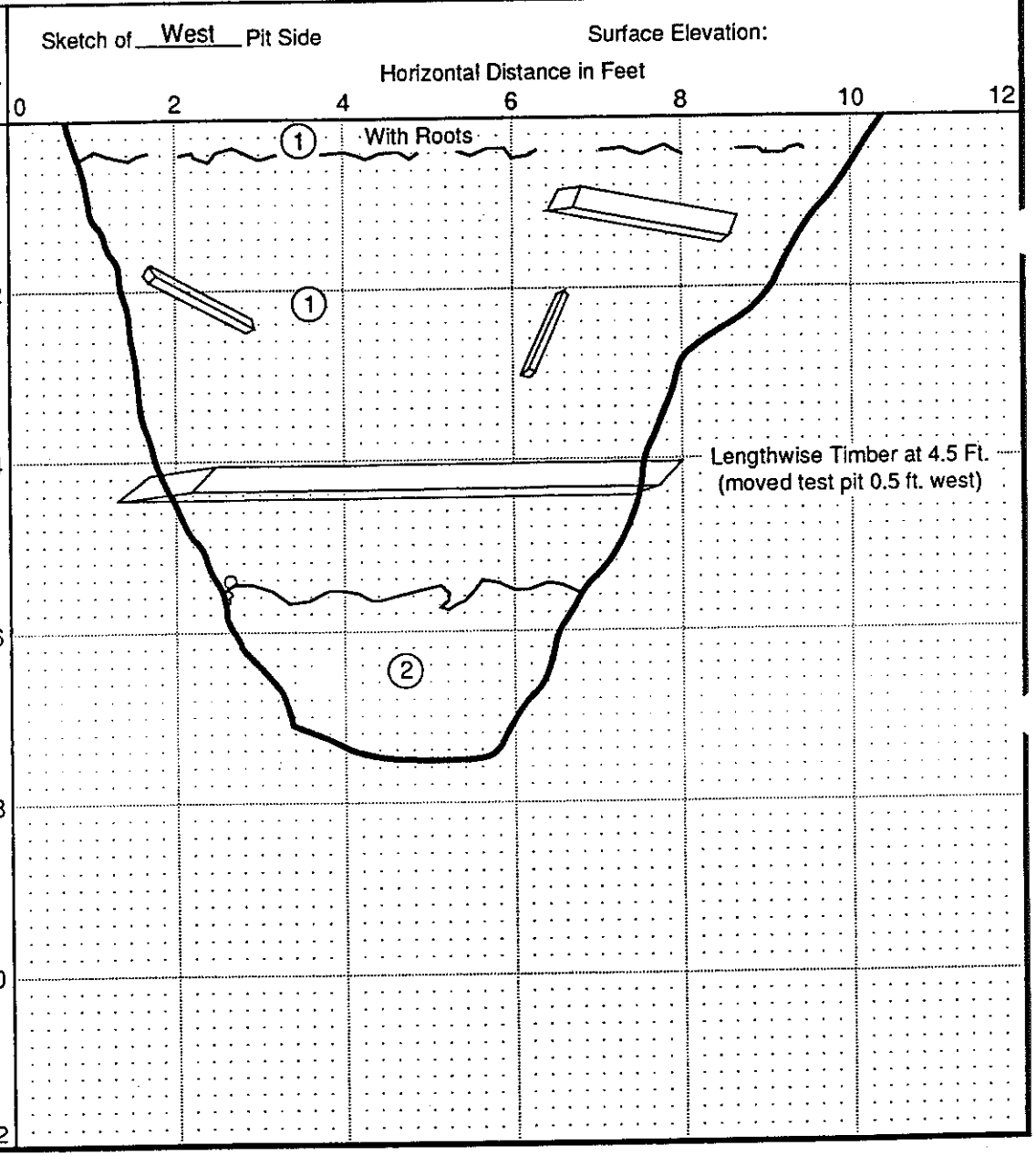


FIG. O

SHANNON & WILSON, INC.
Geotechnical Consultants

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

PROJECT: Port Blakely Tree Farm

LOG OF TEST PIT TP-6

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
① Loose, black, fine sandy SILT; organic fines; roots; moist (TOPSOIL)			S-1 (Jar)	0
② Loose, black, silty, fine sand; lenses of loose, brown, silty SAND; abundant shell fragments; moist				2
- burned timber and lenses of sawdust/wood chips encountered in soil at approximately 5.0 feet	▽			4
③ Loose, gray, sandy GRAVEL; wet				6
				8
				10
				12

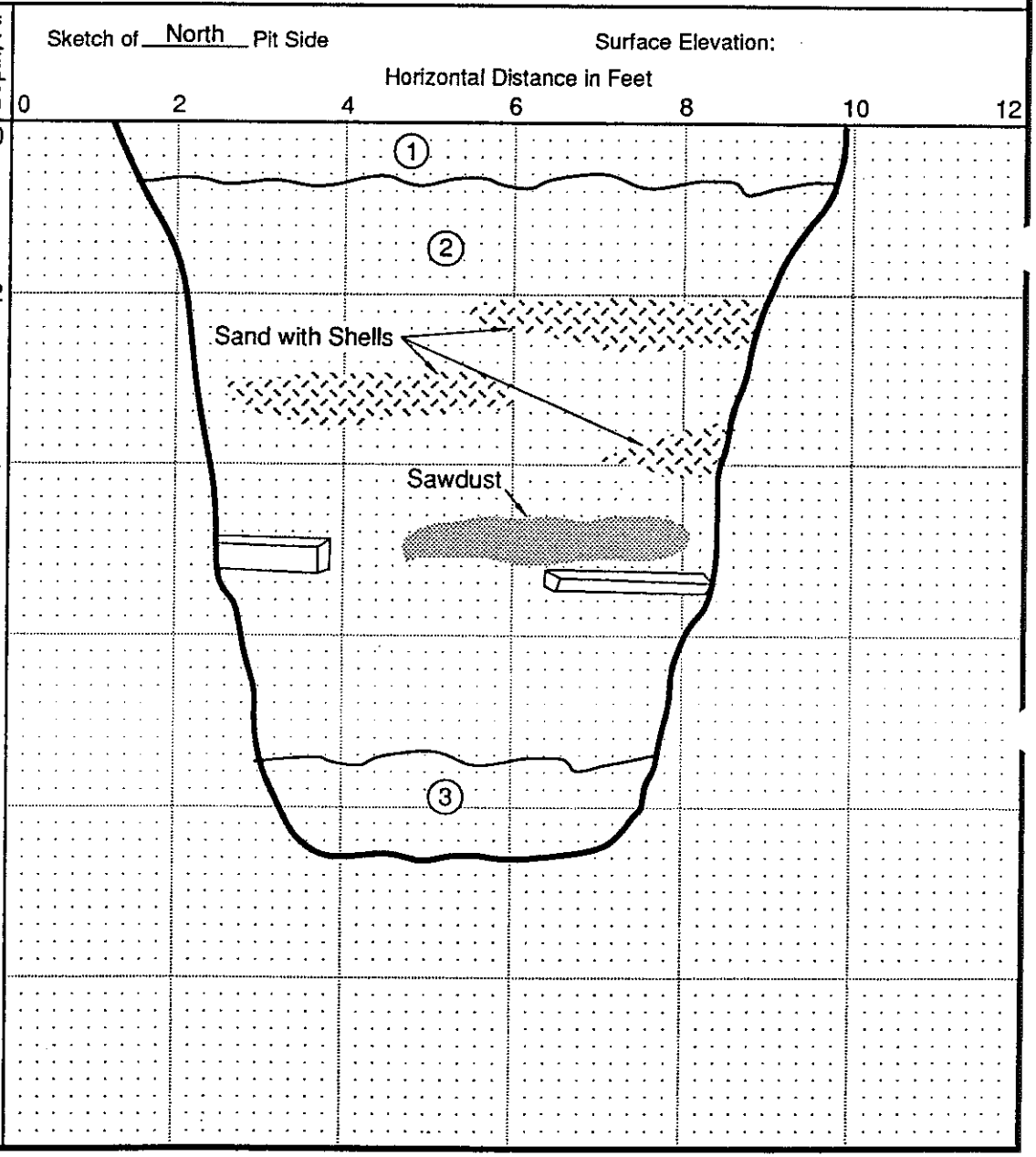


FIG. O

SHANNON & WILSON, INC.
Geotechnical Consultants

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

PROJECT: Port Blakely Tree Farm

LOG OF TEST PIT TP-7

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
(1) Loose, black, fine sandy SILT; organic fines; roots; moist (TOPSOIL)			S-1 (Jar)	0
(2) Loose, brown, silty SAND, extremely abundant burned timbers; moist - slight rotten egg odor - no registered reading on MSA - lots of burned timbers and at least 4 pilings made excavation extremely difficult				2
(3) Loose, black, silty, sandy GRAVEL; wet	▽			4
				6
				8
				10
				12

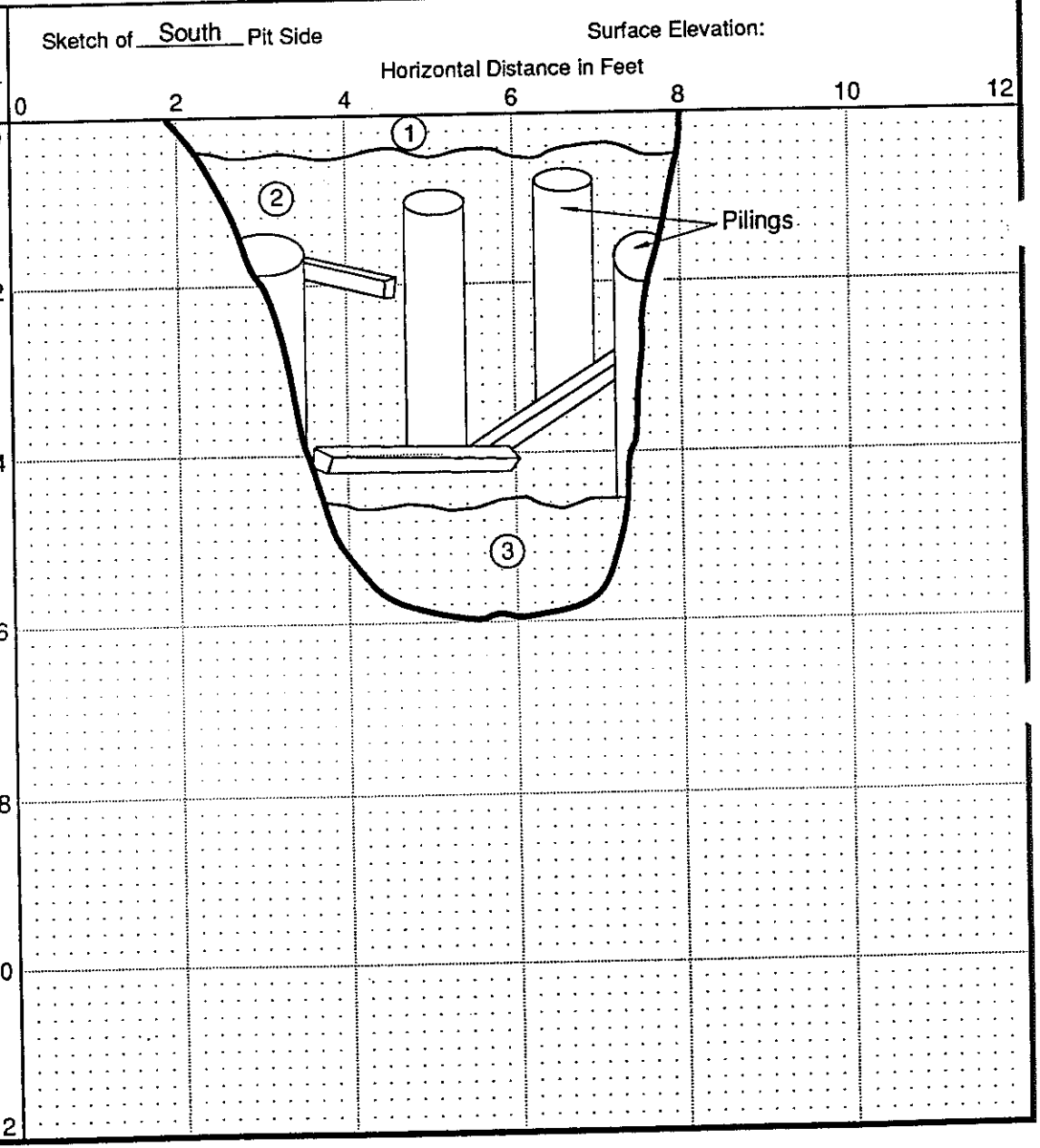


FIG. O

SHANNON & WILSON, INC.
Geotechnical Consultants

LOG OF TEST PIT TP-8

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

PROJECT: Port Blakely Tree Farm

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
(1) Loose, black, fine sandy SILT; ashes and organic fines; dry; roots to 2 feet (TOPSOIL)				0
(2) Loose, brown, silty, fine SAND, moist			S-1	2
(3) Very loose, black, fine sandy SILT and clayey, fine sandy SILT; abundant charcoal; wet				4
- some timbers at about 5.8 feet	▽		S-2	6
				8
				10
				12

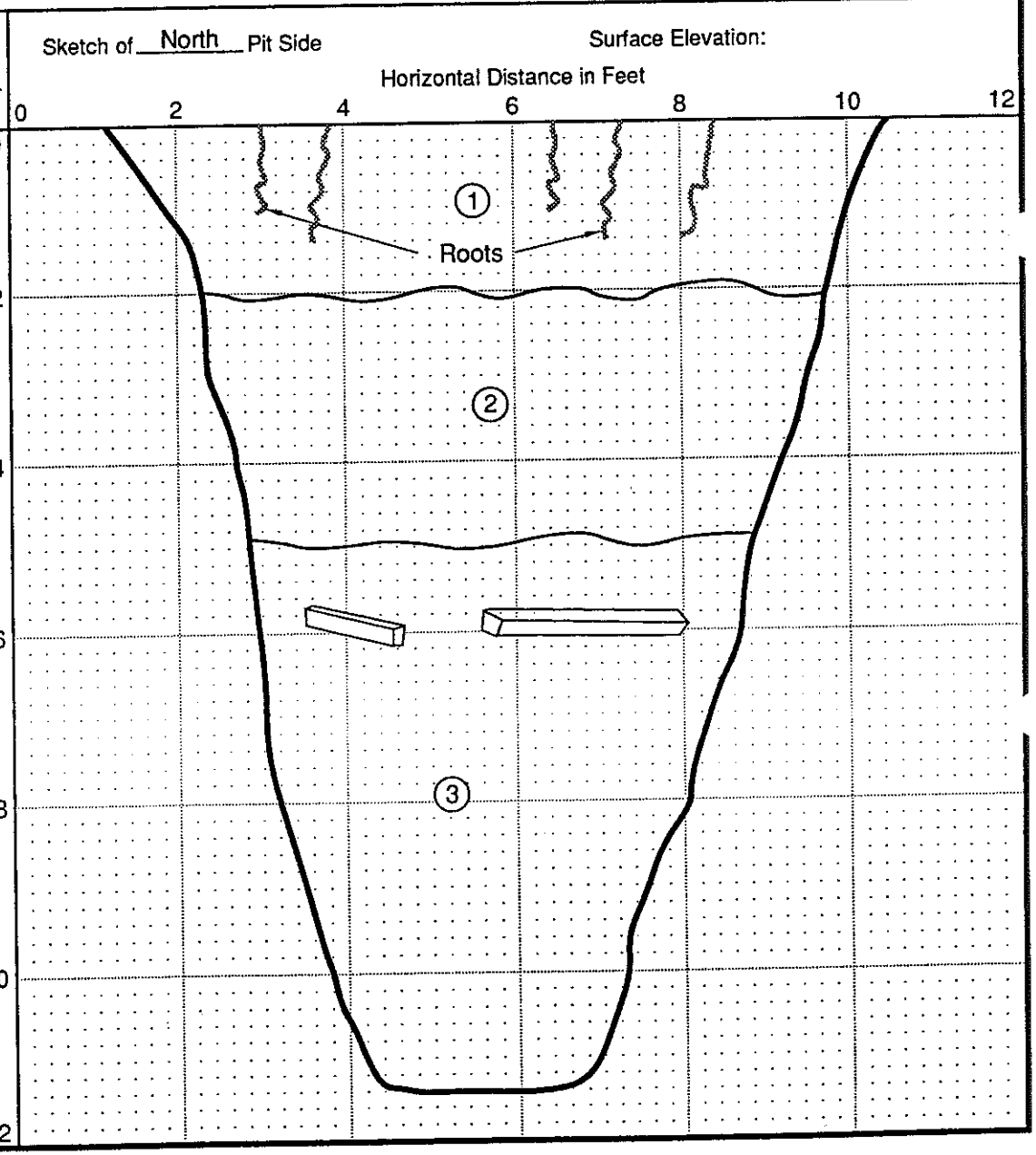


FIG. O

SHANNON & WILSON, INC.
Geotechnical Consultants

JOB NO: T-1198-02 DATE: 9-27-90 LOCATION: See Site Plan

LOG OF TEST PIT TP-10

PROJECT: Port Blakely Tree Farm

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
(1) Loose, brown, silty SAND; roots; dry (TOPSOIL)				0
(2) Medium, light brown, medium SAND; abundant shell fragments, trace of silt; moist (BEACH SAND)				2
(3) Medium, brown, silty, sandy GRAVEL; wet				4
				6
				8
				10
				12

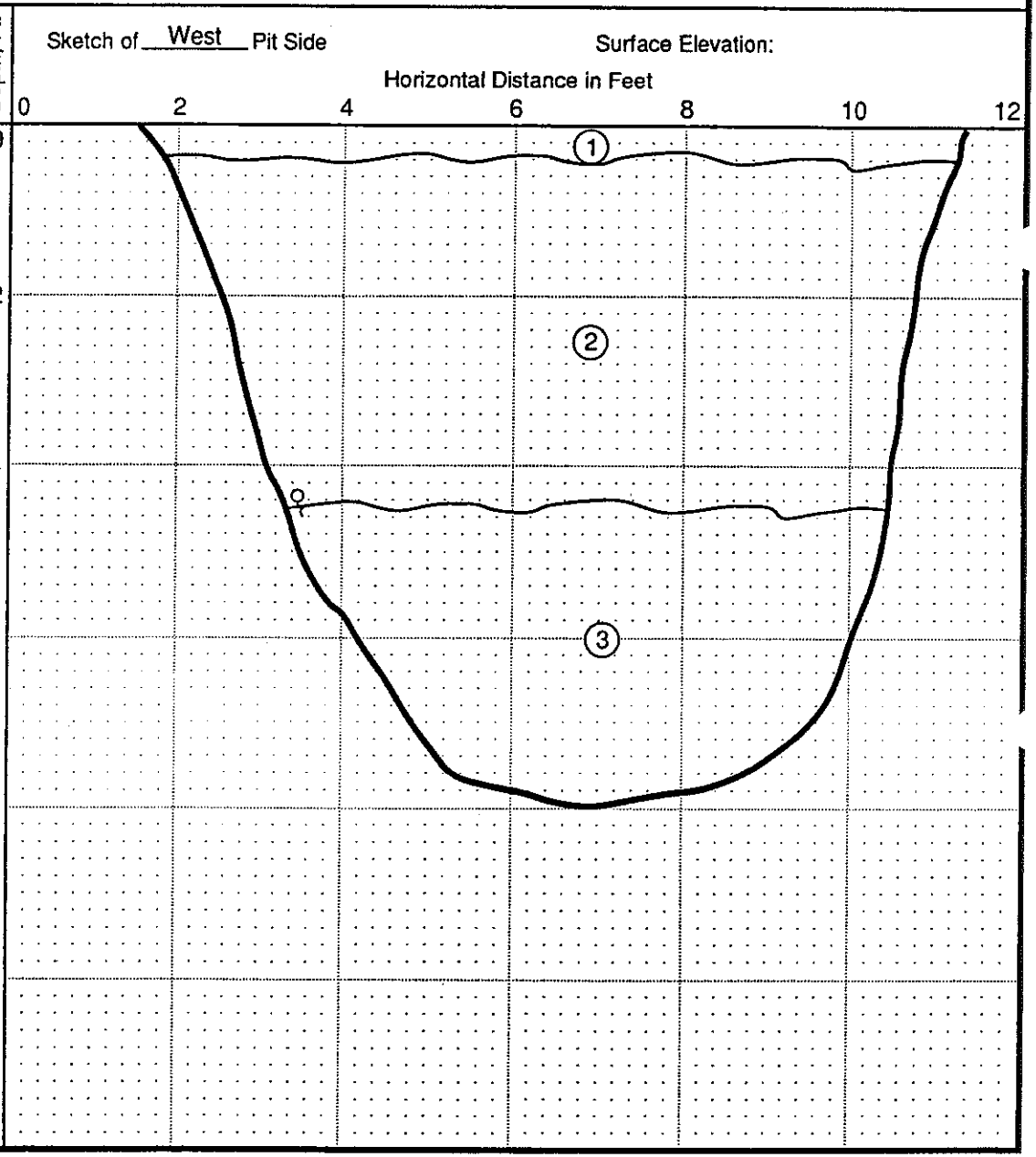


FIG. O

APPENDIX B

LABORATORY ANALYTICAL DOCUMENTATION

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

April 8, 1992

Kim Fenske, Project Leader
Shannon & Wilson, Inc.
P.O. Box C-30313
Seattle, WA 98103

Dear Ms Fenske:

Enclosed are the results of the analyses of the samples submitted on April 3, 1992 from Project T-1198-02.

Review of the quality assurance data showed that some of the matrix spike recovery results were unexpectedly low. The poor recoveries appear to be due to the presence of a high level of dissolved solids and/or high levels of interfering elements. Examination of the spike blank and continuing calibration results showed that they were still within the expected range. These results suggest that the low recoveries are the result of a matrix effect associated with the sample. If this is not satisfactory for your particular project, please contact me as soon as possible.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Janet Sheldon, Chemist

JS/dp

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: April 8, 1992
Date Submitted: April 3, 1992
Project: T-1198-02

RESULTS OF ANALYSES OF THE SOIL SAMPLES FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) METHOD 6010
Results Reported as µg/g (ppm)

Sample #	T1198-TP8-001-SL-0	T1198-TP3-002-SL-0	T1198-TP1 003-SL-0	T1198-TP1-004-SL-1
Analyte:				
Arsenic	6	3	11	9
Barium	300ve	5	85	45
Cadmium	<1	<1	<1	<1
Chromium	10	2	12	9
Lead	26	120	55	13
Mercury	<1	<1	<1	<1
Selenium	<1	<1	<1	1
Silver	<1	<1	<1	<1
Copper	55	24	9	8
Nickel	10	2	11	8
Zinc	60	13	27	23

ve - The value reported exceeded the calibration range established for the sample.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: April 8, 1992
Date Submitted: April 3, 1992
Project: T-1198-02

RESULTS OF ANALYSES OF THE SOIL SAMPLES FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) METHOD 6010
Results Reported as µg/g (ppm)

Sample #	T1198-TP4-005-SL-0	T1198-TP2-006-SL-0	T1198-TP7-007-SL-0	T1198-TP6-008-SL-0
Analyte:				
Arsenic	<1	5	4	<1
Barium	1	26	18	1
Cadmium	<1	<1	<1	<1
Chromium	<1	19	14	<1
Lead	18	7	7	1
Mercury	<1	<1	<1	<1
Selenium	<1	<1	<1	<1
Silver	<1	<1	<1	<1
Copper	7	34	34	2
Nickel	<1	16	16	1
Zinc	19	34	34	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: April 8, 1992
Date Submitted: April 3, 1992
Project: T-1198-02

RESULTS OF ANALYSES OF THE SOIL SAMPLES FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) METHOD 6010
Results Reported as µg/g (ppm)

Sample #	T1198-TP5-009-SL-0	T1198-TP10-010-SL-0	T1198-TP10-011-SL-1	T1198-BG-012-SL-0
Analyte:				
Arsenic	<1	5	7	8
Barium	1	19	23	270ve
Cadmium	<1	<1	<1	2
Chromium	<1	27	30	49
Lead	<1	7	8	10
Mercury	<1	<1	<1	<1
Selenium	<1	2	<1	2
Silver	<1	<1	<1	<1
Copper	<1	51	46	84
Nickel	<1	26	29	25
Zinc	<1	35	37	51

ve - The value reported exceeded the calibration range established for the sample.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: April 8, 1992
Date Submitted: April 3, 1992
Project: T-1198-02

RESULTS OF ANALYSES OF THE SOIL SAMPLES FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) METHOD 6010
Results Reported as µg/g (ppm)
Quality Assurance

Sample #	Method Blank	T1198-TP10-011-SL-1 (Duplicate)	T1198-BG8-012-SL-O (Duplicate)
Analyte:			
Arsenic	<1	6	7
Barium	<1	22	290ve
Cadmium	<1	<1	2
Chromium	<1	27	51
Lead	<1	7	11
Mercury	<1	<1	<1
Selenium	<1	3	<1
Silver	<1	<1	<1
Copper	<1	54	88
Nickel	<1	26	26
Zinc	<1	36	55

ve - The value reported exceeded the calibration range established for the sample.

APPENDIX C

CHAIN-OF-CUSTODY FORMS

B-JS-4

Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2056 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

Chain of Custody Record

Laboratory FBI

Attn:

Analysis Parameters/Sample Container Description
(Include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	EPA (3050/6010) RCRA + 3WA	TCLP RCRA + 3WA					Total Number of Containers	Remarks/Matrix
T1198-TP8-001-SL-0	28384/85	0855	4/3/92		✓	✓						2	
T1198-TP3-002-SL-0	86/87	0915	4/3/92		✓	✓						2	
T1198-TP1-003-SL-0	88/89	0940	4/3/92		✓	✓	✓					~~8~~ 12	Note Change - DH
T1198-TP1-004-SL-1	90/91	0940	4/3/92		✓	✓						~~1~~ 12	Change - DH
T1198-TP4-005-SL-0	92/93	1005	4/3/92		✓	✓						2	
T1198-TP2-006-SL-0	94/95	1025	4/3/92		✓	✓						2	
T1198-TP7-007-SL-0	96/97	1050	4/3/92		✓	✓						2	
T1198-TP6-008-SL-0	98/99	1112	4/3/92		✓	✓						2	
T1198-TP5-009-SL-0	28400/01	1132	4/3/92		✓	✓						2	
T1198-TP10-010-SL-0	02/03	1203	4/3/92		✓	✓	✓					~~8~~ 12	Change - DH

Project Information		Sample Receipt	
Project Number:	T-1198-02	Total Number of Containers	24
Project Name:	-11-	COC Seals/Intact? Y/N/NA	
Contact:	KIM FENSKE	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler:	KF/TF	(attach shipping bill, if any)	

Instructions

Requested Turn Around Time: STANDARD

Special Instructions:

(Coc #: 14042, 14043)

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Kim Fenske Time: 1510	Signature: Time:	Signature: Time:
Printed Name: KIM FENSKE Date: 4-3-92	Printed Name: Date:	Printed Name: Date:
Company: SHANNON & WILSON	Company:	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: Time: 1510	Signature: Time:	Signature: Time:
Printed Name: J. Sheldon Date: 4-3-92	Printed Name: Date:	Printed Name: Date:
Company: FBI	Company:	Company:

F-19-91/UR

No. 10378

Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2055 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

Chain of Custody Record

Laboratory FBI

Attn:

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identify	Lab No.	Time	Date Sampled	Comp.	Grab	EPA (3050/6010) RCRA + 3WA	TCLP RCRA + 3WA					Total Number of Containers	Remarks/Matrix
T1198-TP10-011-SL-1	28404/05	1203	4/3/92		✓	✓						2	14...
T1198-B68-012-SL-0	↓ 06/07	1252	4/3/92		✓	✓						2	↓

Project Information		Sample Receipt	
Project Number:	T-1198-02	Total Number of Containers	
Project Name:	"	COC Seals/Intact? Y/N/NA	
Contact:	KIM FENSKE	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler:	KF / TF	(attach shipping bill, if any)	

Instructions

Requested Turn Around Time: STANDARD

Special Instructions:

(COC #'s: 14042, 14043)

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Kim Fenske Time: 1510	Signature: Time:	Signature: Time:
Printed Name: KIM FENSKE Date: 4-3-92	Printed Name: Date:	Printed Name: Date:
Company: SHANNON & WILSON	Company:	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: J. Sheldon Time: 1510	Signature: Time:	Signature: Time:
Printed Name: J. Sheldon Date: 4-3-92	Printed Name: Date:	Printed Name: Date:
Company: FBI	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 10379

Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2055 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

Chain of Custody Record 4-JS-A

4-12

Page 1 of 1
Laboratory FBI
Attn:

Analysis Parameters/Sample Container Description
(Include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	EPA (3050/6010) RCRA+3 WA						Total Number of Containers	Remarks/Matrix
T1198-LP-013-SL-0	28516	1045	4-8-92		/	/						1	SEDIMENTS
T1198-LP-014-SL-0	28517	1100	4-8-92		/	/						1	LOG POND
T1198-LP-015-SL-0	28518	1115	4-8-92		/	/						1	
T1198-LP-016-SL-0	28519	1125	4-8-92		/	/						1	
T1198-LP-017-SL-0	28520	1135	4-8-92		/	/						1	
T1198-LP-018-SL-0	28521	1155	4-8-92		/	/						1	
T1198-BGS-019-SL-0	28522	1240	4-8-92		/	/						1	
T1198-BGS-020-SL-0	28523	1300	4-8-92		/	/						1	

Project Information		Sample Receipt	
Project Number:	T1198-02	Total Number of Containers	8
Project Name:	Port Blakely	COC Seals/Intact? Y/N/NA	
Contact:	KF	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler:	KF TF	(attach shipping bill, if any)	HAND

Instructions

Requested Turn Around Time: Normal / STANDARD

Special Instructions:
COC# (14044, 14045)

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Kim Fenske Time: 1535	Signature: Time:	Signature: Time:
Printed Name: KIM FENSKE Date: 4-8-92	Printed Name: Date:	Printed Name: Date:
Company: SHANNON & WILSON	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 3:40	Signature: Time:	Signature: Time:
Printed Name: M.A. DUNECKO Date: 4-8-92	Printed Name: Date:	Printed Name: Date:
Company: FREEMAN, BELLYA, INC.	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 10374

7-JS-E

7-15-92 (8:55)

Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2055 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

Chain of Custody Record

Page 1 of 1
Laboratory FBI
Attn: #

Analysis Parameters/Sample Container Description
(Include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	TOTAL METALS							Total Number of Containers	Remarks/Matrix
T1198-WP001-100-GW-0	(31192)	1000	7/14/92		✓	✓							1	WATER/SEDIMENTS
T1198-WP002-101-GW-0	(31193)	1140	7/14/92		✓	✓							1	
T1198-WP003-102-GW-0	(31194)	1410	7/14/92		✓	✓							1	
T1198-BG004-103-GW-0	(31195)	1455	7/14/92		✓	✓							1	

Project Information		Sample Receipt	
Project Number:	T-1198-02	Total Number of Containers	4
Project Name:	#	COC Seals/Intact? Y/N/NA	
Contact:	KIM FENSKE	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler:	KIM FENSKE	(attach shipping bill, if any)	

Instructions

Requested Turn Around Time: 5 DAY

Special Instructions: CALL IF CONCENTRATIONS ABOVE REGULATORY LEVELS.

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Kim Fenske Time: 0840	Signature: Time:	Signature: Time:
Printed Name: KIM FENSKE Date: 7-15-92	Printed Name: Date:	Printed Name: Date:
Company: SHANNON & WILSON	Company:	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: Greg Monte Time: 0839	Signature: Time:	Signature: Time:
Printed Name: Greg Monte Date: 7-15-92	Printed Name: Date:	Printed Name: Date:
Company: FBI	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 11553

INTERTIDAL SAMPLING AND ANALYSIS REPORT

BLAKELY HARBOR PARK

Prepared for

City of Bainbridge Island, Washington

Prepared by

Anchor Environmental, L.L.C.
1423 Third Avenue, Suite 300
Seattle, Washington 98101

January 2009

INTERTIDAL SAMPLING AND ANALYSIS REPORT

BLAKELY HARBOR PARK

Prepared for

City of Bainbridge Island, Washington

Prepared by

Anchor Environmental, L.L.C.
1423 Third Avenue, Suite 300
Seattle, Washington 98101

January 2009

Table of Contents

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1 INTRODUCTION

The City of Bainbridge Island (the City) is evaluating a range of potential shoreline restoration options at Blakely Harbor, Kitsap County, Washington (Figures 1 and 2). The project area is located in Blakely Harbor Park at the head of Blakely Harbor on Bainbridge Island. In the late 1800s, the park site was home to one of the largest sawmills on the Pacific Coast, which by the turn of the century was producing more than 100 million board feet of lumber per year. While the harbor has undergone a nearly 90-year period of limited development and natural recovery since closure of the Port Blakely mill in 1922, remnants of the former mill still remain within the intertidal area of the park. Remnant shoreline modifications and woody debris accumulations within the project area currently impact nearshore and estuarine processes and habitats.

The project site is owned by the Bainbridge Island Metropolitan Parks and Recreation District (the Park District), which acquired the park site in 2000 for passive recreation such as picnicking, kayaking, and wildlife viewing. Ongoing feasibility studies by the City and Park District are evaluating the opportunities, benefits, and risks of performing shoreline restoration actions at Blakely Harbor Park as called for in the Blakely Harbor Park Conceptual Plan. The feasibility studies are intended to be used by the community, the Park District, the City, and other stakeholders to inform upcoming decisions on the appropriate scope of habitat restoration actions at the park.

The intertidal sampling and analysis activities summarized in this report are more specifically described in the Sampling and Analysis Plan (SAP) dated July 2008 (Anchor 2008), which outlined plans for field reconnaissance to delineate the approximate extent of woody debris accumulations within the project area, followed by focused intertidal sediment and seep sampling to support feasibility study evaluations of potential shoreline restoration options. The SAP was prepared consistent with current Puget Sound Estuary Program (PSEP) and U.S. Environmental Protection Agency (EPA) protocols for sampling and analysis (EPA 1986, PSEP 1986; PSEP 1997a, b, and c). The contents and structure of the SAP were also in line with guidance provided in the Washington State Department of Ecology's (Ecology's) *Sediment Source Control Standards User Manual, Appendix B: Sediment Sampling and Analysis Plan Appendix* (Ecology 2008).

Intertidal reconnaissance and sampling in the project area occurred over the period from July 31 to September 12, 2008. This sampling and analysis report describes each activity and presents the site characterization data.

1.1 Study Objectives

As discussed in the SAP, the primary sampling and analysis objectives of this work included:

- Preliminary delineation of the horizontal and vertical extent of woody debris within intertidal and shallow subtidal zones of the study area based on site reconnaissance conducted during low tide conditions, supplemented with focused test pit observations and offshore diver surveys
- Characterization of surface and subsurface chemical concentrations within and below the accumulated woody debris materials to support feasibility study evaluations of potential restoration options
- Characterization of target woody debris degradation products in groundwater, as expressed in surficial seeps within the intertidal zone
- General description of biological conditions in the study area

1.2 Previous Sampling Conducted for Port Blakely Tree Farms Company

Previous soil and sediment sampling was performed for the Port Blakely Tree Farms Company in 1992 as part of an initial characterization of hazardous substance concentrations in the Blakely Harbor Park area (Shannon and Wilson 1992). These prior investigations included collection of surface and near-surface soil and sediment samples from various locations within the former mill area, and analysis of these samples for a range of metals and petroleum hydrocarbons. The Shannon and Wilson (1992) sampling locations are depicted in Figure 3, and sampling results are summarized in Appendix D. As discussed in the Shannon and Wilson (1992) report, none of the 1992 surface samples exceeded risk-based screening criteria for metals or petroleum hydrocarbons. However, the 1992 sampling did not characterize the nature and extent of wood debris or the quality of subsurface materials present in the park area. Pertinent conclusions of the Shannon and Wilson (1992) report are referenced herein as appropriate.

2 INTERTIDAL WOODY DEBRIS ASSESSMENT

The SAP describes the use of piston cores, geoprobes, and/or hollow-stem auger explorations to determine the thickness of woody debris in the mid- to lower intertidal areas of the study area and concurrently collect samples for chemical analysis of sediments (Anchor 2008). However, because of access constraints and the nature of the woody debris in the study area, sample collection techniques were necessarily modified from those described in the SAP. For example, during initial site reconnaissance, it was determined that the density of the woody debris in the study area (e.g., bark and dimensional lumber) was such that piston cores or geoprobes could not fully penetrate these materials. Hollow-stem auger drilling was also initially considered for the intertidal explorations, but access from land was determined to be too difficult, and deployment of a drill rig from a boat was also not cost-effective for this initial assessment.

To address these site conditions, a combination of hand-driven piston cores, steel probe soundings (using rebar), and test pits were used to collect wood debris and sediment samples, and to estimate the thickness of woody debris at the sampling locations. Sampling station coordinates are listed in Table 1. Sampling and analysis activities are described in the sections below.

2.1 Intertidal Area Explorations

Hand-driven piston cores were advanced in the study area on July 31, 2008, during low tide conditions, initially targeting the presumed boundaries of the woody debris deposits. Within the former mill pond at the western end of Blakely Harbor (Figure 2), hand-driven piston cores were advanced from a boat as the tide rose. Three cores (BH-01, BH-03, and BH-04) were advanced at mid- and upper intertidal locations depicted on Figure 3, but dense coarse sand present on the sediment surface resulted in poor penetration and recovery at these locations. However, no wood debris was observed at the sediment surface at these stations, and subsequent steel probe soundings confirmed the absence of substantial near-surface woody debris accumulations in this area.

Piston core BH-02 was collected in the lower intertidal zone (at an elevation of approximately +2 feet mean lower low water [MLLW]), near the eastern boundary of the park property (Figure 3). Surface sediments at BH-02 consisted of black sandy silt with a slight oily sheen. Near-surface sediments in this area consisted of gravel/sand material with

abundant glass, wood, and other debris. The steel probe penetrated to 6 feet below mudline at this station, indicating a debris thickness at BH-02 of approximately 6 feet. However, the presence of relatively large near-surface wood material prevented the recovery of material lower than 0.7 foot below mudline in the core. To support evaluations of potential restoration and reuse or disposal options, a composite sample of sediment and debris material collected from 0 to 0.7 feet below mudline at BH-02 was submitted for analysis of Dredged Material Management Program (DMMP) physical and chemical parameters including grain size, total solids, total volatile solids (TVS), total organic carbon (TOC), total ammonia and sulfide, metals, semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), pesticides, porewater tributyltin (TBT), and chlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans), in accordance with the SAP.

Intertidal and shallow subtidal sediments in the former Port Blakely mill wharf area are characterized by considerable amounts of inorganic debris (e.g., bricks) and woody debris including logs, dimensional lumber, piles bark, and mill ends, as shown in Photographs 1 through 4 in Appendix A. Three representative cores (BH-09, BH-10, and BH-11) were advanced in this area, and all three core locations contained approximately 100 percent surface wood material (Figure 3). The depth of woody material at these locations was estimated using steel probe soundings. The 10-foot-long probe was driven into the deposits multiple times by hand at each station to penetrate through small spaces in the wood and make contact with underlying native sand/silt sediments. Sampling results are discussed below.

At station BH-09, consistent drives with the steel probe were met with hard refusal at 5 to 6 feet below mudline. Hard refusal at approximately 4 feet below mudline occurred at locations BH-10 and BH-11. These measurements, along with the BH-02 observations summarized above, indicate that woody debris accumulations throughout the former Port Blakely mill intertidal wharf area extend approximately 4 to 6 feet below mudline. Abundant piling stubs from the former wharf are also present in the upper intertidal areas, and the flat tops of cut off piles were frequently observed in the lower intertidal area.

To support evaluations of potential restoration and reuse or disposal options, samples of near-surface sediment and associated debris (excluding wood material greater than 1 inch) at BH-09, BH-10, and BH-11 were collected from 0 to 2 feet below mudline using a long-handled decontaminated spoon. The collected material consisted of olive to brown wood pulp and silt with dark olive decayed wood material with silt. There was little shell material present, and few benthic organisms were observed at any of the three sample locations. The composite sample was submitted for analysis of DMMP physical and chemical parameters in accordance with the SAP, excluding VOCs. Discrete samples from BH-09, BH-10, and BH-11 were analyzed for VOCs.

