REMOVAL ACTION COMPLETION REPORT

Georgetown Flume Removal and Demolition

Prepared for

City of Seattle
Seattle City Light

February 2010

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Prepared for

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Abbreviations and Acronyms

APE	Area of Potential Effect
ARAR	applicable or relevant and appropriate requirement
ARPA	Archaeological Resources Protection Act
BMP	best management practice
CCTV	closed circuit television
CDF	controlled density fill
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMP	corrugated metal pipe
COC	contaminant of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSL	Cleanup Screening Level
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DAHP	Department of Archaeology and Historic Preservation
Ecology	Washington State Department of Ecology
EE/CA	Engineering Evaluation/Cost Analysis
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
HAER	Historic American Engineering Record
HAZWOP	Hazardous Waste Operations

HDPE	high density polyethylene
Herrera	Herrera Environmental Consultants
HPAH	high molecular polynuclear aromatic hydrocarbon
LDW	Lower Duwamish Waterway
mg/kg	milligram per kilogram
MH	manhole
MOA	Memorandum of Agreement
MTCA	Model Toxics Control Act
NA	not analyzed
NAGPRA	Native American Graves Protection and Repatriation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NTCRA	Non-time-critical Removal Action
NWAA	Northwest Archaeological Associates
OC	organic carbon-normalized
OSHA	Occupational Safety and Health Act
PCB	polychlorinated biphenyl
PPE	personal protective equipment
PSCAA	Puget Sound Clean Air Agency
PVC	polyvinyl chloride
RAO	removal action objective
SAP	Sampling and Analysis Plan
SCL	Seattle City Light

SEPA	State Environmental Policy Act
SMA	Shoreline Management Act
SMC	Seattle Municipal Code
SPU	Seattle Public Utilities
SQS	Sediment Quality Standard
TCLP	toxicity characteristic leaching potential
T/E	threatened or endangered
TEQ	toxic equivalent
TESC	temporary erosion and sediment control
TSCA	Toxic Substances Control Act
µg/kg	micrograms per kilogram
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code

1.0 Introduction

This report documents the Georgetown Flume Demolition, Removal, and Drainage Project (Flume Project). The Georgetown Flume operated as a 2,450-foot long system of wood-fortified and concrete-lined open ditches and buried piped segments that connected the Georgetown Steam Plant to the Lower Duwamish Waterway (LDW) at Slip 4 (see Figure 1). The overall project goal was to remove contaminated sediments from within the flume and implement controls so that the flume no longer served as a potential conveyance for contamination to reach Slip 4, which was designated as an Early Action Area within the LDW Superfund site. This was to be accomplished by achieving the following Removal Action Objectives:

- Eliminate all unauthorized drains into the flume
- Remove all sediment in the flume
- Remove soil immediately surrounding the flume that is contaminated with carcinogenic polycyclic aromatic hydrocarbon (cPAH) concentrations above Model Toxics Control Act (MTCA) industrial properties soil cleanup levels
- Remove polychlorinated biphenyl (PCB)-contaminated soils above MTCA method A unrestricted land use soil cleanup levels surrounding the flume and at adjacent Willow Street and Ellis electrical substation sites (although the property qualifies for industrial cleanup levels, Seattle City Light (SCL) has made a policy decision to remove PCBs to a more stringent standard due to concerns about PCBs in Slip 4)
- Provide for stormwater conveyance for the Georgetown Steam Plant property and the South Myrtle Street right of way
- Not interfere with effectiveness of the planned Superfund removal action at the Slip 4 Early Action Area to be conducted at a later time.

The project was jointly funded and managed by SCL and Seattle Public Utilities (SPU); both are departments of the City of Seattle. The project integrated SPU plans for replacing the storm water drainage function previously performed by the flume, with a fully enclosed piped system.

Due to the complex regulatory framework surrounding the cleanup of the LDW, the Flume Project was performed under both federal Superfund and state hazardous waste cleanup regulations. In general, all work performed within the flume and at the point of discharge to Slip 4 of the Duwamish Waterway was implemented pursuant to a U.S. Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Settlement Agreement and Order on Consent for a removal action (CERCLA Docket No. 10-2006-0364). All cleanup work conducted outside the flume itself is

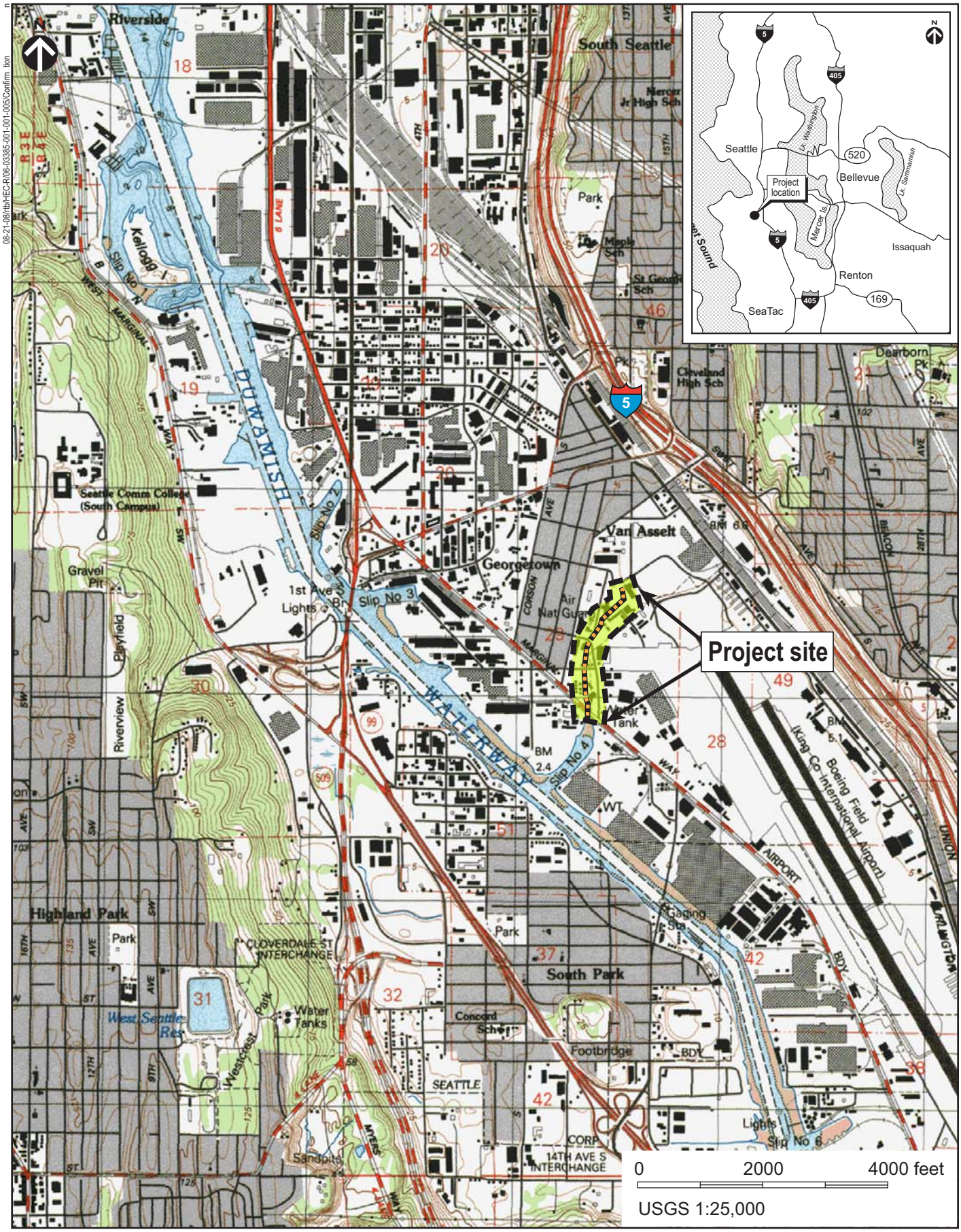


Figure 2-1. Vicinity map, Georgetown flume site, Seattle, Washington.

regulated under the Washington State Department of Ecology (Ecology) as an Independent Remedial Action.

The main body of this report provides a summary of background information, construction activities, quality control measures, environmental sampling, and how all applicable or relevant and appropriate requirements (ARARs) were met. Detailed construction records and supporting technical reports are included in the appendices.

2.0 Project Background

The flume was constructed in the early 1900s to discharge cooling water from the power plant to the river, and it, along with the steam plant, was designated a registered National Historic Landmark in 1981. Discharge of cooling water was discontinued when the power plant ceased operation in the 1960s. After that, the flume became a conveyance for stormwater via both piped connections and surface runoff draining approximately 6 acres, including the steam plant roof, City rights-of-way along South Myrtle and South Willow Streets, portions of North Boeing Field, and private property adjacent to the flume. The entire length of the flume bottom was topographically below high tide, resulting in periodic flooding up to the steam plant with river water.

The Georgetown Flume is located on property owned by SCL that extends from the north end of King County International Airport to East Marginal Way South in Seattle, Washington (Figure 2). Areas adjacent to the northwest, north, northeast, east, and southeast of the flume are occupied by the Boeing Company (Boeing) and the Washington Air National Guard. Adjacent commercial properties include a motel and distribution business to the southwest of South Myrtle Street and a City of Seattle storage yard to the west. The flume ran roughly parallel to Ellis Street until it passed under East Marginal Way South, and out to Slip 4 of the LDW. South Willow Street and South Myrtle Street both dead end at the flume. Approximately 50 percent of the flume was located within the North Boeing Field security fence.

The City of Seattle completed several studies to assess sediment conditions in the Georgetown flume between 1984 and 2007. Sediment cleanup activities occurred once during this period in 1985. The following documents provide information used to plan the removal action:

- Final Lower Duwamish Waterway Slip 4 Early Action Area Summary of Existing Information and Identification of Data Gaps (SEA 2004) – sediment monitoring was conducted by SCL from 1989 to 1991 to assess the level of recontamination of flume sediments at five locations following the 1985 cleanup activities.

- Georgetown Steam Plant Flume Sediment Sampling (HWA 1998) – Sediment sampling was conducted in 1998 at seven sites located along the length of the flume to estimate the volume of contaminated material present.

- Draft Georgetown Flume Inspection and Survey-Project Summary (Herrera 2005) – the flume was inspected to identify potential point discharge inputs and sediment samples were collected to assess contamination and sediment volumes within the flume as part of an SPU pollutant source control study for Slip 4.

- Site Characterization and Alternatives Evaluation Report (Herrera 2007) – sediment samples were collected to further characterize potential TSCA-regulated sediment at one location in the flume and soil samples were collected to further characterize conditions immediately adjacent to and beneath the wood portion of the flume, as well as at the adjacent Willow Street and Ellis electrical substations; removal action goals and objectives were defined; removal alternatives were proposed and evaluated; and a removal action alternative was recommended.

- Final 100% Design Report, Georgetown Flume (Herrera 2008a) – provided a written description of how the flume project was to be accomplished; described specific means, methods, techniques, and equipment specified for the project; and provided a description of how the project would comply with regulatory requirements.

- Georgetown Steam Plant Flume, Slip 4 Outfall Work Plan (Herrera 2008b) – an updated Work Plan describing changes required to address management of potential increased rainfall associated with delay of construction from Summer to Spring.

- Confirmation and Construction Monitoring Sampling and Analysis Plan (Herrera 2009a) – a description of sampling and analysis to ensure that project objectives and regulatory requirements would be met.

- Changes to Georgetown Flume Demolition, Removal, and Drainage Project Confirmation and Construction Monitoring Sampling and Analysis Plan memo (Herrera 2009b) – addressed four additional sampling needs identified after construction had been initiated.

- Changes to Georgetown Flume Demolition, Removal, and Drainage Project Confirmation and Construction Monitoring Sampling and Analysis Plan-Addendum #2 (Herrera 2009c) – addressed sampling required for a modification in contractor methods associated with wood flume removal.

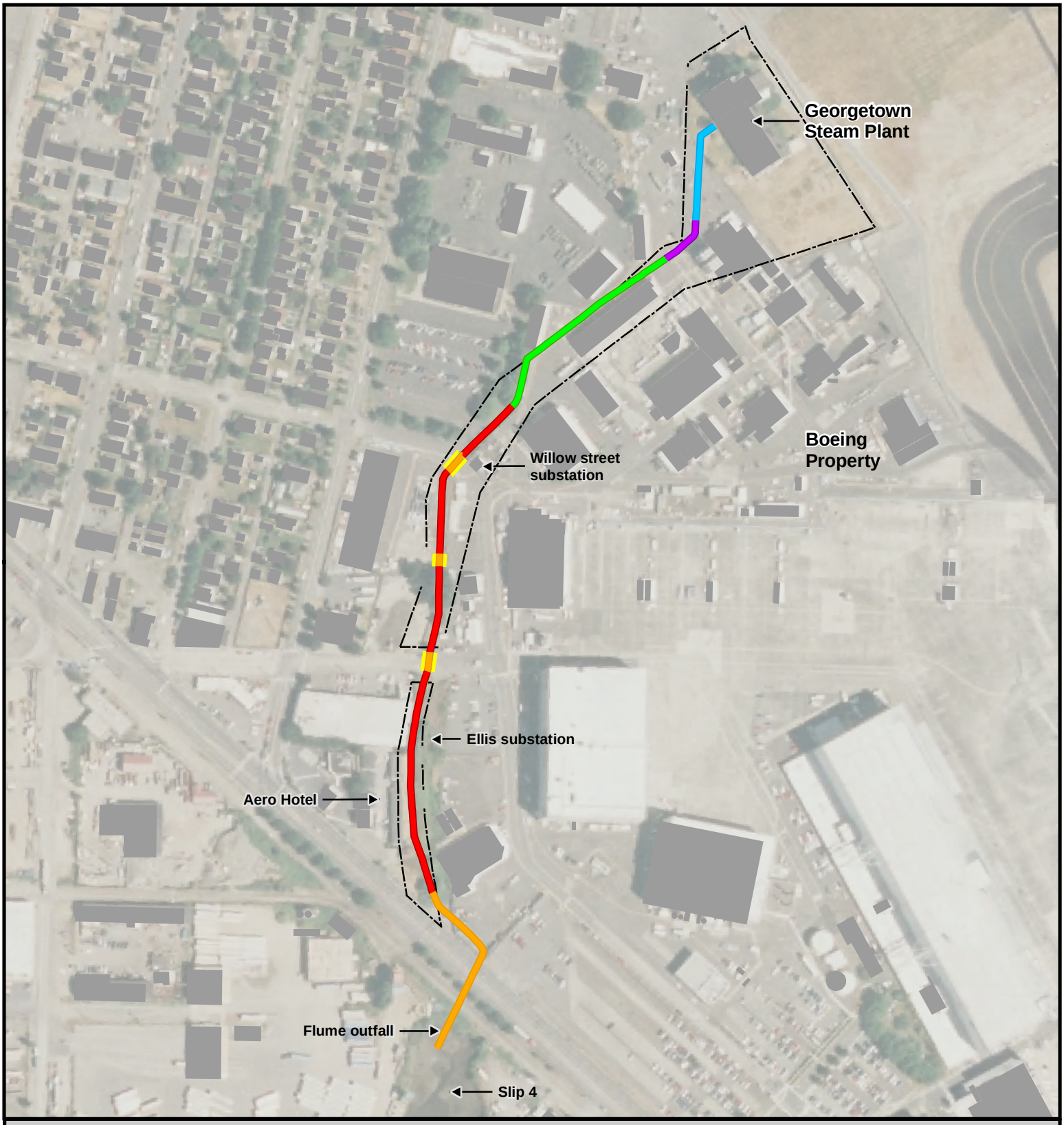
Flume Description

Configurations of the flume both prior to the project and after completion of the project are shown in Figures 2 and 3. A summary of each flume component and how it was reconfigured during the project is provided below. Additional detail on construction activities is provided in Section 4 and in the construction plans and specifications that were provided to EPA and Ecology prior to beginning work.

Slip 4 to Manhole M100

This portion of the flume consisted of approximately 205 feet of buried 72-inch corrugated metal pipe (CMP) culvert starting at the discharge to Slip 4 and extending eastward to a manhole (M100) located in a storage yard and parking lot used by Boeing just east of East Marginal Way South. A 2006 closed circuit television (CCTV) video of this segment showed that the outfall pipe was approximately 50 percent blocked with sediment. Sediment also had accumulated in Slip 4 at the pipe end causing a backup into the pipe.

In this segment, the CMP and outfall structure were cleaned. A new storm drain pipe was slip-lined through the old CMP and grouted into place. The old outfall structure was replaced by a new tide valve.



Legend

- Discharge tunnel
- Concrete-lined open channel
- Corrugated metal pipe
- Twin 42-inch concrete pipes
- Wood-lined open channel
- Culvert
- Seattle City Light property boundary

Figure 2. Site map, former Georgetown flume, Seattle, Washington.

N

0 150 300 600 Feet

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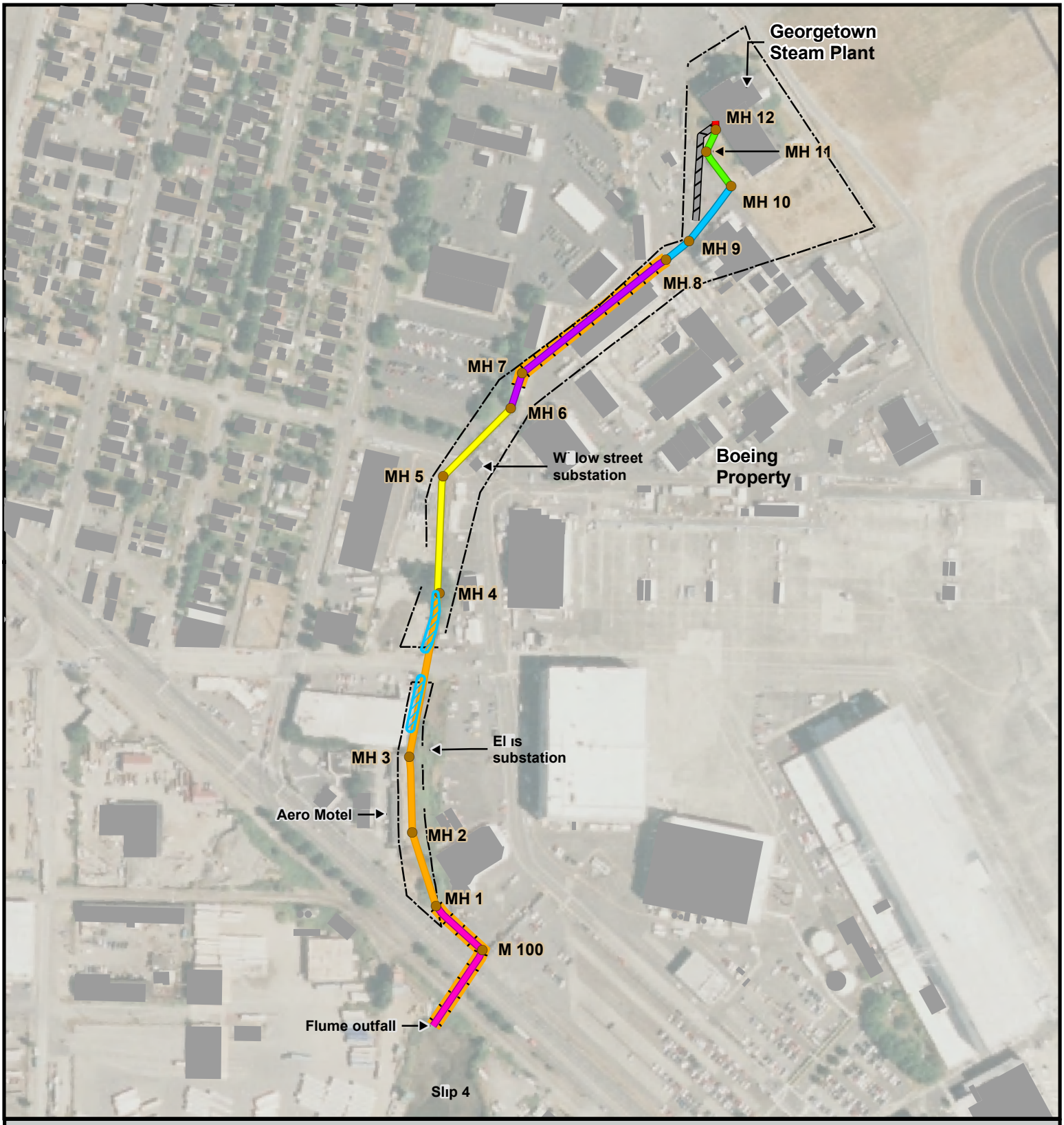

Legend

- Manhole
- Biofiltration swale
- Filled tunnel
- Concrete encased pipe
- Seattle City Light property boundary

Drainage pipe aligment

- 6" diameter DI
- 8" diameter PVC
- 12" diameter PVC
- 18" diameter HDPE
- 18" diameter PVC
- 24" diameter PVC
- 24" diameter HDPE

Figure 3. Site map, existing Georgetown flume, Seattle, Washington.

N

0 150 300 600 Feet

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A 24-inch vitrified clay pipe and an 18-inch wood stave pipe terminated in manhole M100. Research and field verification indicated that the pipes drained portions of North Boeing Field. Both of these pipes were plugged as part of the Flume Project.

Manhole M100 to Wood-Lined Open Channel

This portion of the flume consisted of approximately 165 feet of buried 72-inch CMP culvert. It started at the northern wall of manhole M100 and continued north, paralleling East Marginal Way South, to an opening at its end where it transitioned to the open wood-lined section of the flume. The 2006 video inspection showed that sediment in this segment was approximately 18 inches deep.

This segment was cleaned and slip-lined with a new storm drain pipe that was grouted in place.

Wood-Lined and Concrete-Lined Open Channel

This portion of the flume included approximately 1,126 feet of wood-lined open channel, 100 feet of culvert, and 38 feet of concrete-lined open channel. It started at the end of the 72-inch CMP connection as wood-lined channel and extended northeast to a concrete-lined open section. The concrete-lined open section terminated at the discharge of twin 42-inch concrete pipes.

Two street crossings were located along this section:

- The South Myrtle Street crossing consisted of a 58-foot wide asphalt roadway overlying a 72-inch CMP culvert. The culvert reduced to a 36-inch CMP culvert for part of the South Myrtle Street crossing.

- The South Willow Street crossing consisted of a 40-foot asphalt roadway overlying a 66-inch CMP culvert.

The wood-lined section of the open channel was 6 ½ feet tall by 6 feet wide. The wood was creosote-treated, 2-inch thick by 12-inch wide pine planking. The planks that formed the walls were aligned vertically and were supported by horizontal wooden crossbeams and girders at a height of approximately 5 feet from the channel bottom. The girders were spaced approximately every 15 feet. The planks along the bottom of the channel varied in length from 6 to 12 feet.

Three small-diameter pipes drained from two properties adjacent to the flume downstream of South Myrtle Street. A parking lot drain from the Jensen Carlyle property discharged to the flume adjacent to South Myrtle Street and both 3-inch and 4-inch pipes drained the Aero Motel laundry facility. The parking lot drainpipe was connected to the new stormwater drainpipe installed as part of the Flume Project; the two laundry facility pipes had been capped by SPU in 2006.

Galvanized chain link fencing had been mounted to the crossbeams in an effort to discourage access by people and limit debris entering the flume.

The concrete-lined portion of this section was also approximately 5 ½ feet tall, with the width gradually increasing from 6 feet at the transition between wood and concrete to 12 feet to accommodate the discharge ends of the connecting twin 42-inch pipes. The concrete wall thickness measured approximately 8 inches at the top ends; the bottom slab was 12 to 15 inches thick, with half-inch rebar laid in two separate mats.

Remnants of the retired SCL Ellis substation, consisting of 12 concrete equipment pads and chain link fencing, were located adjacent to this section of flume.

In this segment, the wood-lined flume was completely removed along with any sediment it contained. A new storm drain pipe was placed in the bottom of the excavation, which was backfilled. Two bioswales were installed on either side of South Myrtle Street to filter parking lot and street run-off. CMP culverts were cleaned, removed, replaced with a new storm drain pipe, and backfilled. The concrete-lined portion was cleaned, the new storm drain was installed along the bottom and backfilled. Remnants of Ellis substation were removed.

Twin 42-inch Concrete Pipes

This portion of the flume consisted of approximately 365 feet of buried parallel twin 42-inch diameter concrete pipes. The parallel pipes were covered with approximately 4 feet of soil and asphalt, following a Boeing service road for much of the alignment. There was 2 to 4 feet of backfill separating the pipes along the alignment. For much of the alignment, the southern 42-inch pipe was located within 15 feet of a Boeing building. At the upper end of this segment, the pipes were connected by a concrete bifurcation structure. Sediment depth in these pipes appeared to be between 6 and 12 inches.

The west pipe was cleaned and filled with grout. The east pipe was cleaned and slip-lined with the new storm drain pipe, which was grouted into place.

Concrete-Lined Open Channel

This portion of the flume consisted of approximately 120 feet of concrete-lined open channel. It began at the upstream end of the twin 42-inch pipes and continued northeast to the downstream end of the steam plant tunnel. The concrete walls were approximately 5 ½ feet tall, with the width gradually decreasing from 12 feet to 6 feet as they approached the steam plant discharge tunnel. The concrete wall thickness measured approximately 8 inches at the top ends; the bottom slab was 12 to 15 inches thick, with half-inch rebar laid in two separate mats.

A small service road bridge, composed of concrete decking supported by concrete beams, crossed this section of the flume near its midpoint. Two concrete walls were cast into the open flume on either side of this bridge. A 24-inch concrete pipe provided hydraulic connection

between the two open-channel sections. Between these two concrete walls, accumulated sediment measured approximately 12-inches deep. There was no backfill between the concrete walls under the bridge section.

As part of the Flume Project, the entire segment was cleaned, the 24-inch concrete pipe was removed, and the new storm drain was installed and backfilled.

Steam Plant Tunnel and Condenser Pit

This portion of the flume consisted of a 250-foot long buried concrete tunnel. It started at the upper open concrete flume and ended at the western wall of the steam plant. The tunnel was generally rectangular at the top, with a rounded bottom, approximately 12 feet across by 10 feet high.

The tunnel bottom was approximately 5 feet lower than the invert of the concrete open channel. A concrete wall formed the end of the tunnel, with an opening approximately 6 feet by 6 feet at the junction with the open section of the flume. A wooden grating was constructed across this opening with a layer of filter fabric to prevent debris and sediment from entering the tunnel from the open concrete flume. During pre-construction investigations, sediment at the end of the tunnel was observed to be less than 1 inch deep; however during construction accumulations of over 2 feet deep were found at certain locations.

A condenser pit extends beneath the steam plant superstructure, transitioning to the tunnel at the edge of the building. Some areas had little sediment accumulation and others up to two feet of sediment had accumulated.

The tunnel and condenser pit were cleaned and the tunnel portion filled with grout. The condenser pit remains open inside the building; no alternative drainage has been provided.

Site Characterization Summary

The City of Seattle completed several studies assessing contamination in and around the Georgetown flume between 1984 and 2006. Sediment was removed from the flume in 1985, but recontamination was documented again beginning in 1989. Site characterizations conducted in 2005 and 2006 evaluated sediment in the flume, soil adjacent to the flume, and groundwater beneath the flume (Herrera 2005, 2007). The following summarizes findings from these most recent site characterization efforts.

Sediment

Sediment analytical results were compared to both Sediment Management Standards (SMS) and MTCA cleanup levels to address potential impacts on receiving sediment in Slip 4 and waste management requirements during cleanup.

SMS comparisons were as follows:

- Carbon-normalized PCBs were detected in 16 of 17 sediment samples collected throughout the flume. The Sediment Quality Standard (SQS) of 12 milligram per kilogram (mg/kg) organic carbon-normalized (OC) was exceeded at manhole M100 and at all five locations sampled upstream of the South Willow Street culvert. Three samples collected upstream of the South Willow Street culvert exceeded the Cleanup Screening Level of 65 mg/kg OC.

- Bis(2-ehthylhexyl)phthalate exceeded the SQS intermittently between manhole M100 and South Myrtle Street.

- Lead, mercury, and zinc exceeded Cleanup Screening Levels (CSLs) in the steam plant condenser pit; mercury also exceeded the CSL in the concrete-lined open channel.

- Benzyl alcohol exceeded the CSL at both the upstream and downstream ends of the wood-lined open channel.

- Phenanthrene and fluoranthene exceeded SQS at the steam plant condenser pit and both the upstream and downstream ends of the wood-lined open channel. Other individual PAHs (acenapthene, fluorene, total benzofluoranthenes, and indeno[1,2,3,c,d]pyrene) exceeded SQS at single locations either at the upstream end of the wood-lined open channel or the condenser pit. Total HPAH exceeded SQS at the condenser pit only.

- Dibenzofuran exceeded the SQS at the upstream end of the wood-lined open channel.

- 2-methylphenol and 2,4-dimethylphenol exceeded SQS at the condenser pit.

- Benzoic acid exceeded the SQS at the upstream end of the wood-lined open channel.

MTCA comparisons were as follows:

- PCBs were detected in 16 of 17 sediment samples collected throughout the flume. The method A unrestricted land use cleanup level of 1,000 micrograms per kilogram (µg/kg) was exceeded at all locations upstream of the South Willow Street culvert. The method A cleanup level for industrial properties of 10,000 µg/kg was exceeded at seven locations within the concrete-lined open channel.

- A high PCB concentration identified in 2005 within the concrete-lined open channel indicated the need for further characterization to satisfy Toxic Substances Control Act (TSCA) requirements. Eleven additional samples were collected to determine cleanup and disposal requirements. One sample, collected adjacent to the 2005 sample, exceeded the TSCA limit of 50,000 µg/kg.

- Carcinogenic PAHs exceeded the method A cleanup level for unrestricted land use at 14 of 17 locations and exceeded the cleanup level for industrial properties at both the steam plant condenser pit and the downstream end of the wood-lined open channel.

- Lead exceeded the method A cleanup level for unrestricted land use of 250 mg/kg from the upstream end of the wood-lined open channel to the condenser pit.

Soil

No soil samples collected from beneath or adjacent to the flume exceeded MTCA method A cleanup levels for industrial properties.

Wood

Creosote was identified in flume wood based on comparison of the NWTPH-Dx chromatograph and the library of creosote chromatographs available to the laboratory. Total PCBs (480 µg/kg) and total cPAHs (68 µg/kg) were also detected, but did not exceed MTCA method A cleanup levels (1,000 and 2,000 µg/kg, respectively).

Willow Street Substation

Soil at the Willow Street electrical substation exhibited PCB concentrations exceeding the method A cleanup level for unrestricted land use along the north, south, and west sides of transformer pad #1; one sample exceeded the TSCA limit of 50,000 µg/kg.

Ellis Substation

Soil samples were composited from between two and four sub-samples collected from adjacent to each of the concrete pads and support blocks. Soil at the Ellis electrical substation exhibited PCB concentrations exceeding the method A cleanup level for unrestricted land use only along the west side of the north equipment pad. Contamination appeared to be limited to soil sloughing into the flume.

Groundwater

One groundwater sample was collected from a piezometer installed near South Myrtle Street along the wood-lined open channel portion of the flume. Analyses were performed for petroleum hydrocarbons, volatile organic compounds, semi volatile organic compounds, PCBs, and metals; no contaminants of concern (COCs) were detected.

Proposed Actions

Construction plans for the Flume Project were described in the 100% Design Report (Herrera 2008a) and in the project Plans and Specifications issued for public bid. Work generally involved removal of all sediment in the flume, removal or abandonment of the existing flume structure, removal of incidental soil associated with the removed portion of the flume structure, installation of a high density polyethylene (HDPE) and polyvinyl chloride (PVC) drainpipe for storm water conveyance, and installation of a tide valve to block tidewater and associated sediment from entering the new drain system. All unauthorized drains into the flume would be eliminated by plugging with concrete. Some contaminated soil was expected to be removed from adjacent to the flume to facilitate installation of the new drain pipe. Contaminated soil also was to be removed from the adjacent SCL Willow Street electrical substation; however, this work will be completed as a separate action in the near future.

Several types of environmental testing were to be performed to meet Removal Action Objectives and ARARs, including:

- Confirmation sampling of soil and concrete conducted by the City
- Construction monitoring of water (stormwater and groundwater) conducted by the City
- Waste sediment, soil, and water (following on-site treatment) performed by the Contractor.

Confirmation of adequate cleanup was to include visual inspection of residual contaminated sediment left in corrugated metal and concrete pipe, sampling of soil adjacent to the flume wooden structure, and sampling of concrete that had been in direct contact with contaminated

sediment prior to removal. Cleanup verification for all other portions of the flume was required to meet MTCA method A cleanup levels for COCs, as shown in Table 1.

Table 1. Model Toxics Control Act soil cleanup levels (WAC 173-340) applicable to cleanup.

Chemical Parameter	MTCA Method A Cleanup Level
Petroleum Hydrocarbons (mg/kg)	
Diesel-range	2,000
Motor oil-range	2,000
Polychlorinated Biphenyls (µg/kg)	
Total PCBs	1,000 [a]
Polycyclic Aromatic Hydrocarbons (µg/kg)	
Total PAH (carcinogenic)	2,000 [b]

[a] Washington State Model Toxics Control Act (MTCA) method A unrestricted land use.

[b] Washington State Model Toxics Control Act (MTCA) method A industrial land use.

mg/kg milligrams per kilogram, parts per million.

µg/kg micrograms per kilogram, parts per billion.

PAH Polycyclic aromatic hydrocarbon.

Total PAH (carcinogenic): Total toxic equivalents for all carcinogenic polycyclic aromatic hydrocarbons (see WAC 173-340-708(8)).

3.0 Responsible Parties

As the property owner, SCL accepted responsibility as the lead City department for the Flume Project. As the lead organization, SCL was responsible for:

- Overall project planning
- Site characterization
- Preparation of construction plans and specification for contaminated materials removal and flume demolition
- Preparation of deliverables to EPA and Ecology
- Monitoring construction for compliance with ARARs
- Overall project funding.

As the City drainage utility, SPU also had a key role in the Flume Project, with responsibilities for:

- Preparation of construction documents for the new piped drainage system and bioswales
- Providing funding for drainage-related portions of the project.

Regulatory oversight was provided primarily by the EPA, since most of the work was covered under the Slip 4 Administrative Order. MTCA-regulated portions of the work were performed as an independent cleanup and, as such, required minimal oversight. However, Ecology was kept informed of project progress and significant changes via monthly reports.

SCL and SPU were supported by other organizations during the project. A summary of all involved organizations and their responsibilities is provided in Table 2.

Table 2. Organizational responsibilities, Georgetown Flume Removal Project.

Organization	Role	Lead Representative
Seattle City Light	Overall Project Lead	Wanda Schulze Sr. Capital Project Coordinator
Seattle Public Utilities Drainage and Wastewater Division	Lead for drainage-related portions of the project	Christine Woelfel Sr. Capital Projects Coordinator
Seattle Public Utilities Engineering Services Division	Prepared final bid package and managed contractor bidding process on behalf of SCL.	Loyd Singleton Engineering Supervisor
Seattle Public Utilities Construction Management Division	Administered Public Works Contract, enforced all specification provisions and provided daily contractor oversight on behalf of SCL	Bryan Nicholson Resident Engineer
Herrera Environmental Consultants	Contracted by SCL to prepare construction plans and specifications, conduct confirmation and other environmental testing, and prepare agency deliverables.	Peter Jowise Principal Scientist
Rosewater GHD	Contracted by SPU Drainage Division to prepare construction documents related to the new storm drain system	Kirk Smith Civil Engineer
Northwest Archaeological Associates, Inc.	Contracted by SCL to conduct archaeological monitoring and take historic record photographs prior to and during construction	Lorolea Hudson Project Manager
The Boeing Company	Operator of North Boeing Field, where about 50% of the project work was conducted.	Jennifer Parsons Environmental Remediation Group
E.J. Rody & Sons, Inc.	Construction contractor. Responsible for performing the work in compliance with the plans and specifications	Mike McFarland Project Manager
EPA	Oversight of sediment removal and work impacting Slip 4, as well as coordination with federal agencies with jurisdiction associated with permitting based on the Slip 4 Early Action Area Administrative Settlement Agreement and Order on Consent No. 10-2006-0634. Lead for Historic Preservation Act Section 106 consultation.	Karen Keeley EPA Site Manager
Ecology	Oversight of soil removal conducted under MTCA	Mark Edens Ecology Site Manager

4.0 Construction Detail Records

Construction Activities

Contract work was conducted between February 12 and September 14, 2009. During the period from February 12 through May 8, the Contractor was operating under a limited notice to proceed, which allowed for preparation of submittals required prior to construction. On May 11, an unlimited notice to proceed was issued and the Contractor began construction. Work started at the upstream end of the flume, generally moving toward the downstream end.

The contractor used hand shovels, vactor trucks, skid steer loaders, brooms, pressure washers, and excavators to excavate and remove sediment, soil, concrete, and wood. Excess water in the flume was removed using a vactor truck or sump pump that routed water to the site treatment plant. Shoring was performed using either a 20-foot long trench box for pipe installation or an 8 foot by 8 foot box for manhole installation.

In general, construction was performed according to the plans and specifications. In some cases, the contractor proposed modifications for various elements of the work, which were reviewed by SPU, SCL, and EPA, if appropriate, prior to implementation. Significant deviations from the original plans and specifications are discussed in Section 5 – Conformance to Plans and Specifications.

The Resident Engineer provided detailed daily oversight of all contractor activities; consultants were used to provide additional oversight and documentation at the direction of the City.

Construction involved the following major tasks:

- Sediment removal (concrete-lined open channel, concrete pipe, concrete tunnel, concrete condenser pit, wood-lined open channel, CMP)
- Water removal (tunnel, condenser pit, open channel, CMP)
- Concrete cleaning
- Concrete removal
- Wood removal
- Soil excavation
- Pipe and manhole installation

- Backfill with controlled density fill (CDF) (concrete tunnel, concrete pipe, CMP)
- Backfill with soil (open sections)
- Outfall modification.

The following activities were conducted as part of each of the above tasks to ensure environmental and safety standards were met:

- Weekly construction coordination meetings
- Health and safety controls (exclusion zone, contamination reduction zone, support zone, personal protective equipment)
- Soil, sediment, and concrete sampling
- Water sampling (following on-site treatment and prior to discharge to the sewer)
- Equipment decontamination
- Water treatment and monitoring
- Contaminated materials stockpiling
- Contaminated materials transport
- Contaminated materials disposal.

Chronology of Major Events

The following section is a summary of significant construction activities presented in chronological order. It was compiled from a variety of sources including:

- Daily inspection records and verbal statements by the Resident Engineer (Appendix B)
- Inspection records kept by Herrera Environmental Consultants
- Official letters and other communication between the City and the contractor

- Weekly progress meeting notes
- Waste shipping tickets and other documentation.

Photographic documentation of construction activities and confirmation sampling is provided in Appendix A.

February 12, 2009

Limited Notice to Proceed issued by the City; Contractor began work on submittals required prior to start of construction activities.

May 11, 2009

All critical work plans were approved – the City issued Unlimited Notice to Proceed.

Contractor began mobilization to the site; including temporary erosion and sediment control (TESC) measures, delivery of the job trailer, construction of temporary fencing, beginning of brush clearing, installation of stockpile area, and disconnection of steam plant roof drains and installation of temporary pipe to infiltration. A subcontractor, Clear Water Compliance Services, began assembly of the onsite temporary water treatment plant.

May 12, 2009

Contractor continued TESC Plan implementation, clearing brush at Myrtle Street, and assembling water treatment plant.

May 13, 2009

Contractor began to pump water out of the concrete tunnel to the water treatment plant.

May 14, 2009

Contractor set up a contaminant reduction zone for TSCA sediment removal from the open concrete-lined portion of flume.

May 15, 2009

Contractor entered the tunnel to determine the condition. Full personal protective equipment (PPE) was worn to enter the tunnel, and the worker was properly decontaminated after entry. The Contractor noted a sandbag dike in the tunnel, which was a changed condition.

May 18, 2009

Contractor removed asphalt and excavated soil to top of the tunnel at two locations. Steel angle iron and fencing was removed from the TSCA sediment area and the roll-off storage box for TSCA sediment storage was set up.

May 19, 2009

Conducted site walk with EPA representative to inspect contaminated materials handling set up, decontamination set up, health and safety approach, and installation of spill prevention and TESC features. Hazardous material handling and decontamination procedures were not adequate; Contractor agreed to obtain and organize necessary material and equipment and follow proper procedures. A second walk through was scheduled to re-inspect in 1 week.

Herrera collected two concrete samples at Ellis substation.

May 20, 2009

Contractor began opening the top of tunnel at two locations.

May 21, 2009

Contractor hooked up power, tested the water treatment plant, and finished opening the top of the tunnel.

May 22, 2009

Contractor continued to address contaminated materials handling procedures and the decontamination procedure issues identified in the site walk through. The Contractor worked on opening the tunnel roof.

Herrera collected three sediment samples from the tunnel.

May 26, 2009

Second site walk through occurred with EPA representative to inspect contaminated materials handling and personnel decontamination procedures, which were approved. The Contractor began removal of TSCA-regulated sediment from the open concrete flume (see Appendix A, photos #4 through #7). Sediment was loaded directly into the lined roll-off box.

May 27, 2009

Contractor completed cleaning the open concrete flume. Herrera conducted confirmation sampling of the concrete surface and equipment that had come in contact with contaminated sediment. No additional cleaning of the concrete was needed. All removal equipment was decontaminated according to the Equipment Decontamination Plan and wipe tested clean (see Appendix A, photo #10).

Herrera inspected the stockpile area, constructed of ecology blocks set on the existing pavement and lined with visqueen and a geotextile liner. The Contractor later installed tall visqueen walls near the ramp on the north end of the stockpile to prevent splashing when trucks dumped material into the stockpile (see Appendix A, photo #13).

May 28, 2009

A King County representative visited the site to inspect the water treatment plant prior to initial discharge to the sewer. The treatment plant was approved for batch discharging after samples were collected and tested clean. The treatment plant was set up to discharge water to SPU manhole 071-145, connected to the Metro sewer line leading to the King County West Point wastewater treatment plant. A Contractor request to use an inline monitoring unit allowing for continuous discharge was denied, requiring batch discharges, as originally planned.

Contractor began removing the 24-inch concrete pipe beneath the bridge span in the upper concrete lined open channel.

Contractor discharged the first batch of treated water to the Metro sewer from the treatment facility. The total volume discharged in the first batch was 13,600 gallons. Samples were collected by the Contractor prior to discharge to verify that water met permit requirements. Monitoring and operations forms provided to King County on a monthly basis, as required by the permit, are provided in Appendix C.

May 29, 2009

Contractor began sediment removal from the tunnel using a small Bobcat that was lowered into the tunnel from openings created the previous week. A loader was positioned on top of the tunnel. Sediment was transferred by the Bobcat into the loader bucket extending from the top of the tunnel. The sediment was then transferred into a lined dump truck and taken to the lined stockpile. Workers shoveled sediment into the loader bucket when the Bobcat was no longer capable. Workers in the tunnel wore PPE.

Contractor collected water sample from water treatment plant to document second batch discharge.

June 1, 2009

Contractor continued sediment removal from the tunnel.

June 2, 2009

Contractor continued sediment removal from the tunnel.

Sediment removed from the tunnel was not dewatering in the stockpile area in a timely manner. Upon further consultation, Chemical Waste Management agreed to accept the wet sediment. Wet

sediment was loaded directly into lined dump trucks, keeping the bucket over the stockpile area at all times. Trucks were parked on visqueen sheeting to contain spillage. Loaded trucks were covered and sent through the wheel wash before traveling to the transfer station.

Laboratory results for the second batch of treated water indicated a mercury exceedance, prompting another sample to be collected and analyzed. The second sample had no mercury detected. Based on these analytical results, the Contractor discharged a 56,300 gallon batch of treated water to the Metro sewer. Herrera also collected a water sample from the second batch to confirm Contractor results (laboratory report received the next day). This sample was provided to a different laboratory than that used by the Contractor. At this time, major sources of water to the on-site treatment system were the condenser pit and the sediment stockpile.

June 3, 2009

Prepared dump truck beds with plastic liners for transfer of sediment from stockpile.

Herrera received analytical results for second batch of water; discharge criteria were met, confirming the Contractor's results.

June 4, 2009

Contractor discharged a 13,800 gallon batch of treated water to the Metro sewer.

June 5, 2009

Contractor continued to remove wood debris and sediment from the tunnel using the Bobcat loader. Contractor also loaded dump trucks from the stockpile for first offsite shipment; trucks were cleaned using the wheel wash (see Appendix A, photos #11 through #13).

Contractor used visqueen to cover the ground, line the truck bed, and overlap the sides of the truck. The excavator operator was careful not to fill the bucket too full and shook the bucket slightly to allow any excess sediment or debris to fall off the bucket prior to moving it to the dump truck. Minimal spillage from the bucket landed on the visqueen.

June 8, 2009

Contractor discharged a 42,400 gallon batch of treated water to the Metro sewer.

June 9, 2009

Contractor pressure washed and scrubbed tunnel walls with an SCL-approved detergent for PCB cleanup (item number 726166) and an organic solvent (Citra Safe) identified in the Decontamination Plan. Contractor completed cleaning the tunnel.

June 10, 2009

Herrera conducted confirmation sampling, collecting three concrete samples from the tunnel, two concrete samples from the 24-inch concrete pipe that had been removed, and one equipment wipe sample from the contractor's equipment used to remove sediment from the tunnel (see Appendix A, photos #14 through #16).

June 11, 2009

Contractor continued cleaning of condenser pit using vactor truck, shovels, and pressure washer.

June 12, 2009

Contractor began cleaning the twin 42-inch pipes with pressure washer and vactor truck. Sediment was placed in the stockpile area and water was pumped to the water treatment plant.

June 15, 2009

Contractor continued to clean condenser pit; sediment from the vactor truck was placed in the stockpile.

June 16, 2009

Contractor completed initial cleaning of the twin 42-inch pipes; the pipes were visually inspected by the Resident Engineer and additional cleaning was required of the east pipe.

Herrera inspected the tunnel and condenser pit. The tunnel was clean, with no visible sediment. The Contractor continued cleaning the condenser pit using a pressure washer and vactor truck.

Contractor discharged a 59,700 gallon batch of treated water to the Metro sewer.

June 17, 2009

Contractor completed cleaning the condenser pit with vactor truck and pressure washer and began construction of seal walls at both ends of the tunnel.

June 18, 2009

Contractor completed cleaning of the condenser pit using a pressure washer and vactor truck. Herrera conducted confirmation sampling of the condenser pit concrete (see Appendix A, photo #19) and the upstream end of the west 42-inch twin pipe concrete.

Contractor crawled into the east 42-inch twin pipe to plug a Boeing 6-inch PVC storm drain pipe with grout; a fan was used to circulate air into the pipe.

June 19, 2009

The silt curtain and oil boom were installed in Slip 4 using two small boats. The curtain ends were secured and anchored on the bank and the middle of the curtain was secured to the wood piles surrounding the work area. The curtain bottom did not drop properly onto the sediment. Herrera suggested allowing the tide cycle to straighten this out. The Contractor returned over the weekend and the curtain had straightened out, with the bottom lowered onto the sediment.

Contractor used a pressure washer to remove residual sand in the east 42-inch pipe. The pipe was visually inspected again by the Resident Engineer and approved as clean.

Herrera collected soil samples from the bottom of excavations for manholes MH7 and MH8, and concrete samples from the upstream end of the east 42-inch pipe and the downstream end of the west 42-inch pipe.

Contractor discharged a 46,300 gallon batch of treated water to the Metro sewer. The major sources of water continued to be the condenser pit and sediment stockpile.

June 22, 2009

Contractor excavated approximately 10 cubic yards of sediment and rock in front of the Slip 4 outfall and removed the existing grate; the work was performed from the top of bank using a long arm excavator and by using hand tools during low tide (see Appendix A, photo #20). Workers wearing PPE were stationed in the slip to shovel sediment into the excavator bucket. The bucket was then used to load the sediment directly into lined dump trucks parked on visqueen. Sediment from inside the pipe was removed to approximately 8 to 10 feet from the end of the pipe (see Appendix A, photo #21). All sediment was transported to the stockpile for storage prior to offsite disposal. The steel plate was installed and bolted onto the upper rim of the outfall; a butyl sealant (Kent Seal #2) was applied in addition to the neoprene to better fill the pitted concrete surface. The Contractor placed geotextile and riprap beneath the outfall.

During sediment removal, water filled the hole in front of the outfall. The water was turbid and had an oily sheen (see Appendix A, photo #21). Absorbent pads and a sock were deployed to contain and absorb the oil. Work was stopped until the next day when the Contractor could mobilize a portable tank to the site to collect the water from the work area and take it to the site water treatment plant.

Work in Slip 4 was conducted during low tide; low tide for this day was at -3.7 feet at 11:05 AM and high tide was at 12.2 feet at 6:49 PM.

A second crew worked on formwork for the seal wall at the east end of the tunnel adjacent to the condenser pit and installation of manhole MH7. HDPE pipe was inserted into the east 42-inch pipe. The Contractor also decontaminated the vactor truck that had been used to clean out the condenser pit on June 18.

Herrera collected a soil sample from the manhole MH6 excavation and a concrete sample from the downstream end of the east 42-inch pipe. An equipment wipe sample was collected from the

vactor truck. Herrera also visually inspected the outfall site and Slip 4 a few hours after work was completed; no turbidity or oil sheen was observed in Slip 4.

The EPA Site Manager and EPA's oversight consultant were onsite during portions of the Slip 4 outfall work.

June 23, 2009

Due to the presence of an oily sheen, the Contractor pumped water from beneath the outfall to a tank truck at the top of the bank in order to access the lower portion of the steel plate. The lower portion of the steel plate was bolted onto the outfall. Sand and gravel layers were placed on rip rap below the outfall to complete the splash pad. Collected water was taken to the water treatment plant.

Work in Slip 4 was conducted at low tide; low tide for this day was at -3.9 feet at 11:52 AM and high tide was at 12.6 feet at 7:31 PM.

June 24, 2009

Contractor installed the temporary steel plate dam immediately upstream of the CMP culvert at station 20+38 (approximate). A pump was then installed at this location to transfer water from the flume to the treatment plant.

June 25, 2009

Contractor removed forms for seal walls in tunnel.

June 26, 2009

Contractor began installation of the new storm drain on the steam plant property. Soil excavated at station 2+00 (approximate) had a petroleum odor, with a sheen and treated wood visible. Wood appeared to be support system for pipes. Herrera collected a sample of the trench bottom at this location.

Contractor discharged a 47,600 gallon batch of treated water to the Metro sewer.

June 29, 2009

Herrera collected one soil sample from the trench excavation between the steam plant and the open concrete flume (the tunnel bypass). The sample was collected immediately south of the retaining wall at the steam plant property.

June 30, 2009

A planning session was held to discuss the plan for excavation and removal of the wood flume. A new sampling protocol was proposed that would allow the contractor to remove the sediment and wood and lay the new storm drain pipe in a single pass using a trench box instead of laying back soil when the flume sidewalls were removed. The protocol involved collecting soil samples from below the wood floor in advance of demolition work. This protocol was presented to EPA and Ecology and approved.

A previously undocumented gas/oil line was encountered near manhole MH10. Herrera collected one soil sample from the trench excavation between the steam plant and the open concrete flume at manhole MH12, near the steam plant building.

July 1, 2009

Herrera collected one soil sample from the trench excavation between the steam plant and the open concrete flume. The sample was collected immediately north of manhole MH10, on the steam plant property.

Contractor discharged a 30,300 gallon batch of treated water to the Metro sewer.

July 2, 2009

Herrera collected one concrete sample from the open channel immediately downstream of the twin 42-inch pipes.

July 6, 2009

Installation of new pipe on steam plant property is complete. The Contractor started cleaning out manhole M100 (see Appendix A, photos #23 and #24).

July 7, 2009

Contractor continued to clean the outfall to Slip 4 and completed crushed rock base for pavement patch over tunnel entry points.

July 9, 2009

Herrera began sampling of soil beneath the wood flume. Sampling was conducted in accordance with a revised confirmation sampling procedure, which is discussed in Section 5 – Conformance to Plans and Specifications. The Contractor hand cleared narrow swaths of sediment across the bottom of the flume at approximate 70-foot intervals along the northern 1/3 of its length. The bottom boards appeared to be structurally solid at the seven locations cleared. The Contractor then cut 2- to 3-foot wide sections of the cleared wood planks across the width of the flume with a chainsaw, allowing access to soil below (see Appendix A, photos #25, #26, and #29).

Herrera collected composite soil samples at the seven locations, as originally planned.

Contractor discharged a 47,500 gallon batch of treated water to the Metro sewer.

July 10, 2009

Contractor continued to clean the outfall to Slip 4 and prepared four additional soil sample locations along wood flume by removing bottom wood.

July 13, 2009

Contractor began cleaning the 72-inch CMP between manhole M100 and the wood flume by hand shoveling sediment to be removed by a vactor truck. Laborers entering the pipe were supplied with forced air ventilation, wore full PPE, and used the decontamination station upon egress.

July 14, 2009

Based on the results of sampling conducted on July 9, the Contractor was allowed to begin demolishing the wood flume at the upstream end. Steel plates were laid across the top of the flume to support the excavator. The excavator bucket had a thumb to remove the chain link fence and blackberries from across the top of the flume. The wood was then removed and transferred to a sealable dumpster for offsite disposal (see Appendix A, photo #30 and #32 through #37).

Once wood was removed, the Contractor excavated approximately 6 inches of soil from beneath the bottom of the flume (this occurred along the entire alignment). Additional soil was excavated at the new manhole locations in order to meet grade requirements. The sediment and excavated soil were placed in the same lined truck bed for disposal; no stockpiling was performed. Exiting trucks passed through the wheel wash station before travelling to the offsite transfer station.

The volume and density of sediment in the flume had been previously measured by the Resident Engineer, and was used to determine relative proportions of soil and sediment from load tickets. This was required for payment purposes because soil and sediment disposal were priced separately.

Moist soil was encountered when sampling 12 inches below the excavated soil surface, indicating the presence of groundwater. An archaeologist was onsite during the initial demolition of the wood flume, and during excavation of all manhole locations. See Appendix M for the Archaeologist's field observations.

Contractor discharged a 32,500 gallon batch of treated water to the Metro sewer.

July 15, 2009

Contractor completed cleaning the 72-inch CMP and cleared sediment and wood from four areas of the wood-lined portion of the flume between the vehicle bridge and South Myrtle Street for sampling. Herrera collected composite soil samples from the four cleared locations.

July 16, 2009

Herrera inspected the 72-inch CMP (upstream portion) and 72-inch by 44-inch arch CMP (downstream portion). The pipes were determined to meet the removal requirement of less than 1-inch of residual sediment along the corrugations (see Appendix A, photos #27 and #28). This is also discussed in Section 6 – Attainment of Removal Action Objectives.

Contractor plugged the two Boeing drain lines entering manhole M100 using concrete bricks and mortar.

Herrera collected two concrete samples from manhole M100 and one decontamination wipe sample from the vactor truck tank.

July 17, 2009

Contractor cleared sediment and cut wood across the bottom of the flume at six locations between South Myrtle Street and the CMP.

Herrera collected composite soil samples from the six cleared locations.

Contractor discharged a 49,500 gallon batch of treated water to the Metro sewer.

July 20, 2009

Contractor placed CDF into the 72-inch outfall pipe between manhole M100 and the open wood flume channel.

July 21, 2009

Contractor continued placing CDF into the 72-inch outfall pipe between manhole M100 and the open wood flume channel, and positioned manhole MH5.

July 22, 2009

Contractor finished grading the CDF surface in the outfall pipe and prepared manhole M100 for insertion of the new manhole structure base section. The new manhole structure was installed inside the existing M100 structure and the annular space was filled with cement slurry.

Contractor continued wood flume removal.

July 23, 2009

Contractor continued work in manhole M100 and continued to remove wood flume.

July 24, 2009

Contractor worked on removing the wood flume near the stockpile area, installing pipe on the upstream side.

Contractor checked the bolt and gasket seal at the Slip 4 outfall by removing the secondary access plate to check for trapped water. The seal appeared to be watertight and there was no trapped water in the pipe.

Contractor discharged a 47,600 gallon batch of treated water to the Metro sewer.

July 27, 2009

Contractor continued to demolish the wood flume and install the new pipe.

Per Boeing's request, the Contractor obtained a sweeper truck and continuously swept until finished working on Boeing property.

July 28, 2009

Contractor excavated a hole for manhole MH1 and inserted 24-inch HDPE into the 72-inch CMP between manhole M100 and the open wood flume channel.

July 29, 2009

Contractor installed base sections of manhole MH1 and manhole M100 and connected 24-inch HDPE. Contractor also installed the catch basin for the north swale and continued removing wood flume.

July 30, 2009

Contractor completed connection of manhole M100 to 24-inch HDPE and prepared remaining sections of wood flume for demolition.

July 31, 2009

Contractor cut asphalt pavement at South Myrtle Street crossing and removed concrete debris from site.

August 3, 2009

Contractor continued with South Myrtle Street crossing removal and installed 24-inch HDPE pipe between outfall and manhole M100.

August 3, 2009

Contractor sliplined the outfall pipe. The steel plate was removed from the outfall and a cable was extended from a winch at manhole M100 to the end of the HDPE pipe at the outfall. The HDPE pipe was winched through the CMP, with the pipe end extending over Slip 4 supported by a sling held by the long-arm excavator. Once the pipe was inserted, the outfall cap was replaced (see Appendix A, photos #38 through #42). Inserting the pipe from Slip 4 was a deviation from the plans and is discussed in Section 5 – Conformance to Plans and Specifications.

Work in Slip 4 was conducted at low tide; low tide for this day was at -0.8 feet at 10:14 AM and high tide was at 11.2 feet at 5:55 PM.

August 4, 2009

Contractor grouted the abandoned west 42-inch concrete pipe.

August 5, 2009

Contractor grouted the annular space of the east 42-inch pipe.

August 6, 2009

CMP was sealed at manhole M100 and 4-inch diameter pipes with shutoff valves were installed at both the manhole M100 end and the Slip 4 end. Grout was pumped into the 4-inch pipe at manhole M100, with the valve open at the far end to allow air to escape. Grouting was completed when grout flowed out of the downstream 4-inch pipe. The vent pipe at the outfall was routed to the top of the bank to eliminate discharge into Slip 4. No leakage from the steel plate or top hat piece was observed (see Appendix A, photos #43 through #45).

Contractor discharged a 48,900 gallon batch of treated water to the Metro sewer.

August 7, 2009

Contractor continued demolition of the wood flume and installation of pipe; work at manhole M100 completed.

August 12, 2009

Contractor completed the demolition of the wood flume and installation of pipe in that section.

August 13, 2009

Contractor discharged a 42,600 gallon batch of treated water to the Metro sewer. Other work included paving, grading and site restoration.

August 17, 2009

Tide valve was installed at the outfall. The top hat assembly was cut off and the bolted connection left in place. The tide valve was attached directly to the HDPE pipe, extending from the outfall plate assembly (see Appendix A, photos #48 through #50).

Work in Slip 4 was conducted at low tide; low tide for this day was at -1.7 feet at 8:50 AM and high tide was at 11.2 feet at 4:35 PM.

Contractor removed the silt curtain and oil boom after work in Slip 4 was complete, both of which were taken to the contaminated wood stockpile and then to the Subtitle D landfill for disposal. The Contractor also began removal of the soil/sediment stockpile area and completed video inspection of the interior of the HDPE.

August 18, 2009

Contractor discharged a 50,400 gallon batch of treated water to the Metro sewer (the final batch of water discharged from water treatment plant).

Contractor completed removal of the soil/sediment stockpile area and swept the area. The Contractor worked on grading the site, preparing for swale installation, and preparing for restoration paving on Boeing property.

August 19, 2009

Contractor began disassembling water treatment system and began constructing drainage swale north of South Myrtle Street.

August 20, 2009

Contractor continued to grade the site and install the swales, began removing the catch basin inserts and other TESC measures (see Appendix A, photo #52), and began cleaning and coating manholes (see Appendix A, photo #51).

August 21, 2009

Contractor completed tank cleaning and continued demobilizing water treatment system.

August 24, 2009

Contractor completed site grading and the wheel wash unit was removed.

August 25, 2009

Final Boeing site walk-through was conducted with Boeing representatives, SPU, Herrera, and the Contractor; site conditions were approved (see Appendix A, photo #53 and #54).

August 26, 2009

Contractor removed water treatment system tanks.

August 28, 2009

Notice of substantial completion was issued by SPU.

September 14, 2009

Final site walk through was conducted with SCL, Herrera, and SPU. Work was complete, the swales had been hydroseeded, and the site was clean (see Appendix A, photos #55 through #59).

September 24, 2009

Notice of physical completion was issued by SPU.

Performance Standards and Construction Quality Control

Several methods were employed by the City to ensure that project performance standards were met by:

- Requiring the contractor to identify construction methods, materials, equipment, and work sequencing in various work plans and other submittals. Submittals were reviewed by the City, and in many cases also by EPA and Ecology, prior to issuance of the unlimited Notice To Proceed. In the case of the Flume Project, many Contractor work plans were rejected one or more times prior to acceptance by the City.

- Conducting daily construction monitoring by a Resident Engineer. All Public Works projects conducted by the City have a full time Resident Engineer assigned who maintains a continuous presence on site, performing general observations and random spot inspections of construction activities.

- Conducting weekly progress meetings led by the Resident Engineer. These meetings provided a mechanism for reviewing the work recently completed and planning for the work to be performed in the upcoming 2 weeks. Because these meetings were often attended by the Project Manager, Agency representatives, and other parties, upcoming

construction challenges could be thoroughly discussed. These meetings helped the contractor to avoid potential problems and delays.

- Conducting visual inspection of pipes to ensure compliance with the project performance standards for pipe cleaning. The Resident Engineer inspected the twin 42" concrete pipes to ensure the performance standard of "no visible sediment" was achieved. Herrera performed visual inspection of the 72" CMP to ensure the standard of "no more than 1 inch in pipe corrugations" was achieved.

- Conducting water discharge monitoring. The contractor was required to treat and test all water generated by the project to ensure that King County standards for discharge to the sanitary sewer were achieved. The water treatment system installed onsite by the Contractor utilized automated sampling and data storage technology based on an integral programmable logic controller for turbidity, pH, and flow. In accordance with the King County Discharge Permit, samples were collected and analyzed by Freemont Analytical. The Contractor maintained monitoring and operations forms, which were provided to King County on a monthly basis, as required by the permit (see Appendix H). One monitoring requirement exceedance occurred for the project, associated with mercury in the May 29 batch sample. The batch was re-cycled through the treatment system and then met all monitoring requirements. Herrera sampled treated water prior to discharge of the third batch to verify Contractor monitoring results (see Appendix D). No constituents were found at concentrations exceeding permit requirements.

- Conducting wipe sampling to confirm that decontamination was successful. A total of five wipe samples were collected from the vactor truck holding tanks, from the sled used for TSCA-regulated sediment removal, and from the bobcat during sediment removal from the steam plant tunnel.

- Conducting TESC monitoring by the Contractor on a weekly basis and within 24 hours of a significant rain event, by Herrera when onsite, and by the Resident Engineer throughout the project.

5.0 Conformance to Plans and Specifications

The Plans and Specifications developed for the project were followed, with the following exceptions.

Condenser Pit

The condenser pit conditions were unknown prior to construction. Upon entry, the Contractor encountered a considerable amount of debris, pipes, and wood braces. Cleaning of the condenser pit took significantly longer and more waste material was generated due to this changed condition. The existing specifications for waste removal, handling, and disposal still applied and were followed.

Manhole placement

The alignment of the new drain pipe on steam plant property was adjusted in order to reduce the number of manholes required. The new storm drain alignment for the steam plant property is shown on Figure 3.

Wood Flume Removal and Confirmation Sampling

The contract plans were developed with the assumption that the Contractor would first remove all sediment from the flume and then remove the wood sidewalls and floor. During this process, the Contractor would also remove soil to lay back the sides of the flume, eliminating the need for structural shoring. Additional soil would be removed from beneath the bottom of the flume along the pipe footprint to allow for placement of bedding material. All of the soil removed for these purposes was considered to be contaminated, requiring landfill disposal. Following flume removal, confirmation sampling would be conducted along the bed of the excavation at 70-foot intervals. Additional soil would be removed if sample results exceeded RAOs. Once the excavation was determined to be clean, the new drainage pipe would be installed.

The Contractor proposed an alternative shoring method, which was reviewed and accepted by SCL, EPA, and Ecology. The work was performed so that the flume could be demolished and the new pipe installed in conjunction with each other, in 20 foot segments. This required that sampling be conducted prior to demolition. To facilitate this, the Contractor cleared away sediment and cut openings in the bottom of the flume at 70-foot intervals. Six inches of soil was removed at each location and then Herrera collected two sets of soil samples from the openings, at depths of 6 and 12 inches. Samples at both depths were composite samples comprised of three subsamples collected across the width of the flume. The 6-inch deep samples were analyzed and the 12 inch deep samples were archived, to be analyzed if the associated shallow sample exceeded a removal action objective (RAO).

None of the samples at the 6-inch depth exceeded RAOs, so soil excavation beneath the flume was limited to a depth of 6-inches for demolition and pipe laying purposes.

Willow Street Substation Soil Removal

Due to SCL safety requirements, work within the substation was removed from the contract. This work will be performed by SCL trained electrical workers with 40 hour HAZWOP training.

Tunnel Sediment Samples

Investigation of the tunnel performed during recent site characterization efforts prior to demolition was restricted to visual inspection through the boarded up southern end. This inspection indicated minimal sediment accumulated on the tunnel floor. When the tunnel was opened up during construction, a significant volume of sediment was found to exist (estimated 25 to 30 cubic yards) backed up behind sand bags that had been placed at the approximate mid-way point. Three sediment samples were collected on May 22 to evaluate disposal options. Total PCB concentrations found ranged from 1.1 to 27 mg/kg. The sediment was removed and stored at the designated stockpile area, prior to offsite disposal. Like the condenser pit, this changed condition resulted in a longer time requirement for cleaning and generated more waste material for disposal. Existing specifications for cleaning and disposal were followed for this additional work.

Contaminated Sediment and Soil Estimates

The weight of contaminated soil and sediment removed from the site deviated from the contract-estimated weight, as shown in Table 3.

Table 3. Comparison of planned and actual contaminated soil and sediment weights.

TSCA-regulated soil and sediment		Subtitle D-regulated soil and sediment	
Estimated	Actual	Estimated	Actual
100 tons	2.75 tons	2,690 tons	3,073 tons

The estimated weights of contaminated soil and sediment were based on conservative volume estimates determined from site characterization results using a volume-to-weight conversion factor of 1.5 tons per cubic yard. Site characterization results indicated approximately 10 tons of TSCA-regulated material, including sediment in the concrete open channel portion of the flume and soil at the Willow electrical substation. Additional contingency sediment volume was added to cover the potential for other sources that had not been fully characterized (e.g., the tunnel) or may show up during confirmation sampling. The Willow substation material was not removed under this contract. The actual amount of Subtitle D-regulated material includes sediment found in the tunnel that was not accounted for in the original estimate.

Outfall Sliplining and Tide Valve

The contract plans included an insertion pit to be excavated extending northeast from manhole M100, with the HDPE pipe to be sliplined from the pit into the side of manhole M100, through

the CMP, and extending through the outfall at Slip 4. As an alternative method, the Contractor inserted the HDPE pipe into the outfall at Slip 4 to meet the connecting pipe at manhole M100. This was accomplished without working in the wet at Slip 4, reducing disturbance to the site, the amount of soil removed, and the amount of restoration required.

Details of the outfall steel plate assembly varied from the contract drawings; however, the dimensions and function remained the same.

Slip 4 Access

Per the contract plans, access to the outfall was to be accomplished using a temporary equipment access path constructed from the top of the bank leading down to the water. Instead, the Contractor operated a long-arm excavator from the top of bank, which eliminated disturbance of the bank slope (other than for access by people to perform hand work).

6.0 Attainment of Removal Action Objectives

Monitoring Results

In accordance with the methodology outlined in the Georgetown Flume Demolition, Removal, and Drainage Project Confirmation and Construction Monitoring Sampling and Analysis Plan (SAP) and two addenda (Herrera 2009a, b, c), confirmation samples were collected as part of this Removal Action. A total of 25 soil samples and 19 concrete samples were collected during construction activities between May 19 and July 17, 2009. Soil and concrete samples were analyzed for PCBs; some soil samples were also analyzed for cPAHs and petroleum hydrocarbons. All sample results were compared to project RAOs and are presented in Tables 4 and 5 and summarized in Figure 4. A data quality memorandum and the laboratory data report sheets are provided in Appendix E.

Slip 4 to Manhole M100

A visual inspection of the cleaned 72-inch CMP between the Slip 4 outfall and manhole M100 was conducted by Herrera. The RAO for the CMP was less than 1 inch of visible sediment remaining; based on the visual inspection, the RAO was met (see Appendix A, Photo 26).

Two destructive concrete samples (A/BC1, A/BC2) were collected from manhole M100 following sediment removal and cleaning to document conditions prior to backfilling with grout. Both samples were analyzed for PCBs. Sample A/BC1 had a concentration of 0.096mg/kg and sample A/BC2 was not detected above the laboratory reporting limit; both were below the 1.0 mg/kg RAO (Table 4).

Manhole M100 to Wood-Lined Open Channel

A visual inspection of the cleaned 72-inch CMP between manhole M100 and the wood-lined flume was conducted by Herrera. The RAO for the CMP was less than 1-inch of visible sediment remaining; based on the visual inspection, the RAO was met (see Appendix A, Photograph 27).

Wood-Lined and Concrete-Lined Open Channel

A total of 18 soil samples and one destructive concrete sample were collected from the wood-lined and concrete-lined open channel portion of the flume. All soil samples were analyzed for cPAHs and PCBs; the destructive concrete sample was analyzed for PCBs (Table 5).

One discrete grab soil sample (CS1) was collected from a manhole location placed in the concrete-lined open channel. PCBs were not detected above the laboratory reporting limit and

Table 4. Concrete analytical results, Georgetown Flume removal.

Location	Total PCBs
MTCA Method A Soil Cleanup Level [(a)]	*1.0*
A/BC1	0.096
A/BC2	0.050 U
LC-1	0.050 U
LC-2	0.050 U
CC1	0.050 U
DC1	0.10 U
DC2	0.27
DC3	0.18
DC4	0.26
FC1	0.10 U
FC2	0.10 U
FC3	0.10 U
FC4	0.10 U
FC5	0.10 U
EC1	0.15
EC2	0.51
EC3	0.20
EC4	0.10 U
EC5	0.10 U

Notes: Values reported in milligrams per kilogram (mg/kg).
PCBs – Polychlorinated biphenyls
[a] Method A soil cleanup level for unrestricted land use (Ecology 2007).

Table 5. Soil analytical results, Georgetown Flume removal.

Sample Location	Petroleum Hydrocarbons		Total Carcinogenic Polycyclic Aromatic Hydrocarbons (TEQ) [a]	Total Polychlorinated Biphenyls[b]
	Diesel	Lube Oil		
MTCA Method A Soil Cleanup Level	*2,000*	*2,000*	*2.0*	*1.0*
CS1	NA	NA	**0.0075**	0.067 U
CS2A	NA	NA	0.0064	0.064 U
CS3A	NA	NA	0.0064	0.064 U
CS4A	NA	NA	0.0066	0.066 U
CS5A	NA	NA	0.0066	0.065 U
CS6A	NA	NA	0.0067	0.067 U
CS7A	NA	NA	**0.13**	0.066 U
CS8A	NA	NA	0.0066	0.066 U
CS9A	NA	NA	**0.097**	**0.13**
CS10A	NA	NA	**0.039**	0.050 U
CS11A	NA	NA	0.0064	0.064 U
CS12A	NA	NA	**0.034**	0.063 U
CS13A	NA	NA	0.0066	0.066 U
CS14A	NA	NA	0.0063	0.063 U
CS15A	NA	NA	0.0062	0.062 U
CS16A	NA	NA	0.0063	0.063 U
CS17A	NA	NA	0.0060	0.060 U
CS18A	NA	NA	0.0066	0.066 U
DS1	NA	NA	0.0062	0.061 U
ES1	NA	NA	**0.073**	0.063 U
FS1	27 U	54 U	0.0054	0.050 U
FS2	**8,000**	**14,000**	**0.39**	**0.10**
FS3	33 U	66 U	0.0066	0.066 U
FS4	58 U	**650**	**0.16**	0.058 U
FS5	28 U	56 U	0.0056	0.056 U

Values reported in milligrams per kilogram (mg/kg).

Bold values indicate concentrations detected above the reporting limit.

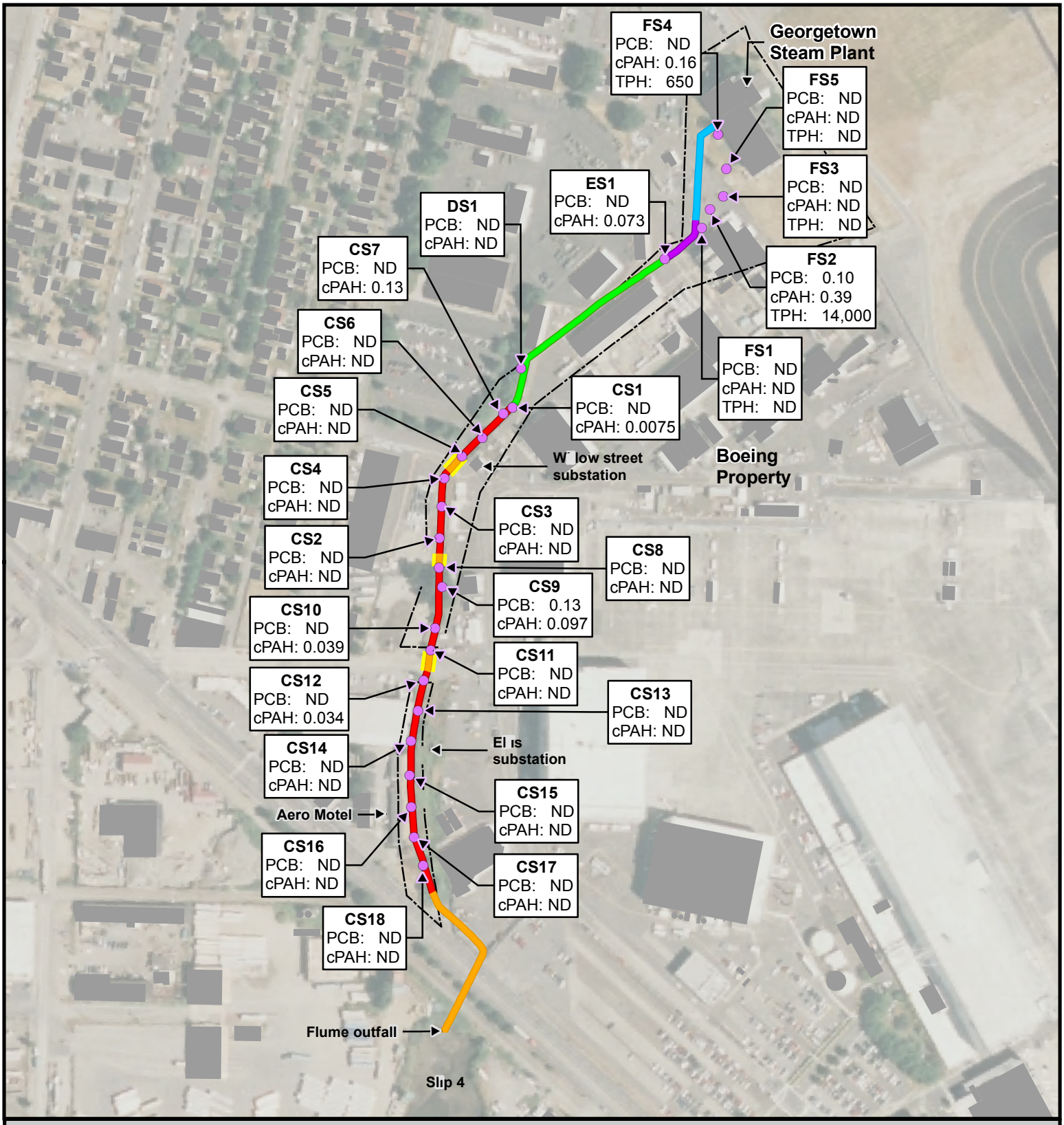
Shaded values indicate concentrations that exceed the established cleanup levels.

[a] Washington State Model Toxics Control Act (MTCA) method A industrial land use.

[b] Washington State Model Toxics Control Act (MTCA) method A unrestricted land use.

NA Not analyzed.

TEQ Toxic equivalents for all carcinogenic polycyclic aromatic hydrocarbons (see WAC 173-340-708(8)).