Similar to sediment conditions in the mid- and lower intertidal zone of the study area as discussed above, surface sediments in the upper intertidal zone of the former Port Blakely mill consist primarily of coarse sand and gravel/cobble with abundant large brick debris and remnants of piles (see Photographs 5 through 7 of Appendix A). Based on test pits advanced in this area as discussed below, surface sediments throughout the upper intertidal area are underlain with large woody material. Near the mean higher high water (MHHW) elevation, sawdust mats and similar materials are also evident within the sand substrate.

Three upper intertidal test pits were advanced in the study area on September 12, 2008, at an elevation of approximately +7 feet MLLW. Test pits were advanced using a 6-foot-wide track-mounted excavator with a hydraulic bucket capable of digging a 9-foot-deep hole (Photograph 8 of Appendix A). The test pits were advanced by High Meadows Excavating of Poulsbo, Washington. Test pit locations are depicted on Figure 3.

Subsurface sediment materials observed in test pits BH-P01 and BH-P02 (Figure 3) were comprised of black large woody material and dense orange sawdust layers to a depth of approximately 8 feet below mudline (see Photograph 9 of Appendix A). At each test pit, the excavator piled up material from the hole off to the side in a stockpile (see Photograph 10 of Appendix A). Sample material from each test pit was obtained by compositing randomly selected portions of the stockpile to represent material from the entire 0-to 8-foot depth. The composite sample was submitted for analysis of DMMP physical and chemical parameters in accordance with the SAP, excluding VOCs. Discrete samples from BH-P01 and BH-P02 were analyzed for VOCs.

Beginning approximately 8 feet below mudline, dense gray sand and gravel with no woody debris was encountered, and was provisionally interpreted as native material. Groundwater was also encountered at the woody debris/native sediment contact. Discrete samples of native sand materials were collected at depths of approximately 8 to 9 feet below mudline at both BH-P01 and BH-P02, and samples from both locations were submitted for analysis of Sediment Management Standards (SMS) physical and chemical parameters in accordance with the SAP.

While a third test pit (BH-P03) was initiated (Figure 3), extensive large wood material at this location prevented the excavator from advancing below 3 to 4 feet below mudline (see Photograph 11 of Appendix A). Thus, this sampling location was abandoned and backfilled without collecting a sample.

2.2 Mill Pond Explorations

As discussed above, the former mill pond area was accessed by boat during a rising tide on July 31, 2008. Hand-driven piston cores were advanced at four locations (BH-05, BH-06, BH-07, and BH-08), as shown on Figure 3. Core recovery of approximately 2 to 3 feet below mudline was achieved at cores BH-05, BH-06, and BH-07. The upper 2 to 3 feet of these cores consisted of organic silt and sand with little or no woody debris. Material at the bottom of each of these three cores revealed that refusal was due to the presence of surface woody debris beginning approximately 2 to 3 feet below mudline. Sediments at core BH-08, located at the southern end of the former mill pond, were comprised of dense coarse sand material with little or no woody debris. Core penetration at BH-08 was limited to 0.5 to 1 foot below mudline.

Native contact was not achieved in any of the four cores advanced within the former mill pond area. Material from the upper 2 feet of cores BH-05, BH-06, and BH-07 were composited at the laboratory into one sample and analyzed for DMMP physical and chemical parameters in accordance with the SAP, excluding VOCs. Discrete samples from BH-05, BH-06, and BH-07 were analyzed for VOCs.

To further characterize the thickness and depth of woody debris material below the near-surface silt and sand layer, further sampling of the former mill pond occurred on September

24, 2008, during high tide conditions. Several locations were selected at random, and a steel probe was advanced through the recent near-surface silt/sand and through at least a portion of the underlying woody debris. The probe data indicated that at least 2 feet of large woody debris (likely including logs) underlies the more recently deposited surface silt and sand (i.e., woody debris is present from approximately 2 to 4 or more feet below mudline in the former mill pond area). However, the depth of the native sediment layer could not be conclusively determined with the steel probe measurements.

2.3 Sediment Chemistry Results

As discussed in the SAP and outlined above, the goals of the sediment characterization were twofold:

1. Characterize chemical concentrations in native sediments that underlie woody debris to assess prospective sediment surface quality conditions for restoration options that include wood debris removal. The appropriate criteria for this comparison are Sediment Quality Standard (SQS) chemical criteria under the Sediment Management Standards (SMS).
2. Characterize chemical concentrations in woody debris sediment to determine potential beneficial reuse and/or disposal opportunities for these materials. The appropriate criteria for these evalutions include Washington State Model Toxics Control Act (MTCA) Method A soil cleanup standards for upland beneficial reuse, and DMMP sediment quality criteria for in-water beneficial reuse or unconfined open-water disposal at the nearby Elliott Bay non-dispersive site.

Chemical analysis results for sand sediments present below the woody debris layer (i.e., 8 to 9 feet below mudline in upper intertidal test pits BH-P01 and BH-P02; Figure 3) are compared to SQS chemical criteria in Table 2. While SMS criteria for wood debris are developed by Ecology on a case-by-case basis, potential impacts to benthos are often indicated by sediments with surface TVS levels above 25 percent (Kendall and Michelsen 1997), and this value was used as an initial SMS screening criterion. For non-polar organic chemicals such as PCBs and certain SVOCs, the SQS chemical criteria are expressed on an organic carbon-normalized basis. All chemical concentrations in subsurface samples collected 8 to 9 feet below mudline were well below SQS chemical criteria, consistent with interpretations of these materials as the native sediment layer.

Near-surface sediment chemical concentrations were analyzed in discrete and composite samples collected within 2 feet of mudline within the study area. While the point of compliance for SMS comparisons is the biologically active zone, which is typically defined in Puget Sound as surface sediments collected within 0.3 feet of mudline, the following near-surface sediment samples were collected sufficiently close to the surface to support a preliminary screening comparison (Table 2):

- Within the former mill pond (BH-05, BH-06 and BH-07 composite; 0 to 2 feet below mudline)
- In front of the former Blakely Mill wharf (BH-09, BH-10 and BH-11 composite; 0 to 2 feet below mudline)
- In front of the former Blakely Mill wharf near the eastern boundary of the project area (sample BH-02; 0 to 0.7 feet below mudline)

While the 0 to 2-foot surface composite sample from the former mill pond contained chemical concentrations below SQS chemical criteria, the two near-surface samples collected in front of the former Blakely Mill wharf (discrete sample BH-02 and composite sample BH-09/10/11) exceeded SQS criteria for the following chemicals or chemical groups:

- Woody debris indicators (TVS and phenol)
- Metals (copper, lead, and zinc)

Because wood debris cleanup standards are developed under the SMS on a case-by-case basis (i.e., there is no default cleanup level for wood debris in Puget Sound), further surface sediment sampling and/or confirmatory biological testing would be needed to verify whether or not SMS cleanup standards are exceeded in the project area. Where necessary, such verification sampling can be performed by conducting confirmatory sediment bioassays and/or benthic enumeration at selected stations within the project area, and comparing these biological measurements with data from suitable reference locations to characterize the benthic response to woody debris present at the site. This type of biological testing would need to be performed under an amended SAP requiring additional sample collection, along with specialized laboratory protocols to evaluate specific benthic organisms and their reaction to exposure from site sediments. However, depending on the

restoration option to be selected by the City and Park District, the need for sediment cleanup may be obviated by prospective shoreline restoration actions.

Chemical analysis results for the four discrete and composite (plus one field duplicate) near-surface sediment samples collected in the project area are compared to DMMP criteria in Table 3. For locations outside of the log pond area, chemicals exceeding DMMP sediment quality criteria for in-water beneficial reuse or unconfined open-water disposal at the Elliott Bay non-dispersive site included:

- Woody debris indicators (TVS and phenol)
- Metals (copper, lead, mercury, and zinc)
- Polynuclear aromatic hydrocarbons (PAH; potential combustion and/or creosote sources)

Compared to sediment samples collected adjacent to the former Blakely Mill wharf area, relatively low chemical concentrations were detected in near-surface (0 to 2 feet below mudline) silt/sand sediment collected within the former mill pond (BH-05, BH-06, and BH-07; see Table 3 and Figure 3). While the 0 to 2-foot surface composite sample from the former mill pond contained chemical concentrations below SQS chemical criteria (based on TOC-normalized concentrations for hydrocarbons), this same composite sample nevertheless exceeded DMMP beneficial reuse or open-water disposal criteria for a single hydrocarbon chemical (benzo[a]pyrene; dry weight basis). Based on these testing data, woody debris and associated sediments as may be excavated or dredged from the project area would not be suitable for in-water beneficial reuse or unconfined open-water disposal at the Elliott Bay non-dispersive site without additional, more detailed bioassay testing.

Chemical analysis results for the four discrete and composite (plus one field duplicate) near-surface sediment samples collected in the project area are also compared to MTCA unrestricted use soil criteria in Table 3. Chemicals exceeding MTCA Method A soil standards included:

- Metals (arsenic, cadmium, and lead) in the former wharf area
- Benzo(a)pyrene (potential combustion and/or creosote sources) in both the log pond and the former wharf area

Based on these testing data, woody debris and associated sediments as may be excavated or dredged from the project area would not be suitable for unrestricted upland beneficial reuse. However, other potential beneficial reuse and management options for these materials may still be appropriate for consideration in the feasibility study, including incorporation of excavated sediments in on-site subsurface fills, along with associated environmental covenants. These and other options (e.g., off-site landfill disposal) will be considered in more detail as part of the upcoming feasibility study.

2.4 Relationship to Prior Sampling

As discussed in Section 1.2, previous surface soil and sediment sampling was performed for the Port Blakely Tree Farms Company in 1992 as part of an initial characterization of hazardous substance concentrations in the Blakely Harbor Park area (Shannon and Wilson 1992). None of the 1992 surface samples exceeded SQS chemical criteria or MTCA Method A screening criteria for metals or petroleum hydrocarbons. These data suggest that a relatively clean surface layer of soil and sediments currently overlies more contaminated subsurface materials, minimizing current exposures of these hazardous substances to humans (e.g., park users) and protecting terrestrial and aquatic life. However, the 1992 sampling did not characterize the nature and extent of wood debris or the quality of subsurface materials present in the park area.

2.5 Usability of the Data

All of the 1992 and 2008 sampling data were analyzed by Ecology-accredited laboratories using Ecology- approved analytical methods. The analytical data were reviewed by the analytical laboratory to ensure the accuracy and usability of the data. An independent environmental chemist also validated the 2008 sampling data; data validation reports are presented in Appendix C. All of the data presented in this report were determined to be usable for site characterization, consistent with MTCA and SMS requirements, with specific qualifications as discussed below.

Because of the relatively large small-scale variability characteristic of soil and sediment sampling data at contaminated sediment sites, composite sampling strategies were employed as practicable to provide a more representative sample of part of the project area. While discrete samples provide data for a single location or unique site feature, composite

samples provide a more representative sample of sediment conditions at the site, and thus provide a more accurate measure of "true" sediment characteristics throughout the project area.

The composite sample from the former wharf area had an elevated detection limit that was greater than the DMMP screening level for total PCBs. PCBs were manufactured and used in the United States beginning in 1930. However, since the Port Blakely mill closed in 1922, there is little likelihood that PCBs were ever used at the former mill. Moreover, the relatively elevated detection limit reported for total PCBs was due solely to elevated detection limits for a single type of PCB mixture – Aroclor 1221 – a relatively rare form of PCB that is also among the most biodegradable due to its relatively low chlorine content. All information considered, there is no reason to believe that PCBs are present at the site at concentrations of potential concern.

As described in the data validation report, specific analytes in certain samples were tested up to several days after their holding times expired. However, during the holding period, the samples were stored in a refrigerator at 4° C to minimize any potential changes to the sample characteristics that would have occurred during the holding period. Thus, no significant bias in analytical results was identified during the data review, and all of the data presented in this report were determined to be usable for site characterization, consistent with MTCA and SMS requirements, and to support forthcoming feasibility-level evaluations of restoration options for the site.

3 SUBTIDAL DIVER SURVEYS

Diver transects were performed on September 24, 2008. Dive surveys were performed to further characterize the horizontal and vertical extent of woody debris along three transects in the shallow subtidal areas offshore of the former Port Blakely mill and to qualitatively assess biological conditions in the study area. Diver transects were initiated at three locations beginning at approximately 0 feet MLLW, extending approximately 300 feet offshore as shown on Figure 3. Transects started within intertidal areas with relatively high surface woody debris accumulations, and continued offshore until surface woody debris was no longer apparent.

Prior to the beginning of each dive survey, a buoy was placed (using differential gloabal positioning system [DGPS]) at the predetermined locations at approximately the 0 feet MLLW elevation. At the initiation of the survey, the diver attached a 300-foot-long tape to the buoy anchor and extended the tape offshore for 300 feet. The diver swam out from the buoy at each location following a compass course of 120 degrees magnetic using a wrist-worn diver's compass. All three transects were set parallel along the same compass direction. At the offshore end of the transect line, the end point position was recorded using the DGPS held over the bubbles of the diver.

The diver swam the transect line, stopping at 25-foot intervals to record observations along the line. Information was relayed verbally to the data recorder on the vessel using underwater communications equipment. At each data stop, the diver relayed information that included:

- Water depth and time
- General substrate characterization
- Visually observed percent cover of wood debris on the substrate surface
- Visually estimated percent by volume of wood debris below surface sediments
- Visually estimated percent cover and general identification of algal species
- Presence of easily recognized macroinvertebrate species

Recorded data logs are attached to this report in Appendix B. Water depth recorded on the data forms represents depth related to MLLW as calculated using Tides and Currents® software.

3.1 Diver Survey Observations

Data logs recorded during each dive are attached to this report in Appendix B. Water depth recorded on all the data forms and all depths reported in this report represent depth related to MLLW.

Transect 1 was initiated at a depth of +0.7 feet MLLW and ended at a water depth of -25.1 feet MLLW. The predominant surface sediment material consisted of silty sand with crushed rock and shells out 100 feet from the start to a depth of -7.8 feet MLLW. Approximately 300 feet offshore, at the end of the Transect 1, the sediment was predominantly comprised of silt materials. Surface wood debris in excess of 50 percent by volume was present out to 250 feet at a depth of -25.1 feet MLLW. The diver was able to probe below the sediment surface manually to determine that wood debris was approximately 100 percent by volume at 0.7 to 1.0 feet below mudline out to 225 feet along the transect. Wood volume at depth declined to between 40 and 50 percent by volume approximately 1.0 to 1.5 feet below mudline in the last 50 feet of the transect (Figure 3).

Transect 2 was initiated at a depth of +0.2 feet MLLW near the center of the lower intertidal wood debris area offshore of the former powerhouse (Figure 3). The predominant substrate was sandy silt with scattered rocks to 125 feet offshore at a depth of -4.1 feet MLLW. The substrate was silty sand and silt out to 300 feet at a depth of -16 feet MLLW. Surface wood debris ranging from 75 to 100 percent by volume was present to approximately 150 feet and a depth of -4.1 feet MLLW, and declined to between 10 and 50 percent out to 300 feet and a depth of -16 feet MLLW. From approximately 150 feet out to the end of the transect, subsurface wood with a volume of 100 percent was present below approximately 1.0 feet below mudline.

Transect 3 started at -0.1 feet MLLW and, rather than crossing perpendicular to the bottom contours, generally followed the MLLW contour (Figure 3). At this transect, the predominant surface substrate was silty sand to approximately 200 feet out with silty sand with sawdust observed at the 75- and 100-foot stations. Surface wood was not present between 125 feet and the end of the transect at 300 feet; however, the diver was able to determine that subsurface wood material at approximately 100 percent by volume was present out to 150 feet. At that location, the wood was covered with approximately 1.5 to

2.0 feet of silty sand material. The diver was unable to probe deeper in the outer stations of the transect.

Biological observations were limited to algal species and easily recognized invertebrate species along the diver transects. The green alga, *Ulva* sp. was the predominant algal species encountered along the transects. *Ulva* was present in the lower intertidal areas attached to woody debris starting at approximately the +2 feet MLLW mark and was observed along each transect generally out to 300 feet. The brown alga, *Laminaria* sp. was generally present in the lower intertidal area at approximately -4 feet MLLW along the shore of much of the site. Eelgrass was not observed at any of the transect locations. The brown alga, *Fucus* sp. was present attached to pile remnants and large debris in the upper portions of the intertidal areas.

Observed invertebrate species were limited to predominantly barnacles in the upper and lower portions of the intertidal areas in those areas where large rocks and brick debris were present. Few biota were observed on the woody material; however, some starfish were observed in the intertidal areas with wood material. Few fish or invertebrates were observed along the diver transects; however, a few sea anemones (*Metridium* sp.), starfish, and few unidentified crabs were observed in the deeper portions of Transect 1. A few flatfish, sculpins, and one ling cod were also observed along Transect 1.

4 GROUNDWATER SEEPS

Initial site reconnaissance indicated that groundwater discharged as seeps at various locations within the study area was generally well oxygenated. To verify this observation, measurements of seepage dissolved oxygen (DO) levels were performed during a low tide on July 31, 2008. Seeps were selected for monitoring based on evidence of upwelling water through the surface sediments. Three predominant groundwater seeps were identified and their locations were recorded using DGPS (Figure 4; Table 1). At each location, a stainless steel well point was inserted so that the top of a 1-foot-long screened interval was inserted to approximately 1 foot below the sediment surface.

Seep BH-21 was located in an area with abundant woody debris, shell, rocks, bricks, and cement pieces (see Photographs 12 and 13 in Appendix A). Groundwater from this location appeared to be seeping through the upper layers of woody debris. No odor or water discoloration was observed.

Seep BH-22 was located lower in the intertidal area at an elevation of approximately -3 to -4 feet MLLW. This area also had abundant woody debris with very little silt or sand material. Groundwater from this location was noticeably upwelling from below the woody debris and the area surrounding the seep had apparent *Beggiatoa* sp. accumulations, observable as white filamentous bacteria attached to the wood surfaces (see Photograph 13 of Appendix A). There was also a noticeable sulfide odor coming from the water at this location. Additional seeps (depicted in Figure 4) were also observed and located in the lower intertidal area near BH-22. These additional seeps were observed upwelling from below the wood debris along the water line at low tide and each had noticeable *Beggiatoa* sp. mats along with a strong sulfide odor.

Seep BH-23 was located at the southern side of the former mill site in approximately the mid-intertidal area. This seep exhibited a higher water flow than the other two seeps and the water appeared to be coming through the upper layers of debris.

Water from each seep was pumped out of the well point using a peristaltic pump and thin Teflon-coated tubing as shown in Photograph 13 of Appendix A. Water was pumped through a flow cell attached to a Hydrolab MS5 multiprobe at low velocities to measure field parameters prior to collecting water samples. Tables 4 and 5 present analytical chemistry and field

parameter results for each seep. Groundwater flow through the flow cell was maintained at a low velocity and water samples for sulfides and ammonia were collected when the turbidity was below 5 nephelometric turbidity units (NTU).

Water quality data summarized in Tables 4 and 5 indicate that water discharging as seeps during low tide conditions is saline (with salinity ranging from 23 to 25 parts per thousand) and neutral (with pH ranging from 6.5 to 7.0), and predominantly originated from tidal recharge from Blakely Harbor during rising (flood) tide conditions.

Based on DO and oxidation reduction potential (ORP) data, Seeps BH-21 and BH-23, which were located at relatively high intertidal elevations, were oxygenated, consistent with the low concentrations of porewater ammonia and sulfide observed at these locations (see Tables 4 and 5). However, relatively reducing conditions (low DO and ORP) and high porewater ammonia and (especially) sulfide concentrations (24.7 milligrams per liter [mg/L]) were detected at shallow subtidal seep BH-22 (Figure 4). Elevated porewater sulfide concentrations, which are attributable to degradation of woody debris in the absence of DO, can adversely affect habitat suitability (Caldwell 2005). Seepage discharges with similar reducing conditions were observed in the larger subtidal area near BH-22, suggesting that elevated sulfide concentrations may be prevalent in this part of the study area. Addressing such sulfide seepage discharges may be one focus of prospective restoration actions addressed in the upcoming feasibility study.

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TABLES

Table 1
Blakely Harbor Sample Location Coordinates

Sample Type	Station Identification	Northing	Easting
Core 01	BH-01	221969	1225315
Core 02	BH-02	222176	1225881
Core 03	BH-03	221831	1225201
Core 04	BH-04	221736	1225219
Core 05	BH-05	222054	1225072
Core 06	BH-06	222107	1224967
Core 07	BH-07	222026	1224943
Core 08	BH-08	221904	1224919
Core 09	BH-09	222133	1225652
Core 10	BH-10	222037	1225585
Core 11	BH-11	222034	1225481
Seep 1	BH-21	222123	1225604
Seep 2	BH-22	222015	1225582
Seep 3	BH-23	222037	1225423
Seep A	observed only	222087	1225684
Seep B	observed only	222044	1225669
Seep C	observed only	222013	1225582
Test Pit 1	BH-P01	222202	1225592
Test Pit 2	BH-P02	222191	1225498
Test Pit 3	BH-P03	222171	1225461
Dive Transect 1 Start	N/A	222120	1225752
Dive Transect 1 End	N/A	221919	1225976
Dive Transect 2 Start	N/A	222114	1225645
Dive Transect 2 End	N/A	221890	1225854
Dive Transect 3 Start	N/A	222031	1225558
Dive Transect 3 End	N/A	221801	1225734

Note:

NAD83 State Plane, Washington North, U.S. Survey feet

Table 2
Sample Comparisons with Sediment Management Standards Chemical Criteria

Location ID: Sample ID: Sample Date: Depth: Sample Type:	SMS SQS	SMS CSL	BH-P01 BH-P01-SSB 9/12/2008 8 - 9 ft N	BH-P02 BH-P02-SSB 9/12/2008 8 - 9 ft N	Composite1 BH-05,06,07-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP DUP 7/31/2008 0 - 2 ft Field Duplicate	BH-02 BH-02-SSA 7/31/2008 0 - 0.7 ft N
Conventional Parameters (pct)								
Total organic carbon			**2.9**	**0.44**	**10 J**	**15.5 J**	**15.5 J**	**9.59 J**
Total solids			**71.6**	**77.5**	**50 J**	**34.7 J**	**31.9 J**	**42.9 J**
Total volatile solids	25		**4.3**	**3.7**	**18.6 J**	**27.5 J**	**32.5 J**	**19.8 J**
Conventional Parameters (mg/kg)								
Ammonia			**0.80**	**0.48 J**	**15.70**	**--**	**--**	**17.30**
Sulfide			1.4 U	1.3 U	**--**	**--**	**--**	**555 J**
Grain Size (percent)								
Gravel			**85.1**	**79.4 J**	**7.3**	**41.0**	**42.9**	**25.8**
Sand			**17.7**	**19.5**	**61.2**	**40.8**	**44.1**	**53.3**
Silt			**3.9**	**0.0**	**21.4**	**12.4**	**8.6**	**16.8**
Clay			**2.1**	**0.0**	**9.1**	**8.2**	**8.4**	**7.0**
Fines (Silt + Clay)			**5.9**	**0.0**	**30.5**	**20.6**	**17.0**	**23.8**
Metals (mg/kg)								
Antimony			**1.89 J**	**0.14 J**	**0.48 J**	**21.9 J**	**104 J**	**13.9 J**
Arsenic	57	93	**5.4**	**4.0**	**8.1**	**10.8**	**9.3**	**24.6**
Cadmium	5.1	6.7	**0.17**	**0.13**	**0.52**	**0.60**	**0.59**	**2.49**
Chromium	260	270	**21**	**21**	**20**	**18**	**34**	**31**
Copper	390	390	**36**	**35**	**33.7 J**	**94.4 J**	**202 J**	**508 J**
Lead	450	530	**36**	**2**	**57**	**242**	**605**	**626**
Mercury	0.41	0.59	**0.014 J**	0.02 U	**0.14**	**0.09**	**0.09**	**0.39**
Nickel			**21**	**26**	**14**	**17**	**26**	**23**
Selenium			0.9 U	1.1 U	**0.8 J**	**1.80**	**1.4 J**	**1.8 J**
Silver	6.1	6.1	**0.03**	0.02 U	**0.219 J**	**0.181 J**	**0.36 J**	**0.515 J**
Zinc	410	960	**33**	**29**	**61**	**97**	**121**	**566**
Organometallic Compounds (µg/L)								
Tributyltin (ion)			**--**	**--**	0.05 U	0.05 U	0.05 U	0.074 U
Aromatic Hydrocarbons (mg/kg-OC)								
Total LPAH	370	780	**0.67**	2.3 U	**12**	**14**	**19**	**88**
Naphthalene	99	170	0.35 U	2.3 U	**5.9**	**0.65**	**0.63**	**5.74**
Acenaphthylene	66	66	0.35 U	2.3 U	**0.63 J**	**0.65 J**	**1.3 J**	**3.0 J**
Acenaphthene	16	57	0.35 U	2.3 U	**0.31 J**	**0.65**	**0.71**	**5.0**
Fluorene	23	79	**0.059 J**	2.3 U	**0.45**	**0.71**	**1.1**	**5.3**
Phenanthrene	100	480	**0.49**	2.3 U	**4.1**	**9.0**	**12**	**55**
Anthracene	220	1,200	**0.12 J**	2.3 U	**0.95**	**2.06**	**3.4**	**14**
2-Methylnaphthalene	38	64	0.35 U	2.3 U	**0.46**	**0.32**	**0.30**	**2.2**
Total HPAH	960	5,300	**3.50**	**0.82**	**25**	**54**	**79**	**310**
Fluoranthene	160	1,200	**0.66**	**0.41 J**	**5.7**	**11**	**17**	**79**
Pyrene	1,000	1,400	**0.66**	**0.41 J**	**5.9 J**	**12**	**17**	**82**
Benzo(a)anthracene	110	270	**0.38**	2.3 U	**2.0**	**5.0**	**7.1**	**24**
Chrysene	110	460	**0.42**	2.3 U	**2.4**	**5.8**	**8.4**	**28**
Benzo(b)fluoranthene			**0.38**	2.3 U	**2.3**	**5.9**	**7.7**	**26**
Benzo(k)fluoranthene			**0.13 J**	2.3 U	**0.82**	**1.6**	**2.5**	**9**
Total Benzofluoranthenes (b, j, k)	230	450	**0.51**	2.3 U	**3.1**	**7.5**	**10.2**	**35**
Benzo(a)pyrene	99	210	**0.35**	2.3 U	**2.2**	**5.4**	**7.7**	**25**
Indeno(1,2,3-c,d)pyrene	34	88	**0.22 J**	2.3 U	**1.7**	**3.8**	**5.0**	**17**
Dibenzo(a,h)anthracene	12	33	**0.056 J**	2.3 U	**0.26**	**0.71**	**1.2**	**3.1**
Benzo(g,h,i)perylene	31	78	**0.24 J**	2.3 U	**1.8**	**3.7**	**5.0**	**17**
Chlorinated Benzenes (mg/kg-OC)								
1,2-Dichlorobenzene	2.3	2.3	0.35 U	2.3 U	0.10 U	0.10 U	0.10 U	0.60 U
1,4-Dichlorobenzene	3.1	9	0.35 U	2.3 U	0.10 UJ	0.10 U	0.10 U	0.60 U
1,2,4-Trichlorobenzene	0.81	1.8	0.35 U	2.3 U	0.10 UJ	0.10 U	0.10 U	0.60 U
Hexachlorobenzene	0.38	2.3	0.35 U	2.3 U	0.10 U	0.10 U	0.10 U	0.60 U

Table 2
Sample Comparisons with Sediment Management Standards Chemical Criteria

Location ID: Sample ID: Sample Date: Depth: Sample Type:	SMS SQS	SMS CSL	BH-P01 BH-P01-SSB 9/12/2008 8 - 9 ft N	BH-P02 BH-P02-SSB 9/12/2008 8 - 9 ft N	Composite1 BH-05,06,07-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP DUP 7/31/2008 0 - 2 ft Field Duplicate	BH-02 BH-02-SSA 7/31/2008 0 - 0.7 ft N
Phthalate Esters (mg/kg-OC)								
Dimethyl phthalate	53	53	0.35 U	2.3 U	0.10 U	0.10 U	0.10 U	**0.17 J**
Diethyl phthalate	61	110	**0.063 J**	**0.39 J**	**0.04 J**	**0.03 J**	**4.5 J**	0.60 U
Di-n-butyl phthalate	220	1700	**0.35 J**	**2.2 J**	**0.11 J**	**0.14 J**	**0.13 J**	1.2 U
Butylbenzyl phthalate	4.9	64	**0.13 J**	**0.77 J**	0.10 U	0.10 U	0.10 U	0.60 U
Bis(2-ethylhexyl) phthalate	47	78	3.5 U	**11 J**	**0.25 J**	**0.09 J**	**0.14 J**	6.0 U
Di-n-octyl phthalate	58	4500	0.35 U	2.3 U	0.10 U	0.10 U	0.10 U	0.60 U
Miscellaneous (mg/kg-OC)								
Dibenzofuran	15	58	0.35 U	2.3 U	**0.44**	**0.29**	**0.37**	**2.1**
Hexachlorobutadiene	3.9	6.2	0.35 U	2.3 U	0.10 U	0.10 U	0.10 U	0.60 U
N-Nitrosodiphenylamine	11	11	0.35 U	2.3 U	0.10 U	0.10 U	0.10 U	0.60 U
PCB Aroclors (mg/kg-OC)								
Total PCB	12	65	0.49 U	3 U	0.26 U	1.1 U	0.84 U	1.2 U
Pesticides (µg/kg)								
Total DDT			0.69 U	0.65 U	1.5 UJ	**2.31**	**2.56**	1.2 UJ
4,4'-DDD (p,p'-DDD)			0.69 U	0.65 U	1.5 UJ	1.5 UJ	1.6 UJ	1.2 UJ
4,4'-DDE (p,p'-DDE)			0.69 U	0.65 U	1 UJ	2.3 UJ	2.6 UJ	1.2 UJ
4,4'-DDT (p,p'-DDT)			0.69 U	0.65 U	1 UJ	**0.41 J**	**0.46 J**	1.2 UJ
Aldrin			0.69 U	0.65 U	**0.39 J**	**0.58 J**	**0.65 J**	1.2 UJ
alpha-Chlordane (cis-Chlordane)			0.69 U	0.65 U	1 UJ	1.5 UJ	1.6 UJ	1.2 UJ
cis-Nonachlor			0.69 U	0.65 U	1 UJ	1.5 UJ	1.6 UJ	1.2 UJ
Dieldrin			0.69 U	0.65 U	1 UJ	1.5 UJ	**0.21 J**	1.2 UJ
gamma-Chlordane			0.69 U	0.65 U	**0.95 J**	1.5 UJ	1.6 UJ	22 UJ
gamma-BHC (Lindane)			0.69 U	0.65 U	5.9 UJ	1.5 UJ	1.6 UJ	1.2 UJ
Heptachlor			0.69 U	0.65 U	**0.4 J**	1.5 UJ	**0.92 J**	1.2 UJ
trans-Nonachlor			0.69 U	0.65 U	1 UJ	1.5 UJ	1.6 UJ	1.2 UJ
Ionizable Organic Compounds (µg/kg)								
Phenol	420	1,200	30 U	30 U	**180 J**	**850**	**1,100**	**140 J**
2-Methylphenol (o-Cresol)	63	63	10 UJ	10 UJ	10 UJ	15 UJ	16 UJ	58 UJ
4-Methylphenol (p-Cresol)	670	670	10 UJ	10 UJ	**36 J**	**15 J**	**30 J**	**46 J**
2,4-Dimethylphenol	29	29	50 UJ	50 UJ	50 UJ	72 UJ	78 UJ	290 UJ
Pentachlorophenol	360	690	100 U	100 U	100 UJ	150 U	160 U	580 U
Benzyl alcohol	57	73	20 U	20 U	**18 J**	29 U	32 U	120 U
Benzoic acid	650	650	200 UJ	200 UJ	200 UJ	290 UJ	320 UJ	1200 UJ

Notes:

Detected concentration is greater than lowest Sediment Management Standards (SMS) Sediment Quality Standards (SQS)

Detected concentration is greater than lowest SMS Cleanup Screening Level (CSL)

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL

U = Compound analyzed, but not detected above detection limit

UJ = Compound analyzed, but not detected above estimated detection limit

Total LPAH (Low PAH) is the total of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene and Anthracene. 2-Methylnapthalene is not included in the sum of LPAHs

Total HPAH (High PAH) is the total of Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzofluoranthenes, Benzo(a)pyrene, Indeno(1,2,3-c,d)pyrene, Dibenzo(a,h)anthracene, and Benzo(g,h,i)perylene.

Benzo(j)fluoranthene is included in the total of benzo(b&k)fluoranthenes

Total PCB does not include Aroclor 1262 and 1268.

Total DDT consists of the sum of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT.

Totals are calculated as the sum of all detected results. If all are undetected results, the highest reporting limit value is reported as the sum.

-- Results not reported or not applicable

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

mg/kg-OC = milligrams per kilogram organic carbon-normalized

Table 3
Sample Comparisons with Beneficial Reuse and Disposal Criteria

Location ID: Sample ID: Sample Date: Depth: Sample Type:	MTCA Method A Cleanup Level	DMMP Screening Level	Composite1 BH-05,06,07-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP DUP 7/31/2008 0 - 2 ft Field Duplicate	Composite3 BH-SSA COMP 9/12/2008 0 - 8 ft N	BH-02 BH-02-SSA 7/31/2008 0 - 0.7 ft N
Conventional Parameters (pct)							
Total organic carbon			10 J	15.5 J	15.5 J	5.38	9.59 J
Total solids			50 J	34.7 J	31.9 J	32	42.9 J
Total volatile solids		25	18.6 J	27.5 J	32.5 J	32.3	19.8 J
Conventional Parameters (mg/kg)							
Ammonia			15.7	--	--	1.12 J	17.3
Sulfide			--	--	--	5.2	555 J
Grain Size (pct)							
Gravel			7.33	41	42.9	78.3	25.79
Sand			61.17	40.81	44.07	32.75	53.26
Silt			21.4	12.4	8.6	12 J	16.8
Clay			9.12	8.16	8.42	8.54 J	6.98
Fines (Silt + Clay)			30.52	20.56	17.02	20.54 J	23.78
Metals (mg/kg)							
Antimony		150	0.48 J	21.9 J	104 J	86.4 J	13.9 J
Arsenic	20	57	8.08	10.8	9.28	13.4	24.6
Cadmium	2	5.1	0.517	0.604	0.588	0.34	2.49
Chromium			20.1	18.3	34	16.9	31.1
Copper		390	33.7 J	94.4 J	202 J	432	508 J
Lead	250	450	56.6	242	605	1,460	626
Mercury	2	0.41	0.136	0.085	0.094	0.55	0.386
Nickel		140	13.6	17	25.9	20	23.2
Selenium			0.8 J	1.8	1.4 J	2 J	1.8 J
Silver		6.1	0.219 J	0.181 J	0.36 J	0.21	0.515 J
Zinc		410	60.9	96.7	121	205	566
Organometallic Compounds (µg/L)							
Tributyltin (ion)		0.15	0.05 U	0.05 U	0.05 U	0.072 U	0.074 U
Aromatic Hydrocarbons (µg/kg)							
Total LPAH		5,200	1,234	2,130	2,998	350	8,430
Naphthalene		2,100	590	100	98	22	550
Acenaphthylene		560	63 J	100 J	200 J	16 J	290 J
Acenaphthene		500	31 J	100	110	12 J	480
Fluorene		540	45	110	170	16 J	510
Phenanthrene		1,500	410	1,400	1,900	240	5,300
Anthracene		960	95	320	520	44	1,300
2-Methylnaphthalene		670	46	49	46	17	210
Total HPAH		12,000	2,508	8,440	12,310	1,424	29,770
Fluoranthene		1,700	570	1,700	2,700	260	7,600
Pyrene		2,600	590 J	1,800	2,700	270	7,900
Benzo(a)anthracene		1,300	200	780	1,100	120	2,300
Chrysene		1,400	240	900	1,300	140	2,700
Benzo(b)fluoranthene			230	910	1,200	150	2,500
Benzo(k)fluoranthene			82	250	380	53	870
Total Benzofluoranthenes (b, j, k)		3,200	312	1,160	1,580	203	3,370
Benzo(a)pyrene	100	1,600	220	830	1,200	130	2,400
Indeno(1,2,3-c,d)pyrene		600	170	590	780	130	1,600
Dibenzo(a,h)anthracene		230	26	110	180	21	300
Benzo(g,h,i)perylene		670	180	570	770	150	1,600
Naphthalene & 2-Methylnaphthalene [(a)]	5,000		790	880	1,198	142	--
Chlorinated Hydrocarbons (µg/kg)							
1,3-Dichlorobenzene		170	10 U	15 U	16 U	16 U	58 U
1,2-Dichlorobenzene		35	10 U	15 U	16 U	16 U	58 U
1,4-Dichlorobenzene		110	10 UJ	15 U	16 U	16 U	58 U
1,2,4-Trichlorobenzene		31	10 UJ	15 U	16 U	16 U	58 U

Table 3
Sample Comparisons with Beneficial Reuse and Disposal Criteria

Location ID: Sample ID: Sample Date: Depth: Sample Type:	MTCA Method A Cleanup Level	DMMP Screening Level	Composite1 BH-05,06,07-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP DUP 7/31/2008 0 - 2 ft Field Duplicate	Composite3 BH-SSA COMP 9/12/2008 0 - 8 ft N	BH-02 BH-02-SSA 7/31/2008 0 - 0.7 ft N
Hexachlorobenzene		22	10 U	15 U	16 U	16 U	58 U
Phthalates (µg/kg)							
Dimethyl phthalate		71	10 U	15 U	16 U	16 U	**16 J**
Diethyl phthalate		200	**3.7 J**	**4.2 J**	**4.5 J**	**2.8 J**	58 U
Di-n-butyl phthalate		1,400	**11 J**	**21 J**	**20 J**	**16 J**	120 U
Butylbenzyl phthalate		63	10 U	15 U	16 U	16 U	58 U
Bis(2-ethylhexyl) phthalate		1,300	**25 J**	**14 J**	**21 J**	160 U	580 U
Di-n-octyl phthalate		6,200	10 U	15 U	16 U	16 U	58 U
Phenols (µg/kg)							
Phenol		420	**180 J**	**850**	**1,100**	**4.8 J**	**140 J**
2-Methylphenol (o-Cresol)		63	10 UJ	15 UJ	16 UJ	16 UJ	58 UJ
4-Methylphenol (p-Cresol)		670	**36 J**	**15 J**	**30 J**	16 UJ	**46 J**
2,4-Dimethylphenol		29	50 UJ	72 UJ	78 UJ	79 UJ	290 UJ
Pentachlorophenol		400	100 UJ	150 U	160 U	160 U	580 U
Miscellaneous Extractables (µg/kg)							
Benzyl alcohol		57	**18 J**	29 U	32 U	**8.4 J**	120 U
Benzoic acid		650	200 UJ	290 UJ	320 UJ	320 UJ	1200 UJ
Dibenzofuran		540	**44**	**45**	**58**	**8.7 J**	**200**
Hexachloroethane		1,400	10 U	15 U	16 U	16 U	58 U
Hexachlorobutadiene		29	10 U	15 U	16 U	16 U	58 U
N-Nitrosodiphenylamine		28	10 U	15 U	16 U	16 U	58 U
Volatile Organics (µg/kg)							
Ethylbenzene	6,000	10	--	--	--	--	2.3 U
Tetrachloroethene	50	57	--	--	--	--	2.3 U
Trichloroethene	30	160	--	--	--	--	2.3 U
m,p-Xylene			--	--	--	--	4.6 U
o-Xylene			--	--	--	--	2.3 U
Total Xylene	9,000	40	--	--	--	--	4.6 U
Pesticides (µg/kg)							
4,4'-DDD (p,p'-DDD)			1.5 UJ	1.5 UJ	1.6 UJ	1.6 U	1.2 UJ
4,4'-DDE (p,p'-DDE)			1 UJ	2.3 UJ	2.6 UJ	1.6 U	1.2 UJ
4,4'-DDT (p,p'-DDT)			1 UJ	**0.41 J**	**0.46 J**	1.6 U	1.2 UJ
Total DDT	3,000	6.9	1.5 UJ	**2.31**	**2.56**	1.6 U	1.2 UJ
Aldrin		10	**0.39 J**	**0.58 J**	**0.65 J**	1.6 U	1.2 UJ
alpha-Chlordane (cis-Chlordane)			1 UJ	1.5 UJ	1.6 UJ	1.6 U	1.2 UJ
beta-Chlordane (trans-Chlordane)			1 UJ	1.5 UJ	1.6 UJ	1.6 U	1.2 UJ
cis-Nonachlor			1 UJ	1.5 UJ	**0.21 J**	1.6 U	1.2 UJ
Dieldrin		10	**0.95 J**	1.5 UJ	1.6 UJ	1.6 U	22 UJ
gamma-BHC (Lindane)	10	10	5.9 UJ	1.5 UJ	1.6 UJ	1.6 U	1.2 UJ
Heptachlor		10	**0.4 J**	1.5 UJ	**0.92 J**	1.6 U	1.2 UJ
trans-Nonachlor			1 UJ	1.5 UJ	1.6 UJ	1.6 U	1.2 UJ
Total Chlordane		10	1 UJ	1.5 UJ	**1.81**	1.6 U	1.2 UJ
PCB Aroclors (µg/kg)							
Aroclor 1016			10 U	15 U	16 U	16 U	43 U
Aroclor 1221			26 U	170 U	130 U	32 U	120 U
Aroclor 1232			10 U	48 U	37 U	16 U	37 U
Aroclor 1242			10 U	25 U	79 U	16 U	26 U
Aroclor 1248			10 U	15 U	16 U	16 U	13 U
Aroclor 1254			10 U	15 U	21 U	16 U	12 U
Aroclor 1260			10 U	15 U	16 U	16 U	12 U
Total PCB	1,000	130	26 U	170 U	130 U	32 U	120 U
PCB Aroclors (mg/kg-OC)							
Total PCB			0.26 U	1.097 U	0.84 U	0.595 U	1.25 U

Table 3
Sample Comparisons with Beneficial Reuse and Disposal Criteria

Location ID: Sample ID: Sample Date: Depth: Sample Type:	MTCA Method A Cleanup Level	DMMP Screening Level	Composite1 BH-05,06,07-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP 7/31/2008 0 - 2 ft N	Composite2 BH-09,10,11-SSA COMP DUP 7/31/2008 0 - 2 ft Field Duplicate	Composite3 BH-SSA COMP 9/12/2008 0 - 8 ft N	BH-02 BH-02-SSA 7/31/2008 0 - 0.7 ft N
Dioxin Furans (ng/kg)							
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)			**0.3 J**	2.8 U	3.08 U	3.01 U	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)			**0.684 J**	7.01 U	7.7 U	7.53 U	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)			**0.439 J**	7.01 U	7.7 U	7.53 U	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)			**1.69 J**	7.01 U	7.7 U	7.53 U	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)			**1.75 J**	**0.768 J**	7.7 U	7.53 UJ	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)			**28.5**	**10.4**	**9.43**	**3.85 J**	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)			**230**	**39.1**	**23.2**	**32.9 J**	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)			1.88 U	2.8 U	3.08 U	3.01 U	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)			**0.719 J**	7.01 U	7.7 U	**0.469 J**	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)			**0.819 J**	7.01 U	7.7 U	**0.599 J**	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)			4.7 U	7.01 U	7.7 U	**1.34 J**	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)			**0.498 J**	7.01 U	7.7 U	7.53 U	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)			4.7 U	7.01 U	7.7 U	7.53 U	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)			**0.622 J**	7.01 U	7.7 U	7.53 UJ	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)			**4.55 J**	7.01 U	7.7 U	**7.12 J**	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)			4.7 U	7.01 U	7.7 U	**2.26 J**	--
1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)			**10.9**	**3.57 J**	**2.82 J**	**111 J**	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)			**26.7**	2.8 U	3.08 U	**6.25**	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)			**10.1**	7.01 U	7.7 U	**4.35 J**	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)			**26.9**	**3.16 J**	**2.48 J**	**3.04 J**	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)			**76.8**	**21**	**16.9**	**7.5 J**	--
Total Tetrachlorodibenzofuran (TCDF)			**10.9**	2.8 U	3.08 U	**10.6**	--
Total Pentachlorodibenzofuran (PeCDF)			**7.86**	**0.448 J**	7.7 U	**2.12 J**	--
Total Hexachlorodibenzofuran (HxCDF)			**6.99**	**0.937 J**	**1.36 J**	**1.34 J**	--
Total Heptachlorodibenzofuran (HpCDF)			**11.5**	**5.61 J**	**3.93 J**	**14.4**	--
Total Dioxin/Furan TEQ (Mammal) ND=0		8.7	**2.15**	**0.19**	**0.10**	**0.50**	--
Total Petroleum Hydrocarbons (mg/kg)							
Gasoline Range	100		--	--	--	21 U	15 U
Diesel Range	2,000		**33 J**	**45 J**	**88 J**	**15 J**	**220 J**
Residual Range [(b)]			**140 J**	**100 J**	**200 J**	**59 J**	**530 J**

Notes:

(a) MTCA Method A "Naphthalenes" consists of Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene. Only Naphthalene & 2-Methylnaphthalene was measured and screened.