Legend

- Discharge tunnel
- Concrete-lined open channel
- Corrugated metal pipe
- Twin 42-inch concrete pipes
- Wood-lined open channel
- Culvert
- Seattle City Light property boundary
- Sample location
- PCB — Polychlorinated biphenyls
- cPAH — Carcinogenic polycyclic aromatic hydrocarbons as toxic equivalence (TEQ)
- TPH — Total petroleum hydrocarbons (lube oil)

Note: Sample concentrations in milligrams per kilograms (mg/kg) dry weight.

Figure 4. Confirmation sample location map, Georgetown flume, Seattle, Washington.

N

0 150 300 600 Feet

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total cPAHs were detected at 0.0075 mg/kg toxic equivalents (TEQ), well below established cleanup level of 2.0 mg/kg TEQ.

The remaining seventeen soil samples (CS2 through CS18) were composites collected approximately every 70 feet along the wood-lined open channel portion of the flume (see Figure 4). Samples were collected using a core tube starting 6 inches below the bottom of the wood and 12 inches below the bottom of the wood. Each composite sample was comprised of three subsamples collected from across the exposed flume bottom. The core tube was pressed approximately 3 inches deep at each subsample location. Samples submitted from 12 inches below the bottom of the flume were archived by the laboratory pending results from the soil samples collected from 6 inches below the bottom of the flume. All cPAH and PCB results for samples collected from 6 inches below the bottom of the flume were less than the RAOs for the project and the deeper samples were not analyzed. Four of the 17 samples had cPAHs detected above the reporting limit, ranging from 0.0075 to 0.13 mg/kg TEQ. Only one of the 17 samples reported a total PCB concentration (0.13 mg/kg) above the reporting limit.

One destructive concrete sample (CC1) was collected from the concrete-lined open flume located south of the twin 42-inch pipes following sediment removal and cleaning to document conditions prior to backfilling. PCBs were not detected above the laboratory reporting limit for this sample.

Twin 42-inch Concrete Pipes

A visual inspection of the twin 42-inch concrete pipes was conducted by the Resident Engineer (Appendix B, June 19). The RAO for concrete pipes was no visible sediment remaining; based on the visual inspection, the RAO was met.

Four destructive concrete samples (DC1, DC2, DC3, DC4) were collected from each end of the twin 42-inch pipes following sediment removal and cleaning to document conditions prior to backfilling. Total PCBs were detected at low levels (ranging from 0.18 to 0.27 mg/kg) in three of the four samples; all were below the 1.0 mg/kg RAO for the project (Table 4).

One discrete grab soil sample (DS1) was collected from manhole MH8 to document soil conditions (Figure 3). Total cPAHs and PCBs were not detected above the laboratory reporting limits.

Concrete-Lined Open Channel

One discrete grab soil sample (ES1) was collected from manhole MH7 to document soil conditions (Figure 3). PCBs were not detected above the laboratory reporting limit; total cPAHs were detected at a low level (0.073 mg/kg TEQ) in the soil sample, but was well below the 2.0 mg/kg RAO for the project.

Three destructive concrete samples (EC1, EC2, EC3) were collected from the upper portion of the concrete-lined open channel associated with the TSCA-regulated sediment removal. After

the concrete was cleaned of all residual sediment, destructive concrete samples were collected to document PCB concentrations left in-place. Total PCB concentrations (ranging from 0.15 to 0.51 mg/kg) were less than the MTCA method A cleanup level of 1.0 mg/kg.

Two additional destructive concrete samples were collected from each end of the 24-inch concrete pipe. Neither of these samples (EC4, EC5) exhibited levels of PCBs greater than laboratory detection limits.

Steam Plant Tunnel and Condenser Pit

Four soil samples (FS1, FS3, FS4, FS5) were collected approximately every 70 feet along the tunnel bypass trench for the new drainage pipe. One additional sample (FS2) was collected between FS1 and FS3 due to the presence of petroleum hydrocarbon odor and sheen encountered during excavation of the trench. All samples were submitted for cPAH, PCB, and total petroleum hydrocarbon analysis. No cleanup levels were exceeded, with the exception of petroleum hydrocarbons at location FS2. Both diesel-range hydrocarbons (8,000 mg/kg) and lube oil (14,000 mg/kg) exceeded the MTCA method A cleanup level of 2,000 mg/kg. However, as stated in the SAP (Herrera 2009), contamination extending beyond the trench will be investigated at a later time as part of the North Boeing Field Remedial Investigation/Feasibility Study, and no additional samples were collected.

Three destructive concrete samples (FC1, FC2, FC3) were collected from the steam plant tunnel and two destructive concrete samples (FC4, FC5) were collected from the condenser pit. Samples were collected after all sediment was removed and surfaces were cleaned. PCBs were not detected above laboratory reporting limits for any of these samples.

Ellis Substation

Two composite destructive concrete samples were collected from the concrete pads located at the former Ellis substation prior to demolition. Neither sample (LC1, LC2) exhibited PCBs greater than laboratory reporting limits.

Summary of Removal Action Objectives

Of the 25 soil samples and 19 concrete samples collected to either confirm cleanup (soil) or document residual concentrations to be left in place (concrete), all locations met RAOs. In addition, visual inspection of both concrete pipes and CMP indicated no residual sediment or less than 1 inch of sediment remaining, respectively. Each of the RAOs listed at the beginning of this report are summarized in Table 6.

Table 6. Summary of RAO attainment.

Removal Action Objective	Actions
Eliminate all unauthorized drains into the flume	The flume, as a conveyance structure, was replaced with a pipe that has no inputs other than surface runoff limited to the immediately adjacent land surface.
Remove sediment in the flume.	Visual inspections of the outfall, manhole M100, 72-inch CMP, twin 42-inch pipes, wood and concrete open channel sections, steam plant tunnel, and condenser pit were conducted to verify sediment removal.
Remove contaminated soil immediately surrounding the flume with cPAH concentrations above MTCA industrial properties soil cleanup level.	Confirmation soil samples were collected from the flume alignment. The MTCA industrial properties cleanup level of 2.0 mg/kg TEQ was not exceeded.
Remove PCB-contaminated soil above MTCA method A unrestricted land use soil cleanup level.	Confirmation soil samples were collected from the flume alignment. The MTCA unrestricted properties cleanup level of 1.0 mg/kg was not exceeded in either soil or concrete.
Provide stormwater conveyance for the steam plant property and the South Myrtle Street right of way.	A new pipe and bioswale system was installed to provide stormwater conveyance for the steam plant property and the South Myrtle Street right of way.
Do not interfere with effectiveness of the planned Slip 4 removal action to be conducted at a later time.	Construction was completed such that minimal sediment was disturbed in Slip 4 and no material was discharged from the flume to Slip 4 during field activities.

Waste material removed from the Flume Project site included:

- 2.7445 tons sediment sent to the TSCA-permitted Columbia Ridge Landfill in Arlington, Oregon
- 3,073.46 tons sediment (flume and Slip 4) and soil sent to the Subtitle D-permitted Columbia Ridge Landfill in Arlington, Oregon
- 89.32 tons treated wood sent to the Subtitle D-permitted Columbia Ridge Landfill in Arlington, Oregon
- 9.85 tons other contaminated media (e.g., metal pipes, concrete, wood, assorted debris, PPE, oil boom, silt curtain) sent to the Subtitle D-permitted Columbia Ridge Landfill in Arlington, Oregon
- 328.91 tons clean concrete sent to Renton Concrete Recyclers in Renton, Washington
- 629,000 gallons treated water discharged to the King County sewer system.

One sample collected from the tunnel bypass trench (FS2) was found to have diesel- and lube oil-range total petroleum hydrocarbons exceeding the MTCA method A cleanup level. The

trench was excavated on property adjacent to the existing flume footprint. Conditions at this location are not directly associated with historical flume operation and will be further addressed through separate investigations.

7.0 Compliance with ARARs

The City of Seattle and EPA have entered into an Administrative Settlement Agreement and Order on Consent for a Removal Action in Slip 4. The scope of work for the Removal Action is defined in the Action Memorandum issued by EPA. The Action Memorandum includes removal of "substantial sediment accumulations that extend from Slip 4 up into the lowest outfall segment of the Georgetown Flume…to eliminate potential for recontamination of the sediments in Slip 4". EPA determined that the Flume closure project qualified for CERCLA permit exemption, meaning that the City was not be required to apply for federal, state, or local permits typically required for a project of this sort; however, the City was required to comply with any and all substantive requirements that would have been imposed by those permits. The design report for this project (Herrera 2008a) identified six categories of Applicable or Relevant and Appropriate Requirements (ARARs). A description of how each related regulation was addressed during the project is discussed in this section.

Water-related Regulations

Sections 401 and 404 of the Federal Clean Water Act – Water Quality Certification and Dredge and Fill Requirements (33 USC 1340, 1344; 33 CFR Parts 320 through 330 and 40 CFR Parts 230 and 231)

Sections 401 and 404 of the Clean Water Act (CWA) set forth requirements for water quality certification, and for dredging and placing fill materials into the waters of the United States, respectively, and are applicable to in-water actions (below mean high high water) at the end of pipe in Slip 4. The design required that all work be conducted in-the-dry during low tide. As a result, no Section 401 certification was necessary for the project (see Appendix F). Never the less, the design included a number of Best Management Standards (BMPs) to protect water quality. A silt curtain was installed to block fish access to the work area and reduce suspended solids from leaving the work area. A floating boom also was installed to prevent movement of oily material from the work area. No water quality monitoring was required by EPA; however, the Contractor, Resident Engineer, and Herrera monitored use of BMPs and visually monitored turbidity in Slip 4 during construction at the outfall. BMPs included installation of a gravel pad beneath equipment at the top of the bank, the placement of coir wattles at the top of the bank, and installation of the silt curtain and oil boom in Slip 4. All work was conducted in the dry during low tide conditions.

Concurrent with the Slip 4 Action Memorandum, a Section 404(b)(l) evaluation was completed for the entire Slip 4 Non-time-critical Removal Action (NTCRA), which determined that the in-water removal action will be in compliance with the requirements of CWA Section 404 (Appendix G). For the flume outfall work, intertidal sediment removal was limited to approximately 10 cubic yards and no bank soil was removed for access (a long-arm backhoe was used from the top of the bank). Sediment removal was performed in-the-dry, however, during the removal, water that filled the hole became turbid and had an oily sheen. Absorbent pads and a

sock were deployed to contain and absorb the oil. Work was stopped until the next day when the Contractor could mobilize a portable tank and vactor truck to collect the water from the work area and take it to the site water treatment plant.

40 Code of Federal Regulations (CFR) Part 230 sets forth specific standards to implement CWA Section 404(b)(l) requirements for evaluation and testing of dredged or fill material placed into navigable waters of the U.S**.** Placement of fill material in Slip 4 from upland sources was a CERCLA onsite action. This material was obtained from a WSDOT-approved source (Corliss Resources Puyallup Pit PS-B-312), but was not tested for potential contamination due to the large particle size (i.e., rock). The substantive requirements of 40 CFR Part 230 were not explicitly met; however, this is a common source of aggregate used for construction that has had no history of contamination reported. Fill material placed below mean high high water included approximately 10 cubic yards of quarry spalls placed as a temporary outfall scour pad and approximately 15 cubic yards of sandy gravel placed as habitat enhancement surrounding the pad.

Water Quality Standards for Surface Waters (Ch. 90.48 and 90.54 RCW; WAC 173-201A)

WAC 173-201A sets forth water quality standards that must be met in Slip 4. Visual monitoring of the effectiveness of TESC measures for the control of turbidity and sheens was performed by the Resident Engineer and Herrera during work performed at Slip 4. During sediment removal at the outfall, a sheen was observed on water collecting in the work area. Absorbent pads and socks were immediately deployed to absorb the oily material and work at the outfall was terminated early. A pump and tank were brought to the outfall work area and oily water collected in the excavation was transferred to the onsite water treatment plant. No oily water was released into Slip 4.

Point Source Discharges to Surface Water (Ch. 90.48 and Ch. 90.54 RCW) and Regulations (Ch. 173-220 WAC)

These regulations govern the point source discharge of pollutants to surface water. Water generated during this project was collected, analyzed, treated as needed, and discharged to the sanitary sewer under a permit from King County (Appendix H). No point-source discharges to surface water took place.

Construction Projects in State Waters (Ch. 77.55 RCW) and Hydraulics Project Approval Regulations (Ch. 220-110 WAC)

Hydraulic code rules for construction projects in state waters have been established for the protection of fish and shellfish, and are applicable to Slip 4 construction activities. The flume removal action work in Slip 4 performed on June 22 and 23 complied with these substantive requirements by adhering to the common saltwater technical provisions of WAC 220-110-270. No work waterward of the ordinary high water line occurred within the prohibited times

identified in WAC 220-110-271 (September 1 through June 14). As a precaution, a fish barrier zone was placed surrounding the work.

Shoreline Management Act (Ch. 90.58 RCW)

According to Shoreline Management Act (SMA) regulation WAC 173-27-060, federal agency actions within a coastal county such as King County must be consistent to the maximum extent practicable with the approved Washington state coastal zone management program, subject to certain limitations set forth in the Federal Coastal Zone Management Act, 16 U.S.C. 145 1 et seq. (CZMA) and regulations adopted pursuant to it.

Seattle Municipal Code (SMC) Chapter 23.60 and its regulations implement the State Shoreline Management Act, and are applicable to all building, excavation, dredging, and filling within 200 feet of regulated shorelines. The project complied with these implementing regulations by minimizing adverse impacts associated with turbidity (no in-water work, employing TESC measures along the shoreline bank) and restricting fish from entering the work area.

King County Wastewater Discharge Permit (KCC Title 28)

Discharge from construction dewatering into the King County sewerage system is governed by these regulations that are designed to prevent discharge of substances that degrade wastewater treatment processes or impact surface-water quality. In accordance with King County Code Title 28, SCL obtained a King County Wastewater Discharge Permit (Appendix H). As required by the permit, the City provided pre-treatment of wastewater to levels in accordance with the designated discharge limits. Water treatment methods included gravity pre-settling, mechanical separation, filtering to remove particles larger than 10 microns, and treatment through an activated carbon filter to remove organic compounds (specifically PCBs).

Wildlife-related Regulations

Federal Endangered Species Act (16 USC 1531 et seq.; 50 CFR Parts 17, 200, and 402)

As noted in the Slip 4 Engineering Evaluation/Cost Analysis (Integral 2006), several federally threatened or endangered (T/E) wildlife and fish species may be present in the site area. In accordance with Section 7 of the Act, EPA consulted with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) (collectively “the Services”) about the potential effects of the proposed removal activities and ways to minimize those effects. A biological assessment was prepared for the Slip 4 Removal Action with EPA oversight.

The Services were engaged in an informal consultation by EPA for this project and issued a letter response (Appendix I). A “may affect, not likely to adversely affect” determination was made for both Puget Sound Chinook and steelhead and a “may affect, not likely to adversely affect” determination was made for critical habitat for Puget Sound Chinook salmon.

Fish and Wildlife Coordination Act (16 USC 661 et seq.)

This statute establishes criteria to protect fish and wildlife that could be affected by proposed or authorized federal projects involving "impounding, diverting, or controlling waters." This act is relevant and appropriate to cleanup actions at the Georgetown flume as an extension to Slip 4. EPA has consulted with the USFWS and the Washington Department of Fish and Wildlife regarding the potential effects of the project on fish and wildlife and has identified measures that would mitigate those impacts. Also, the statute requires that adequate provision be made for the conservation, maintenance, and management of fish and wildlife resources and their habitats. The ESA consultation described above satisfies the substantive requirements of the Fish and Wildlife Coordination Act.

Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq., 50 CFR Part 600)

Consideration of the effects of federal actions on Essential Fish Habitat (EFH) for covered species, including salmon, is required under the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq.) and its implementing regulations (50 CFR Part 600), finalized January 17, 2002. Typically, state or federal agencies planning actions that might adversely affect an EFH-managed species must formally consult with National Oceanographic and Atmospheric Administration (NOAA) Fisheries regarding the action.

EPA prepared an evaluation of EFH and concluded that the proposed Slip 4 action is not likely to adversely affect EFH for salmonid and groundfish (the Georgetown flume sediment removal at the head of Slip 4 is a small part of the entire Slip 4 Removal Action). A copy of EPA's evaluation was provided to NOAA Fisheries (EPA 2006).

The informal consultation response from NMFS provided in Appendix I concluded that "Because the conservation measures that the EPA included as part of the proposed action to address ESA concerns are also adequate to avoid, minimize, or otherwise offset potential adverse impacts to the EFH of the species in Table 1, conservation recommendations pursuant to MSA (Section 305(b)(4)(A)) are not necessary."

Migratory Bird Treaty Act (16 USC 703-712)

This act governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. This act is applicable to cleanup actions at Slip 4 and the flume, requiring actions necessary to protect habitat for migratory birds and avoid disturbances of their nests and eggs, if found during the construction inspection process. Trees removal would be restricted to those times of the year when species of concern are not nesting in the project area.

Prior to construction, a bird survey was conducted to evaluate the potential presence of bird nesting activities within trees designated for removal (Appendix J). Nine trees identified for

removal were catalogued during the survey conducted on April 3, 2008 and one nest was identified. Based on the nest observed and the species identified within the project area, it was determined that potential nesting opportunities would mostly likely occur between May 1 and July 31. The trees were removed by the City between May 5 and 17, 2008.

Waste Management-related Regulations

Toxic Substances Control Act (TSCA) (40 CFR 761)

This regulation is applicable to sediment and soil containing PCBs at concentrations greater than or equal to 50 parts per million. The removal action complied with TSCA by disposing of sediments with total PCB concentrations greater than or equal to 50 mg/kg at a TSCA-authorized landfill. Approximately 1.8 cubic yards (2,500 kilograms) of sediment exceeded this limit (uniform hazardous waste manifest provided in Appendix K).

Equipment (hand tools, Bobcat loader) and containers (vactor truck, transfer sled) that came into contact with any sediment were decontaminated prior to leaving the site. Decontamination consisted of two sets of alternating solvent and water rinses that incorporated the SCL standard TSCA-based decontamination procedure (described in the Equipment Decontamination Plan). Even though only a small amount of sediment was regulated under TSCA, the same decontamination procedure was applied to the entire project.

Wipe samples were collected to verify decontamination of the vactor truck, transfer sled, and the Bobcat used in the tunnel. Two wipe samples were collected from the vactor truck holding tanks, two from the sled used for TSCA-regulated sediment removal, and one from the Bobcat in the steam plant tunnel; no PCBs were detected in any sample.

Model Toxics Control Act Regulations (MTCA) (WAC 173-340-440)

The flume property was determined to meet the requirements of an industrial setting and MTCA method A (industrial) and method C cleanup values apply. Pre-design testing along the entire flume indicated that small pockets of soil exceeding these cleanup criteria could exist in the designated work area (testing for SVOCs, PCBs, petroleum products, and priority pollutant metals was conducted, with only copper barely detected above the reporting limit). All soil and sediment removed from the site was considered to contain hazardous substances and was disposed of at a Subtitle D landfill.

In addressing soil cleanup standards for industrial properties, MTCA requires that hazardous substances remaining at the property (above Method A cleanup levels) not pose a threat to human health and the environment (WAC 173-340-745(1)(a)(iii)). This may be provided for by limiting access to the property and limiting exposure with a barrier (e.g., capping) or controlling future work that exposes contaminated soil (e.g., utility work). These factors were addressed by placement of clean backfill across all excavated areas as a capping measure. Restricting access to subsurface soil in the future will be addressed in conjunction with the North Boeing Field cleanup that is under way.

Washington State Sediment Management Standards (SMS) (Ch. 173-204 WAC)

The SMS establish a narrative standard with specific biological effects criteria and numerical chemical concentrations for Puget Sound sediment. Under the SMS, the cleanup of a site should result in the elimination of adverse effects on biological resources and any health threats to humans. SMS has numerical standards for biological resources, and narrative standards for protection of human health.

Attainment of the SQS on the surface sediments within Slip 4 will not be achieved until construction of the Slip 4 NTCRA. The flume project included placement of a temporary splash pad at the rebuilt outfall. The design of the splash pad required use of imported "clean" sand, gravel, and rock obtained from a WSDOT-approved source. The source was approved by the SPU materials laboratory.

Resource Conservation and Recovery Act (Subtitle C) Hazardous Waste (42 USC 6921 through 6939[e]) and (40 CFR 261.4[g])

Testing of sediments for toxicity characteristic leaching potential (TCLP) chemical constituents in support of the Slip 4 design indicated that the sediments would not designate as hazardous waste (no sediment samples were collected during the removal action). No soil associated with the flume was analyzed to evaluate the potential for hazardous waste designation either during earlier characterization efforts or as part of the removal action. Three of 27 samples analyzed in 2006 exceeded the 100 mg/kg dilution threshold for lead (116, 135, and 317 mg/kg), indicating a small potential for TCLP failure. The Contractor submitted a sediment sample collected from the tunnel to meet waste acceptance requirements for the Subtitle D landfill. The sample was analyzed for lead using the TCLP; no lead was detected in the extract (see Appendix E).

Resource Conservation and Recovery Act (Subtitle D) Solid Waste (42 USC 6941 through 6949[a]) and (40 CFR Parts 257, 258)

The upland disposal of excavated contaminated sediments and soils complied with federal and state solid waste management requirements. The requirements of the federal regulations have been incorporated into Ecology's solid waste regulations (below).

Solid Waste Management Act (Ch. 70.95) and Regulations

These requirements are applicable to the disposal of non-hazardous and non-TSCA waste generated during removal activities. These standards set minimum functional performance standards for the proper handling and disposal of solid waste, identify functions necessary to ensure effective solid waste handling at both the state and local level, and follow priorities for the management of solid waste.

Because disposal of excavated soil, sediments, and debris was performed at a permitted solid waste landfill, both substantive and administrative requirements of applicable were met for the project.

The offsite rule (40 CFR 302.440) of the NCP requires that solid and hazardous waste offsite landfills to which CERCLA hazardous substances are being sent must be acceptable to EPA. EPA reviewed the status of the proposed disposal facility (Chemical Waste Management in Arlington, Oregon) identified in the Contractor Demolition and Removal Plan. Requirements for disposal of soil and sediments can be found in the landfill operating permit.

Washington State Dangerous Waste Regulations (WAC 173-303)

These rules regulate the generation, handling, storage, treatment and disposal of dangerous waste, Washington's stricter, more expansive term for federal hazardous waste.

One composite sediment sample and two composite bank soil samples collected across Slip 4 indicated that Slip 4 sediments and bank soils do not designate as Dangerous Waste and would not be considered as such for the Removal Action. Based on previous sampling, excavated soils also were not expected to designate a Dangerous Waste.

Historic Preservation, Archeology, and Cultural Resource Regulations

City of Seattle Landmarks Preservation Ordinance (Title 25.12 SMC) and National Historic Preservation Act (16USC 470f; 36 CFR 800)

These laws require consultation with appropriate historic preservation officials prior to undertaking actions that may affect historic resources. They are applicable because the Georgetown Steam Plant (including the flume) is a National Historic Landmark, as well as a Seattle Landmark. As the federal agency requiring the undertaking, EPA assumed the lead in the Section 106 consultation process.

A Cultural Resources Report was prepared in accordance with Washington State Department of Archaeology and Historic Preservation (DAHP) guidelines (Entrix 2008). The report provides information to the various stakeholders in the consultation process, including:

- Definition of the Area of Potential Effect (APE) – the final APE was essentially the flume property boundary, including the head of Slip 4.
- Identification of cultural resources (either archaeological or historical) within or in close proximity to the APE. No archaeological resources were discovered within the APE. Historic properties within the APE included Boeing buildings 3-323 and 3-346, the steam plant building, holding (or blow-off) tank, and the flume. The Boeing buildings were not considered eligible for listing on the National Register and, therefore, were not considered for adverse effects.

- Analysis of project effects on cultural resources. The Report concluded that the project would not have adverse effects on archaeological resources, but would have adverse effects on the steam plant (including the flume).

- Recommendations for mitigating adverse effects and for monitoring during construction.

The Cultural Resources Report was then provided to various stakeholders who were invited to participate in development of a Memorandum of Agreement (MOA) that specified mitigation requirements, including:

- Muckleshoot tribe

- Duwamish Tribe

- Suquamish Tribe

- Historic Seattle

- King County Historic Preservation Program

- Washington Trust for Historic Preservation

- National Park Service

The final MOA was signed by the EPA, DAHP, National Park Service, and SCL and contains the following mitigation requirements:

- Monitor all excavations below the flume for archaeological and historical resources.

- Prepare Historic American Engineering Record (HAER) documentation and provide to the Library of Congress, DAHP, and History Link for posting on their web site.

- Prepare a comprehensive Building Condition Assessment and Maintenance Recommendations Report for the steam plant.

Northwest Archaeological Associates (NWAA) monitored excavations during construction. The field observations report is included in Appendix L. No archaeological or historical artifacts were discovered during construction. NWAA also photographed the flume prior to demolition to support HAER documentation. The building assessment is planned for 2010.

Native American Graves Protection and Repatriation Act (25 USC 3001 et seq., 43 CFR Part 10)

The Native American Graves Protection and Repatriation Act (NAGPRA) and implementing regulations are intended to protect Native American graves from desecration through the removal and trafficking of human remains and cultural items, including funerary and sacred objects. To protect Native American burials and cultural items, the regulations require that if such items are inadvertently discovered during excavation, the excavation must cease and the affiliated tribes notified and consulted. As discussed above, a professional archaeologist was on-site to observe all excavations below the flume. No Native American or other artifacts were observed during construction.

American Indian Religious Freedom Act (42 USC 1996 et seq.)

If Native American or other cultural materials are unearthed as part of the excavation process, the National Historic Preservation Act and implementing regulations require that federal agencies consider the possible effects on historic sites. If an agency finds a potential adverse effect on historic sites or structures, the agency must evaluate alternatives to "avoid, minimize, or mitigate" the impact, in consultation with the State Historic Preservation Officer. Compliance with this statute was achieved through the actions discussed above.

Archaeological Resources Protection Act (16 USC § 470 et seq., 43 CFR Part 7)

Should cultural materials be discovered in excavated soil, the requirements of the Archaeological Resources Protection Act (ARPA) and its implementing regulations apply. They prohibit the unauthorized disturbance of archaeological resources on public and Indian lands. Archaeological resources are "any material remains of past human life and activities which are of archaeological interest," including pottery, baskets, tools, and human skeletal remains. The unauthorized removal of archaeological resources from public or Indian lands is prohibited, and any archaeological investigations at a site must be conducted by a professional archaeologist. As discussed above, no artifacts were observed during excavation activities.

Safety Regulations

Washington Industrial Health and Safety Act (RCW 49.17)

Establishes worker health and safety requirements that are at least as stringent as the Federal Occupational Safety and Health Act (OSHA) training, monitoring, protective equipment, and documentation requirements at contaminated sites. Construction specifications required that all construction workers that may come in contact with contaminated soil, sediment, or water comply with Department of Labor and Industries requirements. The contractor submitted a Health & Safety Plan identifying hazards, identifying safety procedures, and provided documentation of appropriate training for workers entering the work site.

No onsite worker air monitoring was conducted for this project. The contractor Health and Safety Plan provided contaminant exposure calculations for lead, PAHs, and PCBs based on maximum concentrations found at the site during earlier site characterization efforts. The action level for each chemical type was determined to be well above the visible dust threshold. As a result, visible dust was used as an indicator of potential exposure and engineering controls were enacted to minimize fugitive dust conditions. Respiratory protection was to be used when concrete grinding or sawing resulted in visible dust generation; this work was not witnessed by Herrera. Ventilation was provided during entry to confined spaces.

Other Regulations

State Environmental Policy Act (WAC 197-011)

This regulation is applicable to upland soil removal outside the flume. The State Environmental Policy Act (SEPA) requires Lead Agencies to conduct environmental review of certain projects. Environmental impacts are assessed through completion of a SEPA checklist, which the Lead Agency then uses to determine the level of required environmental review. As a public agency, SCL is the Lead Agency for SEPA compliance on its projects. A SEPA checklist has been prepared for the project and a determination of non-significance has been assigned (Appendix M).

Puget Sound Clean Air Agency Requirements

The Puget Sound Clean Air Agency (PSCAA) requires control of fugitive dust emissions generated by activities within its region. Specifically, Regulation I, Sections 9.11 (Emission of Air Contaminant: Detriment to Person or Property) and 9.15 (Fugitive Dust Control Measures) prohibit emissions of fugitive dust unless reasonable precautions are employed to minimize these emissions. Examples of reasonable precautions listed in the regulations include control equipment, enclosures, wet suppression techniques, and cover during transport. These controls are stipulated in the City standard specifications and were applied to this job. Sediment and soil were generally moist during excavation activities, minimizing fugitive dust during loading. Dust control was provided using a water truck, when required. All loads leaving the site were covered.

City of Seattle Noise Ordinance (SMC Chapter 25.08)

The City of Seattle's noise ordinance (SMC, Ch. 25.08, Noise Control) sets maximum noise emission levels for three time periods: 1) daytime (7 a.m. to 10 p.m.); 2) weeknights (10 p.m. to 7 a.m.), and 3) weekends and holidays (10 p.m. to 9 a.m.). The site and its immediate area are within the ordinance's industrial zone. The contractor will control noise emissions to within the maximum stipulated 70 dBA.

Critical Areas Ordinance (Title 25.09 SMC)

This ordinance was established to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the property and to adjacent properties, the surrounding neighborhood, and the drainage basin.

This ordinance is applicable to Critical Areas defined as susceptible to geologic hazard (i.e., liquefaction), designated as a fish and wildlife habitat conservation area, or designated as shoreline habitat. Under SMC 25.09.045 F, maintenance, repair, renovation, or structural alteration of an existing structure that does not increase the impact to, or encroach further within or further alter an environmentally critical area or buffer, is exempt from provisions of this chapter.

Grading and Drainage Control (Title 22.800 SMC)

This ordinance establishes regulations for safe and responsible grading and drainage within the City to protect life, property, and the environment from loss, injury, and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activities such as grading. It is applicable to grading activities (any volume of excavation, fill, dredging, or other movement of earth materials) at any potentially hazardous (contaminated) location, defined in Section 22.800.050. The City also requires permitted activities to comply with National Pollutant Discharge Elimination System requirements. However, while city-funded or city-owned projects within the public right-of-way are exempt from acquiring a clear and grade permit (SMC 22.800.070), these projects must still meet the requirements of the ordinance. This was achieved by establishing a TESC Plan, installing BMPs, performing regular inspections of erosion and sediment controls, and performing regular inspections of surface water quality.

8.0 Cost

Georgetown Steam Plant flume removal activities included construction, construction oversight (including monitoring), and reporting. Construction included the removal of contaminated sediment, partial demolition of the flume structure, and installation of a replacement stormwater drainage system. Construction oversight costs include those incurred by Herrera (including sampling and analysis), not those associated with City personnel. Costs are summarized below, with a detailed breakdown of contractor costs by bid item provided in Appendix N.

Activity	Cost
Construction	$2,090,000
Construction Oversight	$70,000
Reporting	$30,000
Total	$2,190,000

9.0 References

Ecology, Washington State Department. 2007. Model Toxics Control Act Statute and Regulation - Model Toxics Control Act Chapter 70.105D RCW, Uniform Environmental Covenants Act Chapter 64.70 RCW, MTCA Cleanup Regulation Chapter 173-340 WAC, November.

Entrix. 2008. Final Cultural resources Section 106 Technical Report, Georgetown Steam Plant Flume Project, DAHP LOG NO.030408-01-EPA Slip 4 Early Action Area, Lower Duwamish Waterway, Superfund Site, Seattle, WA, prepared for Seattle City Light, November 4.

Herrera Environmental Consultants. 2005. Georgetown Flume Inspection and Survey-Project Summary (Draft). Prepared for Seattle Public Utilities by Herrera Environmental Consultants, Inc., Seattle, Washington. June.

Herrera Environmental Consultants. 2007. Site Characterization and Alternatives Evaluation Report, Georgetown Flume Demolition and Contaminated Soil Removal, prepared for Seattle City Light, April.

Herrera Environmental Consultants. 2008a. Final 100% Design Report, Georgetown Flume, prepared for Seattle City Light, March 19.

Herrera Environmental Consultants. 2008b. Georgetown Steam Plant Flume, Slip 4 Outfall Work Plan, prepared for Seattle City Light, October 7.

Herrera Environmental Consultants. 2009a. Confirmation and Construction Monitoring Sampling and Analysis Plan, Georgetown Flume, prepared for Seattle City Light, February 3.

Herrera Environmental Consultants. 2009b. Changes to Georgetown Flume Demolition, Removal, and Drainage Project Confirmation and Construction Monitoring Sampling and Analysis Plan memo, prepared for Seattle City Light, May 20.

Herrera Environmental Consultants. 2009c. Changes to Georgetown Flume Demolition, Removal, and Drainage Project Confirmation and Construction Monitoring Sampling and Analysis Plan-Addendum #2, prepared for Seattle City Light, July 7.

HWA. 1998. Georgetown Steam Plant Flume Sediment Sampling, Seattle, Washington, HWA Project No. 98144, prepared for Seattle City Light by HWA Geosciences, December.

Integral Consulting. 2006. Lower Duwamish Waterway Slip 4 Early Action Area Engineering Evaluation/Cost Analysis, prepared for the City of Seattle and King County for submittal to the U.S. Environmental Protection Agency, Region 10, February.

SEA. 2004. Final Lower Duwamish Waterway Slip 4 Early Action Area Summary of Existing Information and Identification of Data Gaps. Prepared for City of Seattle, King County, Washington, Striplin Environmental Associates, Olympia, Washington, January.

USEPA. 2006. Substantive compliance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act—Slip 4 Duwamish Waterway, Seattle, Washington. Prepared by U.S. Environmental Protection Agency, Region 10, Seattle, WA.

APPENDIX A

Photographic Documentation

Name of Project
Photographic Log

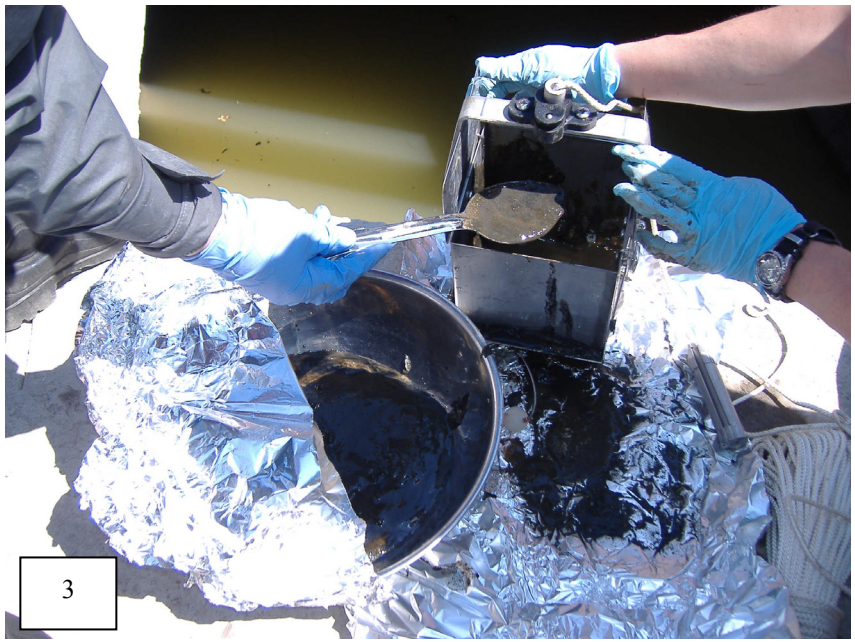
Photo Number	Photo Description
1	Location of samples LC1 and LC2 in relation to edge of concrete pad and flume. Original file: 090519-B-004.jpg
2	Looking down and south towards segment E from opening in GTSP tunnel where sample FSD1 was collected. Original file: 090522-B-006.jpg
3	View of sediment collected at FSD3 using Eckman sample device. Original file: 090522-B-016.jpg
4	View of workers shoveling TSCA sediment into bucket for removal. Original file: 090526-B-005.jpg
5	Loading TSCA sediment removed from segment E into roll-off container. Original file: 090526-B-006.jpg
6	View of contaminant reduction zone (CRZ) at TSCA contaminated site. Original file: 090526-B-007.jpg
7	Workers cleaning concrete after sediment was removed from TSCA portion of segment E (concrete lined open channel). Original file: 090526-B-009.jpg
8	View of segment F (tunnel) from segment E (concrete lined open channel), looking north. Original file: 090527-B-003.jpg
9	View of concrete subsample locations for sample EC3. Color of subsamples varied from white to purplish-gray. Original file: 090527-B-004.jpg
10	View of template used to collect sample Wipe1 from bucket. Original file: 090527-B-010.jpg
11	Contractor removing wood and cast iron pipe debris from middle tunnel opening along segment F (tunnel). Original file: 090605-B- 006.jpg
12	Wheel wash equipment located at S. Myrtle Street.

Photo Number	Photo Description
	Original file: 090605-B- 015.jpg
13	View of contractor loading sediment from containment into dump trucks, looking northeast. Original file: 090605-B- 020.jpg
14	Location of sample FC2, looking north. Original file: 090610-B-007.jpg
15	Sample EC5 location at end of 24-inch concrete pipe. Original file: 090610-B-022.jpg
16	Close-up of wipe sample collection. Original file: 090610-B-025.jpg
17	Stockpile area – Decontamination set up. Original file: 090616-A- 001.jpg
18	Pump at south/downstream end of segment F (tunnel). Original file: 090616-A- 025.jpg
19	Concrete sampling in the condenser pit. Original file: 090618-B- 005.jpg
20	Flume outfall; beginning excavation of existing sediment at outfall end. Original file: 090622-A- 010.jpg
21	Flume outfall end; laborers cleaning out inside of CMP outfall pipe. Original file: 090622-A- 018.jpg
22	Trench opening near MH 10. Original file: 090630-A- 007.jpg
23	Vactor/Jetting cleaning operation at MH 100. Original file: 090707-A- 002.jpg
24	Vactor/Jetting cleaning operation at MH 100. Original file: 090707-A- 005.jpg
25	Cutting flume at sampling location – approx sta 11+45. Original file: 090709-A- 016.jpg
26	Sampling soil under wood bottom of flume.