(b) MTCA method A level for "All other gasoline mixtures" was applied to Residual Range

Detected concentration is greater than DMMP screening level

Detected concentration is greater than MTCA Method A screening level

Bold = Detected result

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL

U = Compound analyzed, but not detected above detection limit

UJ = Compound analyzed, but not detected above estimated detection limit

2-Methylnapthalene is not included in the sum of LPAHs

Benzo(j)fluoranthene is included in the total of benzo(b&k)fluoranthenes

Total PCB does not include Aroclor 1262 and 1268

Total DDT consists of the sum of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT

Total Chlordane includes alpha-chlordane (cis-chlordane), beta-chlordane (trans-chlordane), cis-nonaclor, trans-nonaclor, and oxychlordane.

Total xylene is the sum of o-, m-, p- isomers.

Totals are calculated as the sum of all detected results. If all are undetected results, the highest reporting limit value is reported as the sum.

-- Results not reported or not applicable

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

TEQ values as of 2005, World Health Organization.

MTCA Method A cleanup levels are for Unrestricted Land Uses, October 12, 2007.

µg/L = micrograms per liter

µg/kg = micrograms per kilogram

Table 4
Blakely Harbor Seepage Results Summary

Location ID:	BH-021	BH-022	BH-023
Sample ID:	BH-021-080731	BH-022-080731	BH-023-080731
Sample Date:	7/31/2008	7/31/2008	7/31/2008
Sample Type:	N	N	N
Conventional Parameters (mg/L)			
Ammonia	0.05 U	**0.45**	0.05 U
Sulfide	**0.09**	**24.7**	0.05 U

Notes:

Bold = Detected result

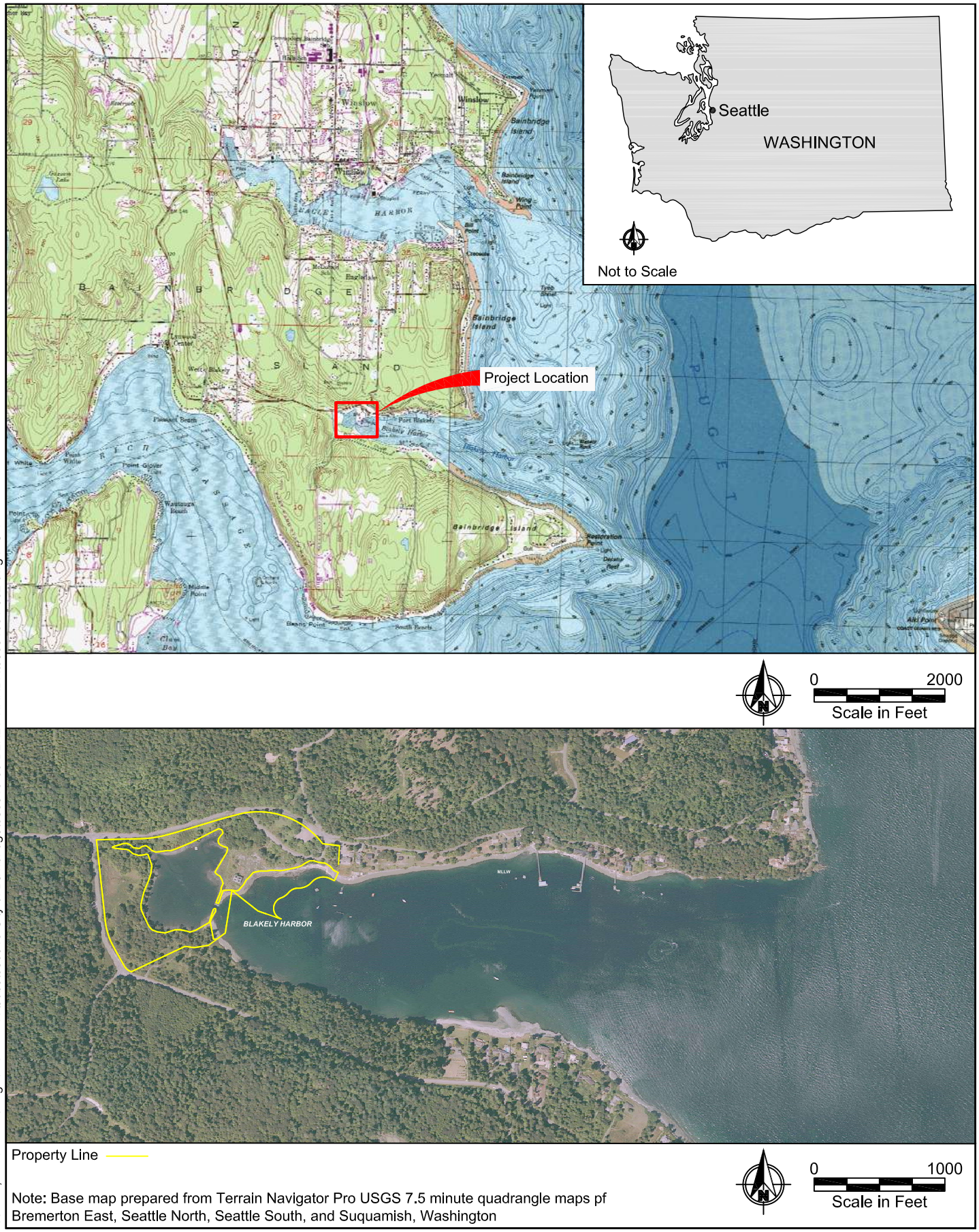
U = Compound analyzed, but not detected above detection limit

Sample Type N = Normal field sample

Table 5
Blakely Harbor Seepage Field Parameters Summary

Time	pH (Units)	Temp (º C)	DO (mg/L)	Turbidity (NTU)	Sp. Cond. (µS)	Salinity (ppt)	ORP (mV)
BH-21 Seep 1							
1030	6.75	15.85	1.73	2.4	40008	25.55	136
1036	6.69	14.85	1.51	3.7	39453	25.16	95
1042	6.7	14.86	1.46	3.2	39612	25.3	88
BH-22 Seep 2							
1108	6.51	14.48	0.37	1.6	40964	26.26	-12
1110	6.52	14.37	0.36	0.9	41023	26.3	-13
1113	6.51	14.31	0.36	2.1	41055	26.32	-9
BH-23 Seep 3							
1140	7.01	23.84	6.67	1.7	36657	23.23	116
1142	6.94	23.59	6.73	1.5	36592	23.14	133
1145	6.87	23.21	6.67	1.6	36590	23.15	145

FIGURES

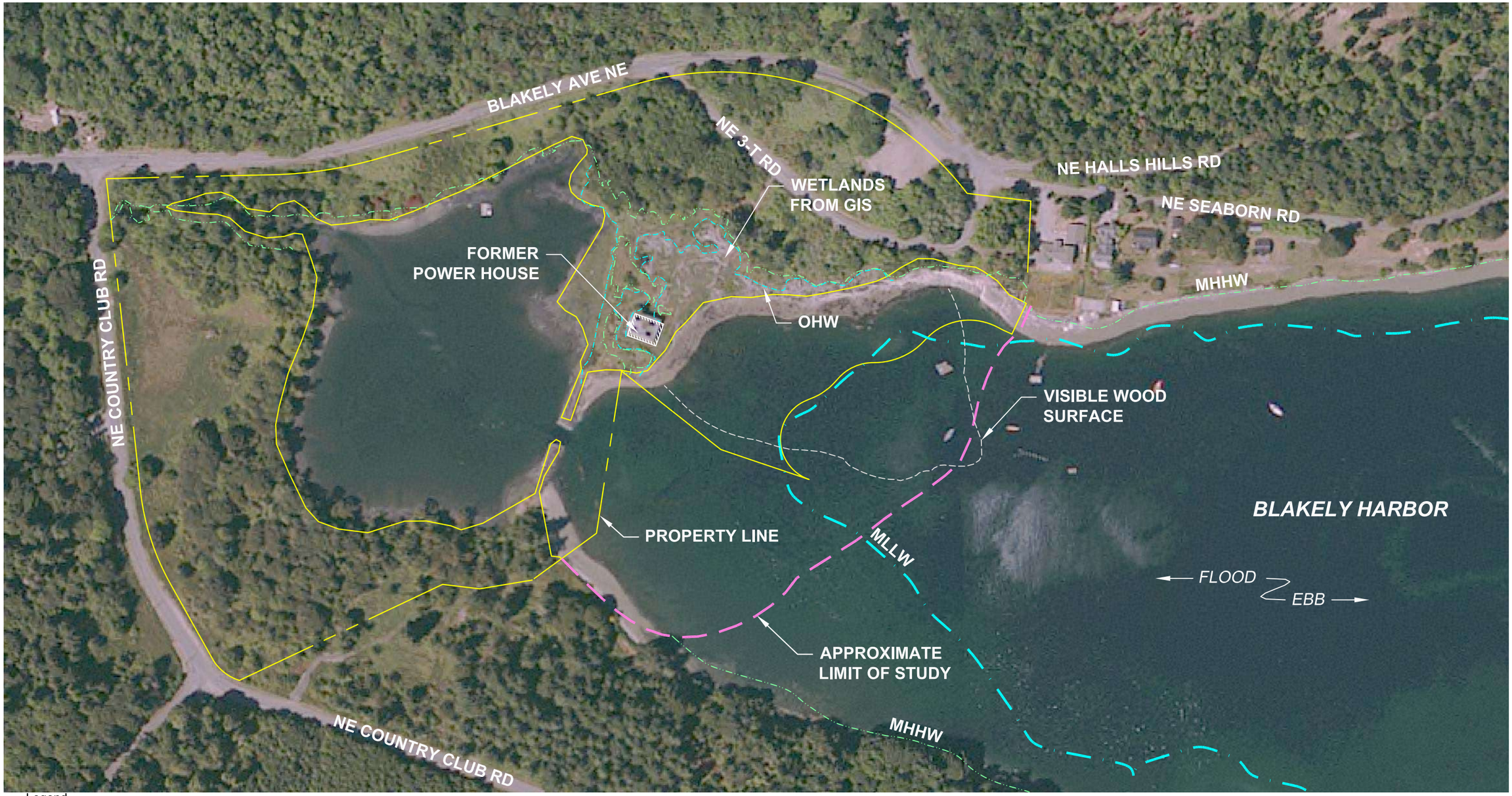


Note: Base map prepared from Terrain Navigator Pro USGS 7.5 minute quadrangle maps pf Bremerton East, Seattle North, Seattle South, and Suquamish, Washington

K:\Jobs\080510-City of Bainbridge\080510-03-BLKLY-HARBR\080510001-002.dwg FIG 1
Jan 21, 2009 11:37am ghowell

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 1
Vicinity Map
Blakely Harbor
Sediment Characterization



Legend

- Limit of Study
- Mean Higher High Water (MHHW)
- Mean Lower Low Water (MLLW)
- Property Line
- Visible Wood Surface

Notes:

Horizontal Datum: Washington State Plane North, NAD83.
Vertical Datum: (MLLW

MLLW = 0.0 FT
MHW = 10.5 FT
MHHW = 11.4 FT

Sources:

1. Aerial photo from Kitsap County dias dated 2001.
2. OHW line, MHW inside project area, and select wetlands from upland survey by Bainbridge Metro Parks, May 15, 2007.
3. Additional wetland from Kitsap County GIS.
4. MHW and MHHW Elevations from Seattle NOAA Station 9447130.
5. MHHW line outside project area and MLLW line from GIS.
6. Conversion from NAVD88 to MLLW based on WSDOT Monument 5139 at Eagle Harbor using MLLW = NAVD88 -2.5 ft.

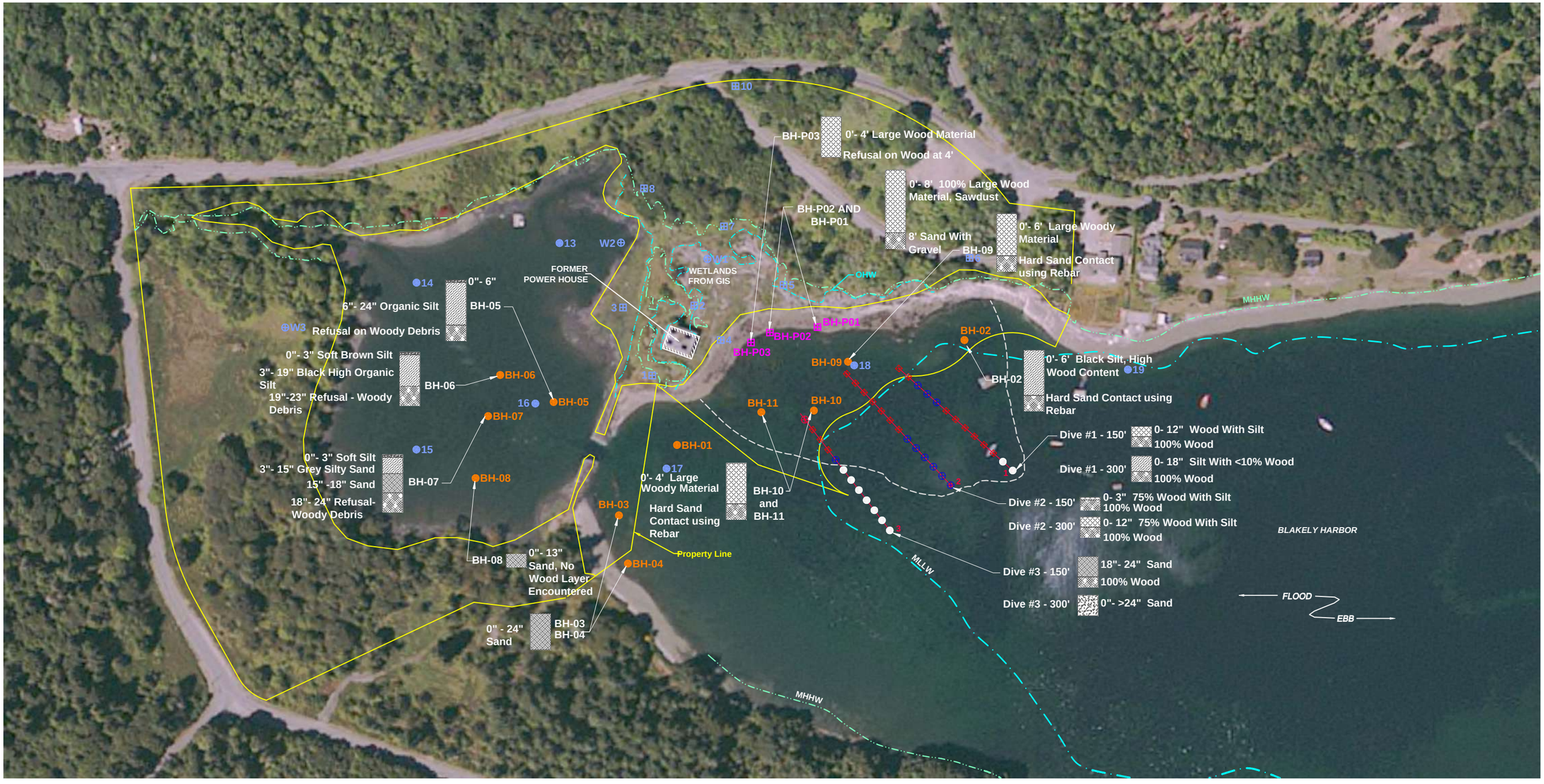
N

0 200
Scale in Feet

Jan 19, 2009 12:13pm ghowell K:\Jobs\080510-City of Bainbridge\080510-03-BLKLY-HARBR\080510001-003.dwg FIG 2

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 2
Site Plan
Blakely Harbor
Sediment Characterization



Sources:
1. Aerial photo from Kitsap County dias dated 2001.
2. OHW line, MHW inside project area, and select wetlands from upland survey by Bainbridge Metro Parks, May 15, 2007.
3. Additional wetland from Kitsap County GIS.
4. MHW and MHHW elevations from Seattle NOAA Station 9447130.
5. MHHW line outside project area and MLLW line from GIS.
6. Conversion from NAVD88 to MLLW based on WSDOT Monument 5139 at Eagle Harbor using MLLW = NAVD88 -2.5 ft.

Notes:
Horizontal Datum: Washington State Plane North, NAD83.
Vertical Datum: MLLW
MLLW = 0.0 FT
MHW = 10.5 FT
MHHW = 11.4 FT

Legend

- Limit of Study
- Mean Higher High Water (MHHW)
- Mean Lower Low Water (MLLW)
- Property Line
- Visible Wood Surface
- BH-08 — Sample Location - Wood Depth (Anchor 2008)
- BH-P02 — Sample Location - Test PIt (Anchor 2008)

- Diver Transect Location (Anchor 2008)
- <10% Wood
- 10-50% Wood
- >50% Wood
- 100% Wood

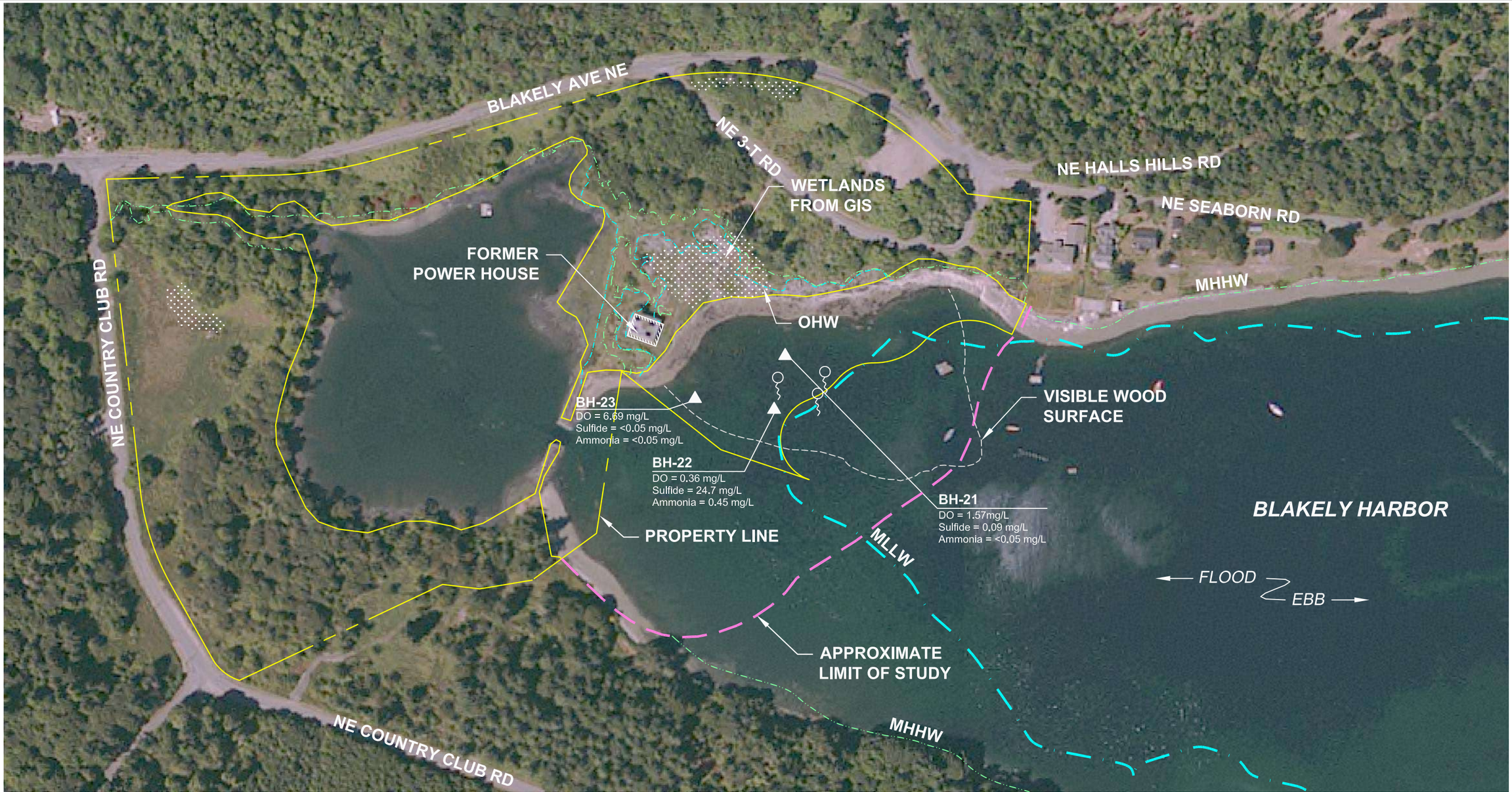
Sample Location (Approximate) - Shannon & Wilson (1992) Sampling Data

- Log Pond/Sediment
- Groundwater
- Test Pit

0 200
Scale in Feet

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 3
Approximate Depth and Extent of Surface Wood Debris
Blakely Harbor
Sediment Characterization



Legend

- Limit of Study
- Mean Higher High Water (MHHW)
- Mean Lower Low Water (MLLW)
- Property Line
- Visible Wood Surface
- BH-23 Seep Sample
- Visible Seep With Bacteria at Surface

Notes:

Horizontal Datum: Washington State Plane North, NAD83.
Vertical Datum: MLLW

MLLW = 0.0 FT
MHW = 10.5 FT
MHHW = 11.4 FT

Sources:

1. Aerial photo from Kitsap County dias dated 2001.
2. OHW line, MHW inside project area, and select wetlands from upland survey by Bainbridge Metro Parks, May 15, 2007.
3. Additional wetland from Kitsap County GIS.
4. MHW and MHHW Elevations from Seattle NOAA Station 9447130.
5. MHHW line outside project area and MLLW line from GIS.
6. Conversion from NAVD88 to MLLW based on WSDOT Monument 5139 at Eagle Harbor using MLLW = NAVD88 -2.5 ft.

0 200
Scale in Feet

Jan 19, 2009 12:12pm ghowell K:\Jobs\080510-City of Bainbridge\080510-03-BLKLY-HARBR\080510010-003.dwg FIG 4

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 4
Dissolved Oxygen, Sulfide and Ammonia Concentrations (mg/L) in Intertidal Seep Samples
Blakely Harbor
Sediment Characterization

APPENDIX A

PHOTOGRAPHS

Photograph1 – Looking offshore into Blakely Harbor at low tide

Photograph 2 – Looking towards shore at low tide

Photograph 3 – View towards north at low tide from lower intertidal area

Photograph 4 – View to south from lower intertidal area at low tide. Log pond channel just beyond person on beach

Photograph 5 – Upper intertidal area just south of old Power House building

Photograph 6 – Upper intertidal area offshore of old Power House building

Photograph 7 – Upper intertidal area at Test Pit 3 location

Photograph 8 – Test pit excavator at Test Pit 2

Photograph 9 – View into 8-foot-deep excavation at Test Pit 2

Photograph 10 – Stockpile material piled up alongside Test Pit 1

Photograph 11 – Large wood material in Test Pit 3

Photograph 12 – Water sampling at Seep 1 (BH-021)

Photograph 13 – Water sampling equipment at Seep 1 (BH-021)

Photograph 14 – Water bubbling up from Seep 2 (BH-022) and white filamentous material

APPENDIX B

DIVER OBSERVATION LOGS

Blakely Harbor Mill Site **Transect:** #1

Diver Observation Log

Date: 9/24/2008 Crew: Research Support Survices, Eric Parker

Coordintes: Start: 222120 N 1225752 E End: 221919 N 1225976 E

Distance (ft)	0	25	50	75	100	125	150	175	200	225	250	275	300
Time	1635	1637	1640	1641	1643	1645	1646	1647	1647	1648	1649	1650	1652
Depth (ft)	11	12	13	15	18	21	25	27	30	33	35	35	35
Tide	10.3	10.3	10.2	10.2	10.2	10.1	10	10	10	9.9	9.9	9.9	9.9
Depth (MLLW)	-0.7	-1.7	-2.8	-4.8	-7.8	-10.9	-15	-17	-20	-23.1	-25.1	-25.1	-25.1
Predominant Substrate	Shelly silt and crushed rock	Shelly silt and crushed rock	Silty sand and crushed rock	Shelly sandy silt/crushed rock	Sandy silt/woody	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt
Surface WW%	90	75	15	10	15	90	90	90	80	70	50	5	<5
Depth to 100% Wood	0	Not able to probe	Not able to probe	Not able to probe	Pilings	12"	12"	12"	8"	8"	8"	12-18"	12-18"
%Wood by Volume	100	0	0	0	50	100	100	100	100	100	40	50	50
Algae Present	Ulva	Ulva	Ulva Lam	Ulva Lam		Lam	Lam	Lam	Lam			Ulva	
% Algal Cover	90	100	100	100		5	<5	<5	5			<5	
Animals Present	Barnacles, Crab					Starfish		Metridium	Crab, Starfish, Lincod	Metridium			Sand dab

Lam = Laminaria sp.

MLLW = mean lower low water

WW = wood waste

Blakely Harbor Mill Site **Transect:** #2

Diver Observation Log

Date: 9/24/2008 Crew: Research Support Survices, Eric Parker

Coordintes: Start: 222114 N 1225645 E End: 221890 N 1225854 E

Distance (ft)	0	25	50	75	100	125	150	175	200	225	250	275	300
Time	1557	1556	1555	1555	1555	1555	1553	1552	1551	1550	1550	1548	1547
Depth (ft)	11	12	12	13	14	15	15	17	20	21	24	25	27
Tide	10.8	10.8	10.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9	11	11	11
Depth (MLLW)	0.2	-1.2	-1.2	-2.1	-3.1	-4.1	-4.1	-6.1	-9.1	-10.1	-13	-14	-16
Predominant Substrate	Sandy Silt	Sandy Silt	Silty Sand, scattered rock	Silty Sand, scattered rock	Silty Sand, scattered rock	Silty Sand, scattered rock	Silty Sand	Silty Sand	Silty Sand	Silt	Silt	Silt	Sandy Silt
Surface WW%	100	100	100	100	100	80	75	40	30	15	50	15	10
Depth to 100% Wood	0	0	0	0	0	0	3"	8"	12"	12"	12"	12"	6"
% Wood by Volume	100	100	100	100	100	100	100	50	100	100	100	100	100
Algae Present	Ulva	Ulva	Ulva	Ulva	Ulva	Ulva, Laminaria	Ulva, Laminaria	Ulva	Ulva	Gracilaria	Gracilaria		Gracilaria
% Algal Cover	90	100	90	100	100	100	100	100	100	20	10		<5
Animals Present											Metridium		Sculpin

Lam = Laminaria sp.

MLLW = mean lower low water

WW = wood waste

Blakely Harbor Mill Site **Transect:** #3

Diver Observation Log

Date: 9/24/2008 Crew: Research Support Survices, Eric Parker

Coordintes: Start: 221031 N 1225558 E End: 221800 N 1225734 E

Distance (ft)	0	25	50	75	100	125	150	175	200	225	250	275	300
Time	1430	1451	1450	1448	1447	1446	1446	1445	1445	1444	1443	1440	1440
Depth (ft)	11	12	13	14	14	14	14	14	15	14	13	13	12
Tide	11.1	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Depth (MLLW)	-0.1	-0.8	-1.8	-2.8	-2.8	-2.8	-2.8	-2.8	-3.8	-2.8	-1.8	-1.8	-0.8
Predominant Substrate	Crushed rock and gravel	Silt	Shelly Silt	Silty sand and sawdust	Silt and Sawdust	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Sand	Sand	Sand	Sand
Surface WW%	40	100	75	80	15	0	0	0	0	0	0	0	0
Depth to 100% Wood	0	0	3"	6"	6"	12"	18-24"	--	--	--	--	--	--
% Wood by Volume	100	100	100	100	100	100	100	--	--	--	--	--	--
Algae Present	Ulva	Ulva	Ulva	Ulva, Gracilaria	Ulva	Ulva, Gracilaria	Ulva	Ulva, Gracilaria	Ulva	Ulva	Ulva, Gracilaria	Ulva	Ulva
% Algal Cover	70	80	50	80		15	90	60	50	<5	<5	<5	<5
Animals Present	Barnacles on rocks												

Lam = Laminaria sp.

MLLW = mean lower low water

WW = wood waste

APPENDIX C

LABORATORY DATA AND DATA VALIDATION REPORTS

Anchor Environmental, L.L.C.
1423 3rd Avenue, Suite 300
Seattle, Washington 98101
Phone 206.287.9130
Fax 206.287.9131

Data Validation Review Report – EPA Level 2

Project: Blakely Harbor

Project Number: 080510-03

Date: October 2, 2008

This report summarizes the review of analytical results for 13 sediment samples and three water samples collected on July 31 and August 1, 2008. Samples were collected by Anchor Environmental, L.L.C. (Anchor) and submitted to Columbia Analytical Services, Inc. (CAS), in Kelso, Washington. One set of three samples and one set of four samples were composited for analyses. The second composite was split for duplicate analyses. Samples were analyzed for the following:

- Semivolatile organic compounds (SVOCs) by U.S. Environmental Protection Agency (USEPA) method 8270C
- Volatile organic compounds (VOCs) by USEPA method 8260B
- Organochlorine pesticides by USEPA method 8081A
- Aroclor polychlorinated biphenyls (PCBs) by USEPA method 8082
- Total metals by USEPA methods 6010B, 6020, and 7471A
- Porewater organotins by Krone
- Gasoline range organics (GRO) by NWTPH-GX
- Diesel range organics (DRO) and residual range organics (RRO) by NWTPH-DX
- Ammonia by USEPA method 350.1M
- Sulfides by Puget Sound Estuary Program (PSE)P
- Total organic carbon (TOC) by PSEP
- Total solids (TS) by USEPA method 160.3M
- Total volatile solids (TVS) by USEPA method 160.4M
- Grain size by ASTM D422M
- Polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF) by USEPA method 1613B

CAS sample data group (SDG) number K0807136 was reviewed in this report. The samples reviewed in this report are presented in Table 1.

Table 1
Samples Reviewed

Sample ID	Lab ID	Matrix	Analyses Requested
BH-021-080731	K0807136-001	Water	Ammonia, sulfides
BH-022-080731	K0807136-002	Water	Ammonia, sulfides
BH-023-080731	K0807136-003	Water	Ammonia, sulfides
BH-001-SSA	K0807136-004	Sediment	Archive
BH-001-SSB	K0807136-005	Sediment	Archive
BH-002-SSA	K0807136-006	Sediment	SVOCs, VOCs, pesticides, PCBs, metals, organotins, GRO, DRO, RRO, ammonia, sulfides, TOC, TS, TVS, grainsize
BH-009-SSA	K0807136-007	Sediment	VOCs, GRO, sulfides, TS
BH-059-SSA	K0807136-008	Sediment	VOCs, GRO, sulfides, TS
BH-010-SSA	K0807136-009	Sediment	VOCs, GRO, sulfides, TS
BH-011-SSA	K0807136-010	Sediment	VOCs, GRO, sulfides, TS
BH-006-SSA	K0807136-011	Sediment	VOCs, GRO, sulfides, TS
BH-008-SSA	K0807136-012	Sediment	Archive
BH-007-SSA	K0807136-013	Sediment	VOCs, GRO, sulfides, TS
BH-003-SSA	K0807136-014	Sediment	Archive
BH-005-SSA	K0807136-015	Sediment	VOCs, GRO, sulfides, TS
BH-004-SSA	K0807136-016	Sediment	Archive
BH-005,6,7-SSA Comp	K0807136-017	Sediment	SVOCs, VOCs, pesticides, PCBs, metals, organotins, GRO, DRO, RRO, ammonia, TOC, TS, TVS, grainsize, PCDD/PCDF
BH-009,59,10,11-SSA Comp	K0807136-018	Sediment	SVOCs, VOCs, pesticides, PCBs, metals, organotins, GRO, DRO, RRO, TOC, TS, TVS, grainsize, PCDD/PCDF
BH-009,59,10,11-SSA CompDup	K0807136-019	Sediment	SVOCs, VOCs, pesticides, PCBs, metals, organotins, GRO, DRO, RRO, TOC, TS, TVS, grainsize, PCDD/PCDF

Data Validation and Qualifications

The following comments refer to the laboratory's performance in meeting the quality assurance/quality control (QA/QC) guidelines outlined in the analytical procedures and data quality objective section of the Sampling and Analysis Plan (SAP). Laboratory results were reviewed following USEPA guidelines using *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004), *USEPA Contract Laboratory National Functional Guidelines for Organic Data Review* (USEPA 1999), and *USEPA Contract Laboratory National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review (USEPA 2005)* as guidelines, and applying laboratory and method QC criteria as stated in SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB,

January 1995; update III, December 1996; update IIIA, April 1998. Unless noted in this report, laboratory results for the samples listed above were within QC criteria.

Field Documentation

Field documentation was checked for completeness and accuracy. The chain-of-custody was signed by CAS at the time of sample receipt; the samples were received cold and in good condition. A revised chain of custody was submitted after samples were received.

Holding Times and Sample Preservation

Samples were appropriately preserved and analyzed within holding times with the following exceptions:

- TS analyses were performed 5, 6, and 7 days past the 7-day holding time. All results have been qualified "J" to indicate that they are estimated.
- TVS analyses were performed 3 and 4 days past the 14-day holding time. All results have been qualified "J" to indicate that they are estimated.
- TOC analyses were performed 6 and 7 days past the 14-day holding time. All results have been qualified "J" to indicate that they are estimated.
- Pesticides analyses were performed 6 and 7 days past the 40-day hold time after extractions. All results have been qualified "J" or "UJ" to indicate that they are estimated.

Laboratory Method Blanks

Laboratory method blanks were analyzed at the required frequencies. All method blanks were free of target analytes with the following exceptions:

- NWTPH-DX: DRO and RRO were detected in the method blank at levels between the method detection limit (MDL) and the method reporting limit (MRL). All sample results were significantly higher (>5x) than those detected in the blank, so no data were qualified.
- PCDD/PCDF: 1,2,3,6,7,8-HxCDD, 1,2,3,4,6,7,8-HpCDD, OCDD, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF, and OCDF were all detected in the method blank at levels above the estimated detection limit (EDL) but below the reporting limit (RL). Sample concentrations were compared to concentrations in the method blank. The

sample concentrations were either not detected or were significantly greater than (>5x) the blank concentrations with the exceptions of 1,2,3,4,7,8-HxCDF in sample BH-005,6,7-SSA-Comp and 1,2,3,6,7,8-HxCDD and 1,2,3,4,6,7,8-HpCDF in samples BH-009,59,10,11-SSA Comp and BH-009,59,10,11-SSA Comp. These results have been qualified as non-detects. See Table 3 for qualified data.

Field Quality Control

Field Blanks

No field blanks were collected in association with this data package.

Field Duplicates

One set of field duplicates was collected in association with this data package: BH-009-SSA and BH-059-SSA. In addition, one duplicate was created in the laboratory when compositing: BH-009,59,10,11-SSA Comp and BH-009,59,10,11-SSA Comp Dup. Results are summarized in Table 2.