Photo Number	Photo Description
	Original file: 090715-B- 002.jpg
27	Inspection of inside of cleaned 72” CMP culvert. Original file: 090716-B- 012.jpg
28	Inspection of inside of cleaned 72” x 44” CMP arch culvert outfall pipe. Original file: 090716-B- 023.jpg
29	Sampling soil under wood bottom of flume. Original file: 090717-B- 029.jpg
30	Wood flume demolition and pipe installation near Willow St (Approx Sta. 10+75). Original file: 090721-A- 010.jpg
31	Hosing down site to control dust. Original file: 090724-A- 002.jpg
32	Demo of wood flume at approx sta 13+00 – clearing blackberries . Original file: 090724-A- 012.jpg
33	Demo of wood flume at approx sta 13+00. Original file: 090724-A- 020.jpg
34	Demolition of flume near sta 14+00. Original file: 090728-A- 007.jpg
35	Demolition of flume near sta 14+00. Original file: 090728-A- 011.jpg
36	Demolition of flume near sta 14+00. Original file: 090728-A- 012.jpg
37	Demolition of flume near sta 14+00. Original file: 090728-A- 015.jpg
38	Sliplining of outfall pipe from Slip 4. Original file: 090803-A- 003.jpg
39	Sliplining of outfall pipe from Slip 4.

Photo Number	Photo Description
	Original file: 090803-A- 005.jpg
40	Sliplining of outfall pipe from Slip 4. Original file: 090803-A- 007.jpg
41	MH100 – winching pipe from other end of sliplining operation. Original file: 090803-A- 009.jpg
42	Installation of outfall "top hat" piece. Original file: 090803-A- 015.jpg
43	Vent for grouting attached to "top hat" piece at outfall end. Vent extends to upper bank to prevent spill in Slip 4. Original file: 090806-A- 004.jpg
44	Grout trucks and mixing at MH100. Original file: 090806-A- 009.jpg
45	Grout injection pipe inserted at MH100. Original file: 090806-A- 011.jpg
46	Water Treatment Plant. Original file: 090811-A- 001.jpg
47	Water Treatment Plant. Original file: 090811-A- 002.jpg
48	Prepping at outfall for tide flex valve installation. Original file: 090817-A- 002.jpg
49	Lowering tide flex valve for installation. Original file: 090817-A- 004.jpg
50	Installation of tide flex valve. Original file: 090817-A- 009.jpg
51	MH 100 – Inside MH, with coating. Original file: 090825-A- 003.jpg
52	Graded swale area near Myrtle Street Original file: 090825-A- 005.jpg

Photo Number	Photo Description
53	Graded area near stockpile area. Original file: 090825-A- 010.jpg
54	Graded area near Willow St substation. Original file: 090825-A- 013.jpg
55	Hydroseeded swale at Myrtle St crossing – looking North. Original file: 090914-A- 002.jpg
56	Hydroseeded swale South of Myrtle St crossing – looking South Original file: 090914-A- 004.jpg
57	Backfilled flume near Willow St crossing – looking North Original file: 090914-A- 005.jpg
58	Backfilled flume and patched pavement near Willow St Substation – looking Northeast Original file: 090914-A- 009.jpg
59	Hydroseeded steamplant yard. Original file: 090914-A- 017.jpg



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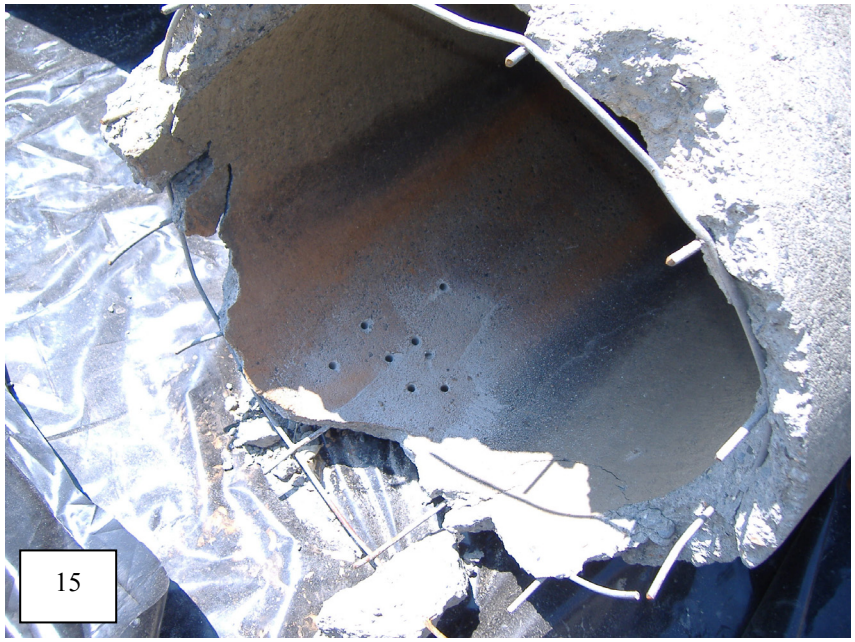

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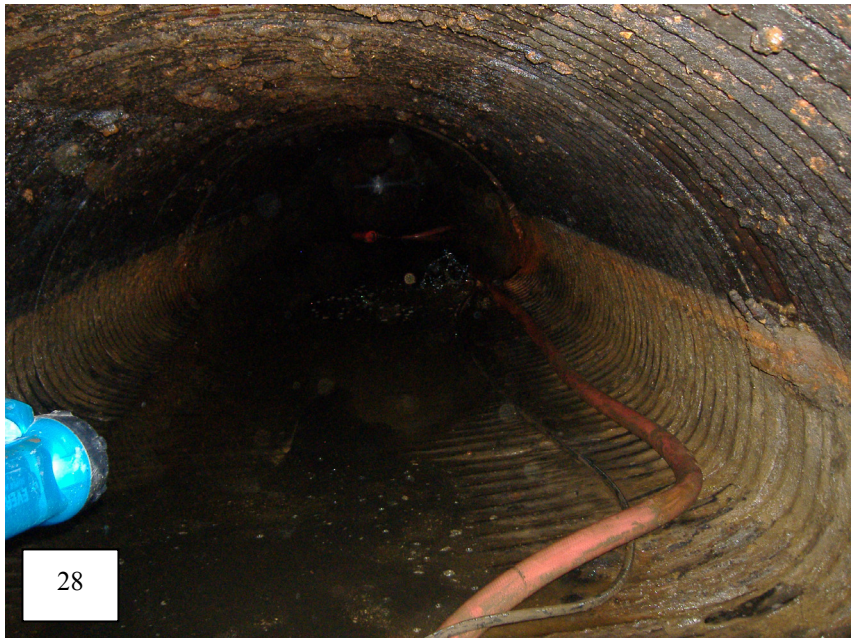
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APPENDIX B

Resident Engineer Daily Logs

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 11 May 2009 **Weather:** Overcast, showers
NTP for Field Work
Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks

Work in Progress: 1. Begin mobilization. Deliver trailer to site.
2. Erect temporary fencing at Steam Plant. Set up to pump trapped water in Steam Plant tank.
3. Begin clearing brush between Myrtle St. and E. Marginal. Install temporary fence around TSCA segment of flume.
4. Continue to assemble water treatment plant.
5. Disconnect Steam Plant roof drains and run temporary pipe to infiltration.
Discussions with Contractor/Others: 1. w/ Brad Rody - Identify MH's designated on Plan to receive discharge. Cannot start sediment removal or demolition before all required submittal approved.
Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop did not pass SCL inspection. Work needed before connection.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Rody - Super, 2 operators, 2 laborers.
Owl Fence – 2 laborers.
Contractor's Equipment: Prime and Sub-contractors:

Material Received and Conditions/Source Approval: C900 PVC pipe for drains

Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 12 May 2009 **Weather:** Overcast

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Continue to mobilize.
2. Begin to pump water from catchment at Steam Plant into designated MH. Stop at WS request.
3. Clear brush at Myrtle St. etc..
4. Continue to assemble water treatment plant.
Discussions with Contractor/Others: 1. Weekly meeting, see minutes.

Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop did not pass SCL inspection. Work needed before connection.

Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.

Contractor's Equipment: Prime and Sub-contractors:

Material Received and Conditions/Source Approval: none

Visitors/Comments: Wanda Shultz (SCL)

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: **PW#:**

Date: **Weather:**

Construction Site Conditions:

Traffic Control Device/Detour in Place:

Environmental Protection and Erosion Control Measures in Place:

Work in Progress:

Discussions with Contractor/Others:

Discrepancies/Delays/Potential Claims:

Description of Extra Work in Progress (attach force account sheets to diary):

Contractor's Workforce: Prime and Sub-contractors:

Contractor's Equipment: Prime and Sub-contractors:

Material Received and Conditions/Source Approval:

Visitors/Comments:

_____
Construction Engineer Signature

_____

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: **PW#:**

Date: **Weather:**

Construction Site Conditions:

Traffic Control Device/Detour in Place:

Environmental Protection and Erosion Control Measures in Place:

Work in Progress:

Discussions with Contractor/Others:

Discrepancies/Delays/Potential Claims:

Description of Extra Work in Progress (attach force account sheets to diary):

Contractor's Workforce: Prime and Sub-contractors:

Contractor's Equipment: Prime and Sub-contractors:

Material Received and Conditions/Source Approval:

Visitors/Comments:

_____
Construction Engineer Signature

_____
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: **PW#:**

Date: **Weather:**

Construction Site Conditions:

Traffic Control Device/Detour in Place:

Environmental Protection and Erosion Control Measures in Place:

Work in Progress:

Discussions with Contractor/Others:

Discrepancies/Delays/Potential Claims:

Description of Extra Work in Progress (attach force account sheets to diary):

Contractor's Workforce: Prime and Sub-contractors:

Contractor's Equipment: Prime and Sub-contractors:

Material Received and Conditions/Source Approval:

Visitors/Comments:

_____
Construction Engineer Signature

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Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 13 May 2009 **Weather:** Overcast, Showers

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Remove chain link fencing over flume between Sta.3+00 to Sta.12+50 approx.
2. Begin to pump water from tunnel at Steam Plant into designated water treatment tanks.
3. Clear brush along flume north of Myrtle St. substation..
4. Complete water treatment plant including discharge line. Close Boeing driveway.
Discussions with Contractor/Others: 1. w/ Brad Rody – ask about disposal of concrete from former Ellis St. substation. Will find out and have it tested for PCB contamination.
Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop pass SCL inspection. Waiting for connection.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.

Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none

Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 14 May 2009 **Weather:** Clearing, Showers

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Pump water from tunnel at Steam Plant into treatment plant tanks. Also trapped water from flume.
2. Complete clearing brush Myrtle St. to E. Marginal.
3. Set up de-con. station around TSCA waste portion of flume. Remove steel braces etc. above this area.
Discussions with Contractor/Others: 1. w. Mike McF. – request e-version of three week schedule.

Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop pass SCL inspection. Waiting for connection.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.

Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none

Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

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Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 15 May 2009 **Weather:** Fair

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Continue to pump water from tunnel at Steam Plant into treatment plant tanks. Also trapped water from flume.
2. Install wheel wash unit at Myrtle St..
3. Enter tunnel to determine condition. Full PPE. Decontaminate worker after entry.
Discussions with Contractor/Others: 1. w. Mike McF. – reports a sandbag dike in tunnel approx. 80+ feet from south entry. Appears to be 4+ foot depth of behind. Not shown on Plan. Ask to submit a written notification as may be a changed condition. Note that silt removal is paid on a per ton basis.

Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop pass SCL inspection. Waiting for connection.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.

Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none

Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 18 May 2009 **Weather:** Fair

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Continue to pump water from tunnel at Steam Plant into treatment plant tanks. Also trapped water from flume.
2. Remove asphalt and excavate to expose top of tunnel in two locations. Approximate Sta. 1+40 and 2+30. Existing cover approx. 2 inch AC, 4 inch type 2, 8 inch soil. Concrete appears sound. Thickness unknown.
3. Remove steel angle from side of open flume Sta.2+80 to 3+12. Full PPE. Decontaminate after entry.
4. Place two layer liner in receiving bunker.
Discussions with Contractor/Others: 1. w. Mike McF. – EPA will be on site tomorrow to review handling and decon. procedures. Need training records etc..
2. SCL crew at Steam Plant to repair windows on building. Cannot access west side due to project security fence. Boeing (Jennifer P.) will not allow fence to be breached without pre-scheduled security watch. Call from Lily very concerned. Refer to Wanda.
3. w. Peter J. (Herrera) – Vegetation to be removed from site does not require testing. Requested that they sample concrete from footings to be removed at Ellis St. Will schedule.
Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop pass SCL inspection. Waiting for connection.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.

Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson

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Construction Management Division

Print Name

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Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 19 May 2009 **Weather:** Overcast, showers in PM

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Continue to pump water from tunnel at Steam Plant into treatment plant tanks. Also trapped water from flume.
2. Prepare to remove TSCA waste from first open section of flume. EPA representative determines that decon. procedures etc.. are not adequate. Will reschedule. Noted covered, water tight container on site to receive TSCA waste. Added liner tarp. Approved.
3. Continue to remove steel angle from side of open flume Sta.2+80 to 3+12. Full PPE. Decontaminate after entry.
4. Excavate for third tunnel entry point nearest steam plant. Approx. 3 feet soil cover.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. SCL crew at Steam Plant to repair windows on building.
3. Herrera on site to sample concrete from footings to be removed at Ellis St..
Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
2. Temporary power drop pass SCL inspection. Waiting for connection.
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.
Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Karen Keeley (EPA) – weekly meeting and observe preparations for TSCA removal.

Construction Engineer's Signature

Bryan Nicholson
Print Name

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Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 20 May 2009 **Weather:** Overcast, clearing in PM

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, etc.

Work in Progress: 1. Continue to pump water from tunnel at Steam Plant into treatment plant tanks. Also trapped water from flume.
2. Saw cut concrete for tunnel roof openings. Complete opening at 2+30. Partial saw cut at Sta. 1+20. Concrete appears of good quality, approx. 14 inch thick. Contain all slurry and secure holes..
3. Remove fence cover from flume Sta.8+27 to 9+00 approx. and support timbers. No entry.
Discussions with Contractor/Others: 1. w/ Brad Rody. – Schedule tunnel sediment sampling for Friday morning.
Discrepancies/Delays/Potential Claims: 1. All submittals required for start of field work have not been approved.
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 3 laborers.
Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Wanda Shultz (SCL) w. historical photographer to photograph tunnel opening.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 21 May 2009 **Weather:** Fair

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Start up and test water treatment plant on line power. All OK.
2. Complete cutting concrete to open top of tunnel in two locations. Approximate Sta. 1+40 and 0+50. Measure sediment depth as +4 inches @ 0+50, +2.5 feet @ 1+40 and 2+60. Stack removed sections of concrete (clean) for later disposal. Secure opening with steel plate surrounded by temporary fencing. Concrete approximately 14 inches thick.
3. Remove steel angle from side of open flume Sta.3+45 to 3+60 and 8+30 to 8+60. No entry observed.
Discussions with Contractor/Others: 1. w. Mike McF. – EPA will be on site tomorrow to review handling and decon. procedures. Need training records etc..
2. w Brad Rody – samples of concrete from former Ellis St. substation were reported as " no PCB's or petroleum contamination detected. Can be hauled to Renton Recycle for disposal.
3. w. Heidi M. (Herrera) – Tunnel sediment sampling confirmed for 0900 Friday. Has notified the City's legal Dept. consultant. I notified Boeing.
Discrepancies/Delays/Potential Claims: 1. Approved TESC plan required for unrestricted start of field work
2. Require approved conduit support plan and substation rock submittal for remediation in Willow's substation.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 2 operators, 2 laborers.

Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Wanda Shulze (SCL) – discussed review of EPA checklist to start soil remediation work. Brady Hanson (Herrera) to estimate depth of sediments in tunnel and verify sampling method for tomorrow.

Construction Engineer's Signature

Bryan Nicholson

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Construction Management Division

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Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 22 May 2009 **Weather:** Fair

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Assist with tunnel sediment sampling.
2. Remove concrete footings at former Ellis St. substation. Pre-cast units. Backfill voids w/ native.
Discussions with Contractor/Others: 1. w. Mike McF. – EPA will be on site next Tuesday to review corrections to hazardous waste handling and decon. procedures. Need training records etc.. When she gives approval the hot waste work can start. RODY's CIH will also be on site at that time. SCL Safety Watch not available until 08 June. Will attend 02 June meeting to discuss work requirements. Mike responded that will work as they plan to finish tunnel first.
2. w Brad Rody – need SPU survey for MH's. Request submitted 01 May..
Discrepancies/Delays/Potential Claims: 1. Approved TESC plan required for unrestricted start of field work
2. Require approved conduit support plan and substation rock submittal for remediation in Willow's substation.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, 1 operator.

Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Brady Hanson and Gina Caterra (Herrera), Sue H. (Intergral), Fred Wilson (Boeing) to samples sediments from tunnel at each opening for PCB's. Results by Wednesday.

Construction Engineer's Signature

Bryan Nicholson
Print Name

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Construction Management Division

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Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 26 May 2009 **Weather:** Fair, 66 high

Construction Site Conditions: Developed. Noted socks in all CB's

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Remove TSCA waste from first open section of flume as per plan. Estimated as less that 3 C.Y. . Material appears fairly dry. Removal by hand shovel into lined container for disposal. Broom sweep concrete and wash with decon. cleaner. Observed that decontamination procedures and PPE's in place as previously approved.
2. Remove steel cladding from headwall Sta.3+12. Leave in pit.
3. Pump trapped water from tunnel to treatment.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w Jennifer P. (Boeing) – noted ¾ GSP conduit attached to concrete of flume scheduled for removal Sta.3+00 to 3+40 approx.. Fire alarm for PID's? JP. will investigate.
Discrepancies/Delays/Potential Claims: 1. Require approved conduit support plan for remediation in Willow's substation.
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Karen Keley (EPA), Wanda Shultz (SCL), to observe removal of TSCA wastes from first open section of flume, PPE in "hot zone" and decontamination procedures. All OK.

Construction Engineer's Signature

Bryan Nicholson
Print Name

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Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 27 May 2009 **Weather:** Fair, 70 high

Construction Site Conditions: Developed. Noted socks in all CB's

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Clean sediment from section of open flume approx. Sta.3+16 to 3+46 including under bridge. Clean metal shielding removed from headwall. Observed that decontamination procedures and PPE's in place as previously approved. Rody CIH on site to over see HASP implementation.
2. Complete cleaning concrete in open section of flume Sta.2+58 to 3+16 approximate. Confirmation testing by Herrera of concrete surface.
3. Pump remaining trapped water tunnel to treatment.
Discussions with Contractor/Others: 1. Receive test results for tunnel sediments taken last Friday at three locations. All contain some level of PCB b/t 5ppm and 25 ppm. Confirm that previously sampled condenser pit sediments also contaminated. Transmit to Mike McF..
2. w Brad Rody – need SPU survey for MH's.
3. w Gary Gervalis, Pat Hastings (SPU) – Discuss survey schedule. Need at least prelim. layout of MH structures as soon as possible. Discuss Boeing badge requirements and lead time. (Has not been done yet.) Discuss revisions of DCC #2 at steam plant. Noted that limited escort is available for preliminary work.
Discrepancies/Delays/Potential Claims: 1. Require approved conduit support plan for remediation in Willow's substation.
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing) – concern that forks on loader be at ground level when not in use.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 28 May 2009 **Weather:** Fair, 76 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Remove existing 24 inch concrete pipe approx. Sta.3+16 to 3+46.
2. Remove sediment from open flume from headwall at Sta. 3+46 to 42 inch pipe. Clean concrete for testing. Observed that approved PPE and decontamination procedure in use. Placed first load of clean up silt into catchment. Noted high moisture content.
3. Pump trapped water from behind condenser pit weir wall to treatment.
Discussions with Contractor/Others: 1. w. Arnaud Girard (KC Wastewater Treatment Division), Brad Rody, & Matt Gagner (Clear Water Compliance) – inspect water treatment facility and approve for discharge with testing. Approve as a batch discharge after samples tested. Retain sampling records on site to document compliance.
2. w Mike McF.(Rody) – need SPU survey for MH's. Request submitted 01 May..
3. w Wanda S. (SCL) – Historic photographer on site Friday. May require that temporary site fence be moved for shots. Agree that this will be an extra cost item if needed. (Part of MOA b/t SCL and NPS.)
Discrepancies/Delays/Potential Claims: 1. Require approved conduit support plan for remediation in Willow's substation.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers, 1 teamster
Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing) – concern that forks on loader be at ground level when not in use.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 29 May 2009 **Weather:** Fair, 80 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Remove sediment from tunnel through roof openings at approx. Sta. 1+40 and 2+30. Estimate 25 to 30 C.Y. removed all by excavator bucket. Materials very wet, silty, flowable. No odor or oily sheen observed. Haul by dump truck with plastic tarp liner. No spillage observed. Place into lined receiving pit. Observed that approved PPE and decontamination procedure in use.
2. Continue to pump trapped water from behind condenser pit weir wall to treatment.
Discussions with Contractor/Others: 1. w/ Brad Rody – samples taken from cleaned concrete in TSCA area of open flume came back as clean. Approved to continue with demolition of head walls and bifurcation structure.
2. w Brad Rody – SPU survey will be on site Wednesday 03 June. Agrees to act as "escort" on Boeing property. (Also left e-mail for Jennifer Parsons concerning providing escort.)
Discrepancies/Delays/Potential Claims: 1. Require approved conduit support plan for remediation in Willow's substation.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers, 1 teamster
Contractor's Equipment: Prime and Sub-contractors: Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Joseph Flaherty, Carl Bach (Boeing) – construction observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

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Project Delivery Branch
Construction Management Division

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Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 01 June 2009 **Weather:** Fair, 80 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none

Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Continue to remove sediment from tunnel through roof openings at approx. Sta. 1+40 and 2+30. Estimate 25 to 30 C.Y. removal by excavator bucket. Place skid steer loader into tunnel to load material into excavator bucket. Materials very wet, silty, flowable. No odor or oily sheen observed. Haul by dump truck with plastic tarp liner. No spillage observed. Place into lined receiving pit. Observed that approved PPE and decontamination procedure in use.
2. Continue to pump trapped water from behind condenser pit weir wall to treatment.
Discussions with Contractor/Others: 1. w/ Brad Rody – water treatment facility out of service in morning. Clearwater responded to repair. Return to service approx. 11:30 A.M.. and resumed pumping. No release of untreated water.
Discrepancies/Delays/Potential Claims: 1. Water treatment plant temporarily out of service.
Description of Extra Work in Progress (attach force account sheets to diary): none

Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers, 1 teamster
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 02 June 2009 **Weather:** Fair, 85 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
Work in Progress: 1. Continue to remove sediment from tunnel through roof openings at approx. Sta. 1+40 and 2+30. Estimate 25 to 30 C.Y. removal by excavator bucket. Place skid steer loader into tunnel to load material into excavator bucket. Materials very wet, silty, flowable. No odor or oily sheen observed. Haul by dump truck with plastic tarp liner. No spillage observed. Place into lined receiving pit. Observed that approved PPE and decontamination procedure in use.
2. Continue to pump trapped water from behind condenser pit weir wall to treatment.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w/ Mike McFarland (Rody) – test results for second batch of treated water showed a hit for Hg slightly above allowable level for discharge. (Previous sample was non-detect.) Reported to KC. Will reprocess and test again. (Corroborating sample taken by Herrera of reprocessed batch.) .
3. w/ Mike McFarland, Wanda Shulze, Brad Rody, Karen Keeley (EPA) – Sediment material excavated from tunnel is extremely fine grained, very wet, and colloidal. Agreement that given even the current hot, dry conditions the material will not dry sufficient to pass the paint filter test required by Sect 2-09. Adding and mixing a drying agent appears to be infeasible and the dust released is not acceptable to Boeing. Agree to direct the Contractor to remove the material directly from site "as is". Waste management has agreed to accept.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers, 1 teamster
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 03 June 2009 **Weather:** Fair, 85 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
2. Receive test report from Clear Water for re-processed second batch. CC to Wanda. Passed for disposal.
Work in Progress: 1. Prepare dump trucks for off haul of sediments from stock pile/pit. Line beds. Set up drop section, additional PPE's, etc.. No drying apparent.
2. Continue to pump trapped water from behind condenser pit weir wall to treatment.
3. Pot hole for MH#7. Native sand soil. Did not find air line. Encased duct bank (?) on north side does not appear to conflict.
4. SPU Survey on site. Stake MH#6 through #12.
Discussions with Contractor/Others: 1. w/ Mike McFarland (Rody) – test result of reprocess second batch of treated water passed. Reported to KC.
2. w/ Mike McFarland, Brad Rody, – Will off haul sediment material excavated from tunnel in lined dump trucks per Waste Management. Trucks will pass through wheel wash and all loads will be covered. Material will be hauled directly from site "as is". Waste management has agreed to accept.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 04 June 2009 **Weather:** Fair, 87 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
2. Receive test report from Clear Water for third batch. CC to Wanda. Passed for disposal.
Work in Progress: 1. Resume removing sediment from tunnel with skid steer loader into excavator bucket into lined truck bed. Haul to stockpile/lined pit. PPE's, etc. all as approved. Scrape adhered material from tunnel walls. Noted washed back of truck bed, etc. after dumping. No drying apparent of material in pit.
2. Complete pumping trapped water from behind condenser pit weir wall to treatment. Note that ground water continues to seep into tunnel and condenser pit rom cracks in concrete.
Discussions with Contractor/Others: 1. w/ Mike McFarland (Rody) – test result of third batch of treated water passed. Reported to KC.
2. w/ Mike McFarland – reviewed pay estimate. Need ticket for concrete disposal and asphalt at ramp to complete.
3. w/ Brad Rody – Waiting for TCLP results to off haul sediment material excavated from tunnel.
4. w/ Wanda S. – Lilly is concerned that sealing condenser pit outlet will cause flooding in plant.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: J. Parsons (Boeing) - observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 05 June 2009 **Weather:** Fair, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
2. Receive test report from Clear Water for third batch. CC to Wanda. Passed for disposal.
Work in Progress: 1. Remove wood and metal debris from condenser pit. Hose to remove mud and set aside in containment for later disposal. Scrape mud from side of tunnel and remove for disposal.
2. Remove sediment tunnel material from stockpile/containment and off haul from site as Schedule D. Verified that all truck beds are tarped and loads covered. Trucks exit through wheel wash. Four load, approx. 8 CY each total.
Discussions with Contractor/Others: 1. w/ Mike McFarland (Rody) – received TCLP test result for tunnel sediments. All ND. Took TCLP sample of Subtitle C waste for disposal. Will bring bill of lading for Wanda on Tuesday. Also received schedule update.
2. w/ Mike McFarland – addition signs for PCB contaminated soils requested by Karen Keeley were installed.
3. w/ Wanda S. – Discussed observed ground water infiltration into tunnel and condenser pit. Some will be behind new seal wall.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Karen Keeley (EPA) - observer., Wanda S. to observe truck loading etc., Gina Caterra (Herrera) to photograph truck loading, wheel washing, etc..

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 08 June 2009 **Weather:** Fair, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, erect silt fence at Steam Plant as per TESC Plan
2. Receive test report from Clear Water for fourth batch. CC to Wanda. Passed for disposal.
Work in Progress: 1. Continue to clean tunnel concrete. Remove remaining sediment from walls, etc.. Scrape mud from side of tunnel and remove for disposal. Direct load into lined/tarped truck.
2. Remove sediment tunnel material from stockpile/containment and off haul from site as Schedule D. Verified that all truck beds are tarped and loads covered. Trucks exit through wheel wash. Four load, approx. 8 CY each total.
Discussions with Contractor/Others: 1. w/ Brad Rody – reschedule sampling of tunnel concrete for Wednesday morning. Notified Herrera.
2. w/ Mike McFarland –
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing) – observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 09 June 2009 **Weather:** Fair, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete cleaning tunnel concrete. Remove remaining sediment from walls, etc.. Wash with high pressure hose and scrub with cleaning agent. Direct load remaining sediment into lined/tarped truck. Water to treatment.
2. Walked cleaned tunnel with Brad Rody. Concrete clean to touch. Note that flow channel (bottom third) appears to be coated with tar mixed with sand, firmly adhered to concrete. Ground water seeps into tunnel at two locations through cracks in floor. Estimate total flow as 20 to 30 gpm. Weir wall to condenser pit approx 7.5 ft. tall measured above tunnel floor. Pit appears to contain 1 + ft of sediment. Ends of metal pipes visible, rusted through and collapsed, where they passed through the tunnel near the overflow tank.
3. Remove skid steer loader from tunnel, place on containment, and decontaminate.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w/ Mike McFarland (RODY) – Request that he send certified letter to UPRR documenting attempts to contact re access and flagers with CC to SPU. Karen Keeley (EPA) has also offered to intervene if UPRR does not respond.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing) – observer. Karen Keeley (EPA),

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 10 June 2009 **Weather:** Fair, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Resume cleaning condenser pit under steam plant. Remove material with aid of vactor truck. (Move to suction point with shovels and pressure washer.) Sediment appears more granular. Contractor reports considerable debris, metal, concrete chunks, etc. mixed into sediment which slows removal. Brad R. now estimates that it will take until Monday to clear. Dump sediment from vactor into holding pit. Water to treatment.
2. Begin cleaning concrete lined segment of flume below 42 inch pipe outlet. Clear debris from flume and dig sump for pump at south end. Only 1 to 2 inches of silt visible on concrete bottom and in adjacent pipe.
3. Herrera on site to for confirmation sampling of cleaned concrete in tunnel, and concrete pipe previously removed. Also wipe test on skid steer loader from tunnel. Request one day turn around.
Discussions with Contractor/Others: 1. w/ Karen Keeley (EPA) – she has tried to contact UPRR with limited success. Contacted Omaha main office. Will contact Wanda. Copied on Rody's certified letter to UPRR.
2. w/ Mike McFarland (RODY) – Discussed additional difficulty in cleaning condenser pit due to greater than expected size, quantity, and mixed debris. Asked for a written proposal of impacts. He agreed.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing) – observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 11 June 2009 **Weather:** Fair, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue cleaning condenser pit under steam plant. Remove material with aid of vactor truck. (Move to suction point with shovels and pressure washer.) Sediment appears more granular. Contractor reports less debris, etc. mixed into sediment allowing more efficient removal. Dump sediment from vactor into holding pit. Water to treatment.
Discussions with Contractor/Others: 1. w/ Brad Rody – will clean 42 inch pipes tomorrow and complete condenser pit Monday.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): none
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 4 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe, rental CAT skid steer loader ½ CY. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing) – observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 12 June 2009 **Weather:** Fair, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Cleaning twin 42 inch pipes with vactor truck and pressure washer. Sediment appears very fine with much organics. Some debris. Hand clean final 10+ feet at east end. Dump sediment from vactor into holding pit. Water to treatment.
Discussions with Contractor/Others: 1. w/ Brad Rody – will complete cleaning 42 inch pipes Monday. Complete condenser pit Tuesday. Schedule 42 inch samples and inspection for cleaning for Tuesday afternoon.
2. w/ Mike McFarland, Brad Rody – as per Gina C. (Herrera) samples taken Wednesday were all "non-detect". Includes multiple samples from tunnel concrete, 24 inch concrete pipe, and wipe test of skid steer loader.
3. w/ Mike McFarland – current plan is to access for outfall through Crowley property to the west. Pedestrian access only through the gate on Marginal Wy..
4. w/ Karen Keeley (EPA) by phone – talked to UPRR home office. Railroad access permit not required as the CoS has a standing franchise agreement. Request copy and/or agreement number. Flagger only needed if equipment parked within 10 feet of track edge.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Move temporary fence panels from open concrete sections of flume as requested by historic protection photographer.
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 3 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: none
Visitors/Comments: Mark S. (Historic protection photographer) to take pictures in tunnel and eas end of flume. Also into condenser pit. Requested some fence be removed.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 15 June 2009 **Weather:** Fair, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Cleaning twin 42 inch pipes with vactor truck and pressure washer. Sediment appears very fine with much organics. Some debris. Dump sediment from vactor into holding pit. Haul bottom sludge from site. Water to treatment.
2. Remove debris chunks from condenser pit. 2 laborers, all day. Noted chunks of concrete, bricks, coal, large wood, and some metal debris. Estimate 5 to 6 CY loose.
3. Break up concrete footings etc. previously removed from site of abandoned substation.
Discussions with Contractor/Others: 1. w/ Brad Rody – will complete cleaning 42 inch pipes Tuesday. Complete condenser pit Wednesday. Schedule 42 inch samples and inspection for cleaning for Wednesday. Place silt curtain and oil boom at Slip 4 Thursday.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 3 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: none
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 16 June 2009 **Weather:** Fair, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete cleaning twin 42 inch pipes with vactor truck and pressure washer. South pipe will require a final wash after condenser pit clean because ground water is being channeled through it.
2. Resume cleaning condenser pit with vactor truck and pressure washer. Approx. 1 to 2 hour delay while accumulated ground water is removed. Contractor discontinued pumping over night allowing approx. 2 feet of water to accumulate.
3. Remove previously tested waste concrete from site. Approx. 108 Tns.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w/ Brad Rody – report unmarked 4 inch pipe into south 42 inch psd approx. 38 ft from east end. Notified Wanda Shulze (SCL) and Jennifer Parsons (Boeing). Will plug with concrete before grout fill.
3. w/ Brad Rody – reschedule Herrera for sampling 42 inch and condenser pit to Wednesday.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 3 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: none
Visitors/Comments: Karen Keeley (EPA) for weekly meeting and site tour. No issues.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 17 June 2009 **Weather:** Overcast, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete cleaning condenser pit with vactor truck and pressure washer.
2. Demolish concrete weir wall at Sta.3+10 and Sta. 3+45. Bifrucation structure at Sta. 3+60.
3. Drill dowels and place re-steel for closure walls at blow off tank and tunnel end seal. All as per Plan.
Discussions with Contractor/Others: 1. w/ Brad Rody – expect silt curtain to arrive Thursday, install on high tide late Friday.. Will plug with concrete before grout fill.
3. w/ Brad Rody – reschedule Herrera for sampling 42 inch and condenser pit to Thursday.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 1 operator, 3 laborers
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: none
Visitors/Comments: Susan Fitzgerald (Integral) for sampling. None done.
Ric N. and Roger B. (SPU Survey) complete work on Boeing property.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 18 June 2009 **Weather:** Overcast, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Final flushing of condenser pit and 42 inch psd's to prepare for sampling. Clear with vactor truck.
2. Complete forms and resteel for closure wall at west end of tunnel to open flume. As per Plan.
3. Begin work at slip 4 outfall. Clear brush and install silt fence. Mark piling for silt curtain..
Discussions with Contractor/Others: 1. w/ Brad Rody – expect to install silt curtain on high tide late Friday starting 2:00 PM. Notified Karen K..
2. w/ Brad Rody – Need to flush north 42 inch psd again. Some residual silt on wall about 100 ft in from east end.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 2 operator, 4 laborers, teamster
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: 18" HDPE for psd, silt curtain, as per approved.
Visitors/Comments: Chris W., Beth Shemoyan, Ray Hoffman (SPU) – site tour.
Gina C., Heidi M. (Herrera) – sample Condenser pit concrete, 42 inch psd concrete.
Jennifer P. (Boeing) – escort and construction observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 19 June 2009 **Weather:** Overcast, Showers in A.M., 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue pressure washing south 42 inch psd to remove residual sand. Contractor reports as clean. Will verify. Clear with vactor truck.
2. Begin forms and resteel for closure wall at east end of tunnel to condenser pit. Check re-steel as per Plan. Continue forms Monday.
3. Continue work at slip 4 outfall. Install straw wattles an complete clearing brush. Install silt curtain. Attach to piling and shore at ends. Bottom did not drop properly due to trapped air or ??? Will complete installation Monday morning on low tide and install oil boom before excavation begins.
4. Remove section of north 42 inch psd and excavate for MH#7. Fuse approx. 400 LF of 18 inch HDPE and begin to insert into north 42 inch psd from east end.
Discussions with Contractor/Others: 1. w/ Brad Rody – excavate outfall Monday A.M. after completing silt curtain, oil boom and plastic on bank.
2. w/ Brad Rody – Noted that need crushed rock under MH's as per standard Plan.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. VPC – Vactor truck w/ operator
Material Received and Conditions/Source Approval: outfall cap plate, "top hat", fasteners, etc. as per approved shop drawings.
Visitors/Comments: Karen Keeley (EPA) – observe silt curtain placement.
Gina C., Heidi M. (Herrera) – sample 42 inch psd concrete, sub-soil at MH#8 and MH#7, observe silt curtain placement.
Joe F. (Boeing) – escort and construction observer.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 22 June 2009 **Weather:** Overcast, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Decontaminate vactor truck. Wipe tests by Herrera.
2. Continue forms and resteel for closure wall at east end of tunnel to condenser pit.
3. Continue work at slip 4 outfall. Silt curtain unfolded correctly with tidal cycles. Set up exclusion zones and line receiving truck bed with plastic. Excavate sediments from front of outfall and remove grate. Remove sediment from pipe to approximately 8 to 10 feet back into the pipe. Install main steel plate and the upper half of fasteners. Place geotextile and cover with first layer of large rip rap. Remove plastic tarps etc. and secure site. Note that all truck and equipment access was via Crowley property from the west. Only limited personnel access from east over tracks.. Note that all workers in direct contact with contaminated sediments wore full PPE's and decontaminated before leaving work site.
4. Install MH#7 over crushed rock base as per Plan. Note actual location approx. 5 feet south to clear unmarked duct bank. Fuse approx. 70 LF of 18 inch HDPE, between MH#7 an MH#6 and insert into north 42 inch psd from west end.
Discussions with Contractor/Others: 1. w/ Brad Rody – agree to substitute "kent seal" for Plan neoprene gasket between steel plate and outfall concrete. Existing concrete surface very rough and deteriorated. Gasket would not seal. Herrera representative on site, Heidi Machel, concurred.
2. w/ Brad Rody – Hole from sediment excavation in front of outfall filled rapidly with ground water. Water was extremely turbid with an oily sheen. Contractor made extensive use of absorbent pads and socks to remove oil sheen. Agreed that no water could be discharged without treatment. Discussion concerning methods to discharge cleaned water. Final agreement that water should be pumped into a tank and removed from site to treat. Truck scheduled for 0900 tomorrow. Karen Keeley (EPA) concurred.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 6 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe., rented Komatsu PC200 with extended boom for Slip 4.
Material Received and Conditions/Source Approval: "Stream gravel" , coarse sand for slip 4 as approved.
Visitors/Comments: Karen Keeley (EPA) , Heidi Machel (Herrera), Wanda S. (SCL) – observe Slip 4 work.