Table 2
Duplicate Sample Summary

Analyte	BH-009-SSA	BH-059-SSA	RPD
TS	41.8%	39%	7%
Sulfide	36 mg/kg	63 mg/kg	55%

Analyte	BH-009,59,10,11-SSA Comp	BH-009,59,10,11-SSA Comp Dup	RPD
TVS	18.6%	27.5%	39%
TOC	15.5%	15.5%	0%
Medium Gravel	24.4%	24.5%	0%
Fine Gravel	16.6%	18.4%	10%
Very Coarse Sand	12.5%	13.3%	6%
Coarse Sand	8.44%	7.59%	11%
Medium Sand	8.12%	10.7%	27%
Fine Sand	9.23%	9.49%	3%
Very Fine Sand	2.52%	2.99%	17%
Silt	12.4%	8.6%	36%
Clay	8.16%	8.42%	3%

Analyte	BH-009,59,10,11-SSA Comp	BH-009,59,10,11-SSA Comp Dup	RPD
Antimony	21.9 mg/kg	104 mg/kg	130%
Arsenic	10.8 mg/kg	9.28 mg/kg	15%
Cadmium	0.604 mg/kg	0.588 mg/kg	3%
Chromium	18.3 mg/kg	34 mg/kg	60%
Copper	94.4 mg/kg	2020 mg/kg	182%
Lead	242 mg/kg	605 mg/kg	86%
Mercury	0.085 mg/kg	0.094 mg/kg	10%
Nickel	17 mg/kg	25.9 mg/kg	41%
Selenium	1.8 mg/kg	1.4 mg/kg	25%
Silver	0.181 mg/kg	0.36 mg/kg	66%
Zinc	96.7 mg/kg	121 mg/kg	22%
DRO	45 mg/kg	88 mg/kg	65%
RRO	100 mg/kg	200 mg/kg	67%
Heptachlor	1.5U µg/kg	0.92 µg/kg	200%
Aldrin	0.58 µg/kg	0.65 µg/kg	11%
cis-Nonachlor	1.5U µg/kg	0.21 µg/kg	200%
4,4'-DDT	0.41 µg/kg	0.46 µg/kg	11%
Phenol	850 µg/kg	1100 µg/kg	26%
4-Methylphenol	15 µg/kg	30 µg/kg	67%
Naphthalene	100 µg/kg	98 µg/kg	2%
2-Methylnaphthalene	49 µg/kg	46 µg/kg	6%
Acenaphthylene	100 µg/kg	200 µg/kg	67%
Acenaphthene	100 µg/kg	110 µg/kg	10%
Dibenzofuran	45 µg/kg	58 µg/kg	25%
Fluorene	110 µg/kg	170 µg/kg	43%
Diethyl Phthalate	4.2 µg/kg	4.5 µg/kg	7%
Phenanthrene	1400 µg/kg	1900 µg/kg	30%
Anthracene	320 µg/kg	520 µg/kg	48%
Di-n-butyl Phthalate	21 µg/kg	20 µg/kg	5%
Fluoranthene	1700 µg/kg	2700 µg/kg	45%
Pyrene	1800 µg/kg	2700 µg/kg	40%
Benz(a)anthracene	780 µg/kg	1100 µg/kg	34%
Chrysene	900 µg/kg	1300 µg/kg	36%
Bis(2-ethylhexyl) Phthalate	14 µg/kg	21 µg/kg	40%
Benzo(b)fluoranthene	910 µg/kg	1200 µg/kg	27%
Benzo(k)fluoranthene	250 µg/kg	380 µg/kg	41%
Benzo(a)pyrene	830 µg/kg	1200 µg/kg	36%
Indeno(1,2,3-cd)pyrene	590 µg/kg	780 µg/kg	28%
Dibenz(a,h)anthracene	110 µg/kg	180 µg/kg	48%

Analyte	BH-009,59,10,11-SSA Comp	BH-009,59,10,11-SSA Comp Dup	RPD
Benzo(g,h,i)perylene	570 µg/kg	770 µg/kg	30%
1,2,3,7,8,9-HxCDD	0.768 ng/kg	7.70U ng/kg	200%
1,2,3,4,6,7,8-HpCDD	10.4 ng/kg	9.43 ng/kg	10%
OCDD	39.1 ng/kg	23.2 ng/kg	51%

Internal Standard/Surrogate Recoveries

Internal standard recoveries were within method control limits for all internal standards with the exception of the low recovery of chlorobenzene-d5 in sample BH-005-SSA in the volatiles analysis. Associated analytes have been qualified "UJ" to indicate a potentially low bias. See Table 3 for qualified data. Surrogate recoveries were within laboratory control limits for all surrogates.

Compound Identification

The chromatographic pattern for DRO and RRO in NWTPH-DX analyses did not match the calibration standards for sample BH-002-SSA. The chromatographic pattern for DRO in sample BH-009,59,10,11-SSA Comp Dup did not resemble a petroleum product. These results have been qualified "J" to indicate that they are estimated. See Table 3 for qualified data.

Compound Quantitation

Compound confirmation results for detected pesticide and PCB analytes were within 40 percent relative percent difference (RPD) of the primary analyses with the exception of some pesticide results. One or more pesticide analytes in the samples where pesticides were detected were outside of control limits. See Table 3 for qualified data.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD)

MS and MSD samples were analyzed at the required frequencies for all analyses. All MS/MSD analyses yielded percent recoveries (%R) and/or RPD values within the project data quality objectives with the following exceptions:

- Conventionals – Sulfides recovered below data quality objectives in the MS and the MS/MSD analyses resulted in a RPD outside of data quality objectives. All sediment sulfides results have been qualified "J" to indicate that results are estimated.

- Metals – Antimony recovered below data quality objectives in the MS. All results for antimony have been qualified "J" to indicate a potentially low bias. Copper, lead, and zinc also recovered outside of control limits in the MS. However, the spiking concentrations for these elements were all significantly higher (>4x) than concentrations in the native sample so no data were qualified. Post-spike recoveries for these elements were within project-required control limits.
- SVOCs – MS and MSD analyses resulted in %Rs and/or RPD values outside of the project required control limits for the following analytes: phenol, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, acenaphthene, and pentachlorophenol (MSD, RPD); and pyrene (MS/MSD, RPD). Results for these analytes have been qualified "J" or "UJ" in the parent sample to indicate that they are estimated.

Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

An LCS and LCSD were analyzed at the required frequencies and resulted in recoveries within project-required control limits with the exception of the SVOC LCS/LCSD. Analytes that recovered low in the SVOC LCSD and/or LCS were 2-methylphenol, 4-methylphenol, and acenaphthylene (LCS), and 2,4-dimethylphenol and benzoic acid (LCS/LCSD) . All sample results for these analytes have been qualified "J" or "UJ" to indicate a potentially low bias.

Laboratory Duplicates/Triplicates

Laboratory duplicates/triplicates were analyzed at the required frequencies. All RPD/relative standard deviation (RSD) values were within the project-required control limits with the following exceptions:

- Grain size – The duplicate analysis of medium gravel and medium sand resulted in high RPD values. These parameters have been qualified "J" in the parent sample to indicate that they are estimated.
- Metals – The duplicate analysis of copper and silver resulted in RPD values outside of data quality objectives. Copper and silver results for all samples have been qualified "J" to indicate that they are estimated.

Method Reporting Limits

Reporting limits were deemed acceptable as reported. All values were reported using the laboratory's reporting limits. Values were reported as undiluted, or when diluted, the reporting limit accurately reflects the dilution factor. Some of the reporting limits for pesticide and PCB analytes were elevated due to matrix interference. However, all reporting limits were at or below screening levels with the exceptions of gamma-BHC (Lindane) in sample BH-002-SSA and Aroclor 1221 in sample BH-009,59,10,11-SSA Comp. Several reporting limits for SVOC analytes in sample BH-002-SSA were elevated due to high levels of non-target analytes, which required the sample to be diluted prior to analysis. This resulted in several reporting limits above screening levels. Some SVOC reporting limits in the remaining samples were also above screening levels due to limitations of the method.

Overall Assessment

As was determined by this evaluation, the laboratory followed the specified analytical methods and all requested sample analyses were completed. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values, with the exceptions noted above. Precision was also acceptable as demonstrated by the laboratory duplicates, MS/MSD and LCS/LCSD RPD values, with the exceptions noted above. TVS, TOC, and pesticide data were qualified due to holding time exceedances. PCDD/PCDF data were qualified due to method blank contamination. Most data were deemed acceptable as reported; all other data are judged to be acceptable as qualified. Table 3 summarizes the qualifiers applied to samples reviewed in this report.

Table 3
Data Qualification Summary

Sample ID	Parameter	Analyte	Reported Result	Qualified Result	Reason
BH-002-SSA	Conventionals	TS	42.9%	42.9J%	Analysis performed outside of hold time
		TVS	19.8%	19.8J%	
		TOC	9.59%	9.59J%	
		Sulfides	555 mg/kg	555J mg/kg	MS %R, MS/MSD RPD outside of control limits
	Grain size	Medium gravel	19.3%	19.3J%	Duplicate RPD outside of control limits
		Medium sand	9.98%	9.98J%	

Sample ID	Parameter	Analyte	Reported Result	Qualified Result	Reason
	Metals	Antimony	13.9 mg/kg	13.9J mg/kg	MS %R below control limits
		Copper	508 mg/kg	508J mg/kg	Duplicate RPD outside of control limits
		Silver	0.515 mg/kg	0.515J mg/kg	
	NWTPH-DX	DRO	220H mg/kg	220J mg/kg	Chromatographic pattern does not match calibration
		RRO	530O mg/kg	530J mg/kg	
	Pesticides	gamma-BHC (Lindane)	22Ui µg/kg	22UJ µg/kg	Analysis performed outside of hold time
		Heptachlor	1.2Ui µg/kg	1.2UJ µg/kg	
		Aldrin	1.2Ui µg/kg	1.2UJ µg/kg	
		alpha-Chlordane	1.2Ui µg/kg	1.2UJ µg/kg	
		gamma-Chlordane	1.2Ui µg/kg	1.2UJ µg/kg	
		cis-Nonachlor	1.2Ui µg/kg	1.2UJ µg/kg	
		trans-Nonachlor	1.2Ui µg/kg	1.2UJ µg/kg	
		Dieldrin	1.2Ui µg/kg	1.2UJ µg/kg	
		4,4'-DDE	1.2Ui µg/kg	1.2UJ µg/kg	
		4,4'-DDD	1.2Ui µg/kg	1.2UJ µg/kg	
		4,4'-DDT	1.2Ui µg/kg	1.2UJ µg/kg	
	SVOCs	2-Methylphenol	58U µg/kg	58UJ µg/kg	LCS and/or LCSD %R outside of control limits
		4-Methylphenol	46JD µg/kg	46J µg/kg	
		2,4-Dimethylphenol	290U µg/kg	290UJ µg/kg	
		Benzoic Acid	1200U µg/kg	1200UJ µg/kg	
		Acenaphthylene	290D µg/kg	290J µg/kg	
BH-009-SSA	Conventionals	TS	41.8%	41.8J%	Analysis performed outside of hold time
		Sulfides	36 mg/kg	36 J mg/kg	MS %R, MS/MSD RPD outside of control limits
BH-059-SSA	Conventionals	TS	39.0%	39.0J%	Analysis performed outside of hold time
		Sulfides	63 mg/kg	63 J mg/kg	MS %R, MS/MSD RPD outside of control limits
BH-010-SSA	Conventionals	TS	28.7%	28.7J%	Analysis performed outside of hold time
		Sulfides	1630 mg/kg	1630 J mg/kg	MS %R, MS/MSD RPD outside of control limits
BH-011-SSA	Conventionals	TS	32.6%	32.6J%	Analysis performed outside of hold time

Sample ID	Parameter	Analyte	Reported Result	Qualified Result	Reason
		Sulfides	1820 mg/kg	1820 J mg/kg	MS %R, MS/MSD RPD outside of control limits
BH-006-SSA	Conventionals	TS	39.3%	39.3J%	Analysis performed outside of hold time
		Sulfides	558 mg/kg	558 J mg/kg	MS %R, MS/MSD RPD outside of control limits
BH-007-SSA	Conventionals	TS	63.3%	63.3J%	Analysis performed outside of hold time
		Sulfides	104 mg/kg	104 J mg/kg	MS %R, MS/MSD RPD outside of control limits
BH-005-SSA	Conventionals	TS	37.4%	37.4J%	Analysis performed outside of hold time
		Sulfides	632 mg/kg	632 J mg/kg	MS %R, MS/MSD RPD outside of control limits
	VOCs	Tetrachloroethene	2.7U µg/kg	2.7UJ µg/kg	Internal standard %R below control limits
		Ethylbenzene	2.7U µg/kg	2.7UJ µg/kg	
		mp-Xyenes	5.3U µg/kg	5.3UJ µg/kg	
		o-Xylene	2.7U µg/kg	2.7UJ µg/kg	
BH-005,6,7-SSA Comp	Conventionals	TS	50.0%	50.0J%	Analysis performed outside of hold time
		TVS	18.6%	18.6J%	Analysis performed outside of hold time
		TOC	10.0%	10.0J%	
	Metals	Antimony	0.48 mg/kg	0.48J mg/kg	MS %R below control limits
		Copper	33.7 mg/kg	33.7J mg/kg	Duplicate RPD outside of control limits
		Silver	0.219 mg/kg	0.219J mg/kg	
	Pesticides	gamma-BHC (Lindane)	5.9Ui µg/kg	5.9UJ µg/kg	Analysis performed outside of hold time
		Heptachlor	0.40JP µg/kg	0.40J µg/kg	
		Aldrin	0.39J µg/kg	0.39J µg/kg	
		alpha-Chlordane	1.0Ui µg/kg	1.0UJ µg/kg	
		gamma-Chlordane	1.0Ui µg/kg	1.0UJ µg/kg	
		cis-Nonachlor	1.0Ui µg/kg	1.0UJ µg/kg	
		trans-Nonachlor	1.0U µg/kg	1.0UJ µg/kg	
		Dieldrin	0.95J µg/kg	0.95J µg/kg	
		4,4'-DDE	1.0Ui µg/kg	1.0UJ µg/kg	

Sample ID	Parameter	Analyte	Reported Result	Qualified Result	Reason
		4,4'-DDD	1.5Ui µg/kg	1.5UJ µg/kg	
		4,4'-DDT	1.0Ui µg/kg	1.0UJ µg/kg	
		Heptachlor	0.40JP µg/kg	0.40J µg/kg	Confirmation result outside of control limits
	SVOCs	Phenol	180 µg/kg	180J µg/kg	MS and/or MSD %R and MS/MSD RPD outside of control limits
		1,4-Dichlorobenzene	10U µg/kg	10UJ µg/kg	
		1,2,4-Trichlorobenzene	10U µg/kg	10UJ µg/kg	
		Acenaphthene	31 µg/kg	31J µg/kg	
		Pentachlorophenol	100U µg/kg	100UJ µg/kg	
		Pyrene	590 µg/kg	590J µg/kg	
		2-Methylphenol	10U µg/kg	10UJ µg/kg	LCS and/or LCSD %R outside of control limits
		4-Methylphenol	36J µg/kg	36J µg/kg	
		2,4-Dimethylphenol	50U µg/kg	50UJ µg/kg	
		Benzoic Acid	200U µg/kg	200UJ µg/kg	
		Acenaphthylene	63 µg/kg	63J µg/kg	
	PCDD/PCDF	1,2,3,4,7,8-HxCDF	1.29BJ ng/kg	4.70U ng/kg	Method blank contamination
BH-009, 59, 10, 11-SSA Comp	Conventionals	TS	34.7%	34.7J%	Analysis performed outside of hold time
		TVS	27.5%	27.5J%	Analysis performed outside of hold time
		TOC	15.5%	15.5J%	
	Metals	Antimony	21.9 mg/kg	21.9J mg/kg	MS %R below control limits
		Copper	94.4 mg/kg	94.4J mg/kg	Duplicate RPD outside of control limits
		Silver	0.181 mg/kg	0.181J mg/kg	
	Pesticides	gamma-BHC (Lindane)	1.5U µg/kg	1.5UJ µg/kg	Analysis performed outside of hold time
		Heptachlor	1.5Ui µg/kg	1.5UJ µg/kg	
		Aldrin	0.58JP µg/kg	0.58J µg/kg	
		alpha-Chlordane	1.5U µg/kg	1.5UJ µg/kg	
		gamma-Chlordane	1.5Ui µg/kg	1.5UJ µg/kg	
		cis-Nonachlor	1.5Ui µg/kg	1.5UJ µg/kg	
		trans-Nonachlor	1.5Ui µg/kg	1.5UJ µg/kg	
		Dieldrin	1.5Ui µg/kg	1.5UJ µg/kg	
		4,4'-DDE	2.3Ui µg/kg	2.3UJ µg/kg	
		4,4'-DDD	1.5Ui µg/kg	1.5UJ µg/kg	
		4,4'-DDT	0.41J µg/kg	0.41J µg/kg	
		Aldrin	0.58JP µg/kg	0.58J µg/kg	Confirmation result outside of control limits
	SVOCs	2-Methylphenol	15U µg/kg	15UJ µg/kg	LCS and/or LCSD %R outside of control limits
		4-Methylphenol	15 µg/kg	15J µg/kg	
		2,4-Dimethylphenol	72U µg/kg	72UJ µg/kg	
		Benzoic Acid	290U µg/kg	290UJ µg/kg	
		Acenaphthylene	100 µg/kg	100J µg/kg	

Sample ID	Parameter	Analyte	Reported Result	Qualified Result	Reason
	PCDD/PCDF	1,2,3,6,7,8-HxCDD	0.753BJ ng/kg	7.01U ng/kg	Method blank contamination
		1,2,3,4,6,7,8-HpCDF	1.40BJ ng/kg	7.01U ng/kg	
BH-009, 59, 10, 11-SSA Comp Dup	Conventionals	TS	31.9%	31.9J%	Analysis performed outside of hold time
		TVS	32.5%	32.5J%	Analysis performed outside of hold time
		TOC	15.5%	15.5J%	
	Metals	Antimony	104 mg/kg	104J mg/kg	MS %R below control limits
		Copper	202 mg/kg	202J mg/kg	Duplicate RPD outside of control limits
		Silver	0.360 mg/kg	0.360J mg/kg	
	NWTPH-DX	DRO	88Z mg/kg	88J mg/kg	Chromatographic pattern does not resemble petroleum product
	Pesticides	gamma-BHC (Lindane)	1.6U µg/kg	1.6UJ µg/kg	Analysis performed outside of hold time
		Heptachlor	0.92JP µg/kg	0.92J µg/kg	
		Aldrin	0.65JP µg/kg	0.65J µg/kg	
		alpha-Chlordane	1.6U µg/kg	1.6UJ µg/kg	
		gamma-Chlordane	1.6Ui µg/kg	1.6UJ µg/kg	
		cis-Nonachlor	0.21JP µg/kg	0.21J µg/kg	
		trans-Nonachlor	1.6Ui µg/kg	1.6UJ µg/kg	
		Dieldrin	1.6Ui µg/kg	1.6UJ µg/kg	
		4,4'-DDE	1.6Ui µg/kg	1.6UJ µg/kg	
		4,4'-DDD	1.6Ui µg/kg	1.6UJ µg/kg	
		4,4'-DDT	1.6Ui µg/kg	1.6UJ µg/kg	
		Heptachlor	0.92 JP µg/kg	0.92 J µg/kg	Confirmation result outside of control limits
		Aldrin	0.65 JP µg/kg	0.65 J µg/kg	
		cis-Nonachlor	0.21 JP µg/kg	0.21 J µg/kg	
		4,4'-DDT	0.46 JP µg/kg	0.46 J µg/kg	
	SVOCs	2-Methylphenol	16U µg/kg	16UJ µg/kg	LCS and/or LCSD %R outside of control limits
		4-Methylphenol	30 µg/kg	30J µg/kg	
		2,4-Dimethylphenol	78U µg/kg	78UJ µg/kg	
		Benzoic Acid	320U µg/kg	320UJ µg/kg	
		Acenaphthylene	200 µg/kg	200J µg/kg	
	PCDD/PCDF	1,2,3,6,7,8-HxCDD	0.513BJ ng/kg	7.70U ng/kg	Method blank contamination
		1,2,3,4,6,7,8-HpCDF	0.992BJ ng/kg	7.70U ng/kg	

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Data Validation Review Report – EPA Level 2

Project: Blakely Harbor

Project Number: 080510-03

Date: November 13, 2008

This report summarizes the review of analytical results for four sediment samples collected on September 12, 2008, and one composite sample created in the laboratory. Samples were collected by Anchor Environmental, L.L.C., and submitted to Columbia Analytical Services, Inc. (CAS), in Kelso, Washington. Samples were analyzed for the following:

- Semivolatile organic compounds (SVOCs) by U.S. Environmental Protection Agency (USEPA) Method 8270C
- Volatile organic compounds (VOCs) by USEPA Method 8260B
- Organochlorine pesticides by USEPA Method 8081A
- Aroclor polychlorinated biphenyls (PCBs) by USEPA Method 8082
- Gasoline range petroleum hydrocarbons by Method NWTPHGX
- Diesel and residual range petroleum hydrocarbons by Method NWTPHDX
- Total metals by USEPA Methods 6020 and 7471A
- Organotins (TBT) by Krone
- Ammonia by USEPA method 350.1
- Sulfides by USEPA method 9030
- Total organic carbon (TOC) by ASTM D4129-82
- Total solids (TS) by USEPA method 160.3
- Total volatile solids (TVS) by USEPA method 160.4
- Grainsize by ASTM D422
- Polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF) by USEPA method 1613B

CAS sample data group (SDG) number K0808882 was reviewed in this report. The samples reviewed in this report are presented in Table 1.

Table 1
Samples Reviewed

Sample ID	Lab ID	Matrix	Analyses Requested
BH-P01-SSA	K0808882-001	Sediment	TS, VOCs
BH-P02-SSA	K0808882-002	Sediment	TS, VOCs
BH-SSA Comp	K0808882-003	Sediment	TS, SVOCs, TPHGX, TPHDX, PCBs, pesticides, metals, ammonia, sulfides, TBT, PCDD/PCDF, grainsize
BH-P01-SSB	K0808882-004	Sediment	TS, SVOCs, PCBs, pesticides, metals, ammonia, sulfides, grainsize
BH-P02-SSB	K0808882-005	Sediment	TS, SVOCs, PCBs, pesticides, metals, ammonia, sulfides, grainsize

Data Validation and Qualifications

The following comments refer to the laboratory's performance in meeting the quality assurance/quality control (QA/QC) guidelines outlined in the analytical procedures and data quality objective section of the Sampling and Analysis Plan (SAP). Laboratory results were reviewed following USEPA guidelines using *USEPA Contract Laboratory Program National Functional Guidelines for Inorganics Data Review* (USEPA 2004) and *USEPA Contract Laboratory National Functional Guidelines for Organics Data Review* (USEPA 1999) as guidelines, and applying laboratory and method QC criteria as stated in SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998. Unless noted in this report, laboratory results for the samples listed above were within QC criteria.

Field Documentation

Field documentation was checked for completeness and accuracy. The chain-of-custody was signed by CAS at the time of sample receipt; the samples were received cold and in good condition.

Holding Times and Sample Preservation

Samples were appropriately preserved and analyzed within holding times with the exception of the TS analysis of sample BH-P01-SSA, which was analyzed 9 days past the 14-day hold time. This result has been qualified "J" to indicate that it is estimated.

Laboratory Method Blanks

Laboratory method blanks were analyzed at the required frequencies. All method blanks were free of target analytes with the following exceptions:

- Metals – Chromium and mercury were detected at levels between the method detection limit (MDL) and the method reporting limit (MRL). All sample results were significantly greater than (>5x) the levels found in the blank with the exception of mercury in sample BH-P02-SSB. This result has been qualified with a "U" to indicate that it is not detected at the reporting limit.
- TPHGX – Gasoline range organics were detected at a level between the MDL and the MRL. The associated sample result was below detection so no data were qualified.
- PCDD/PCDF – 1,2,3,4,6,7,8-HpCDD, OCDD, and OCDF were all detected between the estimated detection limit (EDL) and MRL. Sample results were all significantly greater than (>5x) the levels found in the blank, so no data were qualified.

Field Quality Control

Field Blanks

No field blanks were collected in association with this data package.

Field Duplicates

No field duplicates were collected in association with this data package.

Internal Standard/Surrogate Recoveries

Internal standard recoveries were within method control limits for all internal standards. Surrogate recoveries were within laboratory control limits for all surrogates with one exception. The labeled compound 13C-OCDD in sample BH-SSA Comp and the associated method blank in the PCDD/PCDF analysis recovered below laboratory control limits. The associated result has been qualified "J" to indicate that it may be estimated.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD)

MS and MSD samples were analyzed at the required frequencies for all analyses. Some analyses batched project samples with non-project samples and reported batched MS/MSD analyses on non-project samples. The results of the batched QC were not used to evaluate these

data. All MS/MSD analyses yielded percent recoveries (%R) and/or relative percent difference (RPD) values within the project data quality objectives with the following exception:

- Metals – Antimony recovered low in the MS. All results for this element have been qualified "J" to indicate that they may be biased low.

Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

An LCS and LCSD were analyzed at the required frequencies and resulted in recoveries within project required control limits with the following exceptions:

- Metals – Selenium recovered high in the LCS. Positive results for this element have been qualified "J" to indicate that they are estimated.
- SVOCs – Analytes that recovered low in the SVOC LCS/LCSD were 2-methylphenol, 2,4-dimethylphenol, and benzoic acid. 4-methylphenol recovered low in the LCS only and the LCS/LCSD RPD value for 2,4-dimethylphenol was high. All sample results for these analytes have been qualified "UJ" to indicate a potentially low bias and/or estimated results.
- PCDD/PCDF – 1,2,3,7,8,9-HxCDD recovered low in the LCS and OCDF recovered high in the LCSD. LCS/LCSD RPD values were high for 1,2,3,7,8,9-HxCDD and 2,3,4,6,7,8-HxCDF. Results for these analytes have been qualified "J" or "UJ" to indicate that they are estimated.

Laboratory Duplicates

Laboratory duplicates/triplicates were analyzed at the required frequencies. All RPD values were within the project required control limits with the following exception:

- Grain size – The duplicate analysis of fine and medium gravel and coarse sand resulted in high RPD values. These parameters have been qualified "J" in the parent sample to indicate that they are estimated.

Sample Analysis

The grain size analysis of sample BH-SSA Comp resulted in a total recovery of 132 percent. This is attributed to the large amount of organic matter contained in the sample. It passed through the sieve and was used in the pipette determination for silt and clay. Because this portion of the test relies on settling rates to determine the fraction and the organic material does

not settle out, the results for silt and clay are biased high in this sample. These results have been qualified "J" to indicate that they are estimated.

Method Reporting Limits

Reporting limits were deemed acceptable as reported. All values were reported using the laboratory's reporting limits. Values were reported as undiluted, or when diluted, the reporting limit accurately reflects the dilution factor. The reporting limits for all PCB results in sample BH-SSA Comp were above data quality objectives due to matrix interference. Some SVOC analyte MRLs were above project requirements.

Overall Assessment

As was determined by this evaluation, the laboratory followed the specified analytical methods and all requested sample analyses were completed. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values, with the exceptions noted above. Precision was also acceptable as demonstrated by the laboratory duplicates, MS/MSD, and LCS/LCSD RPD values, with the exceptions noted above. Most data were deemed acceptable as reported; all other data are judged to be acceptable as qualified. No data were rejected in this review. Table 2 summarizes the qualifiers applied to samples reviewed in this report.

Table 2
Data Qualification Summary

Sample ID	Parameter	Analyte	Reported Result	Qualified Result	Reason
BH-P01-SSA	Conventionals	Total solids	35.4%	35.4J%	Analyzed outside of hold time.
BH-SSA Comp	Grain size	Silt	12.0%	12.0J%	Biased high due to organic content.
		Clay	8.54%	8.54J%	
	Metals	Antimony	86.4 mg/kg	86.4J mg/kg	MS recovery outside of control limits.
		Selenium	2.0B mg/kg	2.0J mg/kg	LCS recovery outside of control limits.
	SVOCs	2-Methylphenol	16U µg/kg	16UJ µg/kg	LCS, LCSD %R and/or RPD value outside of control limits
		4-Methylphenol	16U µg/kg	16UJ µg/kg	
		2,4-Dimethylphenol	79U µg/kg	79UJ µg/kg	
		Benzoic acid	320U µg/kg	320UJ µg/kg	
	PCDD/PCDF	2,3,7,8-TCDF	2.18CJ ng/kg	R	Report from reanalysis.
		OCDD	32.9 ng/kg	32.9J ng/kg	Associated labeled compound %R outside of control limits.
		1,2,3,7,8,9-HxCDD	0.269U ng/kg	0.269UJ ng/kg	LCS, LCSD %R and/or RPD value outside of control limits.
		2,3,4,6,7,8-HxCDF	0.508U ng/kg	0.508UJ ng/kg	
		OCDF	111 ng/kg	111J ng/kg	
BH-P01-SSB	Metals	Antimony	1.890 mg/kg	1.890J mg/kg	MS recovery outside of control limits.
	SVOCs	2-Methylphenol	10U µg/kg	10UJ µg/kg	LCS, LCSD %R and/or RPD value outside of control limits
		4-Methylphenol	10U µg/kg	10UJ µg/kg	
		2,4-Dimethylphenol	50U µg/kg	50UJ µg/kg	
		Benzoic acid	200U µg/kg	200UJ µg/kg	
BH-P02-SSB	Grain Size	Medium gravel	47.0%	47.0J%	Duplicate RPD outside of control limits.
		Fine gravel	32.4%	32.4J%	
		Coarse sand	2.68%	2.68J%	
	Metals	Mercury	0.007B mg/kg	0.020U mg/kg	Method blank contamination.
		Antimony	0.14 mg/kg	0.14J mg/kg	MS recovery outside of control limits.
	SVOCs	2-Methylphenol	10U µg/kg	10UJ µg/kg	LCS, LCSD %R and/or RPD value outside of control limits
		4-Methylphenol	10U µg/kg	10UJ µg/kg	
		2,4-Dimethylphenol	50U µg/kg	50UJ µg/kg	
		Benzoic acid	200U µg/kg	200UJ µg/kg	

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USEPA. 1983. Methods for Chemical Analysis of Water and Wastes. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. EPA-600/4-79-020.

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USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency, Office of Emergency Response. EPA 540/R-99/008. October.

USEPA. 2004. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation (OSRTI). EPA 540-R-04-004. October 2004.

USEPA. 2005. USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation (OSRTI). EPA 540-R-05-001. September 2005.

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

September 26, 2008 Analytical Report for Service Request No: K0807136

Delaney Peterson
Anchor Environmental
1423 3rd Ave., Suite 300
Seattle, WA 98101

RE: Blakely Harbor/080007-01

Dear Delaney:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2008. For your reference, these analyses have been assigned our service request number K0807136.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Anchor Environmental	**Service Request No.:**	K0807136
Project:	Blakely Harbor	**Date Received:**	8/2/2008
Sample Matrix:	Water, Sediment		

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

Three water and thirteen sediment samples were received for analysis at Columbia Analytical Services on 8/2/2008. The samples were received in good condition and consistent with the accompanying chain of custody form except as noted on the cooler receipt and preservation form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Sample Preparation

As requested, two composite samples were created. Sediment samples BH-005-SSA, BH-006-SSA and BH-007-SSA were composited and samples BH-009-SSA, BH-059-SSA, BH-101-SSA and BH-011-SSA were composited to create a composite sample and a duplicate composite sample. The composite samples were analyzed for Particle Size, Total Organic Carbon, Volatile Solids, Total Metals, Diesel, and Semivolatiles. Additionally, the pore water generated from each of the discrete samples was composited for the analysis of the organotin compounds.

The discrete samples that were analyzed for the volatiles and sulfide. Additionally, attempts were made to generate pore water from each of the discrete sediment samples.

General Chemistry Parameters

Total Sulfide by PSEP
The matrix spike recovery of sulfide for sample BH-002-SSA was outside control criteria because of suspected matrix interference. A Matrix Spike Duplicate (MSD) was also analyzed, but produced similar results. The Laboratory Control Sample for this data was within acceptance limits showing that the batch was in control. The results of the original analysis are reported. No further corrective action was appropriate.

Total Metals

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recoveries of Copper, Lead, and Zinc for sample BH-002-SSA are not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for the replicate analysis of Copper and Silver in sample BH-002-SSA was outside the normal CAS control limits. The variability in the results is attributed to the heterogeneous character of the sample. Standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

Approved by _____ **Date** 9/11/08

Diesel Range Organics

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Diesel and Residual Range Organics in sample BH-005,6,7-SSA Comp is not applicable because the analyte concentration was less 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.

Gasoline Range Organics

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

Organochlorine Pesticides by EPA Method 8081A

Holding Time Exceptions:
The analysis of field samples and associated matrix spikes was initially performed within the recommended holding time. The samples required multiple cleanups due to high levels of sulfur contamination. The reanalysis was performed past the recommended analytical holding time. Recoveries of surrogate and target analytes were within control criteria and comparable to the Method Blank and Laboratory Control Sample, which were analyzed within the recommended holding time. The impact on data quality is minimal, if any. The report includes results from the reanalysis, and results are flagged accordingly.

Continuing Calibration Verification Exceptions:
The primary evaluation criterion was exceeded for the following analytes in Continuing Calibration Verification (CCV) 0912F005: Tetrachloro-m-xylene. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard meets the alternative evaluation criteria.

Elevated Method Reporting Limits:
The reporting and/or detection limit is elevated for a few analytes in all samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

PCB Aroclors by EPA Method 8082

Continuing Calibration Verification Exceptions:
The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criteria are met for both columns, the higher of the two sample results is generally reported. The primary evaluation criterion was exceeded for the following analytes in Continuing Calibration Verifications (CCV) 0902F004: Decachlorobiphenyl; 0902F016 and 0902F029: Aroclor 1260 and Decachlorobiphenyl. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard meets the alternative evaluation criteria. The results for all target Aroclors and Decachlorobiphenyl are reported from the column with an acceptable CCV. The data quality is not affected. No further corrective action was necessary.

Elevated Method Reporting Limits:
The reporting limit is elevated for several target Aroclors in all reported field samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

Approved by_____ **Date** 9/26/08

Organotin Compounds in Pore Water

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

Volatile Organic Compounds by EPA Method 8260B

Internal Standard Exceptions:
The internal standard recovery of Chlorobenzene-d5 in sample BH-005-SSA was outside control criteria because of suspected matrix interference. The sample was reanalyzed and produced similar results. Since no analytes were detected and quantitated from the sample, the effect on the data is minimal. The analytes associated with the affected internal standard are flagged to indicate the problem.

Semivolatile Organic Compounds by EPA Method 8270C

Matrix Spike Recovery Exceptions:
The matrix spike recovery of Pyrene for sample BH-005,6,7-SSA CompDMS was outside the CAS control criteria as a result of the heterogeneous character of the sample. The Relative Percent Difference (RPD) for the replicate analysis supports this. Since the unspiked samples contain high analyte concentrations relative to the amount spiked, the variability between replicates was sufficient to bias the percent recoveries outside normal CAS control criteria. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicate the analysis was in control. No further corrective action was appropriate.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for the following analytes in the replicate matrix spike analyses of sample BH-005,6,7-SSA Comp was outside control criteria: Phenol, Pentachlorophenol. In general, the RPD was relatively high for all spiked compounds, which indicates a low bias in the Matrix Spike Duplicate (MSD). 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.

Elevated Method Reporting Limits:
The reporting limits are elevated for sample BH-002-SSA. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution.

Dioxins and Furans by EPA Method 8290

The analysis for dioxins and furans was performed at CAS in Houston Texas. The analytical report is included in its entirety herein.

Approved by_____ **Date** 9/24/09

Chain of Custody Documentation

revised COC

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SR#: _____ PAGE 2 OF 2 COC # _____

PROJECT NAME: Blakely
PROJECT NUMBER: 080516-03
PROJECT MANAGER: David Gillingham
COMPANY/ADDRESS: Anchor
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: David Gillingham

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☒ 8270LL☐	Volatile Organics 624☐ 8260☒ 8260☐	Hydrocarbons (*see below) Gas☒ Diesel☒ Oil☒	BTEX☐ 8021☐	Fuel Fingerprint (FIQ)☐ NW-HCID Screen☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☒	Congeners☐	Pesticides/Herbicides 608☐ 8081A☒ 8141A☐ 8151A☐	Chlorophenolics 8041☐ Tri☐ Tetra☐ 8151M	PAHs 8310☐ SIM☐	PCP☐	Metals (Total or Dissolved) (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO4, PO4-P, F, NO2, NO3, BOD, TSS, TDS (circle) (NH3-N, COD, Total-P, TKN, TOC) DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	TBT Porewater	Dioxin/Furans	Sulfide TS TVS	Grain Size	REMARKS
BH-009-SSA	8/1			Sed	7	X	X	X			X	X				X				X		X	X	X	X	Composite
BH-010-SSA	8/1			Sed	7	X	X	X			X	X				X				X		X	X	X	X	
BH-011-SSA	8/1			Sed	7	X	X	X			X	X				X				X		X	X	X	X	
BH-059-SSA	8/1			Sed	7	X	X	X			X	X				X				X		X	X	X	X	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
X III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al (As) (Sb) Ba Be B Ca (Cd) Co (Cr) (Cu) Fe (Pb) Mg Mn Mo (Ni) K (Ag) Na (Se) Sr Tl Sn V (Zn) (Hg)

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

composite BH-009 BH-059 BH-010 and BH-011 together as one sample and a split duplicate.

NWTPH, 8260 + S= to be performed on discrete samples per

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: D. Gillingham
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

RCOC #1 06/03

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* Revised *

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SR#: _____

PAGE 1 OF 2 COC #: _____

PROJECT NAME: Blakely Harbor
PROJECT NUMBER: 080510-03
PROJECT MANAGER: David Gillingham
COMPANY/ADDRESS: Anchor Environmental
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE: David Gillingham

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 X 8270LL ☐	Volatile Organics 624 ☐ 8260 X 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas X ☐ Diesel X ☐ Oil X	Fuel Fingerprint (FID) NW-HCID Screen Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors X Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A X 8141A ☐ 8151A ☐	Chlorophenolics 8151 ☐ Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals (Total or Dissolved) (See list below)	Cyanide ☐	Hex-Chrom ☐	pH, Cond., Cl, SO_4, POA, F, NO_2, NO_3, BOD, TSS, TDS (circle) (NH3-N) COD, Total-P, TKN (TOC) DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	TBT Pore water	Dioxin/Furans	Sulfide TS TVS	Grain Size	REMARKS
BH-001-SSA	7/31			Sed	7																			Archive
BH-001-SSB	7/31				3																no			Archive
BH-002-SSA	7/31				7	X	X	X		X	X			X			X		X	X	X	X		Discrete
BH-003-SSA	7/31				7																			Archive
BH-004-SSA	7/31				7																			Archive
BH-005-SSA	7/31				7	X	X	X		X	X			X			X		X	X	X	X		Composite
BH-006-SSA	7/31				7	X	X	X		X	X			X			X		X	X	X	X		
BH-007-SSA	7/31				7	X	X	X		X	X			X			X		X	X	X	X		
BH-008-SSA	7/31			↓	7																			Archive

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
X III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date: _____

Circle which metals are to be analyzed:

Total Metals: Al (As) (Sb) Ba Be B Ca (Cd) Co (Cr) (Cu) Fe (Pb) Mg Mn Mo (Ni) K (Ag) Na (Se) Sr Tl Sn V (Zn) (Hg)

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

composite BH-005 BH-006 and BH007 together as one sample

run BH-002 as discrete sample

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature / Date/Time	Signature / Date/Time	Signature / Date/Time	Signature / Date/Time
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

RCOC #1 06/03

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SR#: K080 7136

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PAGE 1 OF 1 COC #

PROJECT NAME: Blakely Harbor
PROJECT NUMBER: 080007-01
PROJECT MANAGER: David Gillingham
COMPANY/ADDRESS: Anchor environmental
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE # 206-287-9130 FAX#:
SAMPLER'S SIGNATURE: Calvin Douglas

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 [ ] 8270 [ ] 8270LL [ ]	Volatile Organics 624 [ ] 8260 [ ] 8021 [ ] BTEX [ ]	Hydrocarbons (*see below) Gas [ ] Diesel [X] Oil [ ]	[ ] Fuel Fingerprint (FIQ) [ ] NW-HCID Screen	Oil & Grease/TRPH 1664 HEM [ ] 1664 SGT [ ]	PCB's Aroclors [ ] Congeners [ ]	Pesticides/Herbicides 608 [ ] 8081A [ ] 8141A [ ] 8151A [ ]	Chlorophenolics - 8151M Tri [ ] Tetra [ ] PCP [ ]	PAHS 8310 [ ] SIM [ ]	Metals, Total or Dissolved (See list below)	Cyanide [ ]	pH, Cond., Cl, SO_4, PO4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 [ ] AOX 1650 [ ] 506 [ ]	Sulfide	Ammonia	TVS TS TOC GS	REMARKS
BH-021-080731	7/31/08	1045	1	wat	3														X	X			
BH-022-080731		1115	2	wat	3														X	X			
BH-023-080731		1145	3	wat	3														X	X			
BH-001-55A		1000	4	Sed	9	X	X	X			X	X			X						X		ms/msD
BH-001-55B		1015	5	Sed	3	X					X	X			X				X		X		
BH-002-55A		1030	6	Sed	7	X	X	X			X	X			X						X		

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REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

[redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 8.2.08	Date/Time: 8/2/08 0930	Date/Time:	Date/Time:
Printed Name: STEVE SAXEN	Printed Name:	Printed Name:	Printed Name:
Firm: ANCHOR	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

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SR#: K0807136

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PROJECT NAME: Blakely
PROJECT NUMBER:
PROJECT MANAGER: David Gillingham
COMPANY/ADDRESS: Anchor
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: 287-9130 FAX#:
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☒ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☒ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☒ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, (TOC), DOC (circle) NO2+NO3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	Sulfide/ammonia	Grain size	TS/TVS		REMARKS
BH-009-SSA	2/1/08	1000	7	Sed	7	X	X	X			X	X			X			X		X	X	X		
~~BH-001~~																				/				
BH-059-SSA	↓	1005	8	Sed	7	X	X	X			X	X			X			X		X	X	X		
BH-010-SSA	↓	1030	9	Sed	7	X	X	X			X	X			X			X		X	X	X		
BH-011-SSA	↓	1100	10	Sed	7	X	X	X			X	X			X			X		X	X	X		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # ______

Bill To: ______

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.