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Construction Engineer's Signature

Bryan Nicholson

Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 23 June 2009 **Weather:** Overcast, clearing, 72 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete forms and resteel for closure wall at east end of tunnel to condenser pit.
3. Continue work at slip 4 outfall. Set up exclusion zones and line receiving truck bed with plastic. Pump water from pit in front of plate into tank truck and remove from site for treatment. Complete installation of remaining fasteners for main steel plate and seal inside mating surface with grout. Install closure plate with gasket. Complete placement of large rip rap and side cap layers of sand and spawning gravel. Remove plastic tarps etc. and secure site. Note that all truck and equipment access was via Crowley property from the west. Only limited personnel access from east over tracks.. Note that all workers in direct contact with contaminated sediments wore full PPE's and decontaminated before leaving work site.
4. Install MH#8 over crushed rock base as per Plan and connect HDPE pipe into MH #7 and #8. Connect HDPE pipe to west of MH#7 as well.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w/ Brad Rody – Will place concrete for tunnel stop walls tomorrow morning. Formed a knock out into condenser pit wall so forms can be stripped without entering stream plant.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 6 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe., rented Komatsu PC200 with extended boom for Slip 4.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: Karen Keeley (EPA) , Heidi Machel (Herrera), Wanda S. (SCL) – observe Slip 4 work.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 24 June 2009 **Weather:** Overcast, showers, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Place concrete for closure walls at east and west ends of tunnel and to overflow tank. 9 CY total for three walls.
2. Install MH#6 over crushed rock base as per Plan and connect HDPE pipe from MH #7. Begin to install C900 PVC pipe east from MH #8 through open section of flume. Three sections, 60 LF. Type 22 bedding as per Plan.
3. Place temporary trench dam (steel plate) through open section of flume Sta.20+38 as per Plan C104. Install pump to treatment.
Discussions with Contractor/Others: 1. w/ Brad Rody – Will place concrete for tunnel fill Monday and Tuesday.
2. w/Wanda S. – discuss possibility to add drain from condenser pit to revised MH#12. Wanda OK's.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: type 22 crushed for plastic pipe bedding. Glacier. Notified Euresto that it was on site to sample.
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 25 June 2009 **Weather:** Overcast, clearing, 71 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Remove forms for closure walls at east and west ends of tunnel and to overflow tank. Consolidation appears good. No rock pockets visible.
2. Continue to install C900 PVC pipe east from MH #8 to end of open section of flume, approx. Sta.2+58. Type 22 bedding as per Plan. Remove concrete through flume wall. Complete bedding through this section.
3. Pothole for utilities along alignment of 12 inch psd Sta.2+58 to property line at Sta.1+64. Did not find marked 30" CIP inlet. Other utilities approx. as marked. Note that soil excavated approx. Sta.2+00 had strong odor of mid-range distillents.
Discussions with Contractor/Others: 1. w/ Brad Rody – Need to sweep spill gravel and small pieces of rubber from pavement. Keep work site and material transfer corridor very clean. (Respose to complaint from Jennifer Parsons).
2. w/Wanda S. – left message that drain from condenser pit to revised MH#12 will not be constructable due to conflict with existing steam plant tanks and equipment..
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: type 22 crushed for plastic pipe bedding. Glacier.

Visitors/Comments: Gina Caterra (Herrera), Susan Fitzgerald (Integral), Jennifer Parsons (Boeing) – to take samples from abandoned pipes emptying into the tunnel on SCL property. Also asked Gina to sample possibly contaminated soil excavated from utility potholing near Sta.2+00 but she declined.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 26 June 2009 **Weather:** Clearing, 72 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Pressure test HDPE pipe between MH#6 and MH#7 and between MH#7 and MH#8. No loss on 5psi air for 60 minutes.
2. Complete concrete block end seals for 42 inch psd at all four locations. Include 4 inch valves for vent/grout.
3. Excavate and begin installation of 12 inch psd at Sta.2+58 to approx Sta.1+80. Encountered 30 inch abandoned CIP inlet. (Plans show 30 inch at Sta.2+05 approx.) Can place 12 inch psd under if lower by 2 inches. Remove last 20 foot section and replace at revised grade. Other utilities approx. as marked. Note that soil excavated approx. Sta.2+00 had strong odor of mid-range distillents and some tars and treated wood visible. Herrera took sample from trench bottom at this location.
Discussions with Contractor/Others: 1. w/ Brad Rody – Noted petroleum contaminated soils. Will handle and dispose as Subtitle D waste.
2. w/Brad Rody – Discuss revising 12 inch psd grades as above.
3. w/ Gina C. (Herrera) – reschedule trench confirmation sampling for Monday.
4. w/ Euresto B. – compaction tests for Monday P.M..
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Gina Caterra (Herrera), Joe F. (Boeing) – to take samples from 12 inch psd trench. Chris Woelfel (SPU) –site tour.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 29 June 2009 (Monday) **Weather:** Clear, 80+

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress:
Excavate and continued installation of 12 inch from approx Sta.1+80 to MH #10. Because of bell in 30 inch abandoned CIP 12 inch psd under if lower by 2+ inches. Also just S of PL S of MH 10 had to run pipe under gas line had to run into MH 10 below design inert. At MH #10 location encountered an abandoned 6" CIP oil fuel line. To avoid a conflict move the location of MH #10 ~4' south.
Began placing CDF in existing flume placed directly from concrete truck.
Herrera took sample from various locations.
Discussions with Contractor/Others: 1. Misc job progress. 2. w/Brad Rody – Discuss revising 12 inch psd grades as above. 3. w/ Euresto B. – compaction tests for Monday P.M..
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: 500+ CY CDF
Visitors/Comments: Gina Caterra (Herrera), Various from Boeing. Euresto SPU Mat lab.

Construction Engineer's Signature

Steve Colony
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 30 June 2009 (Tuesday) **Weather:** Clear, 80+

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress:
Excavate and continued installation of 12 inch from approx Sta.1+80. Because of bell in 30 inch abandoned CIP 12 inch psd under if lower by 2+ inches. Also just S of PL S of MH 10 had to run pipe under gas line had to run into MH 10 below design inert. At MH #10 location encountered an abandoned 6" CIP oil fuel line. To avoid a conflict move the location of MH #10 ~4' south.
Began placing CDF in existing flume placed directly from concrete truck.
Herrera took sample from various locations.
Discussions with Contractor/Others: 1. Misc job progress. 2. w/Brad Rody – Discuss revising 12 inch psd grades as above. 3. w/ Euresto B. – compaction tests for Monday P.M.. Attended a general, no host, coordination meeting.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: 500+ CY CDF
Visitors/Comments: Gina Caterra (Herrera), Various from Boeing. Euresto SPU Mat lab.

Construction Engineer's Signature

Steve Colony
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 1 July 2009 (Wednesday) **Weather:** Clear, 80+

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress:
Completed installation of 8" PDS from MH 12 to MH 10 (MH 11 has been deleted). 6" oil pipeline ended ~40 N of MH 10, and except for moving a few fittings did not impact the installation of the 8" PSD.
Completed placing CDF in existing flume placed using a line pump.
Saw cut AC in the steam plant area in preparation for pavement restoration.
Removed PCC from the upper part of the open flume near MH 6.
Herrera took sample from various locations.
Discussions with Contractor/Others: Misc job progress.

Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: 200+ CY CDF
Visitors/Comments: Gina Caterra (Herrera), Various from Boeing.

Construction Engineer's Signature

Steve Colony
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 2 July 2009 (Thursday) **Weather:** Clear, 80+

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress:
Installed 6" DIP upstream from MH 12. Completed the pipe installation to the cleanout.
Removed the top 2 feet of concrete from the open flume near the steam plant.
Removed AC, and placed crushed rock to prepare steam plant area for pavement restoration.
Herrera took sample from the bottom of the flume near MH 6.
A sink hole opened up over the existing 24" private clay PSD.
Discussions with Contractor/Others: Misc job progress. At sink hole I directed the contractor to saw cut the AC around it. At Boeings request (not mine) the contractor dug down to expose the 24" clay PSD. Except for some grout missing from at joint the pipe appeared to be in fairly good shape.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, teamster, 2 carpenters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe.
Material Received and Conditions/Source Approval: Crushed rock paving base.
Visitors/Comments: Gina Caterra (Herrera), Various from Boeing.

Construction Engineer's Signature

Steve Colony
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 06 July 2009 **Weather:** Overcast 65 high, wind gusts

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Enter MH100 structure and remove sediment to expose bottom. Sediment level to approximate 6+ inches above invert of 72 inch CMP. Wood debris from outfall visible. Remove sediment with vactor truck. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Finish grade disturbed areas at steam plant, hand spread grass seed for surface stabilization. Remove temporary access ramp at wall. Install silt fence along property line. Clean up adjacent area of Boeing property.
Discussions with Contractor/Others: 1. w/ Brad Rody – need to water bare soils on steam plant to control dust and seed or surface treat to stabilize. Final restoration seeding however cannot occur until October .
2. w/ Brad Rody – Noted 24 inch pipe connecting MH100 with adjacent CB marked as "101" is not plugged and draining some water. Notified Wanda and asked if sampling is required.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. Rented vactor truck w/ operator.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 07 July 2009 **Weather:** Overcast 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue to clean CMP between MH100 and outfall with vactor truck. Estimate approximately 24 plus feet cleared. Considerable wood debris reported. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Complete crushed rock base for pavement patch over tunnel entry points and filled sections of open flume east of Sta. 3+16. Clean up area. .
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w/ Brad Rody. Noted need to water exposed soils for dust control.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. Rented vactor truck w/operator.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 08 July 2009 **Weather:** Overcast 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue to clean CMP between MH100 and outfall with vactor truck. Estimate approximately 40 plus feet cleared. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Hand clear sediment from bottom of open wood flume in six locations between Sta. 6+58 and 14+00 approx. Bottom boards exposed still appear solid with structural integrity. Sediment not removed. Wood ready to cut when Wanda receives clearance from DOE.
Discussions with Contractor/Others: 1. w/ Brad Rody, Mike McFarland, Euresto B. (Mats. Lab.) – Asphalt paving on Boeing property scheduled for tomorrow morning. Notified Jennifer P.. Brad Rody to escort. At Boeing request will use Class B to match existing.
2. Euresto B. – on site to measure density of in place sediments in open wood flume with nuclear densometer. Reports range of 111 to 113pcf wet. Report to Brad Rody. Also measure depth of sediment in the six locations where the wood bottom was exposed.
3. Susan Fitzgerald (Integral) – Will be on site with Gina C. (Herrera) tomorrow to sample sediments from Boeing pipes connected to east wall of MH 100.
4. phone w/ Wanda S. – received OK from WSDOE to proceed with revised sampling plan of flume bottom. OK to cut wood bottom tomorrow. Coordinated with Heidi M. of Herrera for soil sampling tomorrow afternoon..
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. Rented vactor truck w/ operator.
Material Received and Conditions/Source Approval: Approved submittal for asphalt paving.
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 09 July 2009 **Weather:** Clearing, 72 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue to clean CMP between MH100 and outfall with vactor truck. Contractor estimates more than half way cleared. Reports considerable wood debris. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Cut boards from bottom of open wood flume in six locations between Sta. 6+58 and 14+00 approx. for sub soil samples by Herrera. Observed by Karen Keeley (EPA), Wanda (SCL), and two from Herrera. Wanda observes initial samples. Material appears to be native sand. Water table 6 to 8 inches below bottom of floor boards. Soil samples at 6 and 12 inches as agreed.
3. Asphalt paving for restoration of open sections of flume to Sta.3+18 and tunnel access points. 3 inch thick to match existing. Seal edges with hot tack to Boeing standard. Sweep area and clean up any loose rocks etc..
Discussions with Contractor/Others: 1. w/ Brad Rody – fencing subcontractor on site tomorrow for steam plant fence restoration.
2. Susan Fitzgerald (Integral), Gina C. & Heidi M. (Herrera) to sample sediments from Boeing pipes connected to east wall of MH 100. Jennifer P. (Boeing) and Wanda S. (SCL) observe. As per Wanda can now plug pipes.
3. w/ Brad R. – expect to receive test results from today's flume samples sometime Tuesday. Wanda signed RCRA manifest and returned to Brad.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 1 foreman, 1 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator.
Material Received and Conditions/Source Approval: Asphalt for parking lot paving, ICON.
Visitors/Comments: Jennifer Parsons (Boeing), Karen Keeley (EPA) – to observe sampling

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 10 July 2009 **Weather:** Fair, 78 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue to clean CMP between MH100 and outfall with vactor truck. Contractor estimates that the large accumulation of sediment and debris is removed. Final wash down Monday. Report an open joint in floor past the midway point that is allowing some water infiltration. Will attempt to plug with "kent seal". Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Clear four additional areas to expose boards at bottom of open wood flume in preparation for additional testing west of Sta. 14+00 approx..
3. Restore security fence between Boeing and Steam Plant..
Discussions with Contractor/Others: 1. w/ Brad Rody – fencing subcontractor reused existing posts. Similar "H" section posts no longer available.
2.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 1 foreman, 1 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator. Owl Fence – 2 laborers w/ service truck.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 13 July 2009 **Weather:** Overcast, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Begin to clean 72 inch CMP between MH100 and open flume with vactor truck. Approximately 6 to 8 inches of sediment with some debris visible in the bottom. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Clear two additional areas to expose boards at bottom of open wood flume in preparation for additional testing west of Sta. 14+00 approx..
3. Open security fence behind carpenter shop.
Discussions with Contractor/Others: 1. w/ Brad Rody – Boeing requires additional temporary fencing panels be attached to existing "Ellis St. Yard" fencing b/t Sta. 12+90 and 13+50 approximately. Existing barb wire topped fencing is judged too short to meet Boeing standards. Rody erects additional panels while security officers observe.
2. w/ Mike McFarland – request weigh ticket for RCRA waste.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 1 foreman, 1 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: Jennifer Parsons – Boeing observer

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 14 July 2009 **Weather:** Clearing, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete cleaning 72 inch CMP to bend. Final wash out tomorrow. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Clear two additional areas with vactor truck to expose boards at bottom of open wood flume in preparation for additional testing west of Sta. 14+00 approx.. Four locations now ready for sample.
3. Remove approx. 20 LF of wood flume south of MH#6 . Transfer wood waste to sealed dumpster for disposal. Excavate to approx. 6 inch below bottom of flume as agreed. Sediment and excavated soil co-mingled into lined truck bed for direct disposal. Sediment and excavated soils both fine SAND w/ some silt. Bottom of excavation is dry and firm, just above water table. Install one 20 foot length of pipe and bed as per Plan. Backfill with type 17. Compact.
Discussions with Contractor/Others: 1. weekly meeting. See minutes.
2. w/ Mike McFarland – request weigh ticket for re-steel for tunnel closure walls. Mike responded that steel used was from on hand stock and not a new order. Agree to pay by calculated weight.
3. w/ Wanda S. – notification that all soil samples previously taken by Herrera from bottom of flume b/t MH#6 and Sta. 13+00 came back as "non-detect" at -6 inches. Therefore have clearance to limit overexcavation to -6 inches below flume.
4. phone w/ John Allen (Crowley) – notified that Rody will resume work on slip 4 outfall next week to insert 24 inch HDPE. Granted permission to access through their property. cc WS and MMcF.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: Chris Woelfel- SPU

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 15 July 2009 **Weather:** Fair, 76 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete final wash down of 72 inch CMP to bend and outfall. Contractor reports as ready for Contract inspection. Forced air ventilation. Dump to waste pit. Full PPE on all entrants. Decontamination station in place.
2. Continue to remove approx. 40 LF of wood flume Sta.9+00 to 9+40 approx. Transfer wood waste to sealed dumpster for disposal. Excavate to approx. 6 inch below bottom of flume as agreed. Sediment and excavated soil co-mingled into lined truck bed for direct disposal. Sediment and excavated soils both fine SAND w/ some silt. Bottom of excavation is firm, just above water table. Install two 20 foot length of pipe and bed as per Plan. Backfill with type 17. Compact.
Discussions with Contractor/Others: 1. Herrera on site for flume sub-soil samples approx. Sta.13+00 to south of Myrtle St. crossing. Four locations. Samples at -6 and -12 inches.
2. w/ Brad Rody – schedule to fuse 24 inch HDPE for outfall on Friday. Place base of CDF in outfall pipe Monday. Notified Jennifer. Informed Brad that we receive permission to access through Crowley.
3. w/ Wanda S. – on site to observe flume removal/excavation and sampling. Discuss restoration plan for area b/t Sta.10+50 and 13+00. Agree to restore to current grade rather than fill to curb elevation as per Pln detail. Wanda notes that the Plan detail is an error and not SCL's intent..
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator.
Material Received and Conditions/Source Approval: none.
Visitors/Comments: Wanda S.- SCL, Gina Caterra – Herrera, Jennifer Parsons - Boeing

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 16 July 2009 **Weather:** Fair, 76 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Inspection of 72 inch CMP to bend and outfall. Clean to Contract requirements. Noted leak of water into outfall pipe approx. 80 foot from west end. Contractor will attempt to plug before placing concrete. Forced air ventilation. Accompanied by Gina C. (Herrera) who also took samples of cleaned concrete in MH100.
2. Continue to remove wood flume to approx. Sta.9+90 . Transfer wood waste to containment pit for later separation. (Dumpsters are full). Excavate to approx. 6 inch below bottom of flume as agreed. Sediment and excavated soil co-mingled into lined truck bed for direct disposal. Sediment and excavated soils both fine SAND w/ some silt. Bottom of excavation is firm, just above water table. Install pipe to approx. Sta. 9+70 and bed as per Plan. Backfill with type 17. Compact.
3. Remove sediment from final four locations of flume and prepare for sampling.
4. Block , with concrete bricks and mortar, two existing drain lines from Boeing property into east wall of MH#100.
Discussions with Contractor/Others: 1. As above, Herrera on site for MH 100 concrete sampling and CMP cleaning walk through. Schedule for tomorrow to sample flume sub-soils in final four locations. Samples at -6 and -12 inches.
2. w/ Brad Rody – schedule to fuse 24 inch HDPE for outfall on Friday. Remove south Boeing bridge Monday. Notified Jennifer. .
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator.
Material Received and Conditions/Source Approval: 24 inch HDPE as approved.
Visitors/Comments: Gina Caterra – Herrera, Jennifer Parsons - Boeing

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 17 July 2009 **Weather:** Fair, 85 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Prepare 72 x 44 CMP for CDF base on Monday.
2. Continue to remove wood flume to CMP culvert at 10+16. Install 16 inch psd to approx. 10+10 and bed as per Plan. Backfill with type 17. Compact. All above water table. Install type 240C CB at 10+04 as per Plan and connect to 18 inch psd.
3. Remove concrete headwalls either end of 66 inch culvert. Cut asphalt at bridge for removal.
4. Fuse 24 inch HDPE for outfall pipe and 72 inch CMP. All welds appear solid.
Discussions with Contractor/Others: 1. Herrera on site for sample flume sub-soils in final four locations. Samples at -6 and -12 inches.
2. w/ Brad Rody – confirm CDF for outfall CMP fill Monday.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Rented Vactor truck w/ operator.
Material Received and Conditions/Source Approval: Type 17 for backfill - Corliss
Visitors/Comments: Gina Caterra – Herrera

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 20 July 2009 **Weather:** Fair, 78 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Place approx. 36 CY of CDF base in 72 x 44 CMP. Will complete tomorrow.
2. Remove CMP culvert at 10+16. Install 18 inch psd to approx. 10+60 and bed as per Plan. Backfill with type 17. Compact. All above water table. Relocate clay dam to install approx. 10+65 due to interference from electrical ducts at Plan location.
Discussions with Contractor/Others: 1. Herrera reports that wipe tests on vactor truck are non-detect. Also samples of flume sub-soils in four locations east of 15+40 are non-detect.. Samples at -6 and -12 inches.
2. w/ Brad Rody – reschedule 24 inch pipe in outfall for Wednesday.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. .
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, 36 CY CDF from Cadman for outfall pipe.
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 21 July 2009 **Weather:** Fair, 85 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Place approx. 10 CY of CDF base in 72 x 44 CMP to complete base. Place remaining 2 CY in 72 inch CMP to fill sag (to 3+ inches deep) in center third.
2. Place MH#5 to Plan location and depth. Remove wood flume to approx. 11+20. Install 18 inch psd to approx. 10+95 and bed as per Plan. Backfill with type 17. Compact. All above water table. Relocate clay dam to install approx. 10+65 due to interference from electrical ducts at Plan location. Noted that soils are very dry sand. Difficult to control caving/sluffing for trench width. Requested that Brad take additional measures to control.
Discussions with Contractor/Others: 1. Weekly meeting. See minutes.
2. w/ Brad Rody – reschedule 24 inch pipe in outfall for Thursday. (Notified all concerned by e-mail.)
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. .
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, 12 CY CDF from Cadman for outfall pipe.
Visitors/Comments: none

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 22 July 2009 **Weather:** Fair, 72 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Prepare bottom of MH #100 for insert base section. Finish grading CDF in outfall pipe and clean up for pipe insertion. etc.. Lower insert pipe into slip 4 and move to outfall.
2. Remove wood flume to approx. 12+00. Install 18 inch psd to approx. 11+90 and bed as per Plan. Backfill with type 17. Compact. All above water table. Noted that soils are very dry sand. Use trench box with supplementary driven steel sheets to control caving/sluffing for trench width. .
Discussions with Contractor/Others: 1. w/ Brad Rody – Need to increase frequency and thoroughness of sweeping to address Boeing concerns. Agrees to sweep work areas at close of each shift.
2. w/ Brad Rody – discuss possible installation of new fence starting at Sta.13+38 prior to flume work in this area. To separate work area from Boeing property.
3. w/ Brad Rody – received notification from Herrera that final six samples of flume sub-soils all were reported as "non-detect" for PCB and well below any clean up required for PAH's.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. .
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, type 22 bedding – Western Rock
Visitors/Comments: Jennifer Parsons (Boeing) – observer, discuss sweeping etc., request written site cleaning plan. Responded that a written on going cleaning plan was not part of our Contract but would require that the Contractor clean up any spilled material and sweep all work areas at the end of each day. Noted that Boeing considers one piece of gravel as a spill.
John and Kirk (RoseWater Engineering) for site tour. No problems.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 23 July 2009 **Weather:** Overcast, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Prepare bottom of MH #100 for insert base section. Finish grading CDF in outfall pipe and clean up for pipe insertion. etc.. Lower insert pipe into slip 4 and move to outfall.
2. Remove wood flume to approx. 12+00. Install 18 inch psd to approx. 11+90 and bed as per Plan. Backfill with type 17. Compact. All above water table. Noted that soils are very dry sand. Use trench box with supplementary driven steel sheets to control caving/sluffing for trench width. .
Discussions with Contractor/Others: 1. w/ Brad Rody – Decision to delay installation of HDPE liner in outfall pipe. CDF base has not hardened sufficiently. Concerned that the pipe may dig in and loose grade. Reschedule for next low tide on August 4.
2. w/ Brad Rody and Jennifer Parsons. – JP greatly concerned about occasional stray pieces of gravel on road near work area. Requests continuous sweeping. Respond that the Contractor will clean up any substanative spills and will sweep road at end of shift. Continuous sweeping is not part of the Contract requirements. If that is what Boeing requires please make the request in writing and I will send to our PM for approval to direct the Contractor to provide. Protest that Boeing trucks are also driving through the work area including unpaved sections and tracking material onto the roadway.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, type 22 bedding – Western Rock
Visitors/Comments: Jennifer Parsons (Boeing) – observer, discuss sweeping etc.. Noted that Boeing considers one piece of gravel as a spill.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 24 July 2009 **Weather:** Fair, 78 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Remove out fall secondary access plate to check seal of bolts and gasket. All appear OK. No trapped water.
2. Remove wood flume to approx. 12+80. Remove existing timber bridge and footings as per Plan. Install 18 inch psd to approx. 11+90 and bed as per Plan. Backfill with type 17. Compact. All above water table.
3. Remove remaining brush and stumps from 13+00 to Myrtle St. fence. Noted that existing flume walls largely collapsed in this area.
Discussions with Contractor/Others: 1. w/ Brad Rody – Discuss installation of either new permanent fence as shown b/t 13+38 and Myrtle St. or secure temporary fence during construction to facilitate construction work off of Myrtle St. rather than through Boeing property.
2. w/ Brad Rody and Wanda S. – Discuss Boeing requests for continuous sweeping. Agree that the Contractor will clean up any substantive spills and will sweep road at end of shift. Continuous sweeping is not part of the Contract requirements.
3. w/ Brad Rody and Wanda S. – Noted that new Boeing CB's at approx. 14+09 and 14+60 may interfere with installation of new fence as per C103. Request SPU survey to lay out listed control points to verify.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, type 22 bedding – Western Rock
Visitors/Comments: Fred Willows (Boeing) – observer, discuss sweeping etc.. Wants Contractor to provide continuous power sweeping of the access road and within the work zone. Responded that requirement was not in our contract had had not been brought up by Boeing during review. Boeing vehicles need to stay out of the active work zone to prevent tracking. I said I would need Wanda's authorization to direct the contractor to provide continuous sweeping. Wanda said no, continue current process.
Eric Newell – SPU Survey, to lay out for MH's #3,2, and 1. Declined to include additional work requested.

Construction Engineer's Signature

Bryan Nicholson

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 27 July 2009 **Weather:** Fair, 92 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Remove remaining brush and debris to end of open flume. Prepare for MH#1 excavation and flume removal.
2. Remove wood flume to approx. 13+75. Install 18 inch psd to approx. 13+55 and bed as per Plan. Backfill with type 17. Compact. All above water table. Noted that existing flume walls largely collapsed in this area.
Discussions with Contractor/Others: 1. w/ Brad Rody and Mark Ribick (Boeing) – Discuss sweeping issue again. Wants continuous sweeping with power broom behind trucks and equipment extending out onto Myrtle St. Explained that Myrtle St. is not Boeing property but will clean any large spills.
2. w/ Brad Rody and Wanda S. – Discuss Boeing requests for continuous sweeping. Agree that the Contractor will provide a sweeper truck with operator on FA. Through end of on Boeing property work.
3. w/ Brad Rody and Wanda S. – Noted that new Boeing CB's at approx. 14+09 and 14+60 may interfere with installation of new fence as per C103. Request SPU survey to lay out listed control points to verify.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck with operator starting on site approx. 1400 hrs. FA on invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, type 22 bedding – Western Rock
Visitors/Comments: Ric Newell – SPU Survey – establish points for new fence next to north bioswale. Chris Woelfel – SPU – discuss conflict between plan location of new fence and Boeing CB's. CB's will be on bioswale side. Agree will proceed to install fence and curb as per Plan.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 28 July 2009 **Weather:** Fair, 95 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Remove 12 LF CMP for MH#1 excavation and flume removal. Excavate for MH#1. Insert 24" HDPE into 72" CMP to MH#100. Bottom of excavation firm sand. Very damp but above water table.
2. Install MH#4 and 24" PSD to approx. Sta.14+20. Remove wood flume to approx. 14+40. Backfill with type 17. Compact. All above water table.
Discussions with Contractor/Others: 1. weekly meeting. See minutes
2. Stop work at 2:30 due to excessive heat.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck with operator starting on site approx. 0730 hrs. FA on invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, type 22 bedding – Western Rock
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 29 July 2009 **Weather:** Fair, 103 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete shoring and place base rock for MH#1. Place base section and connect to 24" HDPE. Place base section to MH#100 and connect to 24" HDPE.

2. Install CB for north swale at Sta.13+40 and 24" PSD to approx. Sta.14+60. Remove wood flume to approx. 14+65. Backfill with type 17. Compact. All above water table.
3. Continue waste wood and soil off haul from site.

Discussions with Contractor/Others: 1. w Jennifer Parsons (Boeing) and Brad Rody. – Boeing unable to provide security officers for fence breach for Myrtle St. crossing until Monday. Work was tentatively scheduled for Thursday and Friday. Reminded Brad that he did not have his utility locates complete so he could not begin excavating.
2. Stop work at 2:30 due to excessive heat.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck with operator starting on site approx. 0730 hrs. FA on invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 17 for backfill – Corliss, type 22 bedding – Western Rock
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 30 July 2009 **Weather:** Fair, 99 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete 8 inch CB connection to 24 inch HDPE in 72 inch CPM at Sta.21+20. Attach hold down straps as per Plan. Construct concrete block walls at ends 72 inch CMP.

2. Complete clearing, trash removal, etc. from remaining section of open flume b/t Myrtle St. and MH#1. Complete removal of wire covering, etc. for flume removal. String pipe.
3. Remove splash shields from waste holding pit. Prepare to decommission.
4. Demolish concrete headwalls for Myrtle St. culvert crossing and 72 inch CMP. Haul waste.

Discussions with Contractor/Others: 1. w/ Brad Rody. – Noted that Myrtle St. crossing utility locates complete. Attempt to determine status of exposed CI pipe crossing top of flume at Sta.18+00. Discuss w/ Chris Woelfel. GIS records do not show any utility at this location. SPU locator does not show any active connection. Presume to be abandoned.
2. Stop work at 2:30 due to excessive heat.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck not on site today.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 31 July 2009 **Weather:** Fair, 87 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Cut asphalt pavement for removal at Myrtle St. crossing.

2. Channel MH's #9, 10, and 11.
3. Remove concrete debris from site and string remaining pipe.
4. Install pully frame and string cable for HDPE outfall liner.

Discussions with Contractor/Others: 1. w/ Brad Rody. – verify schedule for HDPE liner installation and Myrtle St. crossing for Monday.
2. Stop work at 2:30 due to excessive heat.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck not on site today.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers,
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 03 August 2009 **Weather:** Fair, 80 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Begin Myrtle St. crossing. Remove pavement to centerline. Remove Boeing fence and replace with temporary. Install 24" psd to approx. centerline. Type 22 bedding as per Plan. Backfill w/ type 17 and compact. Cover with steel plate to reopen. Note that 36 inch culvert was laid full length inside 72 inch culvert with space filled with CDF. 72 inch culvert was laid in existing wood flume with sand fill between. Note there is an existing 36 inch wood stave pipe paralleling the flume on the west side through the street crossing. Wood is in very bad condition and pipe is partly filled with soil. Did not disturb.

2. Install HDPE 24 inch pipe between outfall and MH#100. Replace cap at outfall and install final configuration of vent for grouting. Complete work at MH#100 for grouting.

Discussions with Contractor/Others: 1. w/ Brad Rody. – verify schedule grouting. Start tomorrow.
2. Cancel tomorrow's weekly meeting.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck on site today. FA by invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers, 2 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Jennifer Parsons (Boeing Observer) , Wanda S. (SCL) and Heidi M. to observe pipe insertion.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 04 August 2009 **Weather:** Fair, 78 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete Myrtle St. crossing. Remove pavement to centerline. Install 24" psd to approx. Sta.15+60. Type 22 bedding as per Plan. Backfill w/ type 17 and compact. Place temporary hot mix asphalt patch to reopen road.

2. Complete grout fill of abandoned south 42 inch psd.

Discussions with Contractor/Others: 1. w/ Brad Rody. – Agree to use hot mix for temporary Myrtle St. patch per Boeing request to reduce tracking.
2. Cancel weekly meeting.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck on site today. FA by invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers, 2 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 22 bedding and Type 17 for backfill.
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 05 August 2009 **Weather:** Overcast, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue install 24" psd to approx. Sta.16+64 at 12 inch tee. Type 22 bedding as per Plan. Backfill w/ type 17 and compact. Soils continue to be caving sand. Very dry. Bottom of excavation above water table.
2. Complete grout fill of both segments of abandoned north 42 inch psd. By sub-contractor's tests the density is 56 to 58 pcf.
Discussions with Contractor/Others: 1. w/ Mike McFarland – Discuss request to go to direct discharge form water treatment plant. Plant is unlikely to receive water after next week and should soon be taken out of service so request will be moot.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck on site today. FA by invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers, 2 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 22 bedding and Type 17 for backfill.
Visitors/Comments: Chris Woelfel (SPU)

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 06 August 2009 **Weather:** Overcast, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue install 24" psd to approx. Sta.17+60. Type 22 bedding as per Plan. Backfill w/ type 17 and compact. Install MH#3 at Plan location and elevation. Make 4" SD connection approx. Sta. 17+07 as per Plan. (10 LF) Soils continue to be caving sand. Very dry. Bottom of excavation above water table. Note that new pipe alignment does not follow center of flume requiring some additional excavation.
2. Complete grout fill of both segments of CMP, 72 inch round and 72x44. Fill annular space at MH#100 to a depth of approx. 8 VF. No leakage observed at outfall. Note that both HDPE pipes filled with water.
3. Saw cut asphalt at north drainage swale and Myrtle St. crossing.
Discussions with Contractor/Others: 1. w/ Brad Rody – Discuss need to limit flume caving during excavation. Noted that much of flume is collapsed at this point.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck on site today. FA by invoice.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 5 laborers, 2 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 22 bedding and Type 17 for backfill. 16sk grout from CalPortland.
Visitors/Comments: Wanda S. (SCL), Heidi M. (Herrera) – to observe outfall grouting.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 07 August 2009 **Weather:** Overcast, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Continue install 24" psd to approx. Sta.18+20. Type 22 bedding as per Plan. Backfill w/ type 17 and compact. Soils continue to be caving sand. Very dry. Bottom of excavation above water table. Note that new pipe alignment does not follow center of flume requiring some additional excavation.
2. Fill annular space at MH#100 to top of structure. Install top. Both HDPE pipes continue filled with water.
Discussions with Contractor/Others: 1. none

Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): Sweeper truck on site today. FA by invoice.
Contractor's Workforce: Prime and Sub-contractors: 2 foreman, 2 operator, 4 laborers, 1 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 2 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: Type 22 bedding and Type 17 for backfill. CDF for MH#100 from Cadman
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 17 August 2009 **Weather:** Clearing, 70 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Complete installation of tide valve at outfall. Remove oil boom and silt curtain. Leave straw wattles in place as requested.
2. Remove piping from inlet tank array of water treatment plant and begin to clean tanks. Disconnect treatment units and remove from site. Clean water storage tanks in place awaiting final batch results to discharge.
3. Remove steel liner plates from stock pile pit and begin to disassemble ecology block walls and remove from site..
4. Install remaining CB castings and clean up MH's as needed for lining. Site grading b/t Myrtle St. and Marginal Wy..
5. Owl Fencing – install top bars and woven wire for new fencing around north drainage swale.
6. VPC – complete video of remaining psd. All OK.
Discussions with Contractor/Others: 1. w/ Mike McFarland – no meeting tomorrow.

Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, 1 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 1 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller. JD 700J tractor
Material Received and Conditions/Source Approval: Type 17 for backfill.
Visitors/Comments: Heidi Machel - Herrera – observe installation of tide valve and removal of silt curtain.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 18 August 2009 **Weather:** Fair, 82 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Drainage swale north of Myrtle St.. Excavate and place drainage rock with geotextile as per Plan. Install 12 inch outlet to CB.
2. Continue to demobilize water treatment system. Discharge final batch. OK results to discharge.
3. Complete removal of stock pile pit. Sweep area.
4. Continue to prep for restoration paving on Boeing property. Site grading.
Discussions with Contractor/Others: 1. w/ Mike McFarland – sign C.O.'s #1,2, & 3. Deliver to SMT. Brad Rody – Remove remaining silt fence as convenient.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, 1 teamsters
Contractor's Equipment: Prime and Sub-contractors: 2 ea. Komatsu PC200, 1 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller. JD 700J tractor
Material Received and Conditions/Source Approval: Type 17 for backfill.
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 19 August 2009 **Weather:** Fair, 90 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: CB socks, silt fence at Steam Plant and along right of way south of Myrtle as per TESC Plan
Work in Progress: 1. Drainage swale north of Myrtle St.. Excavate and place drainage rock with geotextile as per Plan. Install 12 inch outlet to CB.
2. Continue to demobilize water treatment system. Remove fencing and treatment equipment.
3. Pave Myrtle St. crossing, crossings to Boeing storage lot and small patches.
4. Remove temporary pavement patch at crossings and final prep.
Discussions with Contractor/Others: 1. w/ Brad Rody – Remove trailer after next Friday at end of site work. Cannot hydroseed until after 01 Sept..
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 4 laborers, 1 teamster. Emerald Paving – Foreman, 2 operator, 3 laborers, 2 teamster.
Contractor's Equipment: Prime and Sub-contractors: 1 Komatsu PC200, 1 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller. JD 700J tractor
Emerald – paver, 5 tn roller, finish roller, 2 flat beds, 2 ten yard dumps
Material Received and Conditions/Source Approval: Cl B HMA ICON
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 20 August 2009 **Weather:** Fair, 80 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: Remove erosion CB socks and silt fence. Clean up.
Work in Progress: 1. Install level spreaders in drainage swales with rock behind as per Plan. Spread top soil in swales.
2. Continue to demobilize water treatment system. Cleaning tanks.
3. Place crushed rock over unpaved former swale areas on Boeing property. Clean up.
4. NWCW on site to clean and coat MH's #10 & #11 at Steam Plant and #2.
Discussions with Contractor/Others: 1. w/ Mike McFarland – Rody will suspend operations after this project. Ask Mike to contact hydroseed subcontractor for date when they can shoot.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 3 laborers, 1 teamster. NWCW – 2 laborers
Contractor's Equipment: Prime and Sub-contractors: 1 Komatsu PC200, 1 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller. JD 700J tractor
Material Received and Conditions/Source Approval: Type 2 crushed and Type A topsoil - Corliss
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 21 August 2009 **Weather:** Overcast, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: Remove erosion CB socks and silt fence. Clean up.
Work in Progress: 1. Complete spreading top soil in swales.
2. Continue to demobilize water treatment system. Complete cleaning tanks.
3. Place crushed rock over unpaved former swale areas on Boeing property. Clean up.
4. NWCW on site to clean and coat MH's #100 & #1. Prep #7, 8, 9.
Discussions with Contractor/Others: 1.

Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 2 foreman, 2 operator, 3 laborers, 1 teamster. NWCW – 2 laborers
Contractor's Equipment: Prime and Sub-contractors: 1 Komatsu PC200, 1 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller. JD 700J tractor
Material Received and Conditions/Source Approval: Type 2 crushed and Type A topsoil - Corliss
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 24 August 2009 **Weather:** Overcast, clearing, 72 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: Remove erosion CB socks and silt fence. Clean up.
Work in Progress: 1. Remove wheel wash.
2. Continue to demobilize water treatment system. Six tanks removed.
3. Complete site grading. Continue clean up.
4. NWCW on site to clean and coat MH's # 8, 9. Leave at 1:30.
Discussions with Contractor/Others: 1. w Brad Rody – ask to re-sweep former staging area on Boeing property.
2. w Jennifer Parsons (Boeing) – discussed that tomorrow's meeting will include a walk through to establish a preliminary punch list for work on Boeing Field. May include other Boeing personnel who may have input on that punch list.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 1 foreman, 2 operator, 1 laborer. NWCW – 2 laborers
Contractor's Equipment: Prime and Sub-contractors: 1 Komatsu PC200, 1 ea. Komatsu 400M Loader, Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: none
Visitors/Comments: none.