___ 5 Day

___ Standard (10-15 working days)

___ Provide FAX Results

______ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:______ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 8.2.08	Signature: [signature] Date/Time: 8/2/08 0930	Signature: Date/Time:	Signature: Date/Time:
Printed Name: Steve Sazen Firm: Anchor	Printed Name: [illegible] Firm: CAS	Printed Name: Firm:	Printed Name: Firm:

RCOC #1 06/03

CHAIN OF CUSTODY

Columbia Analytical Services™
An Employee - Owned Company

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: Blakely Harbor
PROJECT NUMBER: 080007-01
PROJECT MANAGER: David Gillingham
COMPANY/ADDRESS: Anchor
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE # 206-287-9130 FAX#
SAMPLER'S SIGNATURE: David Gillingham

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐	Volatile Organics 624 ☐ 8260 ☐	Hydrocarbons (see below) Gas ☐ Diesel X Oil ☐	BTEX ☐ 8021 ☐	Fuel Fingerprint (FIQ) NW-HCID ☐	Oil & Grease/TRPH 1664 HEM ☐	1664 SGT ☐	PCB's Aroclors X	Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A X	Best	Chlorophenolics - 8151M Tri ☐ Tetra ☐	8141A ☐ 8151A ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	Hex-Chrom ☐	pH, Cond., Cl, SO_4, P, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	TBT Porewater	Sulfide/Ammonia	TOC TS TVS GS	REMARKS
BH-006-SSA	7/31	1520	11	Sed	7	X	X	X			X		X					X							X	X	X		
BH-008-SSA		1615	12	Sed	5	X	X	X			X		X					X							X	X	X		
BH-007-SSA		1558	13	Sed	7	X	X	X			X		X					X							X	X	X		
BH-003-SSA		1400	14	Sed	7	X	X	X			X		X					X							X	X	X		
BH-005-SSA		1430	15	Sed	7	X	X	X			X		X					X							X	X	X		

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REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

[redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 8.2.05	Date/Time: 8/2/05 0930	Date/Time:	Date/Time:
Printed Name: STEVE SAXON	Printed Name:	Printed Name:	Printed Name:
Firm: ANCHOR	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC L4

Client / Project: Arcmox Service Request K08 0736

Received: 8/2/08 Opened: 8/2/08 By:

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* N/A
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): 2.8 3.8 4.8 5.6 0.1
   Temperature Blank (°C): 5.8 4.4 3.7 5.7 4.1
6. If applicable, list Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other*
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.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* Y (1) (Y)
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 and 1631 Mercury bottles 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 Cl2/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

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

Additional Notes, Discrepancies, & Resolutions: (1) RECEIVED SAMPLE NOT ON COC: BH-004-55A did not rec VOA on Zinc Acetate Bts for BH-008-55A. 7/31/08 1415. Requested on COC.

Total Solids

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
BH-009-SSA	K0807136-007	08/01/2008	08/02/2008	08/14/2008	41.8	
BH-059-SSA	K0807136-008	08/01/2008	08/02/2008	08/14/2008	39.0	
BH-010-SSA	K0807136-009	08/01/2008	08/02/2008	08/14/2008	28.7	
BH-011-SSA	K0807136-010	08/01/2008	08/02/2008	08/14/2008	32.6	
BH-006-SSA	K0807136-011	07/31/2008	08/02/2008	08/14/2008	39.3	
BH-007-SSA	K0807136-013	07/31/2008	08/02/2008	08/14/2008	63.3	
BH-005-SSA	K0807136-015	07/31/2008	08/02/2008	08/14/2008	37.4	

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Analyzed:	08/14/2008

Duplicate Sample Summary

Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
BH-009-SSA	K0807136-007	41.8	43.2	42.5	3	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	7/31/2008
Sample Matrix:	Sediment	**Date Received:**	8/2/2008

Total Volatile Solids

Prep Method:	NONE	Units:	PERCENT
Analysis Method:	160.4M	Basis:	Dry
Test Notes:			

Sample Name	Lab Code	Date Analyzed	Result	Result Notes
BH-002-SSA	K0807136-006	8/18/2008	19.8	
BH-005,6,7-SSA Comp	K0807136-017	8/18/2008	18.6	
BH-009,59,10,11-SSA Comp	K0807136-018	8/18/2008	27.5	
BH-009,59,10,11-SSA Comp Dup	K0807136-019	8/18/2008	32.5	
Method Blank	K0807136-MB	8/18/2008	<0.01	

M Modified for analysis of soil.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 7/31/2008
Date Received: 8/2/2008
Date Extracted: NA
Date Analyzed: 8/18/2008

Duplicate Summary
Inorganic Parameters

Sample Name: BH-009,59,10,11-SSA Comp Dup
Lab Code: K0807136-019DUP
Test Notes:

Units: PERCENT
Basis: Dry

Analyte	Prep Method	Analysis Method	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Total Volatile Solids	NONE	160.4M	32.5	28.8	30.7	12	

M Modified for analysis of soil.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008	08/12/2008	42.9	
BH-005,6,7-SSA Comp	K0807136-017	07/31/2008	08/02/2008	08/12/2008	50.0	
BH-009,59,10,11-SSA Comp	K0807136-018	07/31/2008	08/02/2008	08/12/2008	34.7	
BH-009,59,10,11-SSA Comp Dup	K0807136-019	07/31/2008	08/02/2008	08/12/2008	31.9	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Analyzed:	08/12/2008

Duplicate Sample Summary
Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
BH-002-SSA	K0807136-006	42.9	42.0	42.5	2	

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : WATER

Service Request : K0807136
Date Collected : 07/31/08
Date Received : 08/02/08

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
BH-021-080731	K0807136-001	0.05	1	08/04/08	ND	
BH-022-080731	K0807136-002	0.05	1	08/04/08	0.45	
BH-023-080731	K0807136-003	0.05	1	08/04/08	ND	
Method Blank	K0807136-MB	0.05	1	08/04/08	ND	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : WATER

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : NA
Date Analyzed : 08/04/08

Duplicate Summary
Inorganic Parameters

Sample Name : BH-021-080731
Lab Code : K0807136-001DUP
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	0.05	ND	ND	ND	-	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : WATER

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : NA
Date Analyzed : 08/04/08

Matrix Spike Summary
Inorganic Parameters

Sample Name : BH-021-080731
Lab Code : K0807136-001MS
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	0.05	2.00	ND	2.11	106	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Anchor Environmental	**Service Request :**	K0807136
Project Name :	Blakely Harbor	**Date Collected :**	NA
Project Number :	080007-01	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	NA
		Date Analyzed :	08/04/08

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0807136-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	8.38	8.32	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 07/31/08
Date Received : 08/02/08

Ammonia as Nitrogen

Prep Method : EPA Plumb 5-1981 KCl
Analysis Method : 350.1M
Test Notes :

Units : mg/Kg
Basis : Dry

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
BH-002-SSA	K0807136-006	1.2	1	8/6/2008	08/07/08	17.3	
BH-005,6,7-SSA Comp	K0807136-017	1.0	1	8/6/2008	08/07/08	15.7	
Method Blank	K0807136-MB	1.0	1	8/6/2008	08/07/08	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/07/08

Duplicate Summary
Inorganic Parameters

Sample Name : BH-002-SSA
Lab Code : K0807136-006DUP
Test Notes :

Units : mg/Kg
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	EPA Plumb 5-1981 KCl	350.1M	1.2	17.3	17.0	17.2	2	

Report By: MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/07/08

Matrix Spike Summary
Inorganic Parameters

Sample Name : BH-002-SSA
Lab Code : K0807136-006MS
Test Notes :

Units : mg/Kg
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	EPA Plumb 5-1981 KCl	350.1M	1.2	1150	17.3	1120	96	66-127	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Anchor Environmental	**Service Request :**	K0807136
Project Name :	Blakely Harbor	**Date Collected :**	NA
Project Number :	080007-01	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	08/06/08
		Date Analyzed :	08/07/08

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0807136-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	350.1M	8.38	8.53	102	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 07/31,08/01/08
Date Received : 08/02/08

Sulfide, Total

Prep Method : Method
Analysis Method : PSEP Sulfide
Test Notes :

Units : mg/Kg
Basis : Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
BH-002-SSA	K0807136-006	240	140	100	8/6/2008	08/06/08	555	
BH-009-SSA	K0807136-007	12	1.3	5	8/6/2008	08/06/08	36	
BH-059-SSA	K0807136-008	13	7.7	5	8/6/2008	08/06/08	63	
BH-010-SSA	K0807136-009	880	530	250	8/6/2008	08/06/08	1630	
BH-011-SSA	K0807136-010	310	190	100	8/6/2008	08/06/08	1820	
BH-006-SSA	K0807136-011	260	160	100	8/6/2008	08/06/08	558	
BH-007-SSA	K0807136-013	40	9.5	25	8/6/2008	08/06/08	104	
BH-005-SSA	K0807136-015	270	170	100	8/6/2008	08/06/08	632	
Method Blank	K0807136-MB	3.5	2.1	1	8/6/2008	08/06/08	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/06/08

Triplicate Summary
Inorganic Parameters

Sample Name : BH-002-SSA
Lab Code : K0807136-006TPL
Test Notes :

Units : mg/Kg
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Triplicate Sample Result	Average	Relative Standard Deviation	Result Notes
Sulfide, Total	Method	PSEP Sulfide	240	555	376	453	462	<1	

COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/06/08

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : BH-002-SSA
Lab Code : K0807136-006MS K0807136-006DMS
Test Notes :

Units : mg/Kg
Basis : Dry

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
Sulfide, Total	Method	PSEP Sulfide	240	1590	1720	555	1130	1430	36	51	60-130	34	*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Anchor Environmental	**Service Request :**	K0807136
Project Name :	Blakely Harbor	**Date Collected :**	NA
Project Number :	080007-01	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	08/06/08
		Date Analyzed :	08/06/08

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/Kg
Lab Code :	K0807136-LCS	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfide, Total	Method	PSEP Sulfide	383	348	91	60-130	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : WATER

Service Request : K0807136
Date Collected : 07/31/08
Date Received : 08/02/08

Total Sulfide

Analysis Method : SM 4500-S2- D
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
BH-021-080731	K0807136-001	0.05	1	08/04/08	0.09	
BH-022-080731	K0807136-002	2.0	40	08/04/08	24.7	
BH-023-080731	K0807136-003	0.05	1	08/04/08	ND	
Method Blank	K0807136-MB	0.05	1	08/04/08	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 : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : WATER

Service Request : K0807136
Date Collected : NA
Date Received : NA
Date Prepared : 08/04/08
Date Analyzed : 08/04/08

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0807112-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Total Sulfide	SM 4500-S2- D	0.05	ND	ND	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 : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : WATER

Service Request : K0807136
Date Collected : NA
Date Received : NA
Date Prepared : 08/04/08
Date Analyzed : 08/04/08

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0807112-001MS
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
Total Sulfide	SM 4500-S2- D	0.05	1.96	ND	2.00	102	75-125	

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

Report By:MKANALY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Anchor Environmental	**Service Request :**	K0807136
Project Name :	Blakely Harbor	**Date Collected :**	NA
Project Number :	080007-01	**Date Received :**	NA
Sample Matrix :	WATER	**Date Prepared :**	08/04/08
		Date Analyzed :	08/04/08

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	mg/L
Lab Code :	K0807136-LCS	Basis :	NA
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Total Sulfide	NONE	SM 4500-S2- D	1.96	1.88	96	85-115	

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 07/31/08
Date Received : 08/02/08

Carbon, Total Organic (TOC)

Prep Method : SOP
Analysis Method : PSEP TOC
Test Notes :

Units : Percent
Basis : Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
BH-002-SSA	K0807136-006	0.05	0.04	1	8/6/2008	08/21/08	9.59	
BH-005,6,7-SSA Comp	K0807136-017	0.05	0.04	1	8/6/2008	08/21/08	10.0	
BH-009,59,10,11-SSA Comp	K0807136-018	0.05	0.04	1	8/6/2008	08/21/08	15.5	
BH-009,59,10,11-SSA Comp Dup	K0807136-019	0.05	0.04	1	8/6/2008	08/21/08	15.5	
Method Blank	K0807136-MB	0.05	0.04	1	8/6/2008	08/21/08	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/21/08

Duplicate Summary
Inorganic Parameters

Sample Name : BH-005,6,7-SSA Comp
Lab Code : K0807136-017DUP
Test Notes :

Units : Percent
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic (TOC)	SOP	PSEP TOC	0.05	10.0	10.8	10.4	8	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/21/08

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0807249-001DUP
Test Notes :

Units : Percent
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic (TOC)	NONE	PSEP TOC	0.05	0.40	0.45	0.43	12	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/21/08

Triplicate Summary
Inorganic Parameters

Sample Name : BH-005,6,7-SSA Comp
Lab Code : K0807136-017TPL
Test Notes :

Units : Percent
Basis : Dry

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Triplicate Sample Result	Average	Relative Standard Deviation	Result Notes
Carbon, Total Organic (TOC)	SOP	PSEP TOC	0.05	10.0	10.8	11.0	10.6	5	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : 7/31/2008
Date Received : 8/2/2008
Date Prepared : 08/06/08
Date Analyzed : 08/21/08

Matrix Spike Summary
Inorganic Parameters

Sample Name : BH-005,6,7-SSA Comp
Lab Code : K0807136-017MS
Test Notes :

Units : Percent
Basis : Dry

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 (TOC)	SOP	PSEP TOC	0.05	12.5	10.0	22.3	98	75-114	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Anchor Environmental
Project Name : Blakely Harbor
Project Number : 080007-01
Sample Matrix : SEDIMENT

Service Request : K0807136
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/21/08

Matrix Spike Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0807249-001MS
Test Notes :

Units : Percent
Basis : Dry

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 (TOC)	NONE	PSEP TOC	0.05		0.40	2.22	NC	75-114	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client :	Anchor Environmental	**Service Request :**	K0807136
Project Name :	Blakely Harbor	**Date Collected :**	NA
Project Number :	080007-01	**Date Received :**	NA
Sample Matrix :	SEDIMENT	**Date Prepared :**	08/06/08
		Date Analyzed :	08/21/08

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name :	Lab Control Sample	Units :	Percent
Lab Code :	K0807136-LCS	Basis :	Dry
Test Notes :			

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	SOP	PSEP TOC	0.36	0.40	111	74-123	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 7/31/2008
Date Received: 8/2/2008
Date Analyzed: 8/8/2008

Particle Size Determination
ASTM Method D422 Modified

Sample Name: BH-002-SSA
Lab Code: K0807136-006

Sand Fraction: Weight (Grams)	17.6601
Sand Fraction: Weight Recovered (Grams)	17.7547
Sand Fraction: Percent Recovery	101

Weight as received (Grams)	50.2717
Percent Solids	42.9
Weight Oven-Dried (Grams)	21.5666

Description	Sieve Size	Sieve Number	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel, Medium	4.75 mm	4	4.1524	19.3
Gravel, Fine	2.00 mm	10	1.4007	6.49
Sand, Very Coarse	0.850 mm	20	1.1391	5.28
Sand, Coarse	0.425 mm	40	1.1866	5.50
Sand, Medium	0.250 mm	60	2.1531	9.98
Sand, Fine	0.106 mm	140	5.4693	25.4
Sand, Very Fine	0.075 mm	200	1.5308	7.10
Silt			3.6150	16.8
Clay			1.5050	6.98
		Total	22.1520	103

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 7/31/2008
Date Received: 8/2/2008
Date Analyzed: 8/8/2008

Particle Size Determination
ASTM Method D422 Modified

Sample Name: BH-005,6,7-SSA Comp
Lab Code: K0807136-017

Sand Fraction: Weight (Grams)	18.2883
Sand Fraction: Weight Recovered (Grams)	18.3169
Sand Fraction: Percent Recovery	100

Weight as received (Grams)	51.212
Percent Solids	50.0
Weight Oven-Dried (Grams)	25.6060

Description	Sieve Size	Sieve Number	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel, Medium	4.75 mm	4	1.0557	4.12
Gravel, Fine	2.00 mm	10	0.8221	3.21
Sand, Very Coarse	0.850 mm	20	1.4352	5.60
Sand, Coarse	0.425 mm	40	1.7550	6.85
Sand, Medium	0.250 mm	60	4.5854	17.9
Sand, Fine	0.106 mm	140	5.9000	23.0
Sand, Very Fine	0.075 mm	200	2.0014	7.82
Silt			5.4850	21.4
Clay			2.3350	9.12
		Total	25.3748	99.1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 7/31/2008
Date Received: 8/2/2008
Date Analyzed: 8/8/2008

Particle Size Determination
ASTM Method D422 Modified

Sample Name: BH-009,59,10,11-SSA Comp
Lab Code: K0807136-018

Sand Fraction: Weight (Grams)	14.9131
Sand Fraction: Weight Recovered (Grams)	14.9769
Sand Fraction: Percent Recovery	100

Weight as received (Grams)	51.7499
Percent Solids	34.7
Weight Oven-Dried (Grams)	17.9572

Description	Sieve Size	Sieve Number	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel, Medium	4.75 mm	4	4.3754	24.4
Gravel, Fine	2.00 mm	10	2.9751	16.6
Sand, Very Coarse	0.850 mm	20	2.2431	12.5
Sand, Coarse	0.425 mm	40	1.5164	8.44
Sand, Medium	0.250 mm	60	1.4573	8.12
Sand, Fine	0.106 mm	140	1.6581	9.23
Sand, Very Fine	0.075 mm	200	0.4531	2.52
Silt			2.2300	12.4
Clay			1.4650	8.16
		Total	18.3735	102

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 7/31/2008
Date Received: 8/2/2008
Date Analyzed: 8/8/2008

Particle Size Determination
ASTM Method D422 Modified

Sample Name: BH-009,59,10,11-SSA Comp Dup
Lab Code: K0807136-019

Sand Fraction: Weight (Grams)	14.2801
Sand Fraction: Weight Recovered (Grams)	14.3823
Sand Fraction: Percent Recovery	101

Weight as received (Grams)	50.8263
Percent Solids	31.9
Weight Oven-Dried (Grams)	16.2136

Description	Sieve Size	Sieve Number	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel, Medium	4.75 mm	4	3.9732	24.5
Gravel, Fine	2.00 mm	10	2.9882	18.4
Sand, Very Coarse	0.850 mm	20	2.1589	13.3
Sand, Coarse	0.425 mm	40	1.2305	7.59
Sand, Medium	0.250 mm	60	1.7295	10.7
Sand, Fine	0.106 mm	140	1.5379	9.49
Sand, Very Fine	0.075 mm	200	0.4844	2.99
Silt			1.3950	8.60
Clay			1.3650	8.42
		Total	16.8626	104

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 7/31/2008
Date Received: 8/2/2008
Date Analyzed: 8/8/2008

Particle Size Determination
ASTM Method D422 Modified

Sample Name: BH-002-SSA
Lab Code: K0807136-006DUP

Sand Fraction: Weight (Grams)	15.8487
Sand Fraction: Weight Recovered (Grams)	15.9400
Sand Fraction: Percent Recovery	101

Weight as received (Grams)	50.2884
Percent Solids	42.9
Weight Oven-Dried (Grams)	21.5737

Description	Sieve Size	Sieve Number	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel, Medium	4.75 mm	4	1.1411	5.29
Gravel, Fine	2.00 mm	10	1.6071	7.45
Sand, Very Coarse	0.850 mm	20	1.3881	6.43
Sand, Coarse	0.425 mm	40	1.1336	5.25
Sand, Medium	0.250 mm	60	2.8517	13.2
Sand, Fine	0.106 mm	140	5.4663	25.3
Sand, Very Fine	0.075 mm	200	1.6031	7.43
Silt			3.6750	17.0
Clay			1.5000	6.95
		Total	20.3660	94.4

Metals

Columbia Analytical Services

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INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental
Project Name: Blakely Harbor
Project No.: 080007-01

Service Request: K0807136

Sample Name:	Lab Code:
BH-002-SSA	K0807136-006
BH-002-SSAD	K0807136-006D
BH-002-SSAS	K0807136-006S
BH-005,6,7-SSA Comp	K0807136-017
BH-009,59,10,11-SSA Comp	K0807136-018
BH-009,59,10,11-SSA CompD	K0807136-018D
BH-009,59,10,11-SSA CompS	K0807136-018S
BH-009,59,10,11-SSA Comp Dup	K0807136-019
Method Blank	K0807136-MB

Comments:

Approved By: _____ **Date:** 9/5/08

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental
Project No.: 080007-01
Project Name: Blakely Harbor
Matrix: SEDIMENT

Service Request: K0807136
Date Collected: 07/31/08
Date Received: 08/02/08
Units: mg/Kg
Basis: DRY

Sample Name: BH-002-SSA
Lab Code: K0807136-006

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.06	0.05	5.0	08/26/08	08/27/08	13.9		
Arsenic	6020	1.17	0.47	10.0	08/26/08	09/04/08	24.6		
Cadmium	6020	0.047	0.021	10.0	08/26/08	09/04/08	2.490		
Chromium	6010B	2.3	0.8	2.0	08/26/08	08/28/08	31.1		
Copper	6010B	2.3	1.0	2.0	08/26/08	08/28/08	508		*
Lead	6010B	23.2	3.5	2.0	08/26/08	08/28/08	626		
Mercury	7471A	0.021	0.002	1.0	08/15/08	08/18/08	0.386		
Nickel	6010B	4.6	0.5	2.0	08/26/08	08/28/08	23.2		
Selenium	6020	2.3	0.9	10.0	08/26/08	09/04/08	1.8	B	
Silver	6020	0.023	0.023	5.0	08/26/08	08/27/08	0.515		*
Zinc	6010B	2.3	0.5	2.0	08/26/08	08/28/08	566		

% Solids: 42.9

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental
Project No.: 080007-01
Project Name: Blakely Harbor
Matrix: SEDIMENT

Service Request: K0807136
Date Collected: 07/31/08
Date Received: 08/02/08
Units: mg/Kg
Basis: DRY

Sample Name: BH-005,6,7-SSA Comp
Lab Code: K0807136-017

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.04	5.0	08/26/08	08/27/08	0.48		
Arsenic	6020	0.50	0.20	5.0	08/26/08	09/03/08	8.08		
Cadmium	6020	0.020	0.009	5.0	08/26/08	09/03/08	0.517		
Chromium	6010B	2.0	0.7	2.0	08/26/08	08/28/08	20.1		
Copper	6010B	2.0	0.9	2.0	08/26/08	08/28/08	33.7		*
Lead	6010B	19.9	3.0	2.0	08/26/08	08/28/08	56.6		
Mercury	7471A	0.023	0.002	1.0	08/15/08	08/18/08	0.136		
Nickel	6010B	4.0	0.4	2.0	08/26/08	08/28/08	13.6		
Selenium	6020	1.0	0.4	5.0	08/26/08	09/03/08	0.8	B	
Silver	6020	0.020	0.020	5.0	08/26/08	08/27/08	0.219		*
Zinc	6010B	2.0	0.4	2.0	08/26/08	08/28/08	60.9		

% Solids: 50.0

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental
Project No.: 080007-01
Project Name: Blakely Harbor
Matrix: SEDIMENT

Service Request: K0807136
Date Collected: 07/31/08
Date Received: 08/02/08
Units: mg/Kg
Basis: DRY

Sample Name: BH-009,59,10,11-SSA Comp
Lab Code: K0807136-018

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.07	0.06	5.0	08/26/08	08/27/08	21.9		
Arsenic	6020	0.72	0.29	5.0	08/26/08	09/03/08	10.8		
Cadmium	6020	0.029	0.013	5.0	08/26/08	09/03/08	0.604		
Chromium	6010B	2.9	1.0	2.0	08/26/08	08/28/08	18.3		
Copper	6010B	2.9	1.3	2.0	08/26/08	08/28/08	94.4		*
Lead	6010B	28.8	4.3	2.0	08/26/08	08/28/08	242		
Mercury	7471A	0.038	0.004	1.0	08/15/08	08/18/08	0.085		
Nickel	6010B	5.8	0.6	2.0	08/26/08	08/28/08	17.0		
Selenium	6020	1.4	0.6	5.0	08/26/08	09/03/08	1.8		
Silver	6020	0.029	0.029	5.0	08/26/08	08/27/08	0.181		*
Zinc	6010B	2.9	0.6	2.0	08/26/08	08/28/08	96.7		

% Solids: 34.7

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental
Project No.: 080007-01
Project Name: Blakely Harbor
Matrix: SEDIMENT

Service Request: K0807136
Date Collected: 07/31/08
Date Received: 08/02/08
Units: mg/Kg
Basis: DRY

Sample Name: BH-009,59,10,11-SSA Comp Dup **Lab Code:** K0807136-019

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.08	0.06	5.0	08/26/08	08/27/08	104		
Arsenic	6020	0.78	0.31	5.0	08/26/08	09/03/08	9.28		
Cadmium	6020	0.031	0.014	5.0	08/26/08	09/03/08	0.588		
Chromium	6010B	3.1	1.1	2.0	08/26/08	08/28/08	34.0		
Copper	6010B	3.1	1.4	2.0	08/26/08	08/28/08	202		*
Lead	6010B	31.2	4.7	2.0	08/26/08	08/28/08	605		
Mercury	7471A	0.045	0.004	1.0	08/15/08	08/18/08	0.094		
Nickel	6010B	6.2	0.6	2.0	08/26/08	08/28/08	25.9		
Selenium	6020	1.6	0.6	5.0	08/26/08	09/03/08	1.4	B	
Silver	6020	0.031	0.031	5.0	08/26/08	08/27/08	0.360		*
Zinc	6010B	3.1	0.6	2.0	08/26/08	08/28/08	121		

% Solids: 31.9

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client: Anchor Environmental
Service Request: K0807136
Project No.: 080007-01
Date Collected:
Project Name: Blakely Harbor
Date Received:
Matrix: SEDIMENT
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K0807136-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020	0.05	0.04	5.0	08/26/08	08/27/08	0.04	U	
Arsenic	6020	0.50	0.20	5.0	08/26/08	09/03/08	0.20	U	
Cadmium	6020	0.020	0.009	5.0	08/26/08	09/03/08	0.009	U	
Chromium	6010B	2.0	0.7	2.0	08/26/08	08/28/08	0.7	U	
Copper	6010B	2.0	0.9	2.0	08/26/08	08/28/08	0.9	U	*
Lead	6010B	20.0	3.0	2.0	08/26/08	08/28/08	3.0	U	
Mercury	7471A	0.020	0.002	1.0	08/15/08	08/18/08	0.002	U	
Nickel	6010B	4.0	0.4	2.0	08/26/08	08/28/08	0.4	U	
Selenium	6020	1.0	0.4	5.0	08/26/08	09/03/08	0.4	U	
Silver	6020	0.020	0.020	5.0	08/26/08	08/27/08	0.020	U	*
Zinc	6010B	2.0	0.4	2.0	08/26/08	08/28/08	0.4	U	

% Solids: 100.0

Comments:

Butyltins

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

Cover Page - Organic Analysis Data Package
Butyltins (as cation)

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-005,6,7-SSA Comp	K0807136-017	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp	K0807136-018	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	K0807136-019	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: 9/10/08 Title: _____

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Prepared:	08/06/2008

Extraction Method Specified in Analytical Method
Butyltins (as cation)

Sample Name:	BH-002-SSA	**Units:**	ug/L
Lab Code:	K0807136-006	**Basis:**	NA
Preparation Method	METHOD	**Level:**	Low
Extraction Method:	EPA 3520C		
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tri-n-butyltin	ND	U	0.074	0.018	1	08/07/08	08/28/08	KWG0807655	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	80	18-155	08/28/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Prepared:	08/06/2008

Extraction Method Specified in Analytical Method
Butyltins (as cation)

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/L
Lab Code:	K0807136-017	**Basis:**	NA
Preparation Method	METHOD	**Level:**	Low
Extraction Method:	EPA 3520C		
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tri-n-butyltin	ND	U	0.050	0.012	1	08/07/08	08/28/08	KWG0807655	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	77	18-155	08/28/08	Acceptable

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Prepared:	08/06/2008

Extraction Method Specified in Analytical Method
Butyltins (as cation)

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/L
Lab Code:	K0807136-018	**Basis:**	NA
Preparation Method	METHOD	**Level:**	Low
Extraction Method:	EPA 3520C		
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tri-n-butyltin	ND	U	0.050	0.012	1	08/07/08	08/28/08	KWG0807655	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	79	18-155	08/28/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Prepared:	08/06/2008

Extraction Method Specified in Analytical Method
Butyltins (as cation)

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ug/L
Lab Code:	K0807136-019	**Basis:**	NA
Preparation Method	METHOD	**Level:**	Low
Extraction Method:	EPA 3520C		
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tri-n-butyltin	ND	U	0.050	0.012	1	08/07/08	08/28/08	KWG0807655	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	88	18-155	08/28/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Prepared:	08/06/2008

Extraction Method Specified in Analytical Method
Butyltins (as cation)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0807655-5	**Basis:**	NA
Preparation Method	METHOD	**Level:**	Low
Extraction Method:	EPA 3520C		
Analysis Method:	Krone		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tri-n-butyltin	ND	U	0.050	0.012	1	08/06/08	08/28/08	KWG0807655	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tri-n-propyltin	84	18-155	08/28/08	Acceptable

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Extraction Method Specified in Analytical Method
Butyltins (as cation)

Preparation Method METHOD
Extraction Method: EPA 3520C
Analysis Method: Krone

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
BH-002-SSA	K0807136-006	80
BH-005,6,7-SSA Comp	K0807136-017	77
BH-009,59,10,11-SSA Comp	K0807136-018	79
BH-009,59,10,11-SSA Comp Du	K0807136-019	88
Method Blank	KWG0807655-5	84
Batch QC	K0807133-005	92
Batch QCMS	KWG0807655-6	88
Batch QCDMS	KWG0807655-7	93
Lab Control Sample	KWG0807655-1	84
Duplicate Lab Control Sample	KWG0807655-2	86

Surrogate Recovery Control Limits (%)

Sur1 = Tri-n-propyltin	18-155

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Prepared:**	08/06/2008
Sample Matrix:	Aqueous extract	**Date Extracted:**	08/07/2008
		Date Analyzed:	08/28/2008

Matrix Spike/Duplicate Matrix Spike Summary
Butyltins (as cation)

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0807133-005	**Basis:**	NA
Extraction Method:	METHOD/EPA 3520C	**Level:**	Low
Analysis Method:	Krone	**Extraction Lot:**	KWG0807655

		Batch QCMS KWG0807655-6 Matrix Spike			Batch QCDMS KWG0807655-7 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Tri-n-butyltin	ND	0.381	0.446	85	0.362	0.446	81	32-154	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is 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:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Prepared:**	08/06/2008
Sample Matrix:	Water	**Date Extracted:**	08/06/2008
		Date Analyzed:	08/28/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Butyltins (as cation)

Extraction Method:	METHOD/EPA 3520C	**Units:**	ug/L
Analysis Method:	Krone	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0807655

	Lab Control Sample KWG0807655-1 Lab Control Spike			Duplicate Lab Control Sample KWG0807655-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Tri-n-butyltin	0.362	0.446	81	0.353	0.446	79	34-149	2	30

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.

Diesel & Residual Range Organics

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

Cover Page - Organic Analysis Data Package
Diesel and Residual Range Organics

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-005,6,7-SSA Comp	K0807136-017	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp	K0807136-018	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	K0807136-019	07/31/2008	08/02/2008
BH-005,6,7-SSA Comp	KWG0807704-1	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: C. Quinn

Date: 8/19/08 Title: Chemist

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Diesel and Residual Range Organics

Sample Name:	BH-002-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**220**	H	57	2.8	1	08/08/08	08/17/08	KWG0807704	
Residual Range Organics (RRO)	**530**	O	230	6.7	1	08/08/08	08/17/08	KWG0807704	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	82	50-150	08/17/08	Acceptable
n-Triacontane	88	50-150	08/17/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Diesel and Residual Range Organics

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	mg/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**33**	J	50	2.4	1	08/08/08	08/12/08	KWG0807704	
Residual Range Organics (RRO)	**140**	J	200	5.8	1	08/08/08	08/12/08	KWG0807704	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	93	50-150	08/12/08	Acceptable
n-Triacontane	100	50-150	08/12/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Diesel and Residual Range Organics

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	mg/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**45**	J	72	3.5	1	08/08/08	08/12/08	KWG0807704	
Residual Range Organics (RRO)	**100**	J	290	8.3	1	08/08/08	08/12/08	KWG0807704	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	94	50-150	08/12/08	Acceptable
n-Triacontane	101	50-150	08/12/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Diesel and Residual Range Organics

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	mg/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**88**	Z	78	3.8	1	08/08/08	08/12/08	KWG0807704	
Residual Range Organics (RRO)	**200**	J	310	9.0	1	08/08/08	08/12/08	KWG0807704	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	98	50-150	08/12/08	Acceptable
n-Triacontane	105	50-150	08/12/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0807704-3	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**2.0**	J	25	1.2	1	08/08/08	08/12/08	KWG0807704	
Residual Range Organics (RRO)	**5.7**	J	98	2.9	1	08/08/08	08/12/08	KWG0807704	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	89	50-150	08/12/08	Acceptable
n-Triacontane	93	50-150	08/12/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Diesel and Residual Range Organics

Extraction Method: EPA 3550B
Analysis Method: NWTPH-Dx

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
BH-002-SSA	K0807136-006	82	88
BH-005,6,7-SSA Comp	K0807136-017	93	100
BH-009,59,10,11-SSA Comp	K0807136-018	94	101
BH-009,59,10,11-SSA Comp Du	K0807136-019	98	105
BH-005,6,7-SSA CompDUP	KWG0807704-1	90	96
Method Blank	KWG0807704-3	89	93
Lab Control Sample	KWG0807704-2	94	93

Surrogate Recovery Control Limits (%)

Sur1 =	o-Terphenyl	50-150
Sur2 =	n-Triacontane	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/12/2008

Duplicate Sample Summary
Diesel and Residual Range Organics

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	mg/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH-Dx	**Extraction Lot:**	KWG0807704

Analyte Name	MRL	MDL	Sample Result	BH-005,6,7-SSA CompDUP KWG0807704-1 Duplicate Sample Result	Average	Relative Percent Difference	RPD Limit
Diesel Range Organics (DRO)	50	2.4	33	37	35	9 #	40
Residual Range Organics (RRO)	200	5.8	140	160	150	17 #	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is 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:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/12/2008

Lab Control Spike Summary
Diesel and Residual Range Organics

Extraction Method:	EPA 3550B	**Units:**	mg/Kg
Analysis Method:	NWTPH-Dx	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0807704

	Lab Control Sample KWG0807704-2 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diesel Range Organics (DRO)	244	267	92	63-120
Residual Range Organics (RRO)	123	133	92	60-131

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.

NWTPH-Gx

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

Cover Page - Organic Analysis Data Package
Gasoline Range Organics

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-009-SSA	K0807136-007	08/01/2008	08/02/2008
BH-059-SSA	K0807136-008	08/01/2008	08/02/2008
BH-010-SSA	K0807136-009	08/01/2008	08/02/2008
BH-011-SSA	K0807136-010	08/01/2008	08/02/2008
BH-006-SSA	K0807136-011	07/31/2008	08/02/2008
BH-007-SSA	K0807136-013	07/31/2008	08/02/2008
BH-005-SSA	K0807136-015	07/31/2008	08/02/2008
BH-007-SSA	KWG0807786-1	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: C. QUINN

Date: 08/2008 Title: SCIENTIST

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-002-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	15	4.5	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	83	50-150	08/11/08	Acceptable

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 08/01/2008
Date Received: 08/02/2008

Gasoline Range Organics

Sample Name: BH-009-SSA
Lab Code: K0807136-007

Extraction Method: METHOD
Analysis Method: NWTPH-Gx

Units: mg/Kg
Basis: Dry

Level: Med

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	16	4.7	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	83	50-150	08/11/08	Acceptable

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-059-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-008	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	17	5.1	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	84	50-150	08/11/08	Acceptable

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-010-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-009	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	24	7.2	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	79	50-150	08/11/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-011-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-010	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	21	6.2	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	78	50-150	08/11/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-006-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-011	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	17	5.0	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	78	50-150	08/11/08	Acceptable

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-007-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-013	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	9.4	2.8	1	08/10/08	08/11/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	86	50-150	08/11/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Gasoline Range Organics

Sample Name:	BH-005-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-015	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	18	5.3	1	08/10/08	08/10/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	79	50-150	08/10/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Gasoline Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0807786-3	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics-NWTPH	ND	U	5.0	1.5	1	08/10/08	08/10/08	KWG0807786	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	100	50-150	08/10/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Gasoline Range Organics

Extraction Method: METHOD
Analysis Method: NWTPH-Gx

Units: PERCENT
Level: Med

Sample Name	Lab Code	Sur1
BH-002-SSA	K0807136-006	83
BH-009-SSA	K0807136-007	83
BH-059-SSA	K0807136-008	84
BH-010-SSA	K0807136-009	79
BH-011-SSA	K0807136-010	78
BH-006-SSA	K0807136-011	78
BH-007-SSA	K0807136-013	86
BH-005-SSA	K0807136-015	79
BH-007-SSADUP	KWG0807786-1	87
Method Blank	KWG0807786-3	100
Lab Control Sample	KWG0807786-2	99

Surrogate Recovery Control Limits (%)

Sur1 = 4-Bromofluorobenzene	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/10/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/11/2008

Duplicate Sample Summary
Gasoline Range Organics

Sample Name:	BH-007-SSA	**Units:**	mg/Kg
Lab Code:	K0807136-013	**Basis:**	Dry
Extraction Method:	METHOD	**Level:**	Med
Analysis Method:	NWTPH-Gx	**Extraction Lot:**	KWG0807786

Analyte Name	MRL	MDL	Sample Result	BH-007-SSADUP KWG0807786-1 Duplicate Sample Result	Average	Relative Percent Difference	RPD Limit
Gasoline Range Organics-NWTPH	9.4	2.8	ND	ND	ND	-	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is 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:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/10/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/10/2008

Lab Control Spike Summary
Gasoline Range Organics

Extraction Method:	METHOD	**Units:**	mg/Kg
Analysis Method:	NWTPH-Gx	**Basis:**	Dry
		Level:	Med
		Extraction Lot:	KWG0807786

	Lab Control Sample KWG0807786-2 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Gasoline Range Organics-NWTPH	46.5	50.0	93	81-111

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.