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 25 August 2009 **Weather:** Overcast, clearing, 68 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: Remove erosion CB socks and silt fence. Clean up.
Work in Progress: 1. Continue to demobilize water treatment system. Nine tanks removed.
2. NWCW on site to clean and coat MH's # 5, 6, and 7. Leave at 2:00.
Discussions with Contractor/Others: 1. w Brad Rody – NWCW will complete work and testing tomorrow.
2. weekly meeting with site walk of Boeing property. See minutes.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 1 foreman,
NWCW – 2 laborers
Contractor's Equipment: Prime and Sub-contractors: Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Wanda Schulze (SCL).

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 26 August 2009 **Weather:** Overcast, clearing, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: Remove erosion CB socks and silt fence. Clean up.
Work in Progress: 1. Complete demobilize water treatment system. Nine tanks removed.
2. NWCW on site to clean and coat MH's # 5, 6, and 7. Leave at 2:00.
Discussions with Contractor/Others: 1. w Brad Rody – NWCW will complete work and testing tomorrow.
2. weekly meeting with site walk of Boeing property. See minutes.
Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super, 1 foreman,
NWCW – 2 laborers
Contractor's Equipment: Prime and Sub-contractors: Komatsu back hoe. Sekai SV510D vib roller.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Wanda Schulze (SCL).

Construction Engineer's Signature

Bryan Nicholson
Print Name

Seattle Public Utilities

Project Delivery Branch
Construction Management Division

Daily Inspection Report

Project Name: Georgetown Flume Demolition, Removal, & Drainage Project **PW#:** 2008-025

Date: 14 September 2009 **Weather:** Overcast, clearing, 74 high

Construction Site Conditions: Developed

Traffic Control Device/Detour in Place: none
Environmental Protection and Erosion Control Measures in Place: none

Work in Progress: 1. Punch list walk through.

Discussions with Contractor/Others: 1. w Brad Rody – On site to remove remaining socks from catch basins.

Discrepancies/Delays/Potential Claims: none
Description of Extra Work in Progress (attach force account sheets to diary): None.
Contractor's Workforce: Prime and Sub-contractors: Super

Contractor's Equipment: Prime and Sub-contractors: none
.
Material Received and Conditions/Source Approval: none
Visitors/Comments: Wanda Schulze (SCL), Heidi Machel (Herrera), Jennifer Parsons (Boeing) – on site for scheduled punch list walk through. No issues identified. No others chose to attend.

Construction Engineer's Signature

Bryan Nicholson
Print Name

APPENDIX C

Contractor Water Treatment Discharge Reports

2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Clear Water Compliance Services
Attn: Matt Gagner
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090519-4

May 26th, 2009

Matt:

Enclosed are the analytical results for the ***Georgetown*** water samples (Sample IDs: Pre & Post) delivered to Fremont Analytical on May19th, 2009.

The samples were received in good condition – in the proper containers (10 – 1L Ambers, 2 – 1L HDPE Bottles, 2 – 250mL HDPE Bottles & 6 – 500mL HDPE Bottle) properly sealed, labeled and within holding time. The samples were received in a cooler with gel ice, with a cooler temperature of 4.8°C, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The samples were analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of these samples was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***
- ***Sulfide by SM 4500 - S_4^2-E***
- ***Flashpoint by ASTM D4243 (Ignitability)***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

2930 Westlake Ave. N., Suite 100
Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090519-4

					Duplicate		MS	MSD	
EPA 8270C (ug/L)	**MRL**	**Method Blank**	**LCS**	**PRE**	**PRE**	**POST**	**PRE**	**PRE**	**RPD %**
Date Extracted		5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	
Date Analyzed		5/26/09	5/26/09	5/26/09	5/26/09	5/26/09	5/26/09	5/26/09	
Matrix				Water	Water	Water	Water	Water	
Acenaphthene	*0.5*		*84%*				*80%*	*80%*	*0%*
Pyrene	*0.5*		*82%*				*89%*	*80%*	*11%*
Benzo(a)pyrene	0.1	nd		nd	nd	nd			
Surrogate Recovery									
(Surr 1) 2-Fluorobiphenyl		79%	81%	78%	81%	79%	78%	80%	
(Surr 2) p-Terphenyl		119%	89%	90%	94%	97%	89%	82%	

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 ug/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090519-4

					Duplicate		MS	MSD	
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**PRE**	**PRE**	**POST**	**PRE**	**PRE**	**RPD**
Date Extracted		5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	5/22/09	%
Date Analyzed		5/26/09	5/26/09	5/26/09	5/26/09	5/26/09	5/26/09	5/26/09	
Matrix				Water	Water	Water	Water	Water	
Aroclor 1016	5.0	nd		nd	nd	nd			
Aroclor 1221	5.0	nd		nd	nd	nd			
Aroclor 1232	5.0	nd		nd	nd	nd			
Aroclor 1242	5.0	nd		nd	nd	nd			
Aroclor 1248	5.0	nd		nd	nd	nd			
Aroclor 1254	5.0	nd		nd	nd	nd			
Aroclor 1260	5.0	nd	107%	nd	nd	nd	120%	128%	6%
Surrogate Recovery									
Surr 1 (TCMX)		101%	86%	70%	68%	65%	103%	86%	
Surr 2 (DCBP)		85%	113%	85%	79%	76%	128%	103%	

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogates and Sike Concentration = 25 µg/L
Spiked Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090519-4

					Duplicate			MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**PRE**	**PRE**	**RPD**	**POST**	**PRE**	**PRE**	**RPD**
Date Extracted		5/20/09	5/20/09	5/20/09	5/20/09	%	5/20/09	5/20/09	5/20/09	%
Date Analyzed		5/20/09	5/20/09	5/20/09	5/20/09		5/20/09	5/20/09	5/20/09	
Matrix				Water	Water		Water	Water	Water	
Arsenic (As)	0.002	nd	101%	nd	nd		**0.061**	110%	110%	0%
Cadmium (Cd)	0.0004	nd	117%	nd	nd		nd	116%	109%	6%
Chromium (Cr)	0.002	nd	123%	nd	nd		nd	111%	107%	4%
Copper (Cu)	0.005	nd	89%	nd	nd		nd	94%	93%	1%
Lead (Pb)	0.002	nd	116%	**0.013**	**0.012**	8%	**0.0070**	113%	108%	5%
Mercury (Hg)	0.0005	nd	101%	nd	nd		nd	102%	101%	1%
Nickel (Ni)	0.01	nd	130%	nd	nd		nd	112%	104%	7%
Silver (Ag)	0.0004	nd	117%	nd	nd		nd	109%	105%	4%
Zinc (Zn)	0.01	nd	90%	**0.011**	**0.012**	9%	nd	98%	98%	0%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%

Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 ug/l
Pb = 50 ug/l
Cd, Ag = 5 ug/l
Hg = 10 ug/l

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Seattle, WA 98109

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email: info@fremontanalytical.com

Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090519-4

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	PRE	POST	Duplicate POST
Date Analyzed		5/21/09	5/21/09	5/21/09	5/21/09	5/21/09
Matrix				Water	Water	Water
Cyanide	0.005	nd	102%	nd	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Sulfide by SM 4500 - S_4^{2-}E

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090519-4

SM 4500 - S_4^{2}-E (mg/L)	MRL	Method Blank	LCS	PRE	Duplicate PRE	POST
Date Analyzed		5/20/09	5/20/09	5/20/09	5/20/09	5/20/09
Matrix		Water	Water	Water	Water	Water
Sulfide	1.0	nd	101%	nd	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

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F: 206.352.7178
email: info@fremontanalytical.com

Flashpoint by ASTM D4243

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090519-4

ASTM D4243 (Degrees F)	**PRE**	**POST**
Date Analyzed	5/26/09	5/26/09
Matrix	Water	Water
Flashpoint	**>200° F**	**>200° F**

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090519-4

Date: 5-19-09

Page: 1 of: 1

Client: Clear Water Compliance Services
Address:
City, State, Zip
Tel: 425-754-0369

Project Name: Georgetown
Location: Seattle WA
Collected by: Neil Robbins

Reports To (PM):
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	CYANIDE ~~NWTPH-Dx~~	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 8270(4)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	SULFIDE	FLASH/IGNITE	Comments/Depth
1	Pre	1500	H_2O	VOA Amber	5/19				X			X	X			X	T		X	X	METALS = As, Cd, Cr
2	Post	1520	↓	Poly ↓	5/19				X			X	X			X	T		X	X	Cu, Pb, Hg, Ni, Ag
3																					Zn
4																					
5																					
6																					
7																					
8																					
9																					
10																					

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Floride Nitrate+Nitrite

Relinquished	Date/Time	Received	Date/Time:
x [signature]	5/19/09 1540	x [signature]	5/19/09 1540
Relinquished	Date/Time	Received	Date/Time:
x		x	

Sample Receipt:	
Good?	Y
Temperature: Cooler	4.8°C
Seals Intact?:	Y
Total Number of Containers:	20

Special Remarks
Analysis TBA

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Clear Water Compliance Services
Attn: Matt Gagner
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090602-5

June 2nd, 2009

Matt:

Enclosed are the initial analytical results for the ***Georgetown*** water samples delivered to Fremont Analytical (Today) Tuesday June 2nd, 2009.

The samples were received in good condition – in the proper containers (4 – 1L Ambers, 4 – 500mL HDPE Bottles preserved with NaOH and 4 - 1L HDPE Bottles) properly sealed, labeled and within holding time. The samples were received in a cooler with gel ice, with cooler temperatures of 4.6°C & 2.6°C respectively, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The samples were analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of these samples was conducted for the presence of the following:

- ***Total Mercury in Water by EPA Method 7470***
- ***Benzo (a) Pyrene in Water by EPA Method 8270C*** ***– results not avail***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082*** ***– results not avail***
- ***Total Metals in Water by EPA Method 6020*** ***– results not avail***
- ***Cyanide in Water by EPA Method 335.2*** ***– results not avail***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

2930 Westlake Ave . N., Suite 100
Seattle, WA 98109

T: 206.352.3790
F: 206-352-7178
email: info@fremontanalytical.com

Analysis of Total Mercury in Water by EPA Method 7470

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 7470 (mg/L)	MRL	Method Blank	LCS	Batch 2-1	Duplicate Batch 2-1	Batch 2-2	Batch 2-3	Batch 2-4
Date Extracted		6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09
Date Analyzed		6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09
Matrix				Water	Water	Water	Water	Water
Mercury (Hg)	0.0001	nd	96%	nd	nd	nd	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
Hg = 5.0 µg/l

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email: info@fremontanalytical.com

Analysis of Total Mercury in Water by EPA Method 7470

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 7470 (mg/L)	MRL	MS Batch 2-1	MSD Batch 2-1	RPD
Date Extracted		6/2/09	6/2/09	%
Date Analyzed		6/2/09	6/2/09	
Matrix		Water	Water	
Mercury (Hg)	0.0001	100%	97%	3%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
Hg = 5.0 µg/l

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHW090602-5

Date: 6/2/09

Page: 1 of: 3

Client: Clear Water

Address:

City, State, Zip

Tel: 425-254-2579

Project Name: Georgetown

Location: Seattle

Collected by: Don Lipinski

Reports To (PM):

Fax:

Email:

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 BNA (a)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CN-				Comments/Depth
1	influent #2	1120	H2O	Amber								X	X			X	T		X				
2	influent #2	1120	"	Amber																			
3	influent #2	1120	"	poly																			
4	influent #2	1120	"	poly																			
5	influent #2	1120	"	poly																			
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/2/09 1220	x	6/2/09 1220
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	4.6°C/2.6°C
Seals Intact?:	Y
Total Number of Containers:	14

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
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Tel: 206-352-3790
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Laboratory Project No (internal): CHM090602-5

Date: 6/2/09

Page: 2 of: 3

Client: Clear Water

Address:

City, State, Zip

Tel: 425-754-7579

Project Name: Georgetown

Location: Seattle Wa

Collected by: Dan Lipowski

Reports To (PM):

Fax:

Email:

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 Benzo(a)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CN				Comments/Depth
1	Batch 3 post	1120	H_2O	1L amber								X	X			X	T		X				
2	Batch 3 post	1120		1L amber													T						
3	Batch 3 post	1120		poly													T						
4	Batch 3 post	1120		poly													T						
5	Batch 3 post	1120		poly													T						
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/2/09 1220	x	6/2/09 1220
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	4.6°C/2.6°C
Seals Intact?:	Y
Total Number of Containers:	14

Special Remarks:

TAT - 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Laboratory Project No (internal): CHM090602-5

Date: 6/2/09

Page: 3 of: 3

Client: Clear Water
Address:
City, State, Zip
Tel: 425-754-7579

Project Name: Georgetown
Location: Seattle
Collected by: Don Lipinski

Reports To (PM):
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**					Comments/Depth
1	Batch 2-1	1100	H_2O	poly												X	T						
2	Batch 2-2	1100	H_2O	poly												X	T						
3	Batch 2-3	1100	H_2O	poly												X	T						
4	Batch 2-4	1100	H_2O	poly												X	T						
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x		x	6/2/09 1220
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	4.6°C/2.6°C
Seals Intact?:	Y
Total Number of Containers:	14

Special Remarks: SD!

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Clear Water Compliance Services
Attn: Matt Gagner
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090529-2

June 1st, 2009

Matt:

Enclosed are the analytical results for the ***Georgetown*** water sample (Sample ID: Batch2) delivered to Fremont Analytical on Friday, May29th, 2009.

The sample was received in good condition – in the proper containers (8 – 1L Ambers, & 1 – 500mL HDPE Bottles) properly sealed, labeled and within holding time. The sample was received in a cooler with gel ice, with a cooler temperature of 5.1°C, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090529-2

					Duplicate	MS	MSD	
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch 2**	**Batch 2**	**Batch 2**	**Batch 2**	**RPD %**
Date Extracted		5/29/09	5/29/09	5/29/09	5/29/09	5/29/09	5/29/09	
Date Analyzed		6/1/09	6/1/09	6/1/09	6/1/09	6/1/09	6/1/09	
Matrix				Water	Water	Water	Water	
Acenaphthene	*0.5*		*87%*			*90%*	*86%*	*5%*
Pyrene	*0.5*		*84%*			*86%*	*76%*	*12%*
Benzo(a)pyrene	0.1	nd		nd	nd			
Surrogate Recovery								
(Surr 1) 2-Fluorobiphenyl		100%	105%	80%	77%	78%	66%	
(Surr 2) p-Terphenyl		101%	106%	81%	98%	81%	74%	

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090529-2

EPA 8082 (µg/L)	MRL	Method Blank	LCS	Batch 2	Duplicate Batch 2	MS Batch 2
Date Extracted		5/29/09	5/29/09	5/29/09	5/29/09	5/29/09
Date Analyzed		6/1/09	6/1/09	6/1/09	6/1/09	6/1/09
Matrix			Water	Water	Water	Water
Aroclor 1016	0.3	nd		nd	nd	
Aroclor 1221	0.3	nd		nd	nd	
Aroclor 1232	0.3	nd		nd	nd	
Aroclor 1242	0.3	nd		nd	nd	
Aroclor 1248	0.3	nd		nd	nd	
Aroclor 1254	0.3	nd		nd	nd	
Aroclor 1260	0.3	nd	79%	nd	nd	77%
Surrogate Recovery						
Surr 1 (TCMX)		81%	85%	85%	118%	79%
Surr 2 (DCBP)		93%	90%	90%	122%	88%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090529-2

EPA 6020 (mg/L)	MRL	Method Blank	LCS	Batch 2	MS *Batch 090528-3-1*	MSD *Batch 090528-3-1*	RPD
Date Extracted		5/29/09	5/29/09	5/29/09	5/29/09	5/29/09	%
Date Analyzed		5/29/09	5/29/09	5/29/09	5/29/09	5/29/09	
Matrix				Water	Water	Water	
Arsenic (As)	0.002	nd	117%	**0.013**	101%	111%	9%
Cadmium (Cd)	0.0004	nd	129%	nd	117%	109%	7%
Chromium (Cr)	0.002	nd	129%	**0.094**	88%	95%	8%
Copper (Cu)	0.005	nd	116%	**0.13**	86%	94%	9%
Lead (Pb)	0.002	nd	117%	**0.014**	109%	93%	16%
Mercury (Hg)	0.0005	nd	120%	**1.4**	115%	121%	5%
Nickel (Ni)	0.01	nd	120%	**0.12**	96%	101%	5%
Silver (Ag)	0.0004	nd	129%	nd	108%	98%	10%
Zinc (Zn)	0.01	nd	125%	**0.13**	85%	96%	12%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%

Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090529-2

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	Batch 2	Duplicate Batch 2
Date Analyzed		5/29/09	5/29/09	5/29/09	5/29/09
Matrix				Water	Water
Cyanide	0.005	nd	104%	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

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Laboratory Project No (internal): CHM0905-29-2

Date: 5/29/09

Page: 1 of: 1

Client: Clear Water Compliance

Address:

City, State, Zip: Tel:

Project Name: Georgetown Plume

Location: Seattle, WA

Collected by: Neil Robbins

Reports To (PM): Fax: Email: Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 (BEN 20)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CN-				Comments/Depth
1	Batch 2	0940	H2O	VARIOUS								X	X			X	T		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x [signature]	5/29/09 1201	x [signature]	5/29/09 1201
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	5.1°C
Seals Intact?:	Y
Total Number of Containers:	10

Special Remarks: Check about CN-

TAT 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Clear Water Compliance Services
Attn: Matt Gagner
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090602-5

June 2nd, 2009 (Revised June 3rd, 2009)

Matt:

Enclosed are the final analytical results for the ***Georgetown*** water samples delivered to Fremont Analytical on Tuesday June 2nd, 2009.

The samples were received in good condition – in the proper containers (4 – 1L Ambers, 4 – 500mL HDPE Bottles preserved with NaOH and 4 - 1L HDPE Bottles) properly sealed, labeled and within holding time. The samples were received in a cooler with gel ice, with cooler temperatures of 4.6°C & 2.6°C respectively, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The samples were analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of these samples was conducted for the presence of the following:

- ***Total Mercury in Water by EPA Method 7470***
- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 8270C (µg/L)	MRL	Method Blank	LCS	Influent #2	Batch 3 Post	Duplicate Batch 3 Post	MS Batch 3 Post
Date Extracted		6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09
Date Analyzed		6/3/09	6/3/09	6/3/09	6/3/09	6/3/09	6/3/09
Matrix				Water	Water	Water	Water
Acenaphthene	*0.5*		*80%*				*84%*
Pyrene	*0.5*		*72%*				*77%*
Benzo(a)pyrene	0.1	nd		nd	nd	nd	
Surrogate Recovery							
(Surr 1) 2-Fluorobiphenyl		91%	69%	65%	88%	79%	115%
(Surr 2) p-Terphenyl		82%	114%	70%	84%	67%	92%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

						Duplicate	MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Influent #2**	**Batch 3 Post**	**Influent #2**	**Batch 3 Post**
Date Extracted		6/2/09	6/2/09	6/2/09	6/2/09	<date>	<date>
Date Analyzed		6/3/09	6/3/09	6/3/09	6/3/09	<date>	<date>
Matrix			Water	Water	Water	Water	Water
Aroclor 1016	0.3	nd		nd	nd	nd	
Aroclor 1221	0.3	nd		nd	nd	nd	
Aroclor 1232	0.3	nd		nd	nd	nd	
Aroclor 1242	0.3	nd		nd	nd	nd	
Aroclor 1248	0.3	nd		nd	nd	nd	
Aroclor 1254	0.3	nd		nd	nd	nd	
Aroclor 1260	0.3	nd	92%	nd	nd	nd	95%
Surrogate Recovery							
Surr 1 (TCMX)		81%	91%	64%	81%	61%	66%
Surr 2 (DCBP)		73%	135%	66%	73%	66%	114%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 6020 (mg/L)	MRL	Method Blank	LCS	Influent #2	Batch 3 Post	Duplicate Batch 3 Post	RPD
Date Extracted		6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	%
Date Analyzed		6/3/09	6/3/09	6/3/09	6/3/09	6/3/09	
Matrix				Water	Water	Water	
Arsenic (As)	0.002	nd	107%	**0.003**	**0.022**	**0.021**	5%
Cadmium (Cd)	0.0004	nd	86%	nd	nd	nd	
Chromium (Cr)	0.002	nd	91%	nd	nd	nd	
Copper (Cu)	0.005	nd	115%	nd	nd	nd	
Lead (Pb)	0.002	nd	90%	**0.0070**	**0.0060**	**0.0056**	7%
Mercury (Hg)	0.0005	nd	92%	nd	nd	nd	
Nickel (Ni)	0.01	nd	92%	nd	nd	nd	
Silver (Ag)	0.0004	nd	86%	nd	nd	nd	
Zinc (Zn)	0.01	nd	86%	**0.020**	**0.011**	**0.012**	9%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%

Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 6020 (mg/L)	MRL	MS Batch 3 Post	MSD Batch 3 Post	RPD
Date Extracted		6/2/09	6/2/09	%
Date Analyzed		6/3/09	6/3/09	
Matrix		Water	Water	
Arsenic (As)	0.002	118%	120%	2%
Cadmium (Cd)	0.0004	88%	90%	2%
Chromium (Cr)	0.002	89%	90%	1%
Copper (Cu)	0.005	113%	116%	3%
Lead (Pb)	0.002	86%	86%	0%
Mercury (Hg)	0.0005	94%	100%	6%
Nickel (Ni)	0.01	89%	91%	2%
Silver (Ag)	0.0004	87%	90%	3%
Zinc (Zn)	0.01	85%	86%	1%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%

Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Total Mercury in Water by EPA Method 7470

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 7470 (mg/L)	MRL	Method Blank	LCS	Batch 2-1	Duplicate Batch 2-1	Batch 2-2	Batch 2-3	Batch 2-4
Date Extracted		6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09
Date Analyzed		6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09	6/2/09
Matrix				Water	Water	Water	Water	Water
Mercury (Hg)	0.0001	nd	96%	nd	nd	nd	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
Hg = 5.0 µg/l

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Seattle, WA 98109

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F: 206-352-7178
email: info@fremontanalytical.com

Analysis of Total Mercury in Water by EPA Method 7470

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

EPA 7470 (mg/L)	MRL	MS Batch 2-1	MSD Batch 2-1	RPD
Date Extracted		6/2/09	6/2/09	%
Date Analyzed		6/2/09	6/2/09	
Matrix		Water	Water	
Mercury (Hg)	0.0001	100%	97%	3%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
Hg = 5.0 µg/l

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090602-5

						Duplicate	MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Influent #2**	**Batch 3 Post**	**Batch 3 Post**	**Influent #2**
Date Analyzed		6/3/09	6/3/09	6/3/09	6/3/09	6/3/09	6/3/09
Matrix				Water	Water	Water	Water
Cyanide	0.005	nd	80%	nd	nd	nd	96%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

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Chain of Custody Record

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Fax: 206-352-7178

Laboratory Project No (internal): CHW090602-5

Date: 6/2/09

Page: 1 of: 3

Client: Clear Water

Address:

City, State, Zip

Tel: 425-254-2579

Project Name: Georgetown

Location: Seattle

Collected by: Don Lipinski

Reports To (PM):

Fax:

Email:

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 BNA (a)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CN-				Comments/Depth
1	influent #2	1120	H2O	Amber								X	X			X	T		X				
2	influent #2	1120	"	Amber																			
3	influent #2	1120	"	poly																			
4	influent #2	1120	"	poly																			
5	influent #2	1120	"	poly																			
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/2/09 1220	x	6/2/09 1220
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	4.6°C/2.6°C
Seals Intact?:	Y
Total Number of Containers:	14

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Laboratory Project No (internal): CHM090602-5

Date: 6/2/09

Page: 2 of: 3

Client: Clear Water

Address:

City, State, Zip

Tel: 425-754-7579

Project Name: Georgetown

Location: Seattle Wa

Collected by: Dan Lipowski

Reports To (PM):

Fax:

Email:

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 Benzo(a)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CN				Comments/Depth
1	Batch 3 post	1120	H_2O	1L amber								X	X			X	T		X				
2	Batch 3 post	1120		1L amber													T						
3	Batch 3 post	1120		poly													T						
4	Batch 3 post	1120		poly													T						
5	Batch 3 post	1120		poly													T						
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/2/09 1220	x	6/2/09 1220
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	4.6°C/2.6°C
Seals Intact?:	Y
Total Number of Containers:	14

Special Remarks:

TAT - 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Laboratory Project No (internal): CHM090602-5

Date: 6/2/09

Page: 3 of: 3

Client: Clear Water
Address:
City, State, Zip
Tel: 425-754-7579

Project Name: Georgetown
Location: Seattle
Collected by: Don Lipinski

Reports To (PM):
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**					Comments/Depth
1	Batch 2-1	1100	H_2O	poly												X	T						
2	Batch 2-2	1100	H_2O	poly												X	T						
3	Batch 2-3	1100	H_2O	poly												X	T						
4	Batch 2-4	1100	H_2O	poly												X	T						
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x		x	6/2/09 1220
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	4.6°C/2.6°C
Seals Intact?:	Y
Total Number of Containers:	14

Special Remarks: SD!

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Clear Water Compliance Services
Attn: Matt Gagner
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090604-2

June 5th, 2009

Matt:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 4*) delivered to Fremont Analytical on Thursday June 4th, 2009.

The sample was received in good condition – in the proper containers (3 – 1L Ambers, 2 – 500mL HDPE Bottles and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was received in a cooler with gel ice, with cooler temperatures of 6.9°C, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090604-2

					Duplicate	MS	MSD	
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch 4**	**Batch 4**	**Batch 4**	**Batch 4**	**RPD**
Date Extracted		6/5/09	6/5/09	6/5/09	6/5/09	6/5/09	6/5/09	%
Date Analyzed		6/5/09	6/5/09	6/5/09	6/5/09	6/5/09	6/5/09	
Matrix				Water	Water	Water	Water	
Acenaphthene	*0.5*		*94%*			*110%*	*98%*	12%
Pyrene	*0.5*		*119%*			*100%*	*108%*	8%
Benzo(a)pyrene	0.1	nd		nd	nd			
Surrogate Recovery								
(Surr 1) 2-Fluorobiphenyl		79%	90%	74%	67%	79%	76%	
(Surr 2) p-Terphenyl		130%	99%	93%	135%	88%	127%	

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090604-2

					Duplicate	MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch 4**	**Batch 4**	**Batch 4**
Date Extracted		6/5/09	6/5/09	6/5/09	6/5/09	6/5/09
Date Analyzed		6/5/09	6/5/09	6/5/09	6/5/09	6/5/09
Matrix			Water	Water	Water	Water
Aroclor 1016	0.3	nd		nd	nd	
Aroclor 1221	0.3	nd		nd	nd	
Aroclor 1232	0.3	nd		nd	nd	
Aroclor 1242	0.3	nd		nd	nd	
Aroclor 1248	0.3	nd		nd	nd	
Aroclor 1254	0.3	nd		nd	nd	
Aroclor 1260	0.3	nd	108%	nd	nd	83%
Surrogate Recovery						
Surr 1 (TCMX)		72%	82%	66%	66%	69%
Surr 2 (DCBP)		83%	86%	71%	77%	72%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090604-2

EPA 6020 (mg/L)	MRL	Method Blank	LCS	Batch 4	Duplicate Batch 4	RPD	MS Batch 090602-6-1	MSD Batch 090602-6-1	RPD
Date Extracted		6/4/09	6/4/09	6/4/09	6/4/09	%	6/4/09	6/4/09	%
Date Analyzed		6/4/09	6/4/09	6/4/09	6/4/09		6/4/09	6/4/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	89%	**0.0070**	**0.0065**	7%	96%	89%	8%
Cadmium (Cd)	0.0004	nd	86%	nd	nd		86%	92%	7%
Chromium (Cr)	0.002	nd	94%	nd	nd		91%	90%	1%
Copper (Cu)	0.005	nd	98%	nd	nd		103%	98%	5%
Lead (Pb)	0.002	nd	75%	**0.0050**	**0.0050**	0%	66%	67%	2%
Mercury (Hg)	0.0005	nd	80%	nd	nd		67%	68%	1%
Nickel (Ni)	0.01	nd	94%	nd	nd		85%	86%	1%
Silver (Ag)	0.0004	nd	92%	nd	nd		91%	90%	1%
Zinc (Zn)	0.01	nd	86%	**0.013**	**0.014**	7%	82%	87%	6%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%

Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090604-2

					Duplicate	MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch 4**	**Batch 4**	**Batch 4**
Date Analyzed		6/5/09	6/5/09	6/5/09	6/5/09	6/5/09
Matrix				Water	Water	Water
Cyanide	0.005	nd	102%	nd	nd	107%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

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Fax: 206-352-7178

Laboratory Project No (internal): CHM090604-2

Date: 6/4/09

Page: 1 of: 1

Client: Clear Water
Address:
City, State, Zip
Tel: 425-254-7579

Project Name: Georgetown
Location: Seattle
Collected by: Dan Lipinski

Reports To (PM):
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 Benzo(a)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CN-				Comments/Depth
1	Batch 4		H_2O									X	X			X	T		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/4/01 1205		6/4/01 1205
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature: Cooler	6.9°C
Seals Intact?:	Y
Total Number of Containers:	6

Special Remarks: 24hr

TAT → 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090615-5

June 16th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 5*) delivered to Fremont Analytical on Monday June 15th, 2009.

The sample was received in good condition – in the proper containers (4 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was received in a cooler with gel ice, with cooler temperatures of 4.1°C, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report. Additional Quality Assurance will be delivered with the hard-copy report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090615-5

					Duplicate	MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 5**	**Batch # 5**	**Batch # 5**
Date Extracted		6/16/09	6/16/09	6/16/09	6/16/09	6/16/09
Date Analyzed		6/16/09	6/16/09	6/17/09	6/17/09	6/17/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*83%*			*101%*
Pyrene	*0.5*		*72%*			*94%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		116%	94%	95%	99%	114%
(Surr 2) p-Terphenyl		83%	99%	72%	70%	77%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090615-5

					Duplicate		MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 5**	**Batch # 5**	**RPD**	**Batch # 5**
Date Extracted		6/15/09	6/15/09	6/15/09	6/15/09	%	6/15/09
Date Analyzed		6/16/09	6/16/09	6/16/09	6/16/09		6/16/09
Matrix				Water	Water		Water
Aroclor 1016	0.3	nd		nd	nd		
Aroclor 1221	0.3	nd		nd	nd		
Aroclor 1232	0.3	nd		nd	nd		
Aroclor 1242	0.3	nd		nd	nd		
Aroclor 1248	0.3	nd		nd	nd		
Aroclor 1254	0.3	nd		nd	nd		
Aroclor 1260	0.3	nd	86%	nd	nd		87%
Surrogate Recovery							
Surr 1 (TCMX)		86%	86%	69%	69%		88%
Surr 2 (DCBP)		102%	117%	84%	87%		117%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090615-5

EPA 6020 (mg/L)	MRL	Method Blank	LCS	Batch # 5	Duplicate Batch # 5	RPD
Date Extracted		6/16/09	6/16/09	6/16/09	6/16/09	%
Date Analyzed		6/16/09	6/16/09	6/16/09	6/16/09	
Matrix				Water	Water	
Arsenic (As)	0.002	nd	109%	**0.008**	**0.010**	22%
Cadmium (Cd)	0.0004	nd	119%	nd	nd	
Chromium (Cr)	0.002	nd	132%	nd	nd	
Copper (Cu)	0.005	nd	115%	**0.010**	**0.010**	2%
Lead (Pb)	0.002	nd	126%	nd	nd	
Mercury (Hg)	0.0005	nd	125%	nd	nd	
Nickel (Ni)	0.01	nd	128%	nd	nd	
Silver (Ag)	0.0004	nd	122%	nd	nd	
Zinc (Zn)	0.01	nd	120%	nd	nd	

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090615-5

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	Batch # 5	Duplicate Batch # 5
Date Analyzed		6/16/09	6/16/09	6/16/09	6/16/09
Matrix				Water	Water
Cyanide	0.05	nd	105%	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090615-5

Date: 6/15/09

Page: 1 of: 1

Client: Clear Water
Address:
City, State, Zip
Tel: 425-754-7579

Project Name: Georgetown
Location: Seattle
Collected by: Dan Lipinski

Reports To (PM): TY CLAGER
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 (BONZO-a)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	Cyanide				Comments/Depth
1	Batch #5	1400	H_2O		6/15							X	X				X		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/15/09 1650	x	6/15/09 1650
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	yes
Cooler Temperature: 4.1	GOOD
Seals Intact?:	yes
Total Number of Containers:	6

Special Remarks: 24 hr

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090618-1

June 19th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 6*) delivered to Fremont Analytical on Thursday June 18th, 2009.

The sample was received in good condition – in the proper containers (4 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was sampled from the location and brought immediately to the laboratory. The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Seattle, WA 98103

T: 206.352.3790
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email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090618-1

					Duplicate	MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #6**	**Batch #6**	**Batch #6**
Date Extracted		6/18/09	6/18/09	6/18/09	6/18/09	6/18/09
Date Analyzed		6/19/09	6/19/09	6/19/09	6/19/09	6/19/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*122%*			*75%*
Pyrene	*0.5*		*116%*			*101%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		73%	98%	84%	97%	85%
(Surr 2) p-Terphenyl		115%	92%	109%	126%	96%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090618-1

					Duplicate	MS	MSD
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #6**	**Batch #6**	**Batch #6**	**Batch #6**
Date Extracted		6/18/09	6/18/09	6/18/09	6/18/09	6/18/09	6/18/09
Date Analyzed		6/19/09	6/19/09	6/19/09	6/19/09	6/19/09	6/19/09
Matrix				Water	Water	Water	Water
Aroclor 1016	0.3	nd		nd	nd		
Aroclor 1221	0.3	nd		nd	nd		
Aroclor 1232	0.3	nd		nd	nd		
Aroclor 1242	0.3	nd		nd	nd		
Aroclor 1248	0.3	nd		nd	nd		
Aroclor 1254	0.3	nd		nd	nd		
Aroclor 1260	0.3	nd	105%	nd	nd	119%	118%
Surrogate Recovery							
Surr 1 (TCMX)		93%	119%	101%	99%	65%	84%
Surr 2 (DCBP)		87%	81%	89%	80%	66%	81%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090618-1

					Duplicate		MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #6**	**Batch #6**	**RPD**	**Batch #6**	**Batch #6**	**RPD**
Date Extracted		6/18/09	6/18/09	6/18/09	6/18/09	%	6/18/09	6/18/09	%
Date Analyzed		6/19/09	6/19/09	6/19/09	6/19/09		6/19/09	6/19/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	105%	**0.006**	**0.007**	13%	124%	130%	5%
Cadmium (Cd)	0.0004	nd	125%	nd	nd		132%	130%	2%
Chromium (Cr)	0.002	nd	123%	nd	nd		130%	128%	2%
Copper (Cu)	0.005	nd	115%	nd	nd		119%	121%	2%
Lead (Pb)	0.002	nd	116%	nd	nd		130%	125%	4%
Mercury (Hg)	0.0005	nd	123%	nd	nd		125%	122%	2%
Nickel (Ni)	0.01	nd	115%	nd	nd		126%	125%	1%
Silver (Ag)	0.0004	nd	121%	nd	nd		133%	130%	2%
Zinc (Zn)	0.01	nd	104%	nd	nd		115%	124%	8%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090618-1

					Duplicate	MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 6**	**Batch # 6**	**Batch # 6**
Date Analyzed		6/19/09	6/19/09	6/19/09	6/19/09	6/19/09
Matrix				Water	Water	
Cyanide	0.05	nd	95%	nd	nd	97%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, MS = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090618-1

Date: 6/18/09

Page: _____ of: _____

Client: Clear Water
Address:
City, State, Zip
Tel: 425-754-7579

Project Name: Georgetown
Location: Seattle
Collected by: Don Lipski

Reports To (PM): Ty Clager
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 80218 BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 (Bnzo A)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	Cyanide				Comments/Depth
1	Batch #6	1030	H_2O		6/18/09							X	X				X		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
1	6/18/09	x	6/18/09 1130
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	OK
Seals Intact?:	Y
Total Number of Containers:	6

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Seattle, WA 98109
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info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090629-2

June 30th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 8*) delivered to Fremont Analytical on Monday June 29th, 2009.

The sample was received in good condition – in the proper containers (5 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was received in a cooler with gel & wet ice, with cooler temperatures of 2.2°C, which is within the laboratory recommended cooler temperature range (<4°C - 10°C). The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090629-2

					Duplicate	MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 8**	**Batch # 8**	**Batch # 8**
Date Extracted		6/29/09	6/29/09	6/29/09	6/29/09	6/29/09
Date Analyzed		6/30/09	6/30/09	6/30/09	6/30/09	6/30/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*107%*			*95%*
Pyrene	*0.5*		*108%*			*81%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		105%	117%	98%	70%	89%
(Surr 2) p-Terphenyl		123%	126%	82%	115%	100%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090629-2

					Duplicate	MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 8**	**Batch # 8**	**Batch # 8**
Date Extracted		6/30/09	6/30/09	6/30/09	6/30/09	6/30/09
Date Analyzed		6/30/09	6/30/09	6/30/09	6/30/09	6/30/09
Matrix				Water	Water	Water
Aroclor 1016	0.3	nd		nd	nd	
Aroclor 1221	0.3	nd		nd	nd	
Aroclor 1232	0.3	nd		nd	nd	
Aroclor 1242	0.3	nd		nd	nd	
Aroclor 1248	0.3	nd		nd	nd	
Aroclor 1254	0.3	nd	105%	nd	nd	84%
Aroclor 1260	0.3	nd		nd	nd	
Surrogate Recovery						
Surr 1 (TCMX)		88%	109%	99%	103%	87%
Surr 2 (DCBP)		90%	111%	101%	107%	92%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090629-2

					Duplicate		MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 8**	**Batch # 8**	**RPD**	**Batch # 8**	**Batch # 8**	**RPD**
Date Extracted		6/29/09	6/29/09	6/29/09	6/29/09	%	6/29/09	6/29/09	%
Date Analyzed		6/30/09	6/30/09	6/30/09	6/30/09		6/30/09	6/30/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	87%	**0.005**	**0.004**	22%	88%	90%	2%
Cadmium (Cd)	0.0004	nd	90%	nd	nd		86%	90%	5%
Chromium (Cr)	0.002	nd	84%	nd	nd		77%	79%	3%
Copper (Cu)	0.005	nd	82%	nd	nd		79%	82%	4%
Lead (Pb)	0.002	nd	106%	nd	nd		98%	101%	3%
Mercury (Hg)	0.0005	nd	133%	nd	nd		84%	97%	14%
Nickel (Ni)	0.01	nd	79%	nd	nd		72%	74%	3%
Silver (Ag)	0.0004	nd	84%	nd	nd		80%	82%	3%
Zinc (Zn)	0.01	nd	90%	nd	nd		87%	88%	1%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090629-2

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	Batch # 8	Duplicate Batch # 8
Date Analyzed		6/30/09	6/30/09	6/30/09	6/30/09
Matrix				Water	Water
Cyanide	0.05	nd	105%	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090629-2

Date: 6/29/09

Page: 1 of: 1

Client: Clear Water
Address:
City, State, Zip
Tel: 425-754-4016

Project Name: Georgetown
Location: Seattle
Collected by: Neil Robbins

Reports To (PM): TY CLAGER
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 (Benzo-4)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals* Total (T) | Dissolved (D)	Anions (IC)**	Cyanide				Comments/Depth
1	Batch #8	1440	H_2O	~~6/29~~	6-29							X	X				X		X			
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	6/29/09/1530	x	6/29/09 1530
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	2.2°C
Seals Intact?:	Y
Total Number of Containers:	7

Special Remarks:

TAT -> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090707-1

July 8th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 9*) delivered to Fremont Analytical on Tuesday July 7th, 2009.

The sample was received in good condition – in the proper containers (6 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Seattle, WA 98103

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F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090707-1

					Duplicate	MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 9**	**Batch # 9**	**Batch # 9**
Date Extracted		7/7/09	7/7/09	7/7/09	7/7/09	7/7/09
Date Analyzed		7/8/09	7/8/09	7/8/09	7/8/09	7/8/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*115%*			*112%*
Pyrene	*0.5*		*97%*			*95%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		93%	94%	94%	112%	90%
(Surr 2) p-Terphenyl		103%	94%	94%	128%	91%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Seattle, WA 98109

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090707-1

					Duplicate		MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 9**	**Batch # 9**	**RPD**	**Batch # 9**
Date Extracted		7/7/09	7/7/09	7/7/09	7/7/09	%	7/7/09
Date Analyzed		7/8/09	7/8/09	7/8/09	7/8/09		7/8/09
Matrix				Water	Water		Water
Aroclor 1016	0.3	nd		nd	nd		
Aroclor 1221	0.3	nd		nd	nd		
Aroclor 1232	0.3	nd		nd	nd		
Aroclor 1242	0.3	nd		nd	nd		
Aroclor 1248	0.3	nd		nd	nd		
Aroclor 1254	0.3	nd		nd	nd		
Aroclor 1260	0.3	nd	82%	nd	nd		75%
Surrogate Recovery							
Surr 1 (TCMX)		93%	91%	89%	71%		80%
Surr 2 (DCBP)		113%	117%	110%	95%		109%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090707-1

EPA 6020 (mg/L)	MRL	Method Blank	LCS	Batch # 9	Duplicate Batch # 9	RPD	MS *Batch 090706-1-1*	MSD *Batch 090706-1-1*	RPD
Date Extracted		7/7/09	7/7/09	7/7/09	7/7/09	%	7/7/09	7/7/09	%
Date Analyzed		7/7/09	7/7/09	7/7/09	7/7/09		7/7/09	7/7/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	77%	nd	nd		77%	76%	1%
Cadmium (Cd)	0.0004	nd	82%	nd	nd		93%	87%	7%
Chromium (Cr)	0.002	nd	79%	**0.004**	**0.005**	22%	93%	77%	19%
Copper (Cu)	0.005	nd	76%	nd	nd		78%	72%	8%
Lead (Pb)	0.002	nd	78%	nd	nd		88%	81%	8%
Mercury (Hg)	0.0005	nd	102%	nd	nd		101%	127%	23%
Nickel (Ni)	0.01	nd	77%	nd	nd		99%	79%	22%
Silver (Ag)	0.0004	nd	98%	nd	nd		93%	102%	9%
Zinc (Zn)	0.01	nd	84%	nd	nd		68%	66%	3%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090707-1

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	Batch # 9	Duplicate Batch # 9
Date Analyzed		7/8/09	7/8/09	7/8/09	7/8/09
Matrix				Water	Water
Cyanide	0.05	nd	102%	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090707-1

Date: 7/7/09

Page: 1 of: 1

Client: Clear Water

Address:

City, State, Zip

Tel: 425-328-0636

Project Name: Georgetown

Location: Seattle

Collected by: Meghan Apshaga

Reports To (PM):

Fax:

Email:

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	Cyanide				Comments/Depth
1	Batch #9	0645	H_2O		7/7							X	X				X		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	7/7/09	x	7/7/09 730
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	ok
Seals Intact?:	Y
Total Number of Containers:	8

Special Remarks:

TAT 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090713-2

July 14th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 10*) delivered to Fremont Analytical on Monday July 13th, 2009.

The sample was received in good condition – in the proper containers (6 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Seattle, WA 98103

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Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090713-2

EPA 8270C (µg/L)	MRL	Method Blank	LCS	Batch #10	Duplicate Batch #10	MS Batch #10
Date Extracted		7/13/09	7/13/09	7/13/09	7/13/09	7/13/09
Date Analyzed		7/14/09	7/14/09	7/14/09	7/14/09	7/14/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*99%*			*100%*
Pyrene	*0.5*		*90%*			*89%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		104%	104%	96%	95%	103%
(Surr 2) p-Terphenyl		75%	81%	80%	82%	87%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090713-2

EPA 8082 (µg/L)	MRL	Method Blank	LCS	Batch #10	Duplicate Batch #10
Date Extracted		7/14/09	7/14/09	7/14/09	7/14/09
Date Analyzed		7/14/09	7/14/09	7/14/09	7/14/09
Matrix				Water	Water
Aroclor 1016	0.3	nd		nd	nd
Aroclor 1221	0.3	nd		nd	nd
Aroclor 1232	0.3	nd		nd	nd
Aroclor 1242	0.3	nd		nd	nd
Aroclor 1248	0.3	nd		nd	nd
Aroclor 1254	0.3	nd		nd	nd
Aroclor 1260	0.3	nd	83%	nd	nd
Surrogate Recovery					
Surr 1 (TCMX)		94%	90%	82%	95%
Surr 2 (DCBP)		87%	89%	78%	87%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090713-2

EPA 6020 (mg/L)	MRL	Method Blank	LCS	Batch #10	Duplicate Batch #10	RPD	MS Batch 090709-3-1	MSD Batch 090709-3-1	RPD
Date Extracted		7/13/09	7/13/09	7/13/09	7/13/09	%	7/13/09	7/13/09	%
Date Analyzed		7/14/09	7/14/09	7/14/09	7/14/09		7/14/09	7/14/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	107%	**0.005**	**0.004**	22%	96%	98%	2%
Cadmium (Cd)	0.0004	nd	90%	nd	nd		92%	93%	1%
Chromium (Cr)	0.002	nd	110%	**0.041**	**0.049**	18%	111%	118%	6%
Copper (Cu)	0.005	nd	110%	**0.012**	**0.014**	15%	93%	93%	0%
Lead (Pb)	0.002	nd	86%	nd	nd		88%	90%	2%
Mercury (Hg)	0.0005	nd	127%	nd	nd		126%	128%	2%
Nickel (Ni)	0.01	nd	101%	nd	nd		100%	102%	2%
Silver (Ag)	0.0004	nd	91%	nd	nd		96%	95%	1%
Zinc (Zn)	0.01	nd	106%	**0.01**	**0.02**	7%	97%	98%	1%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090713-2

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	Batch #10	Duplicate Batch #10
Date Analyzed		7/13/09	7/13/09	7/13/09	7/13/09
Matrix				Water	Water
Cyanide	0.05	nd	109%	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090713-2

Date: 7/13/09

Page: 1 of: 1

Client: Clear Water

Address:

City, State, Zip

Tel: 425-754-4016

Project Name: Georgetown

Location: Seattle

Collected by: Tyrone Clogg

Reports To (PM): Tyrone Clogg

Fax:

Email:

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	Cyanide				Comments/Depth
1	Batch 10	1250	H_2O		7/13							X	X				X		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	7/13/09-1330	x	7/13/09 13:30
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	
Seals Intact?:	Y
Total Number of Containers:	5

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090715-2

July 16th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 11*) delivered to Fremont Analytical on Wednesday, July 15th 2009.

The sample was received in good condition – in the proper containers (6 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Seattle, WA 98103

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email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090715-2

					Duplicate	MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #11**	**Batch #11**	**Batch #11**
Date Extracted		7/16/09	7/16/09	7/16/09	7/16/09	7/16/09
Date Analyzed		7/16/09	7/16/09	7/16/09	7/16/09	7/16/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*127%*			*126%*
Pyrene	*0.5*		*129%*			*112%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		92%	88%	116%	120%	87%
(Surr 2) p-Terphenyl		69%	51%	70%	73%	53%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090715-2

EPA 8082 (µg/L)	MRL	Method Blank	LCS	Batch #11	Duplicate Batch #11
Date Extracted		7/16/09	7/16/09	7/16/09	7/16/09
Date Analyzed		7/16/09	7/16/09	7/16/09	7/16/09
Matrix				Water	Water
Aroclor 1016	0.3	nd		nd	nd
Aroclor 1221	0.3	nd		nd	nd
Aroclor 1232	0.3	nd		nd	nd
Aroclor 1242	0.3	nd		nd	nd
Aroclor 1248	0.3	nd		nd	nd
Aroclor 1254	0.3	nd		nd	nd
Aroclor 1260	0.3	nd	83%	nd	nd
Surrogate Recovery					
Surr 1 (TCMX)		94%	90%	82%	104%
Surr 2 (DCBP)		87%	89%	78%	75%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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email: info@fremontanalytical.com

Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090715-2

					Duplicate		MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #11**	**Batch #11**	**RPD**	**Batch #11**	**Batch #11**	**RPD**
Date Extracted		7/15/09	7/15/09	7/15/09	7/15/09	%	7/15/09	7/15/09	%
Date Analyzed		7/16/09	7/16/09	7/16/09	7/16/09		7/16/09	7/16/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	83%	nd	nd		84%	82%	2%
Cadmium (Cd)	0.0004	nd	81%	nd	nd		78%	74%	5%
Chromium (Cr)	0.002	nd	100%	**0.023**	**0.027**	16%	86%	82%	5%
Copper (Cu)	0.005	nd	86%	nd	nd		83%	76%	9%
Lead (Pb)	0.002	nd	74%	nd	nd		67%	66%	2%
Mercury (Hg)	0.0005	nd	119%	nd	nd		123%	107%	14%
Nickel (Ni)	0.01	nd	122%	**0.03**	**0.03**	21%	80%	77%	4%
Silver (Ag)	0.0004	nd	87%	nd	nd		87%	78%	11%
Zinc (Zn)	0.01	nd	85%	**0.01**	**0.02**	20%	80%	77%	4%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090715-2

					Duplicate	MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #11**	**Batch #11**	**Batch #11**
Date Analyzed		7/16/09	7/16/09	7/16/09	7/16/09	7/16/09
Matrix				Water	Water	Water
Cyanide	0.05	nd	107%	nd	nd	90%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090715-2

Date: 7-15-09

Page: 1 of: 1

Client: CLEARWATER
Address:
City, State, Zip
Tel: 425-754-4016

Project Name: GEORGETOWN
Location: SEATTLE
Collected by: TODD TOLAND

Reports To (PM): TYRONE CLAGER
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals* Total (T) | Dissolved (D)	Anions (IC)**	CYANIDE				Comments/Depth
1	BATCH 11	1200	H_2O		7-15							X	X				X	X				
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x	7-15-09 @ 1235	x	7/15/09 1235
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	OK
Seals Intact?:	Y
Total Number of Containers:	5

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

www.fremontanalytical.com

2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090721-1

July 23rd, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 12*) delivered to Fremont Analytical on Tuesday, July 21st 2009.

The sample was received in good condition – in the proper containers (6 – 1L Ambers, 1 – 500mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

2930 Westlake Ave. N., Suite 100
Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090721-1

					Duplicate	MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 12**	**Batch # 12**	**Batch # 12**
Date Extracted		7/22/09	7/22/09	7/22/09	7/22/09	7/22/09
Date Analyzed		7/22/09	7/22/09	7/22/09	7/22/09	7/22/09
Matrix				Water	Water	Water
Acenaphthene	*0.5*		*78%*			*77%*
Pyrene	*0.5*		*75%*			*81%*
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		107%	105%	88%	92%	70%
(Surr 2) p-Terphenyl		89%	88%	89%	83%	67%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Seattle, WA 98109

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Email: info@fremontanalytical.com

Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090721-1

EPA 8082 (µg/L)	MRL	Method Blank	LCS	Batch # 12	RPD	MS Batch # 12
Date Extracted		7/22/09	7/22/09	7/22/09	%	7/22/09
Date Analyzed		7/22/09	7/22/09	7/22/09		7/22/09
Matrix				Water		Water
Aroclor 1016	0.3	nd		nd		
Aroclor 1221	0.3	nd		nd		
Aroclor 1232	0.3	nd		nd		
Aroclor 1242	0.3	nd		nd		
Aroclor 1248	0.3	nd		nd		
Aroclor 1254	0.3	nd	102%	nd		74%
Aroclor 1260	0.3	nd		nd		
Surrogate Recovery						
Surr 1 (TCMX)		90%	92%	123%		95%
Surr 2 (DCBP)		108%	116%	110%		71%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090721-1

					Duplicate		MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 12**	**Batch # 12**	**RPD**	**Batch # 12**	**Batch # 12**	**RPD**
Date Extracted		7/21/09	7/21/09	7/21/09	7/21/09	%	7/21/09	7/21/09	%
Date Analyzed		7/22/09	7/22/09	7/22/09	7/22/09		7/22/09	7/22/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	99%	nd	nd		87%	84%	4%
Cadmium (Cd)	0.0004	nd	87%	nd	nd		82%	86%	5%
Chromium (Cr)	0.002	nd	94%	**0.022**	**0.021**	5%	88%	80%	10%
Copper (Cu)	0.005	nd	96%	**0.090**	**0.085**	5%	76%	78%	3%
Lead (Pb)	0.002	nd	84%	nd	nd		73%	73%	0%
Mercury (Hg)	0.0005	nd	108%	nd	nd		69%	78%	12%
Nickel (Ni)	0.01	nd	98%	**0.02**	**0.02**	0%	84%	84%	0%
Silver (Ag)	0.0004	nd	85%	nd	nd		81%	77%	5%
Zinc (Zn)	0.01	nd	100%	**0.04**	**0.04**	0%	85%	81%	5%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Seattle, WA 98109

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email: info@fremontanalytical.com

Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090721-1

EPA Method 335.2 (mg/L)	MRL	Method Blank	LCS	Batch # 12	Duplicate Batch # 12
Date Analyzed		7/22/09	7/22/09	7/22/09	7/22/09
Matrix				Water	Water
Cyanide	0.05	nd	110%	nd	nd

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

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Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090721-1

Date: 7-21-09

Page: 1 of: 1

Client: CLEARWATER
Address:
City, State, Zip
Tel: 425-754-4016
Reports To (PM): TY CLAGER
Fax:
Email:

Project Name: GEORGETOWN
Location: SEATTLE
Collected by: TODD TOLAND
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals* Total (T) | Dissolved (D)	Anions (IC)**	CYANIDE				Comments/Depth
1	BATCH #12	0950	H_2O		7-21							X	X			X		X				
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x [signature]	7-21-09 1032	x [signature]	7/21/09 1032
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	ok
Seals Intact?:	Y
Total Number of Containers:	5

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090805-4

August 6th, 2009

Tyrone:

Enclosed are the analytical results for the **Georgetown Flume Demolition Project** water sample (*Sample ID: Batch 13*) delivered to Fremont Analytical on August 5th, 2009.

The sample was received in good condition – in the proper containers (3 – 1L Ambers, 1 – 250mL HDPE Bottle and 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The sample was received in a cooler with gel ice. The sample was analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090805-4

EPA 8270C (µg/L)	MRL	Method Blank	LCS	Batch # 13	Duplicate Batch # 13	RPD
Date Extracted		8/5/09	8/5/09	8/5/09	8/5/09	%
Date Analyzed		8/5/09	8/5/09	8/5/09	8/5/09	
Matrix				Water	Water	
Acenaphthene	*0.5*		*116%*			
Pyrene	*0.5*		*98%*			
Benzo(a)pyrene	0.1	nd		nd	nd	
Surrogate Recovery						
(Surr 1) 2-Fluorobiphenyl		87%	100%	115%	116%	
(Surr 2) p-Terphenyl		93%	96%	95%	94%	

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090805-4

					Duplicate		MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 13**	**Batch # 13**	**RPD**	**Batch # 13**
Date Extracted		8/6/09	8/6/09	8/6/09	8/6/09	%	8/6/09
Date Analyzed		8/6/09	8/6/09	8/6/09	8/6/09		8/6/09
Matrix				Water	Water		Water
Aroclor 1016	0.3	nd		nd	nd		
Aroclor 1221	0.3	nd		nd	nd		
Aroclor 1232	0.3	nd		nd	nd		
Aroclor 1242	0.3	nd		nd	nd		
Aroclor 1248	0.3	nd		nd	nd		
Aroclor 1254	0.3	nd		nd	nd		
Aroclor 1260	0.3	nd	120%	nd	nd		132%
Surrogate Recovery							
Surr 1 (TCMX)		76%	67%	76%	83%		78%
Surr 2 (DCBP)		97%	76%	84%	92%		83%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090805-4

					Duplicate		MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 13**	**Batch # 13**	**RPD**	*Batch 090729-4-16*	*Batch 090729-4-16*	**RPD**
Date Extracted		8/5/09	8/5/09	8/5/09	8/5/09	%	8/5/09	8/5/09	%
Date Analyzed		8/5/09	8/5/09	8/5/09	8/5/09		8/5/09	8/5/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	87%	**0.002**	**0.002**	0%	89%	87%	2%
Cadmium (Cd)	0.0004	nd	94%	nd	nd		91%	92%	1%
Chromium (Cr)	0.002	nd	106%	nd	nd		72%	90%	22%
Copper (Cu)	0.005	nd	72%	nd	nd		111%	121%	9%
Lead (Pb)	0.002	nd	82%	nd	nd		75%	76%	1%
Mercury (Hg)	0.0005	nd	83%	nd	nd		80%	83%	4%
Nickel (Ni)	0.01	nd	72%	nd	nd		102%	113%	10%
Silver (Ag)	0.0004	nd	91%	nd	nd		91%	91%	0%
Zinc (Zn)	0.01	nd	74%	nd	nd		101%	95%	6%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

T: 206.352.3790
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email: info@fremontanalytical.com

Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090805-4

					Duplicate		MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch # 13**	**Batch # 13**	**RPD**	**Batch # 13**
Date Analyzed		8/6/09	8/6/09	8/6/09	8/6/09	%	8/6/09
Matrix				Water	Water		
Cyanide	0.05	nd	102%	nd	nd		125%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

2930 Westlake Ave. N. Suite 100
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): CHM090805-4

Date: 8-5-09

Page: 1 of: 1

Client: CLEARWATER

Address:

City, State, Zip

Tel: 425-754-4016

Reports To (PM): TY CLAGER

Fax:

Email:

Project Name: GEORGETOWN

Location: SEATTLE

Collected by: TODD T

Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CYANIDE				Comments/Depth
1	Batch # 13	1	H_2O									X	X				X		X				
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x [signature]	8-5-09 @ 1250	x	
Relinquished	Date/Time	Relinquished	Date/Time
x		x [signature]	8/5/09 1250

Sample Receipt:	
Good?	Y
Cooler Temperature:	ok
Seals Intact?:	Y
Total Number of Containers:	5

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

2930 Westlake Ave N Suite 100
Seattle, WA 98109
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090811-1

August 13th, 2009

Tyrone:

Enclosed are the analytical results for the ***Georgetown Flume Demolition Project*** water & carbon (solid) samples delivered to Fremont Analytical on August 11th, 2009.

The samples were received in good condition – in the proper containers (3 – 1L Ambers, 1 – 250mL HDPE Bottle, 1 - 1L HDPE Bottle preserved with NaOH, & 1L Poly) properly sealed, labeled and within holding time. The samples were received in a cooler with gel ice with a cooler temperature of 2.0°C. The samples were analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water & Solids by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water & Solids by EPA 8082***
- ***Total Metals in Water & Solids by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Laboratory Notation – EPA Method 8270C: The surrogate recovery (Sample ID: Method Blank) for *2-Fluorobiphenyl* was outside of the laboratory control limits, however the recovery for *2-Fluorobiphenyl* was within range for all other samples. The other surrogate was within range. No further action is required.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

2930 Westlake Ave. N., Suite 100
Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

					Duplicate		MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #14**	**Batch #14**	**RPD**	**Batch #14**
Date Extracted		8/13/09	8/13/09	8/13/09	8/13/09	%	8/13/09
Date Analyzed		8/13/09	8/13/09	8/13/09	8/13/09		8/13/09
Matrix				Water	Water		
Acenaphthene	*0.5*		*93%*				*115%*
Pyrene	*0.5*		*120%*				*122%*
Benzo(a)pyrene	0.1	nd		nd	nd		
Surrogate Recovery							
(Surr 1) 2-Fluorobiphenyl		59%	65%	71%	71%		75%
(Surr 2) p-Terphenyl		110%	108%	102%	112%		111%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of Polyaromatic Hydrocarbons in Solids by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

EPA 8270C (mg/kg)	MRL	Method Blank	LCS	Carbon Sample	Duplicate Carbon Sample
Date Extracted		8/13/09	8/13/09	8/13/09	8/13/09
Date Analyzed		8/13/09	8/13/09	8/13/09	8/13/09
Matrix				Carbon	Carbon
Acenaphthene	*0.1*		*144%*		
Pyrene	*0.1*		*129%*		
Benzo(a)pyrene	0.08	nd		nd	nd
Surrogate Recovery					
(Surr 1) 2-Fluorobiphenyl		59%	102%	98%	93%
(Surr 2) p-Terphenyl		110%	90%	90%	91%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogate Concentration = 0.5 mg/kg
Spike Concentration = 1.0 mg/kg

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

EPA 8082 (µg/L)	MRL	Method Blank	LCS	Batch #14	MS Batch #14
Date Extracted		8/13/09	8/13/09	8/13/09	8/13/09
Date Analyzed		8/13/09	8/13/09	8/13/09	8/13/09
Matrix				Water	Water
Aroclor 1016	0.3	nd		nd	
Aroclor 1221	0.3	nd		nd	
Aroclor 1232	0.3	nd		nd	
Aroclor 1242	0.3	nd		nd	
Aroclor 1248	0.3	nd		nd	
Aroclor 1254	0.3	nd		nd	
Aroclor 1260	0.3	nd	83%	nd	130%
Surrogate Recovery					
Surr 1 (TCMX)		90%	92%	85%	85%
Surr 2 (DCBP)		110%	116%	111%	106%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Solids by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

EPA 8082 (mg/kg)	MRL	Method Blank	LCS	Carbon Sample	Duplicate Carbon Sample
Date Extracted		8/12/09	8/12/09	8/12/09	8/12/09
Date Analyzed		8/12/09	8/12/09	8/12/09	8/12/09
Matrix				Carbon	Carbon
Aroclor 1016	0.05	nd		nd	nd
Aroclor 1221	0.05	nd		nd	nd
Aroclor 1232	0.05	nd		nd	nd
Aroclor 1242	0.05	nd		nd	nd
Aroclor 1248	0.05	nd		nd	nd
Aroclor 1254	0.05	nd		nd	nd
Aroclor 1260	0.05	nd	89%	nd	nd
Surrogate Recovery					
Surr 1 (TCMX)		80%	85%	86%	90%
Surr 2 (DCBP)		70%	94%	93%	84%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogates Concentration = 0.025 mg/kg
Spike Concentration = 1.0 mg/kg

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

					Duplicate		MS	MSD	
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #14**	**Batch #14**	**RPD**	*Batch 090807-6-1*	*Batch 090807-6-1*	**RPD**
Date Extracted		8/10/09	8/10/09	8/11/09	8/11/09	%	8/10/09	8/10/09	%
Date Analyzed		8/10/09	8/10/09	8/11/09	8/11/09		8/10/09	8/10/09	
Matrix				Water	Water		Water	Water	
Arsenic (As)	0.002	nd	118%	**0.003**	**0.004**	8%	82%	81%	1%
Cadmium (Cd)	0.0004	nd	120%	nd	nd		114%	113%	1%
Chromium (Cr)	0.002	nd	123%	**0.003**	**0.003**	0%	131%	130%	1%
Copper (Cu)	0.005	nd	127%	nd	nd		90%	114%	24%
Lead (Pb)	0.002	nd	126%	nd	nd		104%	110%	6%
Mercury (Hg)	0.0005	nd	122%	nd	nd		107%	112%	5%
Nickel (Ni)	0.01	nd	129%	**0.01**	**0.01**	12%	97%	109%	12%
Silver (Ag)	0.0004	nd	131%	nd	nd		106%	114%	7%
Zinc (Zn)	0.01	nd	112%	**0.01**	**0.01**	10%	80%	98%	20%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Total Metals in Solids by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

EPA 6020 (mg/kg)	MRL	Method Blank	LCS	Carbon Sample	Duplicate Carbon Sample	RPD
Date Extracted		8/11/09	8/11/09	8/11/09	8/11/09	%
Date Analyzed		8/11/09	8/11/09	8/11/09	8/11/09	
Matrix				Carbon	Carbon	
Lead (Pb)	1.0	nd	119%	**9.1**	**8.4**	8%
Mercury (Hg)	0.25	nd	106%	nd	nd	

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
Pb = 25 mg/kg
Hg = 1.0 mg/kg

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Analysis of Total Metals in Solids by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

EPA 6020 (mg/kg)	MRL	MS Batch 090807-5-1	MSD Batch 090807-5-1	RPD
Date Extracted		8/11/09	8/11/09	%
Date Analyzed		8/11/09	8/11/09	
Matrix		Soil	Soil	
Lead (Pb)	1.0	99%	119%	18%
Mercury (Hg)	0.25	82%	85%	4%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
Pb = 25 mg/kg
Hg = 1.0 mg/kg

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090811-1

					Duplicate		MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #14**	**Batch #14**	**RPD**	**Batch #14**
Date Analyzed		8/13/09	8/13/09	8/13/09	8/13/09	%	8/13/09
Matrix				Water	Water		
Cyanide	0.05	nd	100%	nd	nd		105%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

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Laboratory Project No (internal): CHM090811-1

Date: 8-11-09

Page: 1 of: 1

Client: CLEARWATER
Address:
City, State, Zip
Tel: 425-754-4016

Project Name: GEORGETOWN
Location: SEATTLE
Collected by: TODD T

Reports To (PM): TY CLAGER
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx Ext.	SEMI VOL 8270C	PAH 8270 (BGN20-2)	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals*	Total (T) | Dissolved (D)	Anions (IC)**	CYANIDE				Comments/Depth
1	BATCH #14	0915	H_2O									X	X				X		X				
2	CARBON SAMPLE	0915	CARBON	POLY	8/11							X	X			X	T						Pb, Hg only
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Relinquished	Date/Time
x [signature]	8-11-09 @ 1050	x [signature]	8/11/09 1050
Relinquished	Date/Time	Relinquished	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	2.0°C
Seals Intact?:	Y
Total Number of Containers:	6

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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Clear Water Compliance Services
Attn: Tyrone Clager
12314 Beverly Park Road, Unit 134
Lynnwood, WA 98087

RE: Georgetown Flume Demolition Project
Fremont Project No: CHM090815-1

August 17th, 2009

Tyrone:

Enclosed are the analytical results for the ***Georgetown Flume Demolition Project*** water sample (Sample ID: Batch #15) delivered to Fremont Analytical on Saturday, August 15th, 2009.

The samples were received in good condition – in the proper containers (3 – 1L Ambers, 1 – 250mL HDPE Bottle & 1 - 1L HDPE Bottle preserved with NaOH) properly sealed, labeled and within holding time. The samples were analyzed then stored in refrigeration units at the USEPA-recommended temperature of 4°C ± 2°C. There were no sample receipt or sample analysis issues to report.

Examination of this sample was conducted for the presence of the following:

- ***Benzo (a) Pyrene in Water by EPA Method 8270C***
- ***PCB's (Polychlorinated Biphenyls) in Water by EPA 8082***
- ***Total Metals in Water by EPA Method 6020***
- ***Cyanide in Water by EPA Method 335.2***

These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance / Quality Control method parameters have been applied.

Please contact the laboratory if you should have any questions about the report.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

mikedee@fremontanalytical.com

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Analysis of Polyaromatic Hydrocarbons in Water by EPA Method 8270C

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090815-1

					Duplicate		MS
EPA 8270C (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #15**	**Batch #15**	**RPD**	**Batch #15**
Date Extracted		8/16/09	8/16/09	8/16/09	8/16/09	%	8/16/09
Date Analyzed		8/16/09	8/16/09	8/16/09	8/16/09		8/16/09
Matrix				Water	Water		Water
Acenaphthene	*0.5*		*121%*				*121%*
Pyrene	*0.5*		*127%*				*106%*
Benzo(a)pyrene	0.1	nd		nd	nd		
Surrogate Recovery							
(Surr 1) 2-Fluorobiphenyl		85%	91%	94%	95%		92%
(Surr 2) p-Terphenyl		74%	78%	81%	85%		82%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogates and Spike Concentration = 25 µg/L

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Analysis of PCB's (Polychlorinated Biphenyls) in Water by EPA 8082

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090815-1

					Duplicate	MS
EPA 8082 (µg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #15**	**Batch #15**	**Batch #15**
Date Extracted		8/16/09	8/16/09	8/16/09	8/16/09	8/16/09
Date Analyzed		8/16/09	8/16/09	8/16/09	8/16/09	8/16/09
Matrix				Water	Water	Water
Aroclor 1016	0.3	nd		nd	nd	
Aroclor 1221	0.3	nd		nd	nd	
Aroclor 1232	0.3	nd		nd	nd	
Aroclor 1242	0.3	nd		nd	nd	
Aroclor 1248	0.3	nd		nd	nd	
Aroclor 1254	0.3	nd	112%	nd	nd	113%
Aroclor 1260	0.3	nd		nd	nd	
Surrogate Recovery						
Surr 1 (TCMX)		103%	108%	125%	117%	128%
Surr 2 (DCBP)		97%	99%	121%	116%	124%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"C" Indicates coelution with Sample Peaks
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 65% to 135%
Surrogate Concentrations = 25 µg/L
Spike Concentration = 10 µg/L

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Analysis of Total Metals in Water by EPA Method 6020

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090815-1

					Duplicate		MS
EPA 6020 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #15**	**Batch #15**	**RPD**	**Batch #15**
Date Extracted		8/16/09	8/16/09	8/16/09	8/16/09	%	8/16/09
Date Analyzed		8/17/09	8/17/09	8/17/09	8/17/09		8/17/09
Matrix				Water	Water		Water
Arsenic (As)	0.002	nd	114%	**0.007**	**0.006**	9%	134%
Cadmium (Cd)	0.0004	nd	84%	nd	nd		98%
Chromium (Cr)	0.002	nd	102%	**0.007**	**0.005**	29%	110%
Copper (Cu)	0.005	nd	91%	nd	nd		99%
Lead (Pb)	0.002	nd	73%	nd	nd		76%
Mercury (Hg)	0.0005	nd	94%	nd	nd		106%
Nickel (Ni)	0.01	nd	88%	nd	nd		90%
Silver (Ag)	0.0004	nd	88%	nd	nd		100%
Zinc (Zn)	0.01	nd	88%	**0.03**	**0.03**	6%	87%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentrations:
As, Cr, Cu, Ni, Zn =100 µg/l
Pb = 50 µg/L
Cd, Ag = 5 µg/L
Hg = 10 µg/L

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Analysis of Cyanide by EPA Method 335.2

Project: Georgetown
Client: Clear Water Compliance
Client Project #: N/A
Lab Project #: CHM090815-1

					Duplicate	MS
EPA Method 335.2 (mg/L)	**MRL**	**Method Blank**	**LCS**	**Batch #15**	**Batch #15**	**Batch #15**
Date Analyzed		8/16/09	8/16/09	8/16/09	8/16/09	8/16/09
Matrix				Water	Water	
Cyanide	0.05	nd	105%	nd	nd	72%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD = 65% to 135%
Spike Concentration = 0.05 mg/L

Fremont Analytical

Chain of Custody Record

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Laboratory Project No (internal): CHM090815-1

Date: 8-15-09

Page: 1 of: 1

Client: ClearWater
Address:
City, State, Zip
Tel: 425-754-4016

Project Name: Georgetown
Location: Seattle, WA
Collected by: Neil R.

Reports To (PM): TY CLAGER
Fax:
Email:
Project No:

	Sample Name	Time	Sample Type (Matrix)	Container Type	Date of Collection	VOA 8260	VOA 8021B BTEX	NWTPH-Gx	NWTPH-HCID	NWTPH-Dx/Dx Ext.	SEMI VOL 8270C	PAH 8270	PCBs 8082	Cl PESTICIDES 8081	Cl HERBICIDES 8151A	Metals* Total (T) | Dissolved (D)	Anions (IC)**	CYANIDE				Comments/Depth
1	Batch #15	1215pm										Y	Y			Y		X				
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Relinquished	Date/Time	Received	Date/Time
x Neil R.	8-15-09 / 100 Pm	x	
Relinquished	Date/Time	Received	Date/Time
x		x	

Sample Receipt:	
Good?	Y
Cooler Temperature:	16.2°C
Seals Intact?:	Y
Total Number of Containers:	5

Special Remarks:

TAT --> 24HR 48HR Standard

Distribution: White - Lab, Yellow - File, Pink - Originator

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APPENDIX D

Confirmation Water Treatment Discharge Reports

Data Quality Assurance Review Summary

A data quality assurance review was performed on all analytical data from a water sample (Batch 3 OUT) collected on June 2, 2009 from the treated water storage tank for the Georgetown Flume demolition and removal project in Seattle, Washington. The laboratory's performance was reviewed in accordance with quality control specifications outlined by the analytical methods (U.S. EPA 2004) and with laboratory quality control limits.

OnSite Environmental Inc. of Redmond, Washington analyzed the water sample using the following test methods:

- Polychlorinated biphenyls (PCBS) using U.S. EPA method 8082 (U.S. EPA 2004)
- Benzo(a)pyrene using U.S. EPA method 8270-SIM (U.S. EPA 2004)
- Total lead and mercury using U.S. EPA methods 6010 and 7470A, respectively (U.S. EPA 2004).

Quality control data submitted by the laboratory were reviewed; raw laboratory data were provided but not reviewed. Data validation results are summarized below.

PCB Analytical Results

The water sample collected from the treated water storage tank on June 2, 2009 was analyzed for PCBs using U.S. EPA method 8082. The water PCB results were determined to be acceptable for use based on the following criteria:

Holding Times – The water sample was extracted and analyzed within the maximum holding time (7 days).

Laboratory Reporting Limits – The laboratory reporting (practical quantitation) limits for each Aroclor (0.049 µg/L) was in accordance with the analytical method.

Blank Analysis – A method blank was analyzed with the water sample. The method blank contained no reportable levels of PCBs above the practical quantitation limit and no data have been qualified. No field blanks were collected.

Surrogate Analysis – Surrogate compound DCB was analyzed with the project sample, blank, and blank spike in accordance with the test method. Surrogate recovery values, ranging from 62 to 69 percent, were within the laboratory control limit range (39 to 128 percent).

Blank Spike Analysis – A blank spike/blank spike duplicate (BS/BSD) was analyzed with the project sample. The percent recovery values, 64 and 66 percent, were within the laboratory control limit range (58 to 113 percent).

Duplicate Analysis – The BS/BSD was analyzed as the laboratory duplicate quality control (QC). The relative percent difference (RPD) value (2 percent) met the laboratory control limit (less than 11 percent).

Benzo(a)pyrene Analytical Results

The water sample collected from the treated water storage tank on June 2, 2009 was analyzed for benzo(a)pyrene using U.S. EPA method 8270-SIM. The water benzo(a)pyrene results were determined to be acceptable for use based on the following criteria:

Holding Times – The water sample was extracted and analyzed within the maximum holding time (7 days).

Laboratory Reporting Limits – The laboratory reporting (practical quantitation) limits for benzo(a)pyrene (0.0098 µg/L) was in accordance with the analytical method.

Blank Analysis – A method blank was analyzed with the water sample. The method blank contained no reportable levels of benzo(a)pyrene above the practical quantitation limit and no data have been qualified. No field blanks were collected.

Surrogate Analysis – Three surrogate compounds were analyzed with the project sample, blank, and blank spike in accordance with the test method. Surrogate recovery values, ranging from 51 to 89 percent, were within the laboratory control limit range (ranging from 27 to 125 percent).

Blank Spike Analysis – A blank spike/blank spike duplicate was analyzed with the project sample. The percent recovery values, 92 and 84 percent, were within the laboratory control limit range (35 to 107 percent).

Duplicate Analysis – The BS/BSD was analyzed as the laboratory duplicate quality control (QC). The RPD value (8 percent) met the laboratory control limit (less than 32 percent).

Metals Analytical Results

The water sample collected from the treated water storage tank on June 2, 2009 was analyzed for total lead and mercury using U.S. EPA methods 6010 and 7470A, respectively. The water metals results were determined to be acceptable for use based on the following criteria:

Holding Times – The water sample was extracted and analyzed within the maximum holding time (180 days for lead and 28 days for mercury).

Laboratory Reporting Limits – The laboratory reporting (practical quantitation) limits for lead (1.0 µg/L) and mercury (0.50 µg/L) were in accordance with the analytical methods.

Blank Analysis – Method blanks were analyzed with the water sample. The method blanks contained no reportable levels of metals above the practical quantitation limits and no data have been qualified. No field blanks were collected.

Matris Spike Analysis – Batch matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed with the project sample. The percent recovery values for lead (91 and 93 percent) and mercury (105 and 95 percent) were within the method control limit range (75 to 120 percent for lead and 80 to 120 percent for mercury).

Duplicate Analysis – Batch water samples were analyzed in duplicate and as MS/MSD samples as the laboratory duplicate QC. The RPD values for MS/MSD analysis of lead (2 percent) and mercury (10 percent) were within the method control limit range (less than 20 percent). No RPD values were calculated for the laboratory QC duplicate because lead and mercury were not detected above the laboratory reporting limit for both samples.