Organochlorine Pesticides
EPA Method 8081

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

Cover Page - Organic Analysis Data Package
Organochlorine Pesticides

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-005,6,7-SSA Comp	K0807136-017	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp	K0807136-018	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	K0807136-019	07/31/2008	08/02/2008
BH-009,59,10,11-SSA CompMS	KWG0807716-1	07/31/2008	08/02/2008
BH-009,59,10,11-SSA CompDM	KWG0807716-2	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	KWG0807716-4	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	KWG0807716-5	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: 9/25/08 Title: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Organochlorine Pesticides

Sample Name:	BH-002-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	Ui	22	22	1	08/08/08	09/23/08	KWG0807716	*
Heptachlor	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
Aldrin	ND	Ui	1.2	1.1	1	08/08/08	09/23/08	KWG0807716	*
alpha-Chlordane	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
gamma-Chlordane†	ND	Ui	1.2	0.73	1	08/08/08	09/23/08	KWG0807716	*
cis-Nonachlor	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
trans-Nonachlor	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
Dieldrin	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
4,4'-DDE	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
4,4'-DDD	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*
4,4'-DDT	ND	Ui	1.2	1.2	1	08/08/08	09/23/08	KWG0807716	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	79	25-125	09/23/08	Acceptable
Decachlorobiphenyl	90	22-142	09/23/08	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Organochlorine Pesticides

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	Ui	5.9	5.9	1	08/08/08	09/24/08	KWG0807716	*
Heptachlor	**0.40**	JP	1.0	0.080	1	08/08/08	09/24/08	KWG0807716	*
Aldrin	**0.39**	J	1.0	0.15	1	08/08/08	09/24/08	KWG0807716	*
alpha-Chlordane	ND	Ui	1.0	1.0	1	08/08/08	09/24/08	KWG0807716	*
gamma-Chlordane†	ND	Ui	1.0	0.20	1	08/08/08	09/24/08	KWG0807716	*
cis-Nonachlor	ND	Ui	1.0	0.63	1	08/08/08	09/24/08	KWG0807716	*
trans-Nonachlor	ND	U	1.0	0.066	1	08/08/08	09/24/08	KWG0807716	*
Dieldrin	**0.95**	J	1.0	0.29	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDE	ND	Ui	1.0	1.0	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDD	ND	Ui	1.5	1.5	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDT	ND	Ui	1.0	1.0	1	08/08/08	09/24/08	KWG0807716	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	79	25-125	09/24/08	Acceptable
Decachlorobiphenyl	99	22-142	09/24/08	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Organochlorine Pesticides

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	1.5	0.22	1	08/08/08	09/24/08	KWG0807716	*
Heptachlor	ND	Ui	1.5	1.5	1	08/08/08	09/24/08	KWG0807716	*
Aldrin	**0.58**	JP	1.5	0.22	1	08/08/08	09/24/08	KWG0807716	*
alpha-Chlordane	ND	U	1.5	0.34	1	08/08/08	09/24/08	KWG0807716	*
gamma-Chlordane†	ND	Ui	1.5	1.2	1	08/08/08	09/24/08	KWG0807716	*
cis-Nonachlor	ND	Ui	1.5	0.16	1	08/08/08	09/24/08	KWG0807716	*
trans-Nonachlor	ND	Ui	1.5	0.24	1	08/08/08	09/24/08	KWG0807716	*
Dieldrin	ND	Ui	1.5	1.5	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDE	ND	Ui	2.3	2.3	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDD	ND	Ui	1.5	1.5	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDT	**0.41**	J	1.5	0.093	1	08/08/08	09/24/08	KWG0807716	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	94	25-125	09/24/08	Acceptable
Decachlorobiphenyl	109	22-142	09/24/08	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Organochlorine Pesticides

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ug/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	1.6	0.24	1	08/08/08	09/24/08	KWG0807716	*
Heptachlor	**0.92**	JP	1.6	0.13	1	08/08/08	09/24/08	KWG0807716	*
Aldrin	**0.65**	JP	1.6	0.24	1	08/08/08	09/24/08	KWG0807716	*
alpha-Chlordane	ND	U	1.6	0.37	1	08/08/08	09/24/08	KWG0807716	*
gamma-Chlordane†	ND	Ui	1.6	0.14	1	08/08/08	09/24/08	KWG0807716	*
cis-Nonachlor	**0.21**	JP	1.6	0.12	1	08/08/08	09/24/08	KWG0807716	*
trans-Nonachlor	ND	Ui	1.6	0.47	1	08/08/08	09/24/08	KWG0807716	*
Dieldrin	ND	Ui	1.6	1.6	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDE	ND	Ui	2.6	2.6	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDD	ND	Ui	1.6	1.6	1	08/08/08	09/24/08	KWG0807716	*
4,4'-DDT	**0.46**	JP	1.6	0.11	1	08/08/08	09/24/08	KWG0807716	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	83	25-125	09/24/08	Acceptable
Decachlorobiphenyl	96	22-142	09/24/08	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0807716-7	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.50	0.15	1	08/08/08	09/13/08	KWG0807716	
Heptachlor	ND	U	0.50	0.080	1	08/08/08	09/13/08	KWG0807716	
Aldrin	ND	U	0.50	0.15	1	08/08/08	09/13/08	KWG0807716	
alpha-Chlordane	ND	U	0.50	0.23	1	08/08/08	09/13/08	KWG0807716	
gamma-Chlordane†	ND	U	0.50	0.064	1	08/08/08	09/13/08	KWG0807716	
cis-Nonachlor	ND	U	0.50	0.071	1	08/08/08	09/13/08	KWG0807716	
trans-Nonachlor	ND	U	0.50	0.066	1	08/08/08	09/13/08	KWG0807716	
Dieldrin	ND	U	0.50	0.29	1	08/08/08	09/13/08	KWG0807716	
4,4'-DDE	ND	U	0.50	0.10	1	08/08/08	09/13/08	KWG0807716	
4,4'-DDD	ND	U	0.50	0.12	1	08/08/08	09/13/08	KWG0807716	
4,4'-DDT	ND	U	0.50	0.064	1	08/08/08	09/13/08	KWG0807716	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	71	25-125	09/13/08	Acceptable
Decachlorobiphenyl	89	22-142	09/13/08	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3540C
Analysis Method: 8081A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
BH-002-SSA	K0807136-006	79	90
BH-005,6,7-SSA Comp	K0807136-017	79	99
BH-009,59,10,11-SSA Comp	K0807136-018	94	109
BH-009,59,10,11-SSA Comp Du	K0807136-019	83	96
Method Blank	KWG0807716-7	71	89
BH-009,59,10,11-SSA CompMS	KWG0807716-1	88	94
BH-009,59,10,11-SSA CompDM	KWG0807716-2	72	87
BH-009,59,10,11-SSA Comp Du	KWG0807716-4	58	73
BH-009,59,10,11-SSA Comp Du	KWG0807716-5	60	72
Lab Control Sample	KWG0807716-3	72	92

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	25-125
Sur2 =	Decachlorobiphenyl	22-142

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	09/24/2008

Matrix Spike/Duplicate Matrix Spike Summary
Organochlorine Pesticides

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A	**Extraction Lot:**	KWG0807716

Analyte Name	Sample Result	BH-009,59,10,11-SSA CompMS KWG0807716-1 Matrix Spike Result	Matrix Spike Expected	Matrix Spike %Rec	BH-009,59,10,11-SSA CompDMS KWG0807716-2 Duplicate Matrix Spike Result	Duplicate Matrix Spike Expected	Duplicate Matrix Spike %Rec	%Rec Limits	RPD	RPD Limit
gamma-BHC (Lindane)	ND	32.6	28.8	113	28.1	28.8	98	33-154	15	40
Heptachlor	ND	25.5	28.8	89	22.8	28.8	79	38-145	11	40
Aldrin	0.58	26.0	28.8	89	22.0	28.8	74	37-143	17	40
alpha-Chlordane	ND	24.6	28.8	85	21.3	28.8	74	33-141	14	40
gamma-Chlordane	ND	24.4	28.8	85	21.2	28.8	74	27-149	14	40
Dieldrin	ND	25.2	28.8	87	20.7	28.8	72	37-146	19	40
4,4'-DDE	ND	28.6	28.8	99 #	22.5	28.8	78 #	32-156	24	40
4,4'-DDD	ND	26.2	28.8	91	22.0	28.8	76	26-161	17	40
4,4'-DDT	0.41	28.0	28.8	96	29.2	28.8	100	22-174	4	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is 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:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	09/24/2008

Matrix Spike/Duplicate Matrix Spike Summary
Organochlorine Pesticides

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ug/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8081A	**Extraction Lot:**	KWG0807716

Analyte Name	Sample Result	BH-009,59,10,11-SSA Comp DupMS KWG0807716-4 Matrix Spike			BH-009,59,10,11-SSA Comp DupDMS KWG0807716-5 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
cis-Nonachlor	0.21	21.8	31.3	69	23.0	31.3	73	10-174	5	40
trans-Nonachlor	ND	21.4	31.3	68	19.7	31.3	63	10-149	8	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is 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:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	09/13/2008

Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3540C	**Units:**	ug/Kg
Analysis Method:	8081A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0807716

	Lab Control Sample KWG0807716-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
gamma-BHC (Lindane)	14.9	20.0	75	48-146
Heptachlor	15.7	20.0	78	47-142
Aldrin	16.3	20.0	82	43-141
alpha-Chlordane	15.4	20.0	77	42-145
gamma-Chlordane	15.5	20.0	77	42-145
cis-Nonachlor	15.8	20.0	79	44-137
trans-Nonachlor	14.9	20.0	75	42-132
Dieldrin	15.7	20.0	79	50-142
4,4'-DDE	16.4	20.0	82	51-149
4,4'-DDD	14.8	20.0	74	51-152
4,4'-DDT	17.5	20.0	88	59-151

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.

Confirmation Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Extracted:	08/08/2008

Organochlorine Pesticides

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
		Level:	Low
Extraction Method:	EPA 3540C		
Analysis Method:	8081A		

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	%D	Q	Dilution Factor	Date Analyzed
Heptachlor	1.0	0.080	0.40	0.98	84.1	JP	1	09/24/08
Aldrin	1.0	0.15	0.39	0.40	2.5	J	1	09/24/08
Dieldrin	1.0	0.29	0.95	0.89	6.5	J	1	09/24/08

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Extracted:	08/08/2008

Organochlorine Pesticides

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
		Level:	Low
Extraction Method:	EPA 3540C		
Analysis Method:	8081A		

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	%D	Q	Dilution Factor	Date Analyzed
Aldrin	1.5	0.22	0.58	0.31	60.7	JP	1	09/24/08
4,4'-DDT	1.5	0.093	0.41	0.41	0.0	J	1	09/24/08

COLUMBIA ANALYTICAL SERVICES, INC.

Confirmation Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
		Date Extracted:	08/08/2008

Organochlorine Pesticides

Sample Name:	BH-009,59,10,11-SSA Comp Du	**Units:**	ug/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
		Level:	Low
Extraction Method:	EPA 3540C		
Analysis Method:	8081A		

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	%D	Q	Dilution Factor	Date Analyzed
Heptachlor	1.6	0.13	0.92	1.8	64.7	JP	1	09/24/08
Aldrin	1.6	0.24	0.65	0.35	60.0	JP	1	09/24/08
cis-Nonachlor	1.6	0.12	0.21	0.33	44.4	JP	1	09/24/08
4,4'-DDT	1.6	0.11	0.46	0.86	60.6	JP	1	09/24/08

Polychlorinated Biphenyls
PCB's
EPA Method 8082

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Service Request: K0807136

Cover Page - Organic Analysis Data Package
Polychlorinated Biphenyls (PCBs)

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-005,6,7-SSA Comp	K0807136-017	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp	K0807136-018	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	K0807136-019	07/31/2008	08/02/2008
BH-005,6,7-SSA CompMS	KWG0807715-1	07/31/2008	08/02/2008
BH-005,6,7-SSA CompDMS	KWG0807715-2	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Jeff Grandstaff

Date: 9/13/08 Title: Organics Manager

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Polychlorinated Biphenyls (PCBs)

Sample Name:	BH-002-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	43	43	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1221	ND	Ui	120	120	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1232	ND	Ui	37	37	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1242	ND	Ui	26	26	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1248	ND	Ui	13	13	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1254	ND	Ui	12	5.0	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1260	ND	Ui	12	5.5	1	08/08/08	09/08/08	KWG0807715	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	82	38-144	09/08/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Polychlorinated Biphenyls (PCBs)

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	10	6.6	1	08/08/08	09/03/08	KWG0807715	
Aroclor 1221	ND	Ui	26	26	1	08/08/08	09/03/08	KWG0807715	
Aroclor 1232	ND	Ui	10	9.1	1	08/08/08	09/03/08	KWG0807715	
Aroclor 1242	ND	Ui	10	4.9	1	08/08/08	09/03/08	KWG0807715	
Aroclor 1248	ND	Ui	10	7.1	1	08/08/08	09/03/08	KWG0807715	
Aroclor 1254	ND	Ui	10	2.2	1	08/08/08	09/03/08	KWG0807715	
Aroclor 1260	ND	U	10	1.3	1	08/08/08	09/03/08	KWG0807715	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	86	38-144	09/03/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Polychlorinated Biphenyls (PCBs)

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	15	12	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1221	ND	Ui	170	170	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1232	ND	Ui	48	48	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1242	ND	Ui	25	25	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1248	ND	Ui	15	13	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1254	ND	Ui	15	3.7	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1260	ND	Ui	15	4.1	1	08/08/08	09/08/08	KWG0807715	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	38-144	09/08/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Polychlorinated Biphenyls (PCBs)

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ug/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	16	16	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1221	ND	Ui	130	130	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1232	ND	Ui	37	37	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1242	ND	Ui	79	79	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1248	ND	Ui	16	16	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1254	ND	Ui	21	21	1	08/08/08	09/08/08	KWG0807715	
Aroclor 1260	ND	U	16	2.1	1	08/08/08	09/08/08	KWG0807715	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	96	38-144	09/08/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0807715-4	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	5.0	1.3	1	08/08/08	09/02/08	KWG0807715	
Aroclor 1221	ND	U	10	1.3	1	08/08/08	09/02/08	KWG0807715	
Aroclor 1232	ND	U	5.0	1.3	1	08/08/08	09/02/08	KWG0807715	
Aroclor 1242	ND	U	5.0	1.3	1	08/08/08	09/02/08	KWG0807715	
Aroclor 1248	ND	U	5.0	1.3	1	08/08/08	09/02/08	KWG0807715	
Aroclor 1254	ND	U	5.0	1.3	1	08/08/08	09/02/08	KWG0807715	
Aroclor 1260	ND	U	5.0	1.3	1	08/08/08	09/02/08	KWG0807715	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	94	38-144	09/02/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3540C
Analysis Method: 8082

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
BH-002-SSA	K0807136-006	82
BH-005,6,7-SSA Comp	K0807136-017	86
BH-009,59,10,11-SSA Comp	K0807136-018	90
BH-009,59,10,11-SSA Comp Du	K0807136-019	96
Method Blank	KWG0807715-4	94
BH-005,6,7-SSA CompMS	KWG0807715-1	80
BH-005,6,7-SSA CompDMS	KWG0807715-2	81
Lab Control Sample	KWG0807715-3	94

Surrogate Recovery Control Limits (%)

Sur1 =	Decachlorobiphenyl	38-144

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	09/03/2008

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8082	**Extraction Lot:**	KWG0807715

Analyte Name	Sample Result	BH-005,6,7-SSA CompMS KWG0807715-1 Matrix Spike			BH-005,6,7-SSA CompDMS KWG0807715-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	143	199	72	131	199	66	24-168	9	40
Aroclor 1260	ND	153	199	77	149	199	75	24-163	3	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is 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:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/08/2008
Sample Matrix:	Sediment	**Date Analyzed:**	09/02/2008

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3540C	**Units:**	ug/Kg
Analysis Method:	8082	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0807715

	Lab Control Sample KWG0807715-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	159	200	80	44-130
Aroclor 1260	152	200	76	52-127

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.

Volatile Organic Compounds
EPA Method 8260B

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

Cover Page - Organic Analysis Data Package
Volatile Organic Compounds

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-009-SSA	K0807136-007	08/01/2008	08/02/2008
BH-059-SSA	K0807136-008	08/01/2008	08/02/2008
BH-010-SSA	K0807136-009	08/01/2008	08/02/2008
BH-011-SSA	K0807136-010	08/01/2008	08/02/2008
BH-006-SSA	K0807136-011	07/31/2008	08/02/2008
BH-007-SSA	K0807136-013	07/31/2008	08/02/2008
BH-005-SSA	K0807136-015	07/31/2008	08/02/2008
BH-002-SSAMS	KWG0807845-1	07/31/2008	08/02/2008
BH-002-SSADMS	KWG0807845-2	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Jeff Grindstaff

Date: 8/19/08 Title: Organics Manager

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Volatile Organic Compounds

Sample Name:	BH-002-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	2.3	0.17	1	08/11/08	08/11/08	KWG0807845	
Tetrachloroethene (PCE)	ND	U	2.3	0.18	1	08/11/08	08/11/08	KWG0807845	
Ethylbenzene	ND	U	2.3	0.15	1	08/11/08	08/11/08	KWG0807845	
m,p-Xylenes	ND	U	4.6	0.35	1	08/11/08	08/11/08	KWG0807845	
o-Xylene	ND	U	2.3	0.14	1	08/11/08	08/11/08	KWG0807845	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	86	61-116	08/11/08	Acceptable
Toluene-d8	79	63-116	08/11/08	Acceptable
4-Bromofluorobenzene	72	58-117	08/11/08	Acceptable

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 08/01/2008
Date Received: 08/02/2008

Volatile Organic Compounds

Sample Name: BH-009-SSA
Lab Code: K0807136-007

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 5030A
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	2.4	0.17	1	08/11/08	08/11/08	KWG0807845	
Tetrachloroethene (PCE)	ND	U	2.4	0.18	1	08/11/08	08/11/08	KWG0807845	
Ethylbenzene	ND	U	2.4	0.16	1	08/11/08	08/11/08	KWG0807845	
m,p-Xylenes	ND	U	4.8	0.36	1	08/11/08	08/11/08	KWG0807845	
o-Xylene	ND	U	2.4	0.14	1	08/11/08	08/11/08	KWG0807845	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	80	61-116	08/11/08	Acceptable
Toluene-d8	77	63-116	08/11/08	Acceptable
4-Bromofluorobenzene	63	58-117	08/11/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Volatile Organic Compounds

Sample Name:	BH-059-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-008	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	2.5	0.18	1	08/13/08	08/13/08	KWG0808061	
Tetrachloroethene (PCE)	ND	U	2.5	0.19	1	08/13/08	08/13/08	KWG0808061	
Ethylbenzene	ND	U	2.5	0.17	1	08/13/08	08/13/08	KWG0808061	
m,p-Xylenes	ND	U	5.0	0.38	1	08/13/08	08/13/08	KWG0808061	
o-Xylene	ND	U	2.5	0.15	1	08/13/08	08/13/08	KWG0808061	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	81	61-116	08/13/08	Acceptable
Toluene-d8	77	63-116	08/13/08	Acceptable
4-Bromofluorobenzene	64	58-117	08/13/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Volatile Organic Compounds

Sample Name:	BH-010-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-009	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	3.5	0.24	1	08/13/08	08/13/08	KWG0808061	
Tetrachloroethene (PCE)	ND	U	3.5	0.26	1	08/13/08	08/13/08	KWG0808061	
Ethylbenzene	ND	U	3.5	0.23	1	08/13/08	08/13/08	KWG0808061	
m,p-Xylenes	ND	U	6.9	0.52	1	08/13/08	08/13/08	KWG0808061	
o-Xylene	ND	U	3.5	0.20	1	08/13/08	08/13/08	KWG0808061	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	83	61-116	08/13/08	Acceptable
Toluene-d8	81	63-116	08/13/08	Acceptable
4-Bromofluorobenzene	70	58-117	08/13/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	08/01/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Volatile Organic Compounds

Sample Name:	BH-011-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-010	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	3.0	0.21	1	08/13/08	08/13/08	KWG0808061	
Tetrachloroethene (PCE)	ND	U	3.0	0.23	1	08/13/08	08/13/08	KWG0808061	
Ethylbenzene	ND	U	3.0	0.20	1	08/13/08	08/13/08	KWG0808061	
m,p-Xylenes	ND	U	6.0	0.45	1	08/13/08	08/13/08	KWG0808061	
o-Xylene	ND	U	3.0	0.17	1	08/13/08	08/13/08	KWG0808061	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	80	61-116	08/13/08	Acceptable
Toluene-d8	77	63-116	08/13/08	Acceptable
4-Bromofluorobenzene	64	58-117	08/13/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Volatile Organic Compounds

Sample Name:	BH-006-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-011	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	2.6	0.18	1	08/11/08	08/11/08	KWG0807845	
Tetrachloroethene (PCE)	ND	U	2.6	0.20	1	08/11/08	08/11/08	KWG0807845	
Ethylbenzene	ND	U	2.6	0.17	1	08/11/08	08/11/08	KWG0807845	
m,p-Xylenes	ND	U	5.1	0.38	1	08/11/08	08/11/08	KWG0807845	
o-Xylene	ND	U	2.6	0.15	1	08/11/08	08/11/08	KWG0807845	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	82	61-116	08/11/08	Acceptable
Toluene-d8	85	63-116	08/11/08	Acceptable
4-Bromofluorobenzene	80	58-117	08/11/08	Acceptable

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 07/31/2008
Date Received: 08/02/2008

Volatile Organic Compounds

Sample Name: BH-007-SSA
Lab Code: K0807136-013

Extraction Method: EPA 5030A
Analysis Method: 8260B

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	1.6	0.11	1	08/11/08	08/11/08	KWG0807845	
Tetrachloroethene (PCE)	ND	U	1.6	0.12	1	08/11/08	08/11/08	KWG0807845	
Ethylbenzene	ND	U	1.6	0.11	1	08/11/08	08/11/08	KWG0807845	
m,p-Xylenes	ND	U	3.1	0.24	1	08/11/08	08/11/08	KWG0807845	
o-Xylene	ND	U	1.6	0.089	1	08/11/08	08/11/08	KWG0807845	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	82	61-116	08/11/08	Acceptable
Toluene-d8	84	63-116	08/11/08	Acceptable
4-Bromofluorobenzene	81	58-117	08/11/08	Acceptable

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Volatile Organic Compounds

Sample Name:	BH-005-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-015	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	2.7	0.19	1	08/11/08	08/11/08	KWG0807845	
Tetrachloroethene (PCE)	ND	U	2.7	0.21	1	08/11/08	08/11/08	KWG0807845	*
Ethylbenzene	ND	U	2.7	0.18	1	08/11/08	08/11/08	KWG0807845	*
m,p-Xylenes	ND	U	5.3	0.40	1	08/11/08	08/11/08	KWG0807845	*
o-Xylene	ND	U	2.7	0.16	1	08/11/08	08/11/08	KWG0807845	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	92	61-116	08/11/08	Acceptable
Toluene-d8	76	63-116	08/11/08	Acceptable
4-Bromofluorobenzene	64	58-117	08/11/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0807845-4	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	1.0	0.070	1	08/11/08	08/11/08	KWG0807845	
Tetrachloroethene (PCE)	ND	U	1.0	0.076	1	08/11/08	08/11/08	KWG0807845	
Ethylbenzene	ND	U	1.0	0.065	1	08/11/08	08/11/08	KWG0807845	
m,p-Xylenes	ND	U	2.0	0.15	1	08/11/08	08/11/08	KWG0807845	
o-Xylene	ND	U	1.0	0.057	1	08/11/08	08/11/08	KWG0807845	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	80	61-116	08/11/08	Acceptable
Toluene-d8	82	63-116	08/11/08	Acceptable
4-Bromofluorobenzene	81	58-117	08/11/08	Acceptable

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Soil

Service Request: K0807136
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG0808061-6

Extraction Method: EPA 5030A
Analysis Method: 8260B

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Trichloroethene (TCE)	ND	U	1.0	0.070	1	08/13/08	08/13/08	KWG0808061	
Tetrachloroethene (PCE)	ND	U	1.0	0.076	1	08/13/08	08/13/08	KWG0808061	
Ethylbenzene	ND	U	1.0	0.065	1	08/13/08	08/13/08	KWG0808061	
m,p-Xylenes	ND	U	2.0	0.15	1	08/13/08	08/13/08	KWG0808061	
o-Xylene	ND	U	1.0	0.057	1	08/13/08	08/13/08	KWG0808061	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	82	61-116	08/13/08	Acceptable
Toluene-d8	86	63-116	08/13/08	Acceptable
4-Bromofluorobenzene	82	58-117	08/13/08	Acceptable

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: EPA 5030A
Analysis Method: 8260B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
BH-002-SSA	K0807136-006	86	79	72
BH-009-SSA	K0807136-007	80	77	63
BH-059-SSA	K0807136-008	81	77	64
BH-010-SSA	K0807136-009	83	81	70
BH-011-SSA	K0807136-010	80	77	64
BH-006-SSA	K0807136-011	82	85	80
BH-007-SSA	K0807136-013	82	84	81
BH-005-SSA	K0807136-015	92	76	64
Method Blank	KWG0807845-4	80	82	81
Method Blank	KWG0808061-6	82	86	82
BH-002-SSAMS	KWG0807845-1	82	77	69
BH-002-SSADMS	KWG0807845-2	82	77	67
Lab Control Sample	KWG0807845-3	80	84	84
Lab Control Sample	KWG0808061-5	83	86	86
Duplicate Lab Control Sample	KWG0808061-7	84	85	85

Surrogate Recovery Control Limits (%)

Sur1 = Dibromofluoromethane	61-116
Sur2 = Toluene-d8	63-116
Sur3 = 4-Bromofluorobenzene	58-117

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/11/2008
Time Analyzed: 12:20

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS05\DATA\081108\0811F007.D
Instrument ID: MS05
Analysis Method: 8260B

Lab Code: KWG0807829-2
Analysis Lot: KWG0807829

		Fluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**
	Results ==>	1,854,919	10.80	1,177,484	14.83
	Upper Limit ==>	3,709,838	11.30	2,354,968	15.33
	Lower Limit ==>	927,460	10.30	588,742	14.33
	ICAL Result ==>	1,936,189	10.81	1,315,323	14.83
Associated Analyses					
Method Blank	KWG0807845-4	1,673,940	10.81	1,050,369	14.83
BH-002-SSA	K0807136-006	1,154,891	10.81	637,811	14.83
BH-002-SSAMS	KWG0807845-1	1,453,579	10.81	719,705	14.84
BH-002-SSADMS	KWG0807845-2	1,492,953	10.82	727,972	14.83
Lab Control Sample	KWG0807845-3	1,804,873	10.82	1,147,695	14.84
BH-006-SSA	K0807136-011	1,712,516	10.82	1,092,540	14.84
BH-007-SSA	K0807136-013	1,668,487	10.82	1,072,684	14.84
BH-005-SSA	K0807136-015	1,025,805	10.82	456,312*	14.84
BH-009-SSA	K0807136-007	1,354,758	10.82	660,147	14.84

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/13/2008
Time Analyzed: 09:43

Internal Standard Area and RT Summary
Volatile Organic Compounds

File ID: J:\MS05\DATA\081308\0813F003.D
Instrument ID: MS05
Analysis Method: 8260B

Lab Code: KWG0808059-2
Analysis Lot: KWG0808059

		Fluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**
	Results ==>	1,806,245	10.80	1,180,343	14.83
	Upper Limit ==>	3,612,490	11.30	2,360,686	15.33
	Lower Limit ==>	903,123	10.30	590,172	14.33
	ICAL Result ==>	1,936,189	10.81	1,315,323	14.83
Associated Analyses					
Lab Control Sample	KWG0808061-5	1,865,813	10.81	1,212,438	14.82
Duplicate Lab Control Sample	KWG0808061-7	1,833,860	10.80	1,199,561	14.83
Method Blank	KWG0808061-6	1,614,372	10.82	1,048,298	14.83
BH-059-SSA	K0807136-008	1,274,019	10.81	620,070	14.83
BH-010-SSA	K0807136-009	1,348,068	10.81	724,226	14.84
BH-011-SSA	K0807136-010	1,296,113	10.81	623,906	14.83

Results flagged with an asterisk (*) indicate values outside control criteria.

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/11/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/11/2008

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	BH-002-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260B	**Extraction Lot:**	KWG0807845

Analyte Name	Sample Result	BH-002-SSAMS KWG0807845-1 Matrix Spike			BH-002-SSADMS KWG0807845-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Trichloroethene (TCE)	ND	79.1	117	68	69.3	117	59	32-135	13	40
Tetrachloroethene (PCE)	ND	110	117	95	99.2	117	85	13-142	11	40
Ethylbenzene	ND	105	117	90	92.0	117	79	18-137	13	40
m,p-Xylenes	ND	208	233	89	180	233	77	13-139	15	40
o-Xylene	ND	101	117	87	87.9	117	75	10-149	14	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/11/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/11/2008

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030A	**Units:**	ug/Kg
Analysis Method:	8260B	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0807845

	Lab Control Sample KWG0807845-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Trichloroethene (TCE)	43.2	50.0	86	81-119
Tetrachloroethene (PCE)	51.2	50.0	102	81-113
Ethylbenzene	49.2	50.0	98	79-111
m,p-Xylenes	103	100	103	80-116
o-Xylene	49.9	50.0	100	79-113

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/13/2008
Sample Matrix:	Soil	**Date Analyzed:**	08/13/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030A	**Units:**	ug/Kg
Analysis Method:	8260B	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0808061

	Lab Control Sample KWG0808061-5 Lab Control Spike			Duplicate Lab Control Sample KWG0808061-7 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Trichloroethene (TCE)	43.2	50.0	86	43.0	50.0	86	81-119	0	40
Tetrachloroethene (PCE)	49.9	50.0	100	48.4	50.0	97	81-113	3	40
Ethylbenzene	48.1	50.0	96	47.3	50.0	95	79-111	2	40
m,p-Xylenes	99.3	100	99	97.4	100	97	80-116	2	40
o-Xylene	48.9	50.0	98	48.2	50.0	96	79-113	2	40

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.

Semi-Volatile Organic Compounds
EPA Method 8270C

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

Cover Page - Organic Analysis Data Package
Semi-Volatile Organic Compounds by GC/MS

Sample Name	Lab Code	Date Collected	Date Received
BH-002-SSA	K0807136-006	07/31/2008	08/02/2008
BH-005,6,7-SSA Comp	K0807136-017	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp	K0807136-018	07/31/2008	08/02/2008
BH-009,59,10,11-SSA Comp Du	K0807136-019	07/31/2008	08/02/2008
BH-005,6,7-SSA CompMS	KWG0807792-1	07/31/2008	08/02/2008
BH-005,6,7-SSA CompDMS	KWG0807792-2	07/31/2008	08/02/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Carl Dayer

Date: 9/8/08 Title: Sum Signatory

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-002-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**140**	JD	180	12	5	08/11/08	08/27/08	KWG0807792	
1,3-Dichlorobenzene	ND	U	58	18	5	08/11/08	08/27/08	KWG0807792	
1,4-Dichlorobenzene	ND	U	58	17	5	08/11/08	08/27/08	KWG0807792	
1,2-Dichlorobenzene	ND	U	58	17	5	08/11/08	08/27/08	KWG0807792	
Benzyl Alcohol	ND	U	120	13	5	08/11/08	08/27/08	KWG0807792	
2-Methylphenol	ND	U	58	8.7	5	08/11/08	08/27/08	KWG0807792	
Hexachloroethane	ND	U	58	18	5	08/11/08	08/27/08	KWG0807792	
4-Methylphenol†	**46**	JD	58	8.7	5	08/11/08	08/27/08	KWG0807792	
2,4-Dimethylphenol	ND	U	290	32	5	08/11/08	08/27/08	KWG0807792	
Benzoic Acid	ND	U	1200	560	5	08/11/08	08/27/08	KWG0807792	
1,2,4-Trichlorobenzene	ND	U	58	15	5	08/11/08	08/27/08	KWG0807792	
Naphthalene	**550**	D	58	14	5	08/11/08	08/27/08	KWG0807792	
Hexachlorobutadiene	ND	U	58	15	5	08/11/08	08/27/08	KWG0807792	
2-Methylnaphthalene	**210**	D	58	13	5	08/11/08	08/27/08	KWG0807792	
Acenaphthylene	**290**	D	58	6.9	5	08/11/08	08/27/08	KWG0807792	
Dimethyl Phthalate	**16**	JD	58	5.8	5	08/11/08	08/27/08	KWG0807792	
Acenaphthene	**480**	D	58	8.1	5	08/11/08	08/27/08	KWG0807792	
Dibenzofuran	**200**	D	58	6.9	5	08/11/08	08/27/08	KWG0807792	
Fluorene	**510**	D	58	6.4	5	08/11/08	08/27/08	KWG0807792	
Diethyl Phthalate	ND	U	58	7.5	5	08/11/08	08/27/08	KWG0807792	
N-Nitrosodiphenylamine	ND	U	58	9.2	5	08/11/08	08/27/08	KWG0807792	
Hexachlorobenzene	ND	U	58	6.9	5	08/11/08	08/27/08	KWG0807792	
Pentachlorophenol	ND	U	580	120	5	08/11/08	08/27/08	KWG0807792	
Phenanthrene	**5300**	D	58	8.1	5	08/11/08	08/27/08	KWG0807792	
Anthracene	**1300**	D	58	9.2	5	08/11/08	08/27/08	KWG0807792	
Di-n-butyl Phthalate	ND	U	120	46	5	08/11/08	08/27/08	KWG0807792	
Fluoranthene	**7600**	D	290	46	25	08/11/08	08/27/08	KWG0807792	
Pyrene	**7900**	D	290	44	25	08/11/08	08/27/08	KWG0807792	
Butyl Benzyl Phthalate	ND	U	58	19	5	08/11/08	08/27/08	KWG0807792	
Benz(a)anthracene	**2300**	D	58	9.8	5	08/11/08	08/27/08	KWG0807792	
Chrysene	**2700**	D	58	8.7	5	08/11/08	08/27/08	KWG0807792	
Bis(2-ethylhexyl) Phthalate	ND	U	580	41	5	08/11/08	08/27/08	KWG0807792	
Di-n-octyl Phthalate	ND	U	58	9.8	5	08/11/08	08/27/08	KWG0807792	

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-002-SSA	**Units:**	ug/Kg
Lab Code:	K0807136-006	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(b)fluoranthene	**2500**	D	58	6.9	5	08/11/08	08/27/08	KWG0807792	
Benzo(k)fluoranthene	**870**	D	58	8.1	5	08/11/08	08/27/08	KWG0807792	
Benzo(a)pyrene	**2400**	D	58	9.8	5	08/11/08	08/27/08	KWG0807792	
Indeno(1,2,3-cd)pyrene	**1600**	D	58	8.7	5	08/11/08	08/27/08	KWG0807792	
Dibenz(a,h)anthracene	**300**	D	58	8.7	5	08/11/08	08/27/08	KWG0807792	
Benzo(g,h,i)perylene	**1600**	D	58	8.7	5	08/11/08	08/27/08	KWG0807792	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	40	10-89	08/27/08	Acceptable
Phenol-d6	44	15-103	08/27/08	Acceptable
Nitrobenzene-d5	54	10-108	08/27/08	Acceptable
2-Fluorobiphenyl	54	10-105	08/27/08	Acceptable
2,4,6-Tribromophenol	67	16-122	08/27/08	Acceptable
Terphenyl-d14	64	31-126	08/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Collected: 07/31/2008
Date Received: 08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: BH-005,6,7-SSA Comp
Lab Code: K0807136-017

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**180**		30	2.0	1	08/11/08	08/27/08	KWG0807792	
1,3-Dichlorobenzene	ND	U	10	3.0	1	08/11/08	08/27/08	KWG0807792	
1,4-Dichlorobenzene	ND	U	10	2.9	1	08/11/08	08/27/08	KWG0807792	
1,2-Dichlorobenzene	ND	U	10	2.9	1	08/11/08	08/27/08	KWG0807792	
Benzyl Alcohol	**18**	J	20	2.1	1	08/11/08	08/27/08	KWG0807792	
2-Methylphenol	ND	U	10	1.5	1	08/11/08	08/27/08	KWG0807792	
Hexachloroethane	ND	U	10	3.1	1	08/11/08	08/27/08	KWG0807792	
4-Methylphenol†	**36**		10	1.5	1	08/11/08	08/27/08	KWG0807792	
2,4-Dimethylphenol	ND	U	50	5.5	1	08/11/08	08/27/08	KWG0807792	
Benzoic Acid	ND	U	200	96	1	08/11/08	08/27/08	KWG0807792	
1,2,4-Trichlorobenzene	ND	U	10	2.6	1	08/11/08	08/27/08	KWG0807792	
Naphthalene	**590**		10	2.3	1	08/11/08	08/27/08	KWG0807792	
Hexachlorobutadiene	ND	U	10	2.5	1	08/11/08	08/27/08	KWG0807792	
2-Methylnaphthalene	**46**		10	2.2	1	08/11/08	08/27/08	KWG0807792	
Acenaphthylene	**63**		10	1.2	1	08/11/08	08/27/08	KWG0807792	
Dimethyl Phthalate	ND	U	10	1.0	1	08/11/08	08/27/08	KWG0807792	
Acenaphthene	**31**		10	1.4	1	08/11/08	08/27/08	KWG0807792	
Dibenzofuran	**44**		10	1.2	1	08/11/08	08/27/08	KWG0807792	
Fluorene	**45**		10	1.1	1	08/11/08	08/27/08	KWG0807792	
Diethyl Phthalate	**3.7**	J	10	1.3	1	08/11/08	08/27/08	KWG0807792	
N-Nitrosodiphenylamine	ND	U	10	1.6	1	08/11/08	08/27/08	KWG0807792	
Hexachlorobenzene	ND	U	10	1.2	1	08/11/08	08/27/08	KWG0807792	
Pentachlorophenol	ND	U	100	20	1	08/11/08	08/27/08	KWG0807792	
Phenanthrene	**410**		10	1.4	1	08/11/08	08/27/08	KWG0807792	
Anthracene	**95**		10	1.6	1	08/11/08	08/27/08	KWG0807792	
Di-n-butyl Phthalate	**11**	J	20	7.9	1	08/11/08	08/27/08	KWG0807792	
Fluoranthene	**570**		10	1.6	1	08/11/08	08/27/08	KWG0807792	
Pyrene	**590**		10	1.5	1	08/11/08	08/27/08	KWG0807792	
Butyl Benzyl Phthalate	ND	U	10	3.2	1	08/11/08	08/27/08	KWG0807792	
Benz(a)anthracene	**200**		10	1.7	1	08/11/08	08/27/08	KWG0807792	
Chrysene	**240**		10	1.5	1	08/11/08	08/27/08	KWG0807792	
Bis(2-ethylhexyl) Phthalate	**25**	J	100	7.0	1	08/11/08	08/27/08	KWG0807792	
Di-n-octyl Phthalate	ND	U	10	1.7	1	08/11/08	08/27/08	KWG0807792	

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(b)fluoranthene	**230**		10	1.2	1	08/11/08	08/27/08	KWG0807792	
Benzo(k)fluoranthene	**82**		10	1.4	1	08/11/08	08/27/08	KWG0807792	
Benzo(a)pyrene	**220**		10	1.7	1	08/11/08	08/27/08	KWG0807792	
Indeno(1,2,3-cd)pyrene	**170**		10	1.5	1	08/11/08	08/27/08	KWG0807792	
Dibenz(a,h)anthracene	**26**		10	1.5	1	08/11/08	08/27/08	KWG0807792	
Benzo(g,h,i)perylene	**180**		10	1.5	1	08/11/08	08/27/08	KWG0807792	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	45	10-89	08/27/08	Acceptable
Phenol-d6	50	15-103	08/27/08	Acceptable
Nitrobenzene-d5	55	10-108	08/27/08	Acceptable
2-Fluorobiphenyl	66	10-105	08/27/08	Acceptable
2,4,6-Tribromophenol	90	16-122	08/27/08	Acceptable
Terphenyl-d14	81	31-126	08/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**850**		43	2.9	1	08/11/08	08/27/08	KWG0807792	
1,3-Dichlorobenzene	ND	U	15	4.3	1	08/11/08	08/27/08	KWG0807792	
1,4-Dichlorobenzene	ND	U	15	4.2	1	08/11/08	08/27/08	KWG0807792	
1,2-Dichlorobenzene	ND	U	15	4.2	1	08/11/08	08/27/08	KWG0807792	
Benzyl Alcohol	ND	U	29	3.0	1	08/11/08	08/27/08	KWG0807792	
2-Methylphenol	ND	U	15	2.2	1	08/11/08	08/27/08	KWG0807792	
Hexachloroethane	ND	U	15	4.5	1	08/11/08	08/27/08	KWG0807792	
4-Methylphenol†	**15**		15	2.2	1	08/11/08	08/27/08	KWG0807792	
2,4-Dimethylphenol	ND	U	72	7.9	1	08/11/08	08/27/08	KWG0807792	
Benzoic Acid	ND	U	290	140	1	08/11/08	08/27/08	KWG0807792	
1,2,4-Trichlorobenzene	ND	U	15	3.8	1	08/11/08	08/27/08	KWG0807792	
Naphthalene	**100**		15	3.3	1	08/11/08	08/27/08	KWG0807792	
Hexachlorobutadiene	ND	U	15	3.6	1	08/11/08	08/27/08	KWG0807792	
2-Methylnaphthalene	**49**		15	3.2	1	08/11/08	08/27/08	KWG0807792	
Acenaphthylene	**100**		15	1.8	1	08/11/08	08/27/08	KWG0807792	
Dimethyl Phthalate	ND	U	15	1.5	1	08/11/08	08/27/08	KWG0807792	
Acenaphthene	**100**		15	2.0	1	08/11/08	08/27/08	KWG0807792	
Dibenzofuran	**45**		15	1.8	1	08/11/08	08/27/08	KWG0807792	
Fluorene	**110**		15	1.6	1	08/11/08	08/27/08	KWG0807792	
Diethyl Phthalate	**4.2**	J	15	1.9	1	08/11/08	08/27/08	KWG0807792	
N-Nitrosodiphenylamine	ND	U	15	2.3	1	08/11/08	08/27/08	KWG0807792	
Hexachlorobenzene	ND	U	15	1.8	1	08/11/08	08/27/08	KWG0807792	
Pentachlorophenol	ND	U	150	29	1	08/11/08	08/27/08	KWG0807792	
Phenanthrene	**1400**		15	2.0	1	08/11/08	08/27/08	KWG0807792	
Anthracene	**320**		15	2.3	1	08/11/08	08/27/08	KWG0807792	
Di-n-butyl Phthalate	**21**	J	29	12	1	08/11/08	08/27/08	KWG0807792	
Fluoranthene	**1700**	D	150	23	10	08/11/08	08/29/08	KWG0807792	
Pyrene	**1800**	D	150	22	10	08/11/08	08/29/08	KWG0807792	
Butyl Benzyl Phthalate	ND	U	15	4.6	1	08/11/08	08/27/08	KWG0807792	
Benz(a)anthracene	**780**		15	2.5	1	08/11/08	08/27/08	KWG0807792	
Chrysene	**900**		15	2.2	1	08/11/08	08/27/08	KWG0807792	
Bis(2-ethylhexyl) Phthalate	**14**	J	150	10	1	08/11/08	08/27/08	KWG0807792	
Di-n-octyl Phthalate	ND	U	15	2.5	1	08/11/08	08/27/08	KWG0807792	

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-018	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(b)fluoranthene	**910**		15	1.8	1	08/11/08	08/27/08	KWG0807792	
Benzo(k)fluoranthene	**250**		15	2.0	1	08/11/08	08/27/08	KWG0807792	
Benzo(a)pyrene	**830**		15	2.5	1	08/11/08	08/27/08	KWG0807792	
Indeno(1,2,3-cd)pyrene	**590**		15	2.2	1	08/11/08	08/27/08	KWG0807792	
Dibenz(a,h)anthracene	**110**		15	2.2	1	08/11/08	08/27/08	KWG0807792	
Benzo(g,h,i)perylene	**570**		15	2.2	1	08/11/08	08/27/08	KWG0807792	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	42	10-89	08/27/08	Acceptable
Phenol-d6	46	15-103	08/27/08	Acceptable
Nitrobenzene-d5	50	10-108	08/27/08	Acceptable
2-Fluorobiphenyl	60	10-105	08/27/08	Acceptable
2,4,6-Tribromophenol	78	16-122	08/27/08	Acceptable
Terphenyl-d14	70	31-126	08/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ug/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**1100**		47	[illegible]	1	08/11/08	08/27/08	KWG0807792	
1,3-Dichlorobenzene	ND	U	16	4.7	1	08/11/08	08/27/08	KWG0807792	
1,4-Dichlorobenzene	ND	U	16	4.5	1	08/11/08	08/27/08	KWG0807792	
1,2-Dichlorobenzene	ND	U	16	4.5	1	08/11/08	08/27/08	KWG0807792	
Benzyl Alcohol	ND	U	32	3.3	1	08/11/08	08/27/08	KWG0807792	
2-Methylphenol	ND	U	16	2.4	1	08/11/08	08/27/08	KWG0807792	
Hexachloroethane	ND	U	16	4.9	1	08/11/08	08/27/08	KWG0807792	
4-Methylphenol†	**30**		16	2.4	1	08/11/08	08/27/08	KWG0807792	
2,4-Dimethylphenol	ND	U	78	8.6	1	08/11/08	08/27/08	KWG0807792	
Benzoic Acid	ND	U	320	150	1	08/11/08	08/27/08	KWG0807792	
1,2,4-Trichlorobenzene	ND	U	16	4.1	1	08/11/08	08/27/08	KWG0807792	
Naphthalene	**98**		16	3.6	1	08/11/08	08/27/08	KWG0807792	
Hexachlorobutadiene	ND	U	16	3.9	1	08/11/08	08/27/08	KWG0807792	
2-Methylnaphthalene	**46**		16	3.5	1	08/11/08	08/27/08	KWG0807792	
Acenaphthylene	**200**		16	1.9	1	08/11/08	08/27/08	KWG0807792	
Dimethyl Phthalate	ND	U	16	1.6	1	08/11/08	08/27/08	KWG0807792	
Acenaphthene	**110**		16	2.2	1	08/11/08	08/27/08	KWG0807792	
Dibenzofuran	**58**		16	1.9	1	08/11/08	08/27/08	KWG0807792	
Fluorene	**170**		16	1.8	1	08/11/08	08/27/08	KWG0807792	
Diethyl Phthalate	**4.5**	J	16	2.1	1	08/11/08	08/27/08	KWG0807792	
N-Nitrosodiphenylamine	ND	U	16	2.5	1	08/11/08	08/27/08	KWG0807792	
Hexachlorobenzene	ND	U	16	1.9	1	08/11/08	08/27/08	KWG0807792	
Pentachlorophenol	ND	U	160	32	1	08/11/08	08/27/08	KWG0807792	
Phenanthrene	**1900**	D	160	22	10	08/11/08	08/29/08	KWG0807792	
Anthracene	**520**		16	2.5	1	08/11/08	08/27/08	KWG0807792	
Di-n-butyl Phthalate	**20**	J	32	13	1	08/11/08	08/27/08	KWG0807792	
Fluoranthene	**2700**	D	160	25	10	08/11/08	08/29/08	KWG0807792	
Pyrene	**2700**	D	160	24	10	08/11/08	08/29/08	KWG0807792	
Butyl Benzyl Phthalate	ND	U	16	5.0	1	08/11/08	08/27/08	KWG0807792	
Benz(a)anthracene	**1100**		16	2.7	1	08/11/08	08/27/08	KWG0807792	
Chrysene	**1300**		16	2.4	1	08/11/08	08/27/08	KWG0807792	
Bis(2-ethylhexyl) Phthalate	**21**	J	160	11	1	08/11/08	08/27/08	KWG0807792	
Di-n-octyl Phthalate	ND	U	16	2.7	1	08/11/08	08/27/08	KWG0807792	

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ug/Kg
Lab Code:	K0807136-019	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(b)fluoranthene	**1200**		16	1.9	1	08/11/08	08/27/08	KWG0807792	
Benzo(k)fluoranthene	**380**		16	2.2	1	08/11/08	08/27/08	KWG0807792	
Benzo(a)pyrene	**1200**		16	2.7	1	08/11/08	08/27/08	KWG0807792	
Indeno(1,2,3-cd)pyrene	**780**		16	2.4	1	08/11/08	08/27/08	KWG0807792	
Dibenz(a,h)anthracene	**180**		16	2.4	1	08/11/08	08/27/08	KWG0807792	
Benzo(g,h,i)perylene	**770**		16	2.4	1	08/11/08	08/27/08	KWG0807792	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	43	10-89	08/27/08	Acceptable
Phenol-d6	52	15-103	08/27/08	Acceptable
Nitrobenzene-d5	51	10-108	08/27/08	Acceptable
2-Fluorobiphenyl	60	10-105	08/27/08	Acceptable
2,4,6-Tribromophenol	84	16-122	08/27/08	Acceptable
Terphenyl-d14	72	31-126	08/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0807792-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	15	2.0	1	08/11/08	08/20/08	KWG0807792	
1,3-Dichlorobenzene	ND	U	5.0	3.0	1	08/11/08	08/20/08	KWG0807792	
1,4-Dichlorobenzene	ND	U	5.0	2.9	1	08/11/08	08/20/08	KWG0807792	
1,2-Dichlorobenzene	ND	U	5.0	2.9	1	08/11/08	08/20/08	KWG0807792	
Benzyl Alcohol	ND	U	9.9	2.1	1	08/11/08	08/20/08	KWG0807792	
2-Methylphenol	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	
Hexachloroethane	ND	U	5.0	3.1	1	08/11/08	08/20/08	KWG0807792	
4-Methylphenol†	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	
2,4-Dimethylphenol	ND	U	25	5.5	1	08/11/08	08/20/08	KWG0807792	
Benzoic Acid	ND	U	99	96	1	08/11/08	08/20/08	KWG0807792	
1,2,4-Trichlorobenzene	ND	U	5.0	2.6	1	08/11/08	08/20/08	KWG0807792	
Naphthalene	ND	U	5.0	2.3	1	08/11/08	08/20/08	KWG0807792	
Hexachlorobutadiene	ND	U	5.0	2.5	1	08/11/08	08/20/08	KWG0807792	
2-Methylnaphthalene	ND	U	5.0	2.2	1	08/11/08	08/20/08	KWG0807792	
Acenaphthylene	ND	U	5.0	1.2	1	08/11/08	08/20/08	KWG0807792	
Dimethyl Phthalate	ND	U	5.0	1.0	1	08/11/08	08/20/08	KWG0807792	
Acenaphthene	ND	U	5.0	1.4	1	08/11/08	08/20/08	KWG0807792	
Dibenzofuran	ND	U	5.0	1.2	1	08/11/08	08/20/08	KWG0807792	
Fluorene	ND	U	5.0	1.1	1	08/11/08	08/20/08	KWG0807792	
Diethyl Phthalate	ND	U	5.0	1.3	1	08/11/08	08/20/08	KWG0807792	
N-Nitrosodiphenylamine	ND	U	5.0	1.6	1	08/11/08	08/20/08	KWG0807792	
Hexachlorobenzene	ND	U	5.0	1.2	1	08/11/08	08/20/08	KWG0807792	
Pentachlorophenol	ND	U	50	20	1	08/11/08	08/20/08	KWG0807792	
Phenanthrene	ND	U	5.0	1.4	1	08/11/08	08/20/08	KWG0807792	
Anthracene	ND	U	5.0	1.6	1	08/11/08	08/20/08	KWG0807792	
Di-n-butyl Phthalate	ND	U	9.9	7.9	1	08/11/08	08/20/08	KWG0807792	
Fluoranthene	ND	U	5.0	1.6	1	08/11/08	08/20/08	KWG0807792	
Pyrene	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	
Butyl Benzyl Phthalate	ND	U	5.0	3.2	1	08/11/08	08/20/08	KWG0807792	
Benz(a)anthracene	ND	U	5.0	1.7	1	08/11/08	08/20/08	KWG0807792	
Chrysene	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	
Bis(2-ethylhexyl) Phthalate	ND	U	50	7.0	1	08/11/08	08/20/08	KWG0807792	
Di-n-octyl Phthalate	ND	U	5.0	1.7	1	08/11/08	08/20/08	KWG0807792	

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG0807792-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(b)fluoranthene	ND	U	5.0	1.2	1	08/11/08	08/20/08	KWG0807792	
Benzo(k)fluoranthene	ND	U	5.0	1.4	1	08/11/08	08/20/08	KWG0807792	
Benzo(a)pyrene	ND	U	5.0	1.7	1	08/11/08	08/20/08	KWG0807792	
Indeno(1,2,3-cd)pyrene	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	
Dibenz(a,h)anthracene	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	
Benzo(g,h,i)perylene	ND	U	5.0	1.5	1	08/11/08	08/20/08	KWG0807792	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	62	10-89	08/20/08	Acceptable
Phenol-d6	63	15-103	08/20/08	Acceptable
Nitrobenzene-d5	64	10-108	08/20/08	Acceptable
2-Fluorobiphenyl	70	10-105	08/20/08	Acceptable
2,4,6-Tribromophenol	86	16-122	08/20/08	Acceptable
Terphenyl-d14	97	31-126	08/20/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/11/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/20/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270C	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0807792

	Lab Control Sample KWG0807792-3 Lab Control Spike			Duplicate Lab Control Sample KWG0807792-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	128	250	51	149	250	60	34-101	15	40
1,3-Dichlorobenzene	130	250	52	149	250	60	10-97	14	40
1,4-Dichlorobenzene	139	250	56	161	250	64	10-98	14	40
1,2-Dichlorobenzene	135	250	54	154	250	62	10-98	13	40
Benzyl Alcohol	139	250	55	182	250	73	30-101	27	40
2-Methylphenol	118	250	47	138	250	55	10-93	16	40
Hexachloroethane	131	250	52	140	250	56	10-99	7	40
4-Methylphenol	116	250	47	131	250	52	10-98	11	40
2,4-Dimethylphenol	70.7	250	28	89.0	250	36	10-81	23	40
Benzoic Acid	192	750	26	231	750	31	10-50	19	40
1,2,4-Trichlorobenzene	153	250	61	176	250	70	18-96	14	40
Naphthalene	145	250	58	164	250	66	23-95	12	40
Hexachlorobutadiene	152	250	61	166	250	66	14-100	8	40
2-Methylnaphthalene	142	250	57	163	250	65	30-92	14	40
Acenaphthylene	125	250	50	149	250	59	38-99	18	40
Dimethyl Phthalate	144	250	58	163	250	65	44-99	12	40
Acenaphthene	130	250	52	157	250	63	39-90	19	40
Dibenzofuran	129	250	52	158	250	63	40-91	20	40
Fluorene	139	250	56	160	250	64	41-94	14	40
Diethyl Phthalate	153	250	61	172	250	69	46-104	12	40
N-Nitrosodiphenylamine	150	250	60	175	250	70	20-100	16	40
Hexachlorobenzene	150	250	60	174	250	70	42-98	15	40
Pentachlorophenol	176	250	70	189	250	76	28-100	7	40
Phenanthrene	157	250	63	174	250	70	44-97	10	40
Anthracene	155	250	62	173	250	69	31-104	11	40
Di-n-butyl Phthalate	188	250	75	202	250	81	47-129	7	40
Fluoranthene	186	250	74	203	250	81	45-111	9	40
Pyrene	176	250	71	186	250	74	46-112	5	40
Butyl Benzyl Phthalate	178	250	71	196	250	78	50-119	9	40
Benz(a)anthracene	186	250	74	206	250	82	45-110	10	40
Chrysene	187	250	75	204	250	82	50-108	9	40
Bis(2-ethylhexyl) Phthalate	193	250	77	202	250	81	48-127	4	40
Di-n-octyl Phthalate	192	250	77	216	250	86	52-126	12	40
Benzo(b)fluoranthene	193	250	77	207	250	83	51-111	7	40
Benzo(k)fluoranthene	185	250	74	200	250	80	52-109	8	40

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: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Extracted: 08/11/2008
Date Analyzed: 08/20/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG0807792

Analyte Name	Lab Control Sample KWG0807792-3 Lab Control Spike			Duplicate Lab Control Sample KWG0807792-4 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Expected	%Rec	Result	Expected	%Rec			
Benzo(a)pyrene	190	250	76	201	250	80	26-125	6	40
Indeno(1,2,3-cd)pyrene	202	250	81	213	250	85	47-119	5	40
Dibenz(a,h)anthracene	201	250	81	214	250	86	50-115	6	40
Benzo(g,h,i)perylene	184	250	73	201	250	81	43-115	9	40

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: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
BH-002-SSA	K0807136-006	40 D	44 D	54 D	54 D	67 D	64 D
BH-005,6,7-SSA Comp	K0807136-017	45	50	55	66	90	81
BH-009,59,10,11-SSA Comp	K0807136-018	42	46	50	60	78	70
BH-009,59,10,11-SSA Comp Du	K0807136-019	43	52	51	60	84	72
Method Blank	KWG0807792-5	62	63	64	70	86	97
BH-005,6,7-SSA CompMS	KWG0807792-1	55	60	62	71	109	92
BH-005,6,7-SSA CompDMS	KWG0807792-2	36	39	43	48	66	57
Lab Control Sample	KWG0807792-3	49	47	45	49	61	66
Duplicate Lab Control Sample	KWG0807792-4	62	61	57	63	78	76

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	10-89	Sur5 = 2,4,6-Tribromophenol	16-122
Sur2 = Phenol-d6	15-103	Sur6 = Terphenyl-d14	31-126
Sur3 = Nitrobenzene-d5	10-108		
Sur4 = 2-Fluorobiphenyl	10-105		

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/20/2008
Time Analyzed: 12:51

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS06\DATA\082008\0820F006.D
Instrument ID: MS06
Analysis Method: 8270C

Lab Code: KWG0808359-2
Analysis Lot: KWG0808359

		1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	29,533	8.41	71,307	10.31	54,031	13.12
	Upper Limit ==>	59,066	8.91	142,614	10.81	108,062	13.62
	Lower Limit ==>	14,767	7.91	35,654	9.81	27,016	12.62
	ICAL Result ==>	30,469	8.42	78,049	10.32	56,066	13.12
Associated Analyses							
Method Blank	KWG0807792-5	27,153	8.41	68,215	10.31	51,294	13.12
Lab Control Sample	KWG0807792-3	29,304	8.41	72,335	10.31	58,266	13.11
Duplicate Lab Control Sample	KWG0807792-4	33,696	8.41	85,073	10.31	63,391	13.12

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/20/2008
Time Analyzed: 12:51

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS06\DATA\082008\0820F006.D
Instrument ID: MS06
Analysis Method: 8270C

Lab Code: KWG0808359-2
Analysis Lot: KWG0808359

		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	97,825	15.52	157,558	19.89	159,799	23.38
	Upper Limit ==>	195,650	16.02	315,116	20.39	319,598	23.88
	Lower Limit ==>	48,913	15.02	78,779	19.39	79,900	22.88
	ICAL Result ==>	105,500	15.53	160,148	19.90	155,041	23.38
Associated Analyses							
Method Blank	KWG0807792-5	99,782	15.52	151,883	19.89	158,605	23.37
Lab Control Sample	KWG0807792-3	102,906	15.52	168,200	19.89	171,279	23.37
Duplicate Lab Control Sample	KWG0807792-4	116,916	15.52	191,072	19.89	192,041	23.37

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/27/2008
Time Analyzed: 09:13

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS17\DATA\082708\0827F003.D
Instrument ID: MS17
Analysis Method: 8270C

Lab Code: KWG0808776-2
Analysis Lot: KWG0808776

		1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	56,923	6.17	230,386	7.32	135,294	8.95
	Upper Limit ==>	113,846	6.67	460,772	7.82	270,588	9.45
	Lower Limit ==>	28,462	5.67	115,193	6.82	67,647	8.45
	ICAL Result ==>	72,029	6.17	278,245	7.32	165,674	8.95
Associated Analyses							
BH-005,6,7-SSA CompDMS	KWG0807792-2	64,824	6.18	246,267	7.32	144,769	8.95
BH-002-SSA	K0807136-006	63,276	6.18	244,406	7.32	150,568	8.96
BH-005,6,7-SSA Comp	K0807136-017	69,220	6.18	261,916	7.32	160,198	8.95
BH-009,59,10,11-SSA Comp	K0807136-018	68,724	6.18	259,126	7.32	157,054	8.96
BH-009,59,10,11-SSA Comp Dup	K0807136-019	71,329	6.18	275,504	7.32	165,290	8.96
BH-005,6,7-SSA CompMS	KWG0807792-1	53,385	6.18	208,502	7.32	124,114	8.96
BH-002-SSADL	K0807136-006	64,832	6.18	246,037	7.32	147,118	8.96

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/27/2008
Time Analyzed: 09:13

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS17\DATA\082708\0827F003.D
Instrument ID: MS17
Analysis Method: 8270C

Lab Code: KWG0808776-2
Analysis Lot: KWG0808776

		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	216,762	10.36	266,919	13.22	262,954	15.55
	Upper Limit ==>	433,524	10.86	533,838	13.72	525,908	16.05
	Lower Limit ==>	108,381	9.86	133,460	12.72	131,477	15.05
	ICAL Result ==>	262,792	10.36	323,649	13.22	331,302	15.55
Associated Analyses							
BH-005,6,7-SSA CompDMS	KWG0807792-2	245,339	10.37	310,603	13.23	326,615	15.58
BH-002-SSA	K0807136-006	238,745	10.37	307,485	13.24	328,630	15.59
BH-005,6,7-SSA Comp	K0807136-017	261,343	10.36	328,648	13.24	355,489	15.60
BH-009,59,10,11-SSA Comp	K0807136-018	255,587	10.37	330,480	13.25	360,084	15.62
BH-009,59,10,11-SSA Comp Dup	K0807136-019	267,510	10.37	350,348	13.27	383,405	15.64
BH-005,6,7-SSA CompMS	KWG0807792-1	200,709	10.37	261,574	13.24	276,124	15.60
BH-002-SSADL	K0807136-006	241,067	10.37	305,287	13.23	321,686	15.58

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/29/2008
Time Analyzed: 11:15

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS17\DATA\082908\0829F003.D
Instrument ID: MS17
Analysis Method: 8270C

Lab Code: KWG0808888-2
Analysis Lot: KWG0808888

		1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	61,415	6.18	237,302	7.32	138,811	8.96
	Upper Limit ==>	122,830	6.68	474,604	7.82	277,622	9.46
	Lower Limit ==>	30,708	5.68	118,651	6.82	69,406	8.46
	ICAL Result ==>	72,029	6.17	278,245	7.32	165,674	8.95
Associated Analyses							
BH-009,59,10,11-SSA CompDL	K0807136-018	64,638	6.18	250,092	7.32	151,479	8.96
BH-009,59,10,11-SSA Comp DupL	K0807136-019	66,598	6.18	252,752	7.32	149,696	8.96

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136
Date Analyzed: 08/29/2008
Time Analyzed: 11:15

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS17\DATA\082908\0829F003.D
Instrument ID: MS17
Analysis Method: 8270C

Lab Code: KWG0808888-2
Analysis Lot: KWG0808888

		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	236,930	10.37	286,790	13.23	285,621	15.57
	Upper Limit ==>	473,860	10.87	573,580	13.73	571,242	16.07
	Lower Limit ==>	118,465	9.87	143,395	12.73	142,811	15.07
	ICAL Result ==>	262,792	10.36	323,649	13.22	331,302	15.55
Associated Analyses							
BH-009,59,10,11-SSA CompDL	K0807136-018	251,351	10.37	310,695	13.23	334,249	15.57
BH-009,59,10,11-SSA Comp DupE	K0807136-019	247,056	10.37	304,196	13.23	326,525	15.57

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Extracted:**	08/11/2008
Sample Matrix:	Sediment	**Date Analyzed:**	08/27/2008

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ug/Kg
Lab Code:	K0807136-017	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C	**Extraction Lot:**	KWG0807792

Analyte Name	Sample Result	BH-005,6,7-SSA CompMS KWG0807792-1 Matrix Spike			BH-005,6,7-SSA CompDMS KWG0807792-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Phenol	180	342	247	65	223	248	18	10-120	42 *	40
1,4-Dichlorobenzene	ND	134	247	54	94.7	248	38	10-105	34	40
1,2,4-Trichlorobenzene	ND	146	247	59	106	248	43	10-102	31	40
Acenaphthene	31	203	247	70	143	248	45	23-106	35	40
Pentachlorophenol	ND	198	247	80	109	248	44	10-146	58 *	40
Pyrene	590	661	247	29	488	248	-41 *	10-146	30	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Dioxins

19408 Park Row Suite 320 Houston, TX 77084 (713) 266-1599 (713) 266-0130 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

September 02, 2008 Service Request No: K0807136

Lynda Huckestein
Columbia Analytical Services
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Blakely Harbor/080007-01
Dear Lynda:

Enclosed are the results of the sample(s) submitted to our laboratory on August 19, 2008. For your reference, these analyses have been assigned our service request number **K0807136**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.
Please contact me if you have any questions. My direct line is 281-994-2957. You may also contact me via email at JFreemyer@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Jane Freemyer
Project Manager

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
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An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Anchor Environmental	**Service Request No.:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Received:**	08/19/08
Sample Matrix:	Sediment		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three sediment samples were received for analysis at Columbia Analytical Services on 08/19/08.

The samples were received at 0°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Please note the reporting forms are currently referencing the date CAS-Kelso received the samples (08/02/08) and not the date CAS-Houston received the samples (08/19/08.)

Data Validation Notes and Discussion

B flags – Method Blanks

The Method Blank EQ0800348-01/U217307 contained low levels of 123678-HxCDD, 1234678-HpCDD, OCDD, 23478-PeCDF, 123478-HxCDF, 1234678-HpCDF and OCDF at or below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Approved by Xiangqiu Liang Date 9/5/08

Xiangqiu Liang, Laboratory Director

MS/MSD

EQ0800348: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch.

The DLCS results for 123678-HxCDD and 1234678-HpCDF were outside the acceptance criteria. Recoveries in the Laboratory Control Sample (LCS) were acceptable, indicating the analytical batch was in control. No further corrective action was appropriate.

C flags – 2378-TCDF Confirmation

Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225.) The results from both the DB-5 column and the DB-225 column are included in this data package.

The valid result for the 2378-TCDF compound is reported from the confirmation column.

The confirmation results have been included on the Total TEQ summary pages.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each congener in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by CAS/Houston to include:

- The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- 2378-TCDF from the DB-225 column, when confirmation required
- Non-detected compounds are not included in the 'Total'

Approved by Xiangqiu Liang Date 9/5/08

Xiangqiu Liang, Laboratory Director

Client: Anchor Environmental
Project: Blakely Harbor/080007-01

Service Request: K0807136

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K0807136-001	BH-021-080731	07/31/08	10:45
K0807136-002	BH-022-080731	07/31/08	11:15
K0807136-003	BH-023-080731	07/31/08	11:45
K0807136-004	BH-001-SSA	07/31/08	10:00
K0807136-005	BH-001-SSB	07/31/08	10:15
K0807136-006	BH-002-SSA	07/31/08	10:30
K0807136-007	BH-009-SSA	08/01/08	10:00
K0807136-008	BH-059-SSA	08/01/08	10:05
K0807136-009	BH-010-SSA	08/01/08	10:30
K0807136-010	BH-011-SSA	08/01/08	11:00
K0807136-011	BH-006-SSA	07/31/08	15:20
K0807136-012	BH-008-SSA	07/31/08	16:15
K0807136-013	BH-007-SSA	07/31/08	15:58
K0807136-014	BH-003-SSA	07/31/08	14:00
K0807136-015	BH-005-SSA	07/31/08	14:30
K0807136-016	BH-004-SSA	07/31/08	14:15
K0807136-017	BH-005,6,7-SSA Comp	07/31/08	00:00
K0807136-018	BH-009,59,10,11-SSA Comp	07/31/08	00:00
K0807136-019	BH-009,59,10,11-SSA Comp Dup	07/31/08	00:00

Superset Summary

Service Request: K0807136 **SuperSet Reference:** 08-0000080252 rev 00

8290/PCDD PCDF

Calibrations: 05/30/08 12/10/07

Data Files:

Raw Data	*Begin CCAL*	*Method Blank*	*Lab ID*
C15296#8	C15296#2	C15296#3	K0807136-017
U217287	U217277	U217307	K0807136-017.R01
U217288	U217277	U217307	K0807136-018
U217289	U217277	U217307	K0807136-019
U217290	U217277	U217307	EQ0800348-02
U217291	U217277	U217307	EQ0800348-03
U217307	U217306	U217307	EQ0800348-01

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **Q** Lock-mass interference by ether compounds.

CAS/HOU - Form Production, Peer Review & Project Review Signatures

SR# Unique ID: K0807136

First Level - Data Processing - to be filled by person(s) processing the forms

Date	8/27/08	Person 1	LQL
Date		Person 2	

Second Level Data Review – to be filled by person(s) doing peer review

Date	08/28/08	Primary Data Reviewer	XL (-017) -018, -019
Date		Secondary Data Reviewer	

Project Level - Review - to be filled by person doing project compliance review

Date	9/4/8	Reviewer	

Columbia Analytical Services™

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ng/Kg
Lab Code:	K0807136-017	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 02:28:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.644g	**Instrument Name:**	E-HRMS-02
Percent Solids:	50.0	**GC Column:**	DB-5
Data File Name:	U217287	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**0.300**	JK	0.0551	1.88	0.47	1.001	1
1,2,3,7,8-PeCDD	**0.684**	J	0.0986	4.70	1.71	1.000	1
1,2,3,4,7,8-HxCDD	**0.439**	JK	0.322	4.70	0.82	0.998	1
1,2,3,6,7,8-HxCDD	**1.69**	BJ	0.319	4.70	1.19	1.000	1
1,2,3,7,8,9-HxCDD	**1.75**	J	0.323	4.70	1.14	1.009	1
1,2,3,4,6,7,8-HpCDD	**28.5**	B	1.04	4.70	1.01	1.000	1
OCDD	**230**	B	0.406	9.39	0.88	1.000	1
2,3,7,8-TCDF	**2.48**	C	0.0398	1.88	0.78	1.001	1
1,2,3,7,8-PeCDF	**0.719**	J	0.0644	4.70	1.78	1.001	1
2,3,4,7,8-PeCDF	**0.819**	BJ	0.0633	4.70	1.45	1.023	1
1,2,3,4,7,8-HxCDF	**1.29**	BJ	0.201	4.70	1.35	1.000	1
1,2,3,6,7,8-HxCDF	**0.498**	JK	0.210	4.70	1.69	1.003	1
1,2,3,7,8,9-HxCDF	ND	U	0.259	4.70			1
2,3,4,6,7,8-HxCDF	**0.622**	J	0.222	4.70	1.35	1.017	1
1,2,3,4,6,7,8-HpCDF	**4.55**	BJ	0.340	4.70	1.07	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.445	4.70			1
OCDF	**10.9**	B	0.261	9.39	0.89	1.004	1
Total Tetra-Dioxins	**26.7**		0.0551	1.88	0.76		1
Total Penta-Dioxins	**10.1**		0.0986	4.70	1.60		1
Total Hexa-Dioxins	**26.9**		0.319	4.70	1.31		1
Total Hepta-Dioxins	**76.8**		1.04	4.70	1.05		1
Total Tetra-Furans	**10.9**		0.0398	1.88	0.79		1
Total Penta-Furans	**7.86**		0.0633	4.70	1.61		1
Total Hexa-Furans	**6.99**		0.210	4.70	1.31		1
Total Hepta-Furans	**11.5**		0.340	4.70	1.07		1

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-005,6,7-SSA Comp	**Units:**	Percent
Lab Code:	K0807136-017	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 02:28:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.644g	**Instrument Name:**	E-HRMS-02
Percent Solids:	50.0	**GC Column:**	DB-5
Data File Name:	U217287	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	806.858	81		40-135	0.80	1.008
13C-1,2,3,7,8-PeCDD	1000	980.304	98		40-135	1.58	1.169
13C-1,2,3,6,7,8-HxCDD	2500	1709.830	68		40-135	1.26	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1734.161	69		40-135	1.03	1.069
13C-OCDD	5000	2642.426	53		40-135	0.92	1.152
13C-2,3,7,8-TCDF	1000	694.585	69		40-135	0.80	0.979
13C-1,2,3,7,8-PeCDF	1000	925.140	93		40-135	1.60	1.131
13C-1,2,3,4,7,8-HxCDF	2500	1953.986	78		40-135	0.54	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	1760.414	70		40-135	0.45	1.045
37Cl-2,3,7,8-TCDD	800	726.321	91		40-135	NA	1.009

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-005,6,7-SSA Comp	**Units:**	ng/Kg
Lab Code:	K0807136-017	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.300**	0.0551	1	1	0.300
1,2,3,7,8-PeCDD	**0.684**	0.0986	1	1	0.684
1,2,3,4,7,8-HxCDD	**0.439**	0.322	1	0.1	0.0439
1,2,3,6,7,8-HxCDD	**1.69**	0.319	1	0.1	0.169
1,2,3,7,8,9-HxCDD	**1.75**	0.323	1	0.1	0.175
1,2,3,4,6,7,8-HpCDD	**28.5**	1.04	1	0.01	0.285
OCDD	**230**	0.406	1	0.0003	0.0690
2,3,7,8-TCDF	ND	0.707	1	0.1	
1,2,3,7,8-PeCDF	**0.719**	0.0644	1	0.03	0.0216
2,3,4,7,8-PeCDF	**0.819**	0.0633	1	0.3	0.246
1,2,3,4,7,8-HxCDF	**1.29**	0.201	1	0.1	0.129
1,2,3,6,7,8-HxCDF	**0.498**	0.210	1	0.1	0.0498
1,2,3,7,8,9-HxCDF	ND	0.259	1	0.1	
2,3,4,6,7,8-HxCDF	**0.622**	0.222	1	0.1	0.0622
1,2,3,4,6,7,8-HpCDF	**4.55**	0.340	1	0.01	0.0455
1,2,3,4,7,8,9-HpCDF	ND	0.445	1	0.01	
OCDF	**10.9**	0.261	1	0.0003	0.00327
		Total TEQ			2.28

2005 WHO TEFs, ND = 0

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-005,6,7-SSA CompRE	**Units:**	ng/Kg
Lab Code:	K0807136-017	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/27/08 11:47:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.644g	**Instrument Name:**	E-HRMS-70
Percent Solids:	50.0	**GC Column:**	DB-225
Data File Name:	C15296#8	**Blank File Name:**	C15296#3
ICAL Name:	05/30/08	**Cal Ver. File Name:**	C15296#2

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	ND	U	0.707	1.88			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	1000	739.934	74		40-135	0.75	1.054
37Cl-2,3,7,8-TCDD	800	722.670	90		40-135	NA	0.989

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ng/Kg
Lab Code:	K0807136-018	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 03:16:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.275g	**Instrument Name:**	E-HRMS-02
Percent Solids:	34.7	**GC Column:**	DB-5
Data File Name:	U217288	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0768	2.80			1
1,2,3,7,8-PeCDD	ND	U	0.248	7.01			1
1,2,3,4,7,8-HxCDD	ND	U	0.462	7.01			1
1,2,3,6,7,8-HxCDD	**0.753**	BJ	0.457	7.01	1.17	1.000	1
1,2,3,7,8,9-HxCDD	**0.768**	JK	0.463	7.01	0.90	1.008	1
1,2,3,4,6,7,8-HpCDD	**10.4**	B	3.19	7.01	0.99	1.001	1
OCDD	**39.1**	B	0.622	14.0	0.90	1.000	1
2,3,7,8-TCDF	ND	U	0.0463	2.80			1
1,2,3,7,8-PeCDF	ND	U	0.0956	7.01			1
2,3,4,7,8-PeCDF	ND	U	0.0940	7.01			1
1,2,3,4,7,8-HxCDF	ND	U	0.412	7.01			1
1,2,3,6,7,8-HxCDF	ND	U	0.430	7.01			1
1,2,3,7,8,9-HxCDF	ND	U	0.531	7.01			1
2,3,4,6,7,8-HxCDF	ND	U	0.454	7.01			1
1,2,3,4,6,7,8-HpCDF	**1.40**	BJ	0.673	7.01	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.882	7.01			1
OCDF	**3.57**	BJK	0.409	14.0	0.75	1.004	1
Total Tetra-Dioxins	ND	U	0.0768	2.80			1
Total Penta-Dioxins	ND	U	0.248	7.01			1
Total Hexa-Dioxins	**3.16**	J	0.457	7.01	1.19		1
Total Hepta-Dioxins	**21.0**		3.19	7.01	1.07		1
Total Tetra-Furans	ND	U	0.0463	2.80			1
Total Penta-Furans	**0.448**	J	0.0940	7.01	1.57		1
Total Hexa-Furans	**0.937**	J	0.430	7.01	1.22		1
Total Hepta-Furans	**5.61**	J	0.673	7.01	1.05		1

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	Percent
Lab Code:	K0807136-018	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 03:16:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.275g	**Instrument Name:**	E-HRMS-02
Percent Solids:	34.7	**GC Column:**	DB-5
Data File Name:	U217288	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	739.740	74		40-135	0.80	1.008
13C-1,2,3,7,8-PeCDD	1000	934.642	93		40-135	1.57	1.169
13C-1,2,3,6,7,8-HxCDD	2500	1528.433	61		40-135	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1681.905	67		40-135	1.04	1.069
13C-OCDD	5000	2775.325	56		40-135	0.89	1.152
13C-2,3,7,8-TCDF	1000	672.330	67		40-135	0.79	0.979
13C-1,2,3,7,8-PeCDF	1000	890.207	89		40-135	1.62	1.131
13C-1,2,3,4,7,8-HxCDF	2500	1679.392	67		40-135	0.53	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1705.274	68		40-135	0.44	1.045
37Cl-2,3,7,8-TCDD	800	667.871	83		40-135	NA	1.009

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-009,59,10,11-SSA Comp	**Units:**	ng/Kg
Lab Code:	K0807136-018	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0768	1	1	
1,2,3,7,8-PeCDD	ND	0.248	1	1	
1,2,3,4,7,8-HxCDD	ND	0.462	1	0.1	
1,2,3,6,7,8-HxCDD	**0.753**	0.457	1	0.1	0.0753
1,2,3,7,8,9-HxCDD	**0.768**	0.463	1	0.1	0.0768
1,2,3,4,6,7,8-HpCDD	**10.4**	3.19	1	0.01	0.104
OCDD	**39.1**	0.622	1	0.0003	0.0117
2,3,7,8-TCDF	ND	0.0463	1	0.1	
1,2,3,7,8-PeCDF	ND	0.0956	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0940	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.412	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.430	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.531	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.454	1	0.1	
1,2,3,4,6,7,8-HpCDF	**1.40**	0.673	1	0.01	0.0140
1,2,3,4,7,8,9-HpCDF	ND	0.882	1	0.01	
OCDF	**3.57**	0.409	1	0.0003	0.00107
		Total TEQ			0.283

2005 WHO TEFs, ND = 0

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-009.59,10,11-SSA Comp Dup	**Units:**	ng/Kg
Lab Code:	K0807136-019	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 04:03:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.177g	**Instrument Name:**	E-HRMS-02
Percent Solids:	31.9	**GC Column:**	DB-5
Data File Name:	U217289	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0607	3.08			1
1,2,3,7,8-PeCDD	ND	U	0.169	7.70			1
1,2,3,4,7,8-HxCDD	ND	U	0.513	7.70			1
1,2,3,6,7,8-HxCDD	**0.513**	BJK	0.509	7.70	0.85	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.515	7.70			1
1,2,3,4,6,7,8-HpCDD	**9.43**	B	1.18	7.70	1.00	1.000	1
OCDD	**23.2**	B	0.645	15.4	0.94	1.000	1
2,3,7,8-TCDF	ND	U	0.0650	3.08			1
1,2,3,7,8-PeCDF	ND	U	0.204	7.70			1
2,3,4,7,8-PeCDF	ND	U	0.200	7.70			1
1,2,3,4,7,8-HxCDF	ND	U	0.292	7.70			1
1,2,3,6,7,8-HxCDF	ND	U	0.305	7.70			1
1,2,3,7,8,9-HxCDF	ND	U	0.377	7.70			1
2,3,4,6,7,8-HxCDF	ND	U	0.323	7.70			1
1,2,3,4,6,7,8-HpCDF	**0.992**	BJ	0.586	7.70	0.97	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.768	7.70			1
OCDF	**2.82**	BJ	0.428	15.4	0.90	1.004	1
Total Tetra-Dioxins	ND	U	0.0607	3.08			1
Total Penta-Dioxins	ND	U	0.169	7.70			1
Total Hexa-Dioxins	**2.48**	J	0.509	7.70	1.24		1
Total Hepta-Dioxins	**16.9**		1.18	7.70	1.10		1
Total Tetra-Furans	ND	U	0.0650	3.08			1
Total Penta-Furans	ND	U	0.200	7.70			1
Total Hexa-Furans	**1.36**	J	0.305	7.70	1.27		1
Total Hepta-Furans	**3.93**	J	0.586	7.70	0.97		1

Comments:

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	Percent
Lab Code:	K0807136-019	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 04:03:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.177g	**Instrument Name:**	E-HRMS-02
Percent Solids:	31.9	**GC Column:**	DB-5
Data File Name:	U217289	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	760.255	76		40-135	0.79	1.008
13C-1,2,3,7,8-PeCDD	1000	841.624	84		40-135	1.61	1.169
13C-1,2,3,6,7,8-HxCDD	2500	1571.867	63		40-135	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1787.525	72		40-135	1.05	1.069
13C-OCDD	5000	3026.134	61		40-135	0.92	1.152
13C-2,3,7,8-TCDF	1000	655.267	66		40-135	0.81	0.979
13C-1,2,3,7,8-PeCDF	1000	835.567	84		40-135	1.63	1.131
13C-1,2,3,4,7,8-HxCDF	2500	1619.074	65		40-135	0.53	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	1765.258	71		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	676.031	85		40-135	NA	1.009

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	07/31/2008
Sample Matrix:	Sediment	**Date Received:**	08/02/2008
Sample Name:	BH-009,59,10,11-SSA Comp Dup	**Units:**	ng/Kg
Lab Code:	K0807136-019	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0607	1	1	
1,2,3,7,8-PeCDD	ND	0.169	1	1	
1,2,3,4,7,8-HxCDD	ND	0.513	1	0.1	
1,2,3,6,7,8-HxCDD	**0.513**	0.509	1	0.1	0.0513
1,2,3,7,8,9-HxCDD	ND	0.515	1	0.1	
1,2,3,4,6,7,8-HpCDD	**9.43**	1.18	1	0.01	0.0943
OCDD	**23.2**	0.645	1	0.0003	0.00696
2,3,7,8-TCDF	ND	0.0650	1	0.1	
1,2,3,7,8-PeCDF	ND	0.204	1	0.03	
2,3,4,7,8-PeCDF	ND	0.200	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.292	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.305	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.377	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.323	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.992**	0.586	1	0.01	0.00992
1,2,3,4,7,8,9-HpCDF	ND	0.768	1	0.01	
OCDF	**2.82**	0.428	1	0.0003	0.000846
		Total TEQ			0.163

2005 WHO TEFs, ND = 0

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ0800348-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/27/08 09:06:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-02
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U217307	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217306

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0485	1.00			1
1,2,3,7,8-PeCDD	ND	U	0.0500	2.50			1
1,2,3,4,7,8-HxCDD	ND	U	0.0654	2.50			1
1,2,3,6,7,8-HxCDD	**0.159**	JK	0.0648	2.50	1.04	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.0656	2.50			1
1,2,3,4,6,7,8-HpCDD	**0.872**	J	0.364	2.50	0.91	1.000	1
OCDD	**2.44**	J	0.0742	5.00	0.99	1.000	1
2,3,7,8-TCDF	ND	U	0.0828	1.00			1
1,2,3,7,8-PeCDF	ND	U	0.0595	2.50			1
2,3,4,7,8-PeCDF	**0.132**	J	0.0585	2.50	1.45	1.024	1
1,2,3,4,7,8-HxCDF	**0.440**	J	0.0594	2.50	1.28	1.001	1
1,2,3,6,7,8-HxCDF	ND	U	0.0620	2.50			1
1,2,3,7,8,9-HxCDF	ND	U	0.0766	2.50			1
2,3,4,6,7,8-HxCDF	ND	U	0.0655	2.50			1
1,2,3,4,6,7,8-HpCDF	**0.698**	J	0.114	2.50	1.00	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.149	2.50			1
OCDF	**0.563**	J	0.107	5.00	0.88	1.004	1
Total Tetra-Dioxins	ND	U	0.0485	1.00			1
Total Penta-Dioxins	**0.287**	J	0.0500	2.50	1.65		1
Total Hexa-Dioxins	**1.16**	J	0.0648	2.50	1.09		1
Total Hepta-Dioxins	**0.872**	J	0.364	2.50	0.91		1
Total Tetra-Furans	ND	U	0.0828	1.00			1
Total Penta-Furans	**0.444**	J	0.0585	2.50	1.59		1
Total Hexa-Furans	**0.903**	J	0.0620	2.50	1.37		1
Total Hepta-Furans	**0.698**	J	0.114	2.50	1.00		1

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ0800348-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/27/08 09:06:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-02
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U217307	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217306

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	658.818	66		40-135	0.78	1.008
13C-1,2,3,7,8-PeCDD	1000	829.059	83		40-135	1.61	1.169
13C-1,2,3,6,7,8-HxCDD	2500	1766.969	71		40-135	1.24	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	2087.428	83		40-135	1.07	1.069
13C-OCDD	5000	2994.985	60		40-135	0.90	1.152
13C-2,3,7,8-TCDF	1000	546.234	55		40-135	0.81	0.978
13C-1,2,3,7,8-PeCDF	1000	768.742	77		40-135	1.61	1.130
13C-1,2,3,4,7,8-HxCDF	2500	1903.883	76		40-135	0.55	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	2110.646	84		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	592.552	74		40-135	NA	1.008

Comments

Columbia Analytical Services, INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

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Client: Anchor Environmental
Project: Blakely Harbor/080007-01
Sample Matrix: Sediment

Service Request: K0807136
Date Analyzed: 08/26/2008

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Sample Name: Lab Control Sample
Lab Code: EQ0800348-02

Units: ng/Kg
Basis: Dry

Analytical Method: 8290
Prep Method: Method

Extraction Lot: 72292

Analyte Name	Lab Control Sample Result	Expected	% Rec	Duplicate Lab Control Sample Result	Expected	% Rec		% Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	26.5	20.0	133	26.6	20.0	133		87 - 135	0	20
1,2,3,7,8-PeCDD	61.2	50.0	122	63.4	50.0	127		88 - 135	4	20
1,2,3,4,7,8-HxCDD	56.1	50.0	112	56.6	50.0	113		81 - 138	1	20
1,2,3,6,7,8-HxCDD	66.4	50.0	133	68.3	50.0	137	*	82 - 136	3	20
1,2,3,7,8,9-HxCDD	60.9	50.0	122	60.3	50.0	121		77 - 135	1	20
1,2,3,4,6,7,8-HpCDD	66.4	50.0	133	64.9	50.0	130		93 - 144	2	20
OCDD	133	100	133	134	100	134		93 - 162	1	20
2,3,7,8-TCDF	25.5	20.0	128	25.6	20.0	128		82 - 141	0	20
1,2,3,7,8-PeCDF	63.1	50.0	126	64.7	50.0	129		92 - 139	2	20
2,3,4,7,8-PeCDF	64.0	50.0	128	63.4	50.0	127		74 - 145	1	20
1,2,3,4,7,8-HxCDF	62.5	50.0	125	63.1	50.0	126		86 - 142	1	20
1,2,3,6,7,8-HxCDF	70.5	50.0	141	71.7	50.0	143		88 - 162	1	20
1,2,3,7,8,9-HxCDF	58.3	50.0	117	49.9	50.0	100		66 - 156	16	20
2,3,4,6,7,8-HxCDF	61.3	50.0	123	64.2	50.0	128		80 - 150	4	20
1,2,3,4,6,7,8-HpCDF	60.4	50.0	121	65.8	50.0	132	*	91 - 131	9	20
1,2,3,4,7,8,9-HpCDF	63.3	50.0	127	62.6	50.0	125		69 - 169	2	20
OCDF	132	100	132	134	100	134		82 - 200	2	20

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ0800348-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 04:51:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-02
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U217290	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**26.5**		0.0294	1.00	0.78	1.001	1
1,2,3,7,8-PeCDD	**61.2**		0.0533	2.50	1.64	1.000	1
1,2,3,4,7,8-HxCDD	**56.1**		0.166	2.50	1.28	0.998	1
1,2,3,6,7,8-HxCDD	**66.4**		0.165	2.50	1.28	1.000	1
1,2,3,7,8,9-HxCDD	**60.9**		0.167	2.50	1.25	1.009	1
1,2,3,4,6,7,8-HpCDD	**66.4**		0.338	2.50	1.07	1.000	1
OCDD	**133**		0.216	5.00	0.91	1.000	1
2,3,7,8-TCDF	**25.5**		0.0365	1.00	0.77	1.001	1
1,2,3,7,8-PeCDF	**63.1**		0.0441	2.50	1.55	1.001	1
2,3,4,7,8-PeCDF	**64.0**		0.0433	2.50	1.57	1.024	1
1,2,3,4,7,8-HxCDF	**62.5**		0.101	2.50	1.25	1.000	1
1,2,3,6,7,8-HxCDF	**70.5**		0.105	2.50	1.23	1.003	1
1,2,3,7,8,9-HxCDF	**58.3**		0.130	2.50	1.26	1.036	1
2,3,4,6,7,8-HxCDF	**61.3**		0.111	2.50	1.25	1.017	1
1,2,3,4,6,7,8-HpCDF	**60.4**		0.326	2.50	1.04	1.000	1
1,2,3,4,7,8,9-HpCDF	**63.3**		0.427	2.50	1.04	1.034	1
OCDF	**132**		0.136	5.00	0.89	1.004	1
Total Tetra-Dioxins	**26.5**		0.0294	1.00	0.78		1
Total Penta-Dioxins	**61.2**		0.0533	2.50	1.64		1
Total Hexa-Dioxins	**183**		0.165	2.50	1.28		1
Total Hepta-Dioxins	**68.7**		0.338	2.50	1.03		1
Total Tetra-Furans	**26.0**		0.0365	1.00	0.74		1
Total Penta-Furans	**128**		0.0433	2.50	1.57		1
Total Hexa-Furans	**253**		0.105	2.50	1.25		1
Total Hepta-Furans	**125**		0.326	2.50	1.04		1

Comments :

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ0800348-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 04:51:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-02
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U217290	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	595.240	60		40-135	0.75	1.008
13C-1,2,3,7,8-PeCDD	1000	795.328	80		40-135	1.57	1.169
13C-1,2,3,6,7,8-HxCDD	2500	1756.659	70		40-135	1.26	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1780.232	71		40-135	1.05	1.069
13C-OCDD	5000	2671.801	53		40-135	0.93	1.152
13C-2,3,7,8-TCDF	1000	537.701	54		40-135	0.80	0.979
13C-1,2,3,7,8-PeCDF	1000	763.578	76		40-135	1.66	1.131
13C-1,2,3,4,7,8-HxCDF	2500	1686.110	67		40-135	0.53	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	1896.988	76		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	548.916	69		40-135	NA	1.009

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	ng/Kg
Lab Code:	EQ0800348-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 05:39:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-02
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U217291	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**26.6**		0.0297	1.00	0.82	1.001	1
1,2,3,7,8-PeCDD	**63.4**		0.0625	2.50	1.62	1.000	1
1,2,3,4,7,8-HxCDD	**56.6**		0.177	2.50	1.25	0.998	1
1,2,3,6,7,8-HxCDD	**68.3**		0.175	2.50	1.29	1.000	1
1,2,3,7,8,9-HxCDD	**60.3**		0.177	2.50	1.27	1.009	1
1,2,3,4,6,7,8-HpCDD	**64.9**		1.67	2.50	1.07	1.000	1
OCDD	**134**		0.335	5.00	0.92	1.000	1
2,3,7,8-TCDF	**25.6**		0.0247	1.00	0.78	1.001	1
1,2,3,7,8-PeCDF	**64.7**		0.0270	2.50	1.57	1.001	1
2,3,4,7,8-PeCDF	**63.4**		0.0266	2.50	1.52	1.023	1
1,2,3,4,7,8-HxCDF	**63.1**		0.0977	2.50	1.23	1.000	1
1,2,3,6,7,8-HxCDF	**71.7**		0.102	2.50	1.20	1.003	1
1,2,3,7,8,9-HxCDF	**49.9**		0.126	2.50	1.21	1.036	1
2,3,4,6,7,8-HxCDF	**64.2**		0.108	2.50	1.23	1.017	1
1,2,3,4,6,7,8-HpCDF	**65.8**		0.983	2.50	1.03	1.000	1
1,2,3,4,7,8,9-HpCDF	**62.6**		1.29	2.50	1.05	1.034	1
OCDF	**134**		0.180	5.00	0.89	1.004	1
Total Tetra-Dioxins	**26.6**		0.0297	1.00	0.82		1
Total Penta-Dioxins	**63.4**		0.0625	2.50	1.62		1
Total Hexa-Dioxins	**185**		0.175	2.50	1.25		1
Total Hepta-Dioxins	**64.9**		1.67	2.50	1.07		1
Total Tetra-Furans	**25.6**		0.0247	1.00	0.78		1
Total Penta-Furans	**129**		0.0266	2.50	1.57		1
Total Hexa-Furans	**249**		0.102	2.50	1.23		1
Total Hepta-Furans	**128**		0.983	2.50	1.03		1

Comments

Client:	Anchor Environmental	**Service Request:**	K0807136
Project:	Blakely Harbor/080007-01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	Percent
Lab Code:	EQ0800348-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/26/08 05:39:0(
Prep Method:	Method	**Date Extracted:**	8/20/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-02
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U217291	**Blank File Name:**	U217307
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217277

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	655.361	66		40-135	0.77	1.008
13C-1,2,3,7,8-PeCDD	1000	782.321	78		40-135	1.56	1.169
13C-1,2,3,6,7,8-HxCDD	2500	1817.046	73		40-135	1.26	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1851.044	74		40-135	1.07	1.069
13C-OCDD	5000	2677.510	54		40-135	0.93	1.152
13C-2,3,7,8-TCDF	1000	566.494	57		40-135	0.78	0.979
13C-1,2,3,7,8-PeCDF	1000	764.133	76		40-135	1.58	1.131
13C-1,2,3,4,7,8-HxCDF	2500	1761.597	70		40-135	0.53	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	1946.875	78		40-135	0.45	1.045
37Cl-2,3,7,8-TCDD	800	605.223	76		40-135	NA	1.009

Comments

Columbia Analytical Services, Inc.

Chain of Custody

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1317 South 13th Avenue • Kelso, WA 98626 • 360-577-7222 • FAX 360-636-1068

CAS Contact: Lynda Huckestein

Project Name: Blakely Harbor
Project Number: 080007-01
Project Manager: Delaney Peterson
Company: Anchor Environmental

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290
K0807136-017	BH-005,6,7-SSA Comp	1	Sediment	07/31/08	0000	08/02/08	HOUSTON	V
K0807136-018	BH-009,59,10,11-SSA Comp	1	Sediment	07/31/08	0000	08/02/08	HOUSTON	V
K0807136-019	BH-009,59,10,11-SSA Comp	1	Sediment	07/31/08	0000	08/02/08	HOUSTON	V

3495

Folder Comments: ~~QC-QN-004~~ 8/20/08

Special Instructions/Comments

30 of 360

Turnaround Requirements

____RUSH (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

_✓_ STANDARD

Requested FAX Date: _____

Requested Report Date: 08/26/08

Report Requirements

__ I. Results Only

__ II. Results + QC Summaries

__ III. Results + QC and Calibration Summaries

_✓_ IV. Data Validation Report with Raw Data

PQL/MDL/J _Y_

EDD

Invoice Information

PO# K0807136

Bill to

30

Relinquished By: [signature] 8/18/08 1100 FAX Kelso

Received By: [signature] 8/19/08 10:30 0°C

Airbill Number: _____

[redacted] [redacted]

Columbia Analytical Services, Inc.
Cooler Receipt Form

Client/Project: CAS Kelso Service Request: K0807136

Received: 8/19/08 Opened (Date/Time): 1030 By: SSM

1. Samples were received via? ☐*US Mail* ☐*Fedex* ☑*UPS* ☐*DHL* ☐*Courier* ☐*Hand Delivered*
2. Samples were received in: (circle) ☑*Cooler* ☐*Box* ☐ *Other*_____ ☐*NA*
3. Were custody seals present on coolers? ☑Y ☐N If yes, how many and where? 2
   If present, were custody seals intact? ☑Y ☐N If present, were they signed and dated? ☑Y ☐N
4. Is shipper's air-bill filed? ☐NA ☑Y ☐N If not, record air bill number:_____
5. Temperature of cooler(s) upon receipt (°C): 0
6. If applicable, list Chain of Custody numbers:
7. Were custody papers properly filled our (ink, signed, etc.)? ☐NA ☑Y ☐N
8. Packing material used: ☐*Inserts* ☐*Bubble Wrap* ☐*Blue Ice* ☑*Wet Ice* ☐*Sleeves* ☐*Other*_____
9. Were the correct types of bottles used for the tests indicated? ☑Y ☐N
   Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* ☑Y ☐N

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Initials
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	

10. Were all bottle labels complete (i.e. analysis, ID, etc.)? ☑Y ☐N
    Did all bottle labels and tags agree with custody papers? *Indicate in the table below.* ☑Y ☐N

Sample ID on Bottle	Sample ID on COC		Sample ID on Bottle	Sample ID on COC

11. Additional notes, discrepancies, and resolutions:

UPS 1Z9736590146315172

Sample Acceptance Policy

Custody Seals (desirable, mandatory if specified in SAP):

- ✓ On outside of cooler
- ✓ Seals intact, signed and dated

Chain-of-Custody documentation (mandatory):

- ✓ Properly filled out in ink & signed by the client
- ✓ Sign and date the coc for CAS/HOU upon cooler receipt
- ✓ Coc must list method number
- ✓ If no coc was submitted with the samples, complete a CAS/HOU coc for the client

Sample Integrity (mandatory):

- ✓ Sample containers must arrive in good condition (not broken or leaking)
- ✓ Sample IDs on the bottles must match the sample IDs on the coc
- ✓ The correct type of sample bottle must be used for the method requested
- ✓ The correct number of sample containers received must agree with the documentation on the coc
- ✓ The correct sample matrix must appear on the coc
- ✓ An appropriate sample volume or weight must be received

Temperature Preservatives (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C
- ✓ The sample temperature must be recorded on the coc
- ✓ Notify a Project Chemist if any samples are outside the acceptance temperature or have compromised sample integrity – the client must decide re: replacement sample submittal or continue with the analysis

Cooler Receipt Form, CRF (mandatory):

- ✓ Cooler receipt forms must be completed for each coc & SR#
- ✓ Sample integrity issues must be documented on the CRF
- ✓ A scan of the carrier and the airbill number must be recorded in CAS LIMS

Sample Integrity Issues/Resolutions (mandatory):

- ✓ Sample integrity issues are documented on the CRF and given to the Project Chemist for resolution with the client
- ✓ Client resolution is documented in writing (typically email or on the CRF) and filed in the project folder(s)

Service Request Summary

Folder #: K0807136
Client Name: Anchor Environmental
Project Name: Blakely Harbor
Project Number: 080007-01

Report To: Delaney Peterson
Anchor Environmental
1423 3rd Ave., Suite 300
Seattle, WA 98101
Phone Number: 206-903-3397
Cell Number:
Fax Number: 206-287-9131
E-mail: dpeterson@anchorenv.com

Project Chemist: Jane Freemyer
Originating Lab: KELSO
Logged By: FADAIR
Date Received: 08/02/2008
Internal Due Date: 08/26/2008
QAPP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: N,Y
Report to MDL?: N,Y
P.O. Number:
EDD: Anchor Environmental

41 - 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
25 - 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
14 - 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
12 - 2 oz-Glass Jar WM CLEAR Zinc Acetate
8 - -N/A N/A
4 - 1000 mL-Non-Specified Polycarbonate Unpreserved
3 - 2 oz-Glass Jar WM CLEAR Teflon Liner 4-deg C
3 - 16 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
3 - 500 mL-Plastic Bottle NM CLEAR H2SO4
3 - 500 mL-Plastic Bottle NM NaOH,ZincAcetat

Location: K-Buddha-06, K-SAM-31, SMO, In Lab, K-CP-07, E-WIC01

					KELSO									KELSO		
CAS Samp No.	Client Samp No.	Matrix	Collected		350.1/ Ammonia T	350.1M/ NH3 Plumb	ASTM D422M/ PartSize ASTMCB	Composite/ Composite	PSEP Sulfide/ PSEP Sulfide	PSEP TOC/ PSEP TOC T	SM 4500-S2- D/ Sulfide T	Subsample/ Sub Sample	6010B/ Metals T	6020/ Metals T	7471A/ Hg
K0807136-001	BH-021-080731	Water	7/31/08	1045	V						V				
K0807136-002	BH-022-080731	Water	7/31/08	1115	V						V				
K0807136-003	BH-023-080731	Water	7/31/08	1145	V						V				
K0807136-004	BH-001-SSA	Sediment	7/31/08	1000											
K0807136-005	BH-001-SSB	Sediment	7/31/08	1015											
K0807136-006	BH-002-SSA	Sediment	7/31/08	1030		V	V		V	V			V	V	V
K0807136-007	BH-009-SSA	Sediment	8/1/08	1000				V	V						
K0807136-008	BH-059-SSA	Sediment	8/1/08	1005				V	V						
K0807136-009	BH-010-SSA	Sediment	8/1/08	1030				V	V						
K0807136-010	BH-011-SSA	Sediment	8/1/08	1100				V	V						
K0807136-011	BH-006-SSA	Sediment	7/31/08	1520				V	V						
K0807136-012	BH-008-SSA	Sediment	7/31/08	1615											
K0807136-013	BH-007-SSA	Sediment	7/31/08	1558				V	V						
K0807136-014	BH-003-SSA	Sediment	7/31/08	1400											
K0807136-015	BH-005-SSA	Sediment	7/31/08	1430				V	V						
K0807136-016	BH-004-SSA	Sediment	7/31/08	1415											
K0807136-017	BH-005,6,7-SSA Comp	Sediment	7/31/08	0000		V	V			V		V	V	V	V
K0807136-018	BH-009,59,10,11-SSA Comp	Sediment	7/31/08	0000			V			V		V	V	V	V
K0807136-019	BH-009,59,10,11-SSA Comp Dup	Sediment	7/31/08	0000			V			V		V	V	V	V

CAS Samp No.	Client Samp No.	Matrix	Collected	KELSO NWTPH-DX/ NW_TPH	KELSO NWTPH-GX/ NW_GAS	KELSO 8081A/ PEST_OC_LL	KELSO 8082/ PCB_LL	KELSO BTins Pore TBT/ BTINS_PORE_T BT	KELSO Pore/ Pore	KELSO 8270C/ SVO_LL	KELSO Archive/ Archive -20C	KELSO Archive/ Archive 4C	KELSO 160.4 Modified/ TVS	KELSO TS-MET/ Total Solids
K0807136-001	BH-021-080731	Water	7/31/08 1045											
K0807136-002	BH-022-080731	Water	7/31/08 1115											
K0807136-003	BH-023-080731	Water	7/31/08 1145											
K0807136-004	BH-001-SSA	Sediment	7/31/08 1000								Y	Y		
K0807136-005	BH-001-SSB	Sediment	7/31/08 1015								Y	Y		
K0807136-006	BH-002-SSA	Sediment	7/31/08 1030	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y
K0807136-007	BH-009-SSA	Sediment	8/1/08 1000		Y				Y					Y
K0807136-008	BH-059-SSA	Sediment	8/1/08 1005		Y				Y					Y
K0807136-009	BH-010-SSA	Sediment	8/1/08 1030		Y				Y					Y
K0807136-010	BH-011-SSA	Sediment	8/1/08 1100		Y				Y					Y
K0807136-011	BH-006-SSA	Sediment	7/31/08 1520		Y				Y					Y
K0807136-012	BH-008-SSA	Sediment	7/31/08 1615								Y	Y		
K0807136-013	BH-007-SSA	Sediment	7/31/08 1558		Y				Y					Y
K0807136-014	BH-003-SSA	Sediment	7/31/08 1400								Y	Y		
K0807136-015	BH-005-SSA	Sediment	7/31/08 1430		Y				Y					Y
K0807136-016	BH-004-SSA	Sediment	7/31/08 1415								Y	Y		
K0807136-017	BH-005,6,7-SSA Comp	Sediment	7/31/08 0000	Y		Y	Y	Y		Y	Y		Y	Y
K0807136-018	BH-009,59,10,11-SSA Comp	Sediment	7/31/08 0000	Y		Y	Y	Y		Y	Y		Y	Y
K0807136-019	BH-009,59,10,11-SSA Comp Dup	Sediment	7/31/08 0000	Y		Y	Y	Y		Y	Y		Y	Y

					KELSO		SVM
					8260B/ VOC_FP	Screen VOA GCMS/ SCREEN_VOAG CMS	8290/ PCDD PCDF
K0807136-001	BH-021-080731	Water	7/31/08	1045			
K0807136-002	BH-022-080731	Water	7/31/08	1115			
K0807136-003	BH-023-080731	Water	7/31/08	1145			
K0807136-004	BH-001-SSA	Sediment	7/31/08	1000			
K0807136-005	BH-001-SSB	Sediment	7/31/08	1015			
K0807136-006	BH-002-SSA	Sediment	7/31/08	1030	V	V	
K0807136-007	BH-009-SSA	Sediment	8/1/08	1000	V	V	
K0807136-008	BH-059-SSA	Sediment	8/1/08	1005	V	V	
K0807136-009	BH-010-SSA	Sediment	8/1/08	1030	V	V	
K0807136-010	BH-011-SSA	Sediment	8/1/08	1100	V	V	
K0807136-011	BH-006-SSA	Sediment	7/31/08	1520	V	V	
K0807136-012	BH-008-SSA	Sediment	7/31/08	1615			
K0807136-013	BH-007-SSA	Sediment	7/31/08	1538	V	V	
K0807136-014	BH-003-SSA	Sediment	7/31/08	1400			
K0807136-015	BH-005-SSA	Sediment	7/31/08	1430	V	V	
K0807136-016	BH-004-SSA	Sediment	7/31/08	1415			
K0807136-017	BH-005,6,7-SSA Comp	Sediment	7/31/08	0000			IV
K0807136-018	BH-009,59,10,11-SSA Comp	Sediment	7/31/08	0000			IV
K0807136-019	BH-009,59,10,11-SSA Comp Dup	Sediment	7/31/08	0000			IV

3500

3500

Service Request Summary

Folder #:	**K0807136**
Client Name:	Anchor Environmental
Project Name:	Blakely Harbor
Project Number:	080007-01
Report To:	Delaney Peterson Anchor Environmental 1423 3rd Ave., Suite 300 Seattle, WA 98101
Phone Number:	206-903-3397
Cell Number:	
Fax Number:	206-287-9131
E-mail:	dpeterson@anchorenv.com

Project Chemist:	Jane Freemyer
Originating Lab:	KELSO
Logged By:	FADAIR
Date Received:	08/02/2008
Internal Due Date:	08/26/2008
QAPP:	LAB QAP
Qualifier Set:	CAS Standard
Formset:	CAS Standard
Merged?:	N,Y
Report to MDL?:	N,Y
P.O. Number:	
EDD:	Anchor Environmental

41	- 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
25	- 32 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
14	- 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
12	- 2 oz-Glass Jar WM CLEAR Zinc Acetate
8	- -N/A N/A
4	- 1000 mL-Non-Specified Polycarbonate Unpreserved
3	- 2 oz-Glass Jar WM CLEAR Teflon Liner 4-deg C
3	- 16 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
3	- 500 mL-Plastic Bottle NM CLEAR H2SO4
3	- 500 mL-Plastic Bottle NM NaOH,ZincAcetat

Location: K-Buddha-06, K-SAM-31, SMO, In Lab, K-CP-07, E-WIC01

Folder Comments:

QC ON -004

Test Comments:

Group	Test/Method	Samples	Comments
Metals	Metals T/6020	6, 17-19	Sb,As,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn

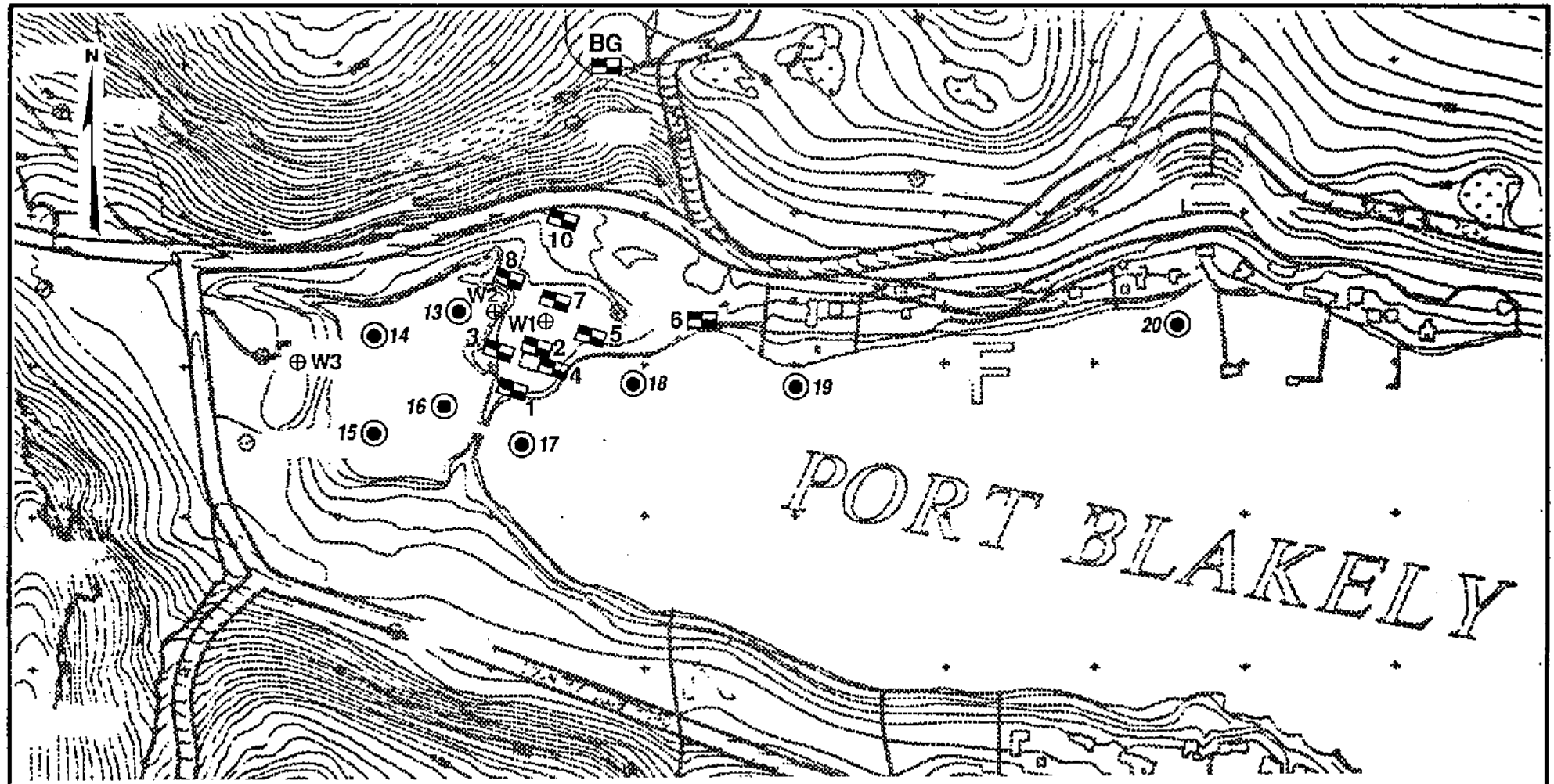
350

36 of 360

36

APPENDIX D

SUMMARY OF SHANNON AND WILSON (1992) SAMPLING DATA



LEGEND

1 — Test Pit Designation and Approximate Location

14 — Log Pond/Sediment Sample Designation and Approximate Location

W1 — Groundwater Sample Designation and Approximate Location

0 500 1000

Scale in Feet

NOTE

Base from MacLearnsberry, Inc. map titled "Soil Log Map", dated 8-7-90.

Port Blakely Tree Farms
Port Blakely, Washington

EXPLORATION LOCATIONS

July 1992 T-1198-02

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 3

FIG. 3

Table 1
Port Blakely Tree Farm : Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Total Metals (1)
Test Pit Soil Results (2)

Sample Designation	Figure 3 Designation	Arsenic (ppm) (3)	Barium (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)
T1198-TP1-003-SL-0	1	11	85	<1	12	55	<1	<1	<1	9	11	27
T1198-TP1-004-SL-1 (4)	1	9	45	<1	9	13	<1	1	<1	8	8	23
T1198-TP2-006-SL-0	2	5	26	<1	19	7	<1	<1	<1	34	16	34
T1198-TP3-002-SL-0	3	3	5	<1	2	120	<1	<1	<1	24	2	13
T1198-TP4-005-SL-0	4	<1	1	<1	<1	18	<1	<1	<1	7	<1	19
T1198-TP5-009-SL-0	5	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
T1198-TP6-008-SL-0	6	<1	1	<1	<1	1	<1	<1	<1	2	1	5
T1198-TP7-007-SL-0	7	4	18	<1	14	7	<1	<1	<1	34	16	34
T1198-TP8-001-SL-0	8	6	300, (5)	<1	10	26	<1	<1	<1	55	10	60
T1198-TP10-010-SL-0	10	5	19	<1	27	7	<1	2	<1	51	26	35
T1198-TP10-011-SL-1 (4)	10	7	23	<1	30	8	<1	<1	<1	46	29	37
T1198-BG-012-SL-0	BG	8	270, (5)	2, (6) (j)	49	10	<1	2	<1	84	25	51
Potential Regulatory Levels (6)		20.0		2.0	100.0	250.0	1.0					

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

(4) QA/QC duplicate

(5) The value reported exceeded the calibration range extablished for the sample

(6) Model Toxic Control Act dated February 1991, Method "A" soil cleanup levels; only for comparison purposes

(j) Soil sample retrieved outside former mill site area; cleanup level based on plant protection

Table 2
Port Blakely Tree Farm: Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Total Metals (1)
Groundwater Sample Results (2)

Sample Designation	Figure 3 Designation	Arsenic (ppm) (3)	Barium (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)
T1198-WP001-100-GW-0	W1	<2	3	<0.5	1	<0.5	<1	<1	<0.5	1	1	3
T1198-WP002-101-GW-0	W2	<2	3	<0.5	<0.5	<0.5	<1	<1	<0.5	1	<0.5	7.6
T1198-WP003-102-GW-0	W3	2	4	<0.5	1	<0.5	<1	<1	<0.5	1	0.5	2
T1198-BG004-103-GW-0	Port Blakely	<2	<1	<0.5	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	2
Kitsap County, (4)	10	0.00981	0.195	0.002	0.00872	0.01		0.00481	0.00781			0
Potential Regulatory Levels (5) (6)		5.0, (5)	1.0, (6)	5.0 (5)	50.0, (5)	5.0, (5)	2.0, (5)	10.0, (6)	50.0, (6)	1, (6)		5, (6)

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

(4) Kitsap County Groundwater Management Plan (Draft) dated April 1991, Appendix H - Shallow Wells

(5) Model Toxic Control Act dated February 1991, Method "A" for groundwater cleanup levels; only for comparison purposes

(6) Interim Drinking Water Standards of the EPA Office of Water Supply, EPA 5709-76-003 (Viessman, p. 218-9); only for comparison puroses

Table 3
Port Blakely Tree Farm: Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Total Metals (1)
Test Pit Soil Sample Comparison (2)

Sample Designation	Figure 3 Designation	Arsenic (ppm) (3)	Barium (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)
T1198-TP1-003-SL-0, (6)	1	11	85	<1	12	55	<1	<1	<1	9	11	27
TP1-SL, (7)	1	60	87	8	14	49	2	18	3	26	21	75
T1198-TP1-004-SL-1, (5)	1	9	45	<1	9	13	<1	1	<1	8	8	23
T1198-TP2-006-SL-0	2	5	26	<1	19	7	<1	<1	<1	34	16	34
T1198-TP3-002-SL-0	3	3	5	<1	2	120	<1	<1	<1	24	2	13
T1198-TP4-005-SL-0	4	<1	1	<1	<1	18	<1	<1	<1	7	<1	19
T1198-TP5-009-SL-0	5	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
T1198-TP6-008-SL-0	6	<1	1	<1	<1	1	<1	<1	<1	2	1	5
T1198-TP7-007-SL-0	7	4	18	<1	14	7	<1	<1	<1	34	16	34
T1198-TP8-001-SL-0, (6)	8	6	300, (4)	<1	10	26	<1	<1	<1	55	10	60
TP8-S2, (7)	8	110	290	10	29	77	10	25	14	68	30	89
T1198-TP10-010-SL-0	10	5	19	<1	27	7	<1	2	<1	51	26	35
T1198-TP10-011-SL-1, (5)	10	7	23	<1	30	8	<1	<1	<1	46	29	37
T1198-BG-012-SL-0	BG	8	270, (4)	2	49	10	<1	2	<1	84	25	51
Potential Regulatory Levels (8)		20.0		2.0	100.0	250.0	1.0					

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

(4) The value reported exceeded the calibration range established for the sample

(5) QA/QC duplicate

(6) Sampled April 3, 1992

(7) Sampled October 2, 1990 from same location

(8) Model Toxic Control Act dated February 1991, Method "A" soil cleanup levels; only for comparison purposes

Table 4
Port Blakely Tree Farm: Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Toxic Characteristic Leachate Procedure (1)
Test Pit Soil Results (2)

Sample Designation	Figure 3 Designation	Arsenic (ppm) (3)	Barium (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)
T1198-TP1-003-SL-0, (6)	1	<0.5	0.1	<0.5	<0.5	0.1	<0.1	0.1	<0.1	<0.5	<0.5	<0.5
T1198-TP10-010-SL-0	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
Potential Regulatory Levels, (1)		5.0	100.0	1.0	5.0	5.0	0.2	1.0	5.0	a	a	a

Notes

(1) TCLP metals in accordance with 40 CFR Part 261 et al, only for comparison purposes

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

a - Not a TCLP analyte

Table 5
Port Blakely Tree Farm: Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Total Metals (1)
Log Pond Sediment Results (2)

Sample Designation	Figure 3 Designation	Arsenic (ppm) (3)	Barium (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)
T1198-LP-013-SL-0	13	6	7	<0.5	6	38	<1	<1	<0.5	24	4	22
T1198-LP-014-SL-0	14	6	11	<0.5	11	41	<1	1	<0.5	27	8	37
T1198-LP-015-SL-0	15	6	9	<0.5	6	29	<1	<1	<0.5	16	5	23
T1198-LP-016-SL-0	16	9	10	<0.5	5	41	<1	<1	<0.5	31	5	15
T1198-LP-017-SL-0	17	8	11	<0.5	7	11	<1	<1	<0.5	9	8	25
T1198-LP-018-SL-0	18	9	8	<0.5	4	51	<1	<1	<0.5	21	3	25
T1198-LP-019-SL-0	19	5	10	<0.5	9	34	<1	<1	<0.5	44	8	37
T1198-LP-020-SL-0	20	5	12	<0.5	9	54	<1	<1	<0.5	31	10	41
Potential Regulatory Levels (5)		57.0		5.1	260	450	0.41		6.1			410

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

(4) Comparison Values

(5) Sediment Management Standards, Table 1, Chapter 173-204 WAC, dated April 1991; only for comparison purposes

Table 6
Port Blakely Tree Farm: Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Total Metals (1)
Log Pond Sediment Comparisons (2)

Sample Designation	Figure 3 Designation	Arsenic (ppm) (3)	Barium (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)	Copper (ppm)	Nickel (ppm)	Zinc (ppm)
PBTF-Sed 4a, (4)		12, (a)	8.5	0.3	3.6	4.1	0.8, (a)	3.7	0.6	4.1 (a)	4.3	7.0, (a)
PBTF-Sed 4b, (4)		15, (a)	2.8	0.3	4.4	4.7	0.9, (a)	4.7	0.4	3.4, (a)	6	8.7, (a)
T1198-LP-013-SL-0	13	6	7	<0.5	6	38	<1	<1	<0.5	24	4	22
T1198-LP-014-SL-0	14	6	11	<0.5	11	41	<1	1	<0.5	27	8	37
T1198-LP-015-SL-0	15	6	9	<0.5	6	29	<1	<1	<0.5	16	5	23
T1198-LP-016-SL-0	16	9	10	<0.5	5	41	<1	<1	<0.5	31	5	15
T1198-LP-017-SL-0	17	8	11	<0.5	7	11	<1	<1	<0.5	9	8	25
T1198-LP-018-SL-0	18	9	8	<0.5	4	51	<1	<1	<0.5	21	3	25
T1198-LP-019-SL-0	19	5	10	<0.5	9	34	<1	<1	<0.5	44	8	37
T1198-LP-020-SL-0	20	5	12	<0.5	9	54	<1	<1	<0.5	31	10	41
Potential Regulatory Levels (5)		57.0		5.1	260	450	0.41		6.1			410

Notes

(1) Total metal by inductively coupled plasma (ICP) method 6010

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

(4) Sampled October 2, 1990 from same approximate location

(5) Sediment Management Standards, Table 1, Chapter 173-204 WAC, dated April 1991; only for comparison purposes

a - The analyte indicated was also found in the blank sample

Table 7
Port Blakely Tree Farm: Port Blakely Millsite, Shannon and Wilson (1992) Sampling Data

Diesel (1)
Test Pit and Groundwater Diesel (2)

Sample Designation	Soil Sample Diesel (ppm) (3) (5)	Groundwater Diesel (ppm) (6)
TP1-S1	<50	
TP1-S2	<50	
TP1-S3	<50	
TP1-S4	<50	
TP1-S5	<50	
TP1-S6	<50	
TP1-S7 (4)	<50	
TP1-S8	<50	
Beach Grab-S1		<0.2
PBTF-Sed 4a		<0.2
PBTF-Sed 4b		<0.2

Notes

(1) Diesel analysis by GC/FID (Modified 8015)

(2) As reported by Friedman and Bruya, Inc, Seattle, Washington

(3) Parts Per Million (ppm)

(4) QA/QC duplicate

(5) Sampled October 2, 1990

(6) Sampled October 4, 1990