References

U.S. EPA. 2004. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, IIIA, and IIIB. Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. November 2004.

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 12, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-017

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 2, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

Case Narrative

Samples were collected on June 2, 2009, and received by the laboratory on June 2, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Batch 3 Out**					
Laboratory ID:	06-017-01					
Aroclor 1016	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Aroclor 1221	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Aroclor 1232	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Aroclor 1242	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Aroclor 1248	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Aroclor 1254	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Aroclor 1260	**ND**	0.049	EPA 8082	6-5-09	6-8-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*69*	*39-128*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0605W1					
Aroclor 1016	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Aroclor 1221	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Aroclor 1232	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Aroclor 1242	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Aroclor 1248	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Aroclor 1254	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Aroclor 1260	**ND**	0.050	EPA 8082	6-5-09	6-8-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*65*	*39-128*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0605W1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**0.320**	**0.328**	0.500	0.500	N/A	**64**	**66**	58-113	2	11	
Surrogate:											
DCB						*62*	*64*	*39-128*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

SEMIVOLATILES by EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Batch 3 out**					
Laboratory ID:	06-017-01					
Benzo[a]pyrene	**ND**	0.0098	EPA 8270/SIM	6-3-09	6-4-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*51*	*35 - 100*				
Pyrene-d10	*81*	*27 - 108*				
Terphenyl-d14	*78*	*36 - 125*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

SEMIVOLATILES by EPA 8270D/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Benzo[a]pyrene	**ND**	0.010	EPA 8270/SIM	6-3-09	6-4-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*65*	*35 - 100*				
Pyrene-d10	*87*	*27 - 108*				
Terphenyl-d14	*89*	*36 - 125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0603W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.351**	**0.384**	0.500	0.500	70	77	35 - 111	9	53	
Acenaphthylene	**0.388**	**0.416**	0.500	0.500	78	83	30 - 109	7	43	
Acenaphthene	**0.367**	**0.391**	0.500	0.500	73	78	46 - 101	6	29	
Fluorene	**0.384**	**0.398**	0.500	0.500	77	80	50 - 104	4	25	
Phenanthrene	**0.406**	**0.405**	0.500	0.500	81	81	55 - 97	0	23	
Anthracene	**0.435**	**0.432**	0.500	0.500	87	86	49 - 101	1	32	
Fluoranthene	**0.476**	**0.460**	0.500	0.500	95	92	59 - 102	3	23	
Pyrene	**0.477**	**0.470**	0.500	0.500	95	94	62 - 104	1	22	
Benzo[a]anthracene	**0.424**	**0.410**	0.500	0.500	85	82	57 - 100	3	25	
Chrysene	**0.436**	**0.416**	0.500	0.500	87	83	58 - 103	5	25	
Benzo[b]fluoranthene	**0.463**	**0.446**	0.500	0.500	93	89	61 - 100	4	27	
Benzo[k]fluoranthene	**0.465**	**0.428**	0.500	0.500	93	86	53 - 103	8	30	
Benzo[a]pyrene	**0.458**	**0.422**	0.500	0.500	92	84	35 - 107	8	32	
Indeno(1,2,3-c,d)pyrene	**0.491**	**0.467**	0.500	0.500	98	93	47 - 105	5	34	
Dibenz[a,h]anthracene	**0.512**	**0.488**	0.500	0.500	102	98	39 - 108	5	33	
Benzo[g,h,i]perylene	**0.481**	**0.458**	0.500	0.500	96	92	41 - 104	5	40	
Surrogate:										
2-Fluorobiphenyl					*65*	*67*	*35 - 100*			
Pyrene-d10					*88*	*83*	*27 - 108*			
Terphenyl-d14					*88*	*83*	*36 - 125*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 200.8/7470A

Date Extracted: 6-3&9-09
Date Analyzed: 6-5&9-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-017-01
Client ID: Batch 3 out

Analyte	Method	Result	PQL
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	0.50

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Extracted: 6-3-09
Date Analyzed: 6-12-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0603W1

Analyte	Method	Result	PQL
Lead	200.8	**ND**	1.0

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 7470A
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-9-09
Date Analyzed:	6-9-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0609W1

Analyte	Method	Result	PQL
Mercury	7470A	**ND**	0.50

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Extracted: 6-3-09
Date Analyzed: 6-4-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-160-01

	PQL
Lead	1

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 7470A
DUPLICATE QUALITY CONTROL

Date Extracted: 6-9-09
Date Analyzed: 6-9-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-042-08

	PQL
Mercury	0.50

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 200.8
MS/MSD QUALITY CONTROL

Date Extracted: 6-3-09
Date Analyzed: 6-12-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-160-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	5000	**4530**	91	**4630**	93	2	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 12, 2009
Samples Submitted: June 2, 2009
Laboratory Reference: 0906-017
Project: 06-03385-001

TOTAL METALS
EPA 7470A
MS/MSD QUALITY CONTROL

Date Extracted: 6-9-09
Date Analyzed: 6-9-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-042-08

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	**13.1**	105	**11.9**	95	10	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

06-017

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC	DELIVERY METHOD: Drop-off

LABORATORY:	REQUESTED COMPLETION DATE:	TOTAL # OF CONTAINERS:
OnSite	Standard	8

LAB USE:

ANALYSES REQUESTED

SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	Benzo(a)pyrene by EPA 8270-SIM	Lead by EPA 6010	Mercury by EPA 7470A											
Batch 304T	6/02/09	15:15	water	4/8	X	X	X	X											

REMARKS: Full data package deliverable. Reporting limits - PCBs (0.050 ug/L), PAHs (0.010 ug/L), lead (1.1 ug/L), mercury (0.5 ug/L)

MS/MSD for analyses.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.	[signature]	6/2/09 / 16:17	[signature] / LOSE	M. VOUN	6/2/09 1617
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

APPENDIX E

Laboratory Data and Validation Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 21, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-01
Laboratory Reference No. 0905-106

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on May 20, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 21, 2009
Samples Submitted: May 20, 2009
Laboratory Reference: 0905-106
Project: 06-03385-01

Case Narrative

Samples were collected on May 19, 2009, and received by the laboratory on May 20, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 21, 2009
Samples Submitted: May 20, 2009
Lab Traveler: 0905-106
Project: 06-03385-01

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**LC1**					
Laboratory ID:	05-106-01					
Aroclor 1016	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1242	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1254	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*73*	*33-122*				
Client ID:	**LC2**					
Laboratory ID:	05-106-02					
Aroclor 1016	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1242	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1254	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*62*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 21, 2009
Samples Submitted: May 20, 2009
Lab Traveler: 0905-106
Project: 06-03385-01

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0520S1					
Aroclor 1016	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1242	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1254	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-20-09	5-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*80*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-103-09										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.382**	**0.399**	0.500	0.500	ND	**76**	**80**	24-125	4	18	
Surrogate:											
DCB						*75*	*71*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

05-106

HERRERA ENVIRONMENTAL CONSULTANTS

2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

CHAIN OF CUSTODY RECORD

PROJECT NAME: GTownFlume2	PROJECT NUMBER: 06-03385-001	CLIENT: SPU
REPORT TO: Peter Jowise		COPY TO: Gina Catarra
SAMPLED BY GC/BH		DELIVERY METHOD: Courier
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 24 hr	TOTAL # OF CONTAINERS: 2
LAB USE:		

ANALYSES REQUESTED

SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS.	PCBs by EPA 8082
LC1	5/19/09	16:50	concrete	1	X
LC2	5/19/09	17 20	concrete	1	X

REMARKS.

RELINQUISHED BY (NAME/CO.).	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		5/19/09 18:30	P. McKalson / OSE		5.20.09 / 7:50A
RELINQUISHED BY (NAME/CO):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 27, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0905-141

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on May 22, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 27, 2009
Samples Submitted: May 22, 2009
Laboratory Reference: 0905-141
Project: 06-03385-001

Case Narrative

Samples were collected on May 22, 2009, and received by the laboratory on May 22, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 27, 2009
Samples Submitted: May 22, 2009
Lab Traveler: 0905-141
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FSD1**					
Laboratory ID:	05-141-01					
Aroclor 1016	**ND**	2.7	EPA 8082	5-22-09	5-26-09	
Aroclor 1221	**ND**	2.7	EPA 8082	5-22-09	5-26-09	
Aroclor 1232	**ND**	2.7	EPA 8082	5-22-09	5-26-09	
Aroclor 1242	**12**	2.7	EPA 8082	5-22-09	5-26-09	
Aroclor 1248	**ND**	2.7	EPA 8082	5-22-09	5-26-09	
Aroclor 1254	**15**	2.7	EPA 8082	5-22-09	5-26-09	
Aroclor 1260	**ND**	2.7	EPA 8082	5-22-09	5-26-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*980*	*33-122*				
Client ID:	**FSD2**					
Laboratory ID:	05-141-02					
Aroclor 1016	**ND**	0.12	EPA 8082	5-22-09	5-26-09	
Aroclor 1221	**ND**	0.12	EPA 8082	5-22-09	5-26-09	
Aroclor 1232	**ND**	0.12	EPA 8082	5-22-09	5-26-09	
Aroclor 1242	**1.1**	0.12	EPA 8082	5-22-09	5-26-09	
Aroclor 1248	**ND**	0.12	EPA 8082	5-22-09	5-26-09	
Aroclor 1254	**2.3**	0.12	EPA 8082	5-22-09	5-26-09	
Aroclor 1260	**ND**	0.12	EPA 8082	5-22-09	5-26-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*49*	*33-122*				
Client ID:	**FSD3**					
Laboratory ID:	05-141-03					
Aroclor 1016	**ND**	0.098	EPA 8082	5-22-09	5-26-09	
Aroclor 1221	**ND**	0.098	EPA 8082	5-22-09	5-26-09	
Aroclor 1232	**ND**	0.098	EPA 8082	5-22-09	5-26-09	
Aroclor 1242	**0.35**	0.098	EPA 8082	5-22-09	5-26-09	
Aroclor 1248	**ND**	0.098	EPA 8082	5-22-09	5-26-09	
Aroclor 1254	**0.74**	0.098	EPA 8082	5-22-09	5-26-09	
Aroclor 1260	**ND**	0.098	EPA 8082	5-22-09	5-26-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*60*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: May 27, 2009
Samples Submitted: May 22, 2009
Lab Traveler: 0905-141
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0522S1					
Aroclor 1016	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Aroclor 1242	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Aroclor 1254	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-22-09	5-26-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*81*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-115-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.373**	**0.412**	0.500	0.500	ND	**75**	**82**	24-125	10	18	
Surrogate:											
DCB						*89*	*82*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: May 27, 2009
Samples Submitted: May 22, 2009
Lab Traveler: 0905-141
Project: 06-03385-001

% MOISTURE

Date Analyzed: 5-22-09

Client ID	Lab ID	% Moisture
FSD1	05-141-01	63
FSD2	05-141-02	58
FSD3	05-141-03	49

This report pertains to the samples analyzed in accordance with the chain of custody,
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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

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O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

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T - The sample chromatogram is not similar to a typical _____.

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U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

05-141

CHAIN OF CUSTODY RECORD

PROJECT NAME: GTownFlume2	PROJECT NUMBER: 06-03385-001	CLIENT: SPU
REPORT TO: Peter Jowise		COPY TO: Gina Catarra
SAMPLED BY: GC/BH		DELIVERY METHOD: Courier
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 1-day	TOTAL # OF CONTAINERS: ~~2~~ 3
LAB USE:		

ANALYSES REQUESTED

SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082		% moisture
FSD1	5/22/09	1064	sediment - 802	1	X		X
FSD2	5/22/09	1037	sediment - 802	1	X		X
FSD3	5/22/09	1130	Sediment - 802	1	X		X

REMARKS.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env		5/22/09 1245		Blair Goodrow	5/22/09 1422
RELINQUISHED BY (NAME/CO.)	SIGNATURE	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 28, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0905-155

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on May 27, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 28, 2009
Samples Submitted: May 27, 2009
Laboratory Reference: 0905-155
Project: 06-03385-001

Case Narrative

Samples were collected on May 27, 2009, and received by the laboratory on May 27, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 28, 2009
Samples Submitted: May 27, 2009
Lab Traveler: 0905-155
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**EC1**					
Laboratory ID:	05-155-01					
Aroclor 1016	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1242	**0.076**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1254	**0.071**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*84*	*33-122*				
Client ID:	**EC2**					
Laboratory ID:	05-155-02					
Aroclor 1016	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1242	**0.071**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1254	**0.44**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*33-122*				
Client ID:	**EC3**					
Laboratory ID:	05-155-03					
Aroclor 1016	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1242	**0.079**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1254	**0.12**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 28, 2009
Samples Submitted: May 27, 2009
Lab Traveler: 0905-155
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solid
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528S1					
Aroclor 1016	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1221	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1232	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1242	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1248	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1254	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Aroclor 1260	**ND**	0.050	EPA 8082	5-28-09	5-28-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*87*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0528S1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**0.373**	**0.369**	0.500	0.500	N/A	**75**	**74**	58-122	1	14	
Surrogate:											
DCB						*83*	*85*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 28, 2009
Samples Submitted: May 27, 2009
Lab Traveler: 0905-155
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**WIPE1**					
Laboratory ID:	05-155-04					
Aroclor 1016	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1221	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1232	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1242	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1248	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1254	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1260	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*97*	*68-125*				
Client ID:	**WIPE2**					
Laboratory ID:	05-155-05					
Aroclor 1016	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1221	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1232	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1242	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1248	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1254	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1260	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*97*	*68-125*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 28, 2009
Samples Submitted: May 27, 2009
Lab Traveler: 0905-155
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0527P1					
Aroclor 1016	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1221	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1232	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1242	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1248	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1254	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Aroclor 1260	**ND**	2.0	EPA 8082	5-27-09	5-27-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*98*	*68-125*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0527P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**19.9**	**20.6**	20.0	20.0	N/A	**99**	**103**	86-120	3	5	
Surrogate:											
DCB						*98*	*96*	*68-125*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

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ND - Not Detected at PQL
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RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Herrera Env
Project Number: 06-03385-001
Project Name: Georgetown Flume
Project Manager: Peter Jowise
Sampled by: BH / GC

Turnaround Request (in working days)
(Check One)
- [ ] Same Day
- [x] 1 Day
- [ ] 2 Day
- [ ] 3 Day
- [ ] Standard (7 working days) (TPH analysis 5 working days)
- [ ] _____ (other)

Laboratory Number: 05-155

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	EC1	5/27/09	1125	Concrete	1								X						
2	EC2	↓	1135	↓	1								X						
3	EC3	↓	1145	↓	1								X						
4	WIPE1	↓	1210	Wipe	1								X						
5	WIPE2	↓	1220	Wipe	1								X						

	Signature	Company	Date	Time
Relinquished by	[signature]	Herrera	5/27/09	13:45
Received by	[signature]	OSE	5/27/09	1345
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions: Full data package deliverable

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 16, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-078

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 10, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 16, 2009
Samples Submitted: June 10, 2009
Laboratory Reference: 0906-078
Project: 06-03385-001

Case Narrative

Samples were collected on June 10, 2009, and received by the laboratory on June 10, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 16, 2009
Samples Submitted: June 10, 2009
Lab Traveler: 0906-078
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FC1**					
Laboratory ID:	06-078-01					
Aroclor 1016	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*90*	*33-122*				
Client ID:	**FC2**					
Laboratory ID:	06-078-02					
Aroclor 1016	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*94*	*33-122*				
Client ID:	**FC3**					
Laboratory ID:	06-078-03					
Aroclor 1016	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*90*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: June 16, 2009
Samples Submitted: June 10, 2009
Lab Traveler: 0906-078
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**EC4**					
Laboratory ID:	06-078-04					
Aroclor 1016	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*87*	*33-122*				
Client ID:	**EC5**					
Laboratory ID:	06-078-05					
Aroclor 1016	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-11-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 16, 2009
Samples Submitted: June 10, 2009
Lab Traveler: 0906-078
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solids
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0611S1					
Aroclor 1016	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Aroclor 1221	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Aroclor 1232	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Aroclor 1242	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Aroclor 1248	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Aroclor 1254	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Aroclor 1260	**ND**	0.050	EPA 8082	6-11-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*79*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-054-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.476**	**0.419**	0.500	0.500	ND	**95**	**84**	24-125	13	18	
Surrogate:											
DCB						*82*	*90*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 16, 2009
Samples Submitted: June 10, 2009
Lab Traveler: 0906-078
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Wipe 3**					
Laboratory ID:	06-078-06					
Aroclor 1016	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1221	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1232	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1242	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1248	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1254	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1260	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*100*	*68-125*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 16, 2009
Samples Submitted: June 10, 2009
Lab Traveler: 0906-078
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0610P1					
Aroclor 1016	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1221	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1232	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1242	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1248	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1254	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Aroclor 1260	**ND**	2.0	EPA 8082	6-10-09	6-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*104*	*68-125*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0610P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**22.9**	**23.8**	20.0	20.0	N/A	**114**	**119**	86-120	4	5	
Surrogate:											
DCB						*102*	*108*	*68-125*			

This report pertains to the samples analyzed in accordance with the chain of custody,
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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

06-078

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC/BH	DELIVERY METHOD: Drop-off
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 1-day / TOTAL # OF CONTAINERS: 6

LAB USE:

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082
1	FC1	6/10/09	12:40	concrete	1	X
2	FC2	6/10/09	13:00	concrete	1	X
3	FC3	6/10/09	13:15	concrete	1	X
4	EC4	6/10/09	1350	concrete	1	X
5	EC5	6/10/09	14:00	concrete	1	X
6	Wipe 3	6/10/09	14:15	Wipe sample	1	X

REMARKS: Full data package deliverable. 1-day turn around.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		6/10/09 / 1510		David Baumeister	6/10/09 1510
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 19, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-141

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 18, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 19, 2009
Samples Submitted: June 18, 2009
Laboratory Reference: 0906-141
Project: 06-03385-001

Case Narrative

Samples were collected on June 18, 2009, and received by the laboratory on June 18, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 19, 2009
Samples Submitted: June 18, 2009
Lab Traveler: 0906-141
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**DC1**					
Laboratory ID:	06-141-01					
Aroclor 1016	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*60*	*33-122*				
Client ID:	**FC4**					
Laboratory ID:	06-141-02					
Aroclor 1016	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*81*	*33-122*				
Client ID:	**FC5**					
Laboratory ID:	06-141-03					
Aroclor 1016	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1254	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-18-09	6-18-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*101*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 19, 2009
Samples Submitted: June 18, 2009
Lab Traveler: 0906-141
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0618S1					
Aroclor 1016	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Aroclor 1221	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Aroclor 1232	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Aroclor 1242	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Aroclor 1248	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Aroclor 1254	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Aroclor 1260	**ND**	0.050	EPA 8082	6-18-09	6-18-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*92*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-133-03										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.473**	**0.478**	0.500	0.500	ND	**95**	**96**	24-125	1	18	
Surrogate:											
DCB						*103*	*88*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

06-141

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC/HM	DELIVERY METHOD: Drop-off
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 1-DAY / TOTAL # OF CONTAINERS: 7

LAB USE:

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270
1	DC1	6/18/09	1435	concrete	1	X	
~~1~~	~~DC2~~	~~6/18/09~~		~~concrete~~	~~1~~	~~X~~	
	~~DC3~~	~~6/18/09~~		~~concrete~~	~~1~~	~~X~~	
	~~DC4~~	~~6/18/09~~		~~concrete~~	~~1~~	~~X~~	
2	FC4	6/18/09	1330	Concrete	1	X	
3	FC5	6/18/09	1345	Concrete	1	X	
~~4~~	~~DS1~~	~~6/18/09~~		~~Soil - MRI~~	~~1~~	~~X~~	~~X~~

REMARKS: Full data package deliverable.
1-day TAT

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		6/18/09 / 15:47	M. VOUNIOSE		6/18/09 1547
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

gc o:\proj\y2006\06-03385-001\data\cocs\6-18-09 coc.doc

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 23, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-155

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 19, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Laboratory Reference: 0906-155
Project: 06-03385-001

Case Narrative

Samples were collected on June 18 and 19, 2009, and received by the laboratory on June 19, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Lab Traveler: 0906-155
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**DC2**					
Laboratory ID:	06-155-01					
Aroclor 1016	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1254	**0.27**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*79*	*33-122*				
Client ID:	**DC3**					
Laboratory ID:	06-155-02					
Aroclor 1016	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1254	**0.18**	0.10	EPA 8082	6-22-09	6-23-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Lab Traveler: 0906-155
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**ES1**					
Laboratory ID:	06-155-03					
Aroclor 1016	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Aroclor 1221	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Aroclor 1232	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Aroclor 1242	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Aroclor 1248	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Aroclor 1254	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Aroclor 1260	**ND**	0.063	EPA 8082	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*76*	*33-122*				
Client ID:	**DS1**					
Laboratory ID:	06-155-04					
Aroclor 1016	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Aroclor 1221	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Aroclor 1232	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Aroclor 1242	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Aroclor 1248	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Aroclor 1254	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Aroclor 1260	**ND**	0.061	EPA 8082	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*64*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Lab Traveler: 0906-155
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solids
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0622S1					
Aroclor 1016	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Aroclor 1221	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Aroclor 1232	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Aroclor 1242	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Aroclor 1248	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Aroclor 1254	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Aroclor 1260	**ND**	0.050	EPA 8082	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*88*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-155-03										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.460**	**0.482**	0.500	0.500	ND	**92**	**96**	24-125	5	18	
Surrogate:											
DCB						*75*	*79*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Laboratory Reference: 0906-155
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**ES1**					
Laboratory ID:	06-155-03					
Naphthalene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
2-Methylnaphthalene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Acenaphthylene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Acenaphthene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Fluorene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Phenanthrene	**0.014**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Anthracene	**0.017**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Fluoranthene	**0.066**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Pyrene	**0.10**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[a]anthracene	**0.047**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Chrysene	**0.085**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[b]fluoranthene	**0.057**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[k]fluoranthene	**0.047**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[a]pyrene	**0.055**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Indeno(1,2,3-c,d)pyrene	**0.021**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[g,h,i]perylene	**0.024**	0.0084	EPA 8270/SIM	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*73*	*39 - 103*				
Pyrene-d10	*88*	*39 - 115*				
Terphenyl-d14	*89*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Laboratory Reference: 0906-155
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**DS1**					
Laboratory ID:	06-155-04					
Naphthalene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
2-Methylnaphthalene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
1-Methylnaphthalene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Acenaphthylene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Acenaphthene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Fluorene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Phenanthrene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Anthracene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Fluoranthene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Pyrene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[a]anthracene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Chrysene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[k]fluoranthene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[g,h,i]perylene	**ND**	0.0081	EPA 8270/SIM	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*39 - 103*				
Pyrene-d10	*90*	*39 - 115*				
Terphenyl-d14	*89*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Laboratory Reference: 0906-155
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0622S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	6-22-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*70*	*39 - 103*				
Pyrene-d10	*90*	*39 - 115*				
Terphenyl-d14	*94*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Laboratory Reference: 0906-155
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0622S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0543**	**0.0578**	0.0833	0.0833	65	69	31 - 102	6	30	
Acenaphthylene	**0.0582**	**0.0595**	0.0833	0.0833	70	71	48 - 104	2	26	
Acenaphthene	**0.0578**	**0.0639**	0.0833	0.0833	69	77	46 - 105	10	26	
Fluorene	**0.0621**	**0.0677**	0.0833	0.0833	75	81	52 - 107	9	25	
Phenanthrene	**0.0619**	**0.0675**	0.0833	0.0833	74	81	58 - 104	9	21	
Anthracene	**0.0586**	**0.0657**	0.0833	0.0833	70	79	56 - 103	11	21	
Fluoranthene	**0.0659**	**0.0714**	0.0833	0.0833	79	86	65 - 111	8	20	
Pyrene	**0.0657**	**0.0750**	0.0833	0.0833	79	90	65 - 115	13	20	
Benzo[a]anthracene	**0.0630**	**0.0686**	0.0833	0.0833	76	82	55 - 111	9	19	
Chrysene	**0.0674**	**0.0734**	0.0833	0.0833	81	88	58 - 121	9	19	
Benzo[b]fluoranthene	**0.0664**	**0.0744**	0.0833	0.0833	80	89	57 - 120	11	20	
Benzo[k]fluoranthene	**0.0703**	**0.0748**	0.0833	0.0833	84	90	52 - 123	6	21	
Benzo[a]pyrene	**0.0546**	**0.0631**	0.0833	0.0833	66	76	49 - 106	14	22	
Indeno(1,2,3-c,d)pyrene	**0.0628**	**0.0693**	0.0833	0.0833	75	83	56 - 125	10	22	
Dibenz[a,h]anthracene	**0.0641**	**0.0701**	0.0833	0.0833	77	84	55 - 129	9	24	
Benzo[g,h,i]perylene	**0.0624**	**0.0686**	0.0833	0.0833	75	82	55 - 122	9	23	
Surrogate:										
2-Fluorobiphenyl					*66*	*74*	*39 - 103*			
Pyrene-d10					*82*	*90*	*39 - 115*			
Terphenyl-d14					*85*	*94*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 23, 2009
Samples Submitted: June 19, 2009
Lab Traveler: 0906-155
Project: 06-03385-001

% MOISTURE

Date Analyzed: 6-22-09

Client ID	Lab ID	% Moisture
ES1	06-155-03	21
DS1	06-155-04	18

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

06-155

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC/HM	DELIVERY METHOD: Drop-off

LABORATORY:	REQUESTED COMPLETION DATE:	TOTAL # OF CONTAINERS:
OnSite	1-day	7

LAB USE:

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270	% moisture
	~~Wipe4~~	~~6/19/09~~		~~wipe sample~~	~~1~~	~~X~~		
1	DC2	6/19/09	1435	concrete	1	X		
2	DC3	6/19/09	15:05	concrete	1	X		
	~~DC4~~	~~6/19/09~~		~~concrete~~	~~1~~	~~X~~		
3	~~ES1~~ ES2	6/19/09	14:60	Soil - MH8	1	X	X	X
	~~CS1~~	~~6/19/09~~		~~Soil - MH~~	~~1~~	~~X~~	~~X~~	
4	DS1	6/18/09	13:30	Soil - MH7	1	X	X	X

REMARKS: Full data package deliverable. 1-day turn around. (Tues AM ?)

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		6/19/09 / 1608	M VAN LOSE		6/19/09 1608
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 26, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-164

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 22, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Laboratory Reference: 0906-164
Project: 06-03385-001

Case Narrative

Samples were collected on June 22, 2009, and received by the laboratory on June 22, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Lab Traveler: 0906-164
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Wipe4**					
Laboratory ID:	06-164-01					
Aroclor 1016	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1221	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1232	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1242	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1248	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1254	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1260	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*93*	*68-125*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Lab Traveler: 0906-164
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0623P1					
Aroclor 1016	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1221	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1232	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1242	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1248	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1254	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Aroclor 1260	**ND**	2.0	EPA 8082	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*94*	*68-125*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0623P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**18.1**	**18.5**	20.0	20.0	N/A	**90**	**93**	86-120	2	5	
Surrogate:											
DCB						*94*	*97*	*68-125*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Lab Traveler: 0906-164
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Solids
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**DC4**					
Laboratory ID:	06-164-02					
Aroclor 1016	**ND**	0.10	EPA 8082	6-23-09	6-23-09	
Aroclor 1221	**ND**	0.10	EPA 8082	6-23-09	6-23-09	
Aroclor 1232	**ND**	0.10	EPA 8082	6-23-09	6-23-09	
Aroclor 1242	**ND**	0.10	EPA 8082	6-23-09	6-23-09	
Aroclor 1248	**ND**	0.10	EPA 8082	6-23-09	6-23-09	
Aroclor 1254	**0.26**	0.10	EPA 8082	6-23-09	6-23-09	
Aroclor 1260	**ND**	0.10	EPA 8082	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*66*	*33-122*				

Client ID:	**CS1**					
Laboratory ID:	06-164-03					
Aroclor 1016	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Aroclor 1221	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Aroclor 1232	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Aroclor 1242	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Aroclor 1248	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Aroclor 1254	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Aroclor 1260	**ND**	0.067	EPA 8082	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*72*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Lab Traveler: 0906-164
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solids
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0623S1					
Aroclor 1016	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Aroclor 1221	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Aroclor 1232	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Aroclor 1242	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Aroclor 1248	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Aroclor 1254	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Aroclor 1260	**ND**	0.050	EPA 8082	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*64*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-135-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**2.01**	**2.31**	2.00	2.00	ND	**100**	**116**	24-125	14	18	
Surrogate:											
DCB						*86*	*104*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Laboratory Reference: 0906-164
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS1**					
Laboratory ID:	06-164-03					
Naphthalene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
2-Methylnaphthalene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
1-Methylnaphthalene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Acenaphthylene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Acenaphthene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Fluorene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Phenanthrene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Anthracene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Fluoranthene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Pyrene	**0.031**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[a]anthracene	**0.011**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Chrysene	**0.016**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[k]fluoranthene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[g,h,i]perylene	**ND**	0.0089	EPA 8270/SIM	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*63*	*39 - 103*				
Pyrene-d10	*84*	*39 - 115*				
Terphenyl-d14	*85*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Laboratory Reference: 0906-164
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0623S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	6-23-09	6-23-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*39 - 103*				
Pyrene-d10	*91*	*39 - 115*				
Terphenyl-d14	*90*	*50 - 118*				

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Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Laboratory Reference: 0906-164
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0623S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0453**	**0.0505**	0.0833	0.0833	54	61	31 - 102	11	30	
Acenaphthylene	**0.0589**	**0.0605**	0.0833	0.0833	71	73	48 - 104	3	26	
Acenaphthene	**0.0570**	**0.0595**	0.0833	0.0833	68	71	46 - 105	4	26	
Fluorene	**0.0632**	**0.0661**	0.0833	0.0833	76	79	52 - 107	4	25	
Phenanthrene	**0.0635**	**0.0645**	0.0833	0.0833	76	77	58 - 104	2	21	
Anthracene	**0.0616**	**0.0636**	0.0833	0.0833	74	76	56 - 103	3	21	
Fluoranthene	**0.0666**	**0.0669**	0.0833	0.0833	80	80	65 - 111	0	20	
Pyrene	**0.0695**	**0.0713**	0.0833	0.0833	83	86	65 - 115	3	20	
Benzo[a]anthracene	**0.0634**	**0.0635**	0.0833	0.0833	76	76	55 - 111	0	19	
Chrysene	**0.0669**	**0.0673**	0.0833	0.0833	80	81	58 - 121	1	19	
Benzo[b]fluoranthene	**0.0638**	**0.0649**	0.0833	0.0833	77	78	57 - 120	2	20	
Benzo[k]fluoranthene	**0.0702**	**0.0708**	0.0833	0.0833	84	85	52 - 123	1	21	
Benzo[a]pyrene	**0.0569**	**0.0575**	0.0833	0.0833	68	69	49 - 106	1	22	
Indeno(1,2,3-c,d)pyrene	**0.0627**	**0.0629**	0.0833	0.0833	75	76	56 - 125	0	22	
Dibenz[a,h]anthracene	**0.0632**	**0.0639**	0.0833	0.0833	76	77	55 - 129	1	24	
Benzo[g,h,i]perylene	**0.0620**	**0.0621**	0.0833	0.0833	74	75	55 - 122	0	23	
Surrogate:										
2-Fluorobiphenyl					*63*	*66*	*39 - 103*			
Pyrene-d10					*86*	*84*	*39 - 115*			
Terphenyl-d14					*88*	*87*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: June 26, 2009
Samples Submitted: June 22, 2009
Lab Traveler: 0906-164
Project: 06-03385-001

% MOISTURE

Date Analyzed: 6-22-09

Client ID	Lab ID	% Moisture
CS1	06-164-03	25

This report pertains to the samples analyzed in accordance with the chain of custody,
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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

06-164

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC/HM	DELIVERY METHOD: Drop-off
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 1-day / TOTAL # OF CONTAINERS: 3
LAB USE:	

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270		SAME DAY												% MOISTURE
1	Wipe4	6/22/09	1435	wipe sample	1	X			X												
2	DC4	6/22/09	1410	concrete	1	X															
3	CS1	6/22/09	1345	Soil - MH6	1	X	X														X

REMARKS: Full data package deliverable. 1-day turn around.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		6/22/09 / 1548	M. VOUNLOSE		6/22/09 1548
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 9, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-218

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 29, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

Case Narrative

Samples were collected on June 26, 2009, and received by the laboratory on June 29, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Lab Traveler: 0906-218
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS1**					
Laboratory ID:	06-218-01					
Aroclor 1016	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-1-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*93*	*33-122*				
Client ID:	**FS2**					
Laboratory ID:	06-218-02					
Aroclor 1016	**ND**	0.065	EPA 8082	7-1-09	7-6-09	X
Aroclor 1221	**ND**	0.065	EPA 8082	7-1-09	7-6-09	X
Aroclor 1232	**ND**	0.065	EPA 8082	7-1-09	7-6-09	X
Aroclor 1242	**ND**	0.065	EPA 8082	7-1-09	7-6-09	X
Aroclor 1248	**ND**	0.065	EPA 8082	7-1-09	7-6-09	X
Aroclor 1254	**0.10**	0.065	EPA 8082	7-1-09	7-6-09	X
Aroclor 1260	**ND**	0.065	EPA 8082	7-1-09	7-6-09	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*56*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Lab Traveler: 0906-218
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*98*	*33-122*				

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Aroclor 1221	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Aroclor 1232	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Aroclor 1242	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Aroclor 1248	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Aroclor 1254	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Aroclor 1260	**ND**	0.050	EPA 8082	7-1-09	7-6-09	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*98*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-218-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.558**	**0.575**	0.500	0.500	ND	**112**	**115**	24-125	3	18	
Surrogate:											
DCB						*88*	*91*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS1**					
Laboratory ID:	06-218-01					
Naphthalene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
2-Methylnaphthalene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
1-Methylnaphthalene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthylene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Fluorene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Phenanthrene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Anthracene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Fluoranthene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Pyrene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]anthracene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Chrysene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[b]fluoranthene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[k]fluoranthene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]pyrene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Dibenz[a,h]anthracene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[g,h,i]perylene	**ND**	0.0072	EPA 8270/SIM	6-29-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*44*	*39 - 103*				
Pyrene-d10	*98*	*39 - 115*				
Terphenyl-d14	*95*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS2**					
Laboratory ID:	06-218-02					
Naphthalene	**0.48**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
2-Methylnaphthalene	**1.9**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
1-Methylnaphthalene	**4.3**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthylene	**ND**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthene	**0.75**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Fluorene	**2.5**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Phenanthrene	**3.6**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Anthracene	**0.39**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Fluoranthene	**0.24**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Pyrene	**1.6**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]anthracene	**0.55**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Chrysene	**1.6**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[b]fluoranthene	**0.32**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[k]fluoranthene	**ND**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]pyrene	**0.29**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Dibenz[a,h]anthracene	**ND**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[g,h,i]perylene	**0.17**	0.087	EPA 8270/SIM	6-29-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*39 - 103*				
Pyrene-d10	*94*	*39 - 115*				
Terphenyl-d14	*103*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0629S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*39 - 103*				
Pyrene-d10	*87*	*39 - 115*				
Terphenyl-d14	*87*	*50 - 118*				

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Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0629S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0607**	**0.0572**	0.0833	0.0833	73	69	31 - 102	6	30	
Acenaphthylene	**0.0613**	**0.0665**	0.0833	0.0833	74	80	48 - 104	8	26	
Acenaphthene	**0.0656**	**0.0670**	0.0833	0.0833	79	80	46 - 105	2	26	
Fluorene	**0.0688**	**0.0696**	0.0833	0.0833	83	84	52 - 107	1	25	
Phenanthrene	**0.0681**	**0.0698**	0.0833	0.0833	82	84	58 - 104	2	21	
Anthracene	**0.0526**	**0.0537**	0.0833	0.0833	63	64	56 - 103	2	21	
Fluoranthene	**0.0707**	**0.0741**	0.0833	0.0833	85	89	65 - 111	5	20	
Pyrene	**0.0725**	**0.0761**	0.0833	0.0833	87	91	65 - 115	5	20	
Benzo[a]anthracene	**0.0657**	**0.0689**	0.0833	0.0833	79	83	55 - 111	5	19	
Chrysene	**0.0687**	**0.0719**	0.0833	0.0833	82	86	58 - 121	5	19	
Benzo[b]fluoranthene	**0.0698**	**0.0733**	0.0833	0.0833	84	88	57 - 120	5	20	
Benzo[k]fluoranthene	**0.0689**	**0.0734**	0.0833	0.0833	83	88	52 - 123	6	21	
Benzo[a]pyrene	**0.0437**	**0.0454**	0.0833	0.0833	52	55	49 - 106	4	22	
Indeno(1,2,3-c,d)pyrene	**0.0682**	**0.0724**	0.0833	0.0833	82	87	56 - 125	6	22	
Dibenz[a,h]anthracene	**0.0681**	**0.0724**	0.0833	0.0833	82	87	55 - 129	6	24	
Benzo[g,h,i]perylene	**0.0684**	**0.0730**	0.0833	0.0833	82	88	55 - 122	7	23	
Surrogate:										
2-Fluorobiphenyl					*80*	*78*	*39 - 103*			
Pyrene-d10					*92*	*91*	*39 - 115*			
Terphenyl-d14					*88*	*89*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

NWTPH-Dx

Date Extracted: 6-30-09
Date Analyzed: 7-1-09

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**FS1**	**FS2**
Lab ID:	06-218-01	06-218-02
Diesel Range:	**ND**	**8000**
PQL:	27	160
Identification:	---	Diesel Range Organics
Lube Oil Range:	**ND**	**14000**
PQL:	54	320
Identification:	---	Lube Oil
Surrogate Recovery		
o-Terphenyl:	78%	85%
Flags:	Y	Y,Z

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-30-09
Date Analyzed:	7-1-09

Matrix:	Soil
Units:	mg/kg (ppm)

Lab ID:	MB0630S1

Diesel Range:	**ND**
PQL:	25
Identification:	---

Lube Oil Range:	**ND**
PQL:	50
Identification:	---

Surrogate Recovery	
o-Terphenyl:	90%
Flags:	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-218
Project: 06-03385-001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 6-30-09
Date Analyzed: 7-1-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	06-218-01	06-218-01 DUP
Diesel Range:	**ND**	**ND**
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	78%	75%
Flags:	Y	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 9, 2009
Samples Submitted: June 29, 2009
Lab Traveler: 0906-218
Project: 06-03385-001

% MOISTURE

Date Analyzed: 6-29-09

Client ID	Lab ID	% Moisture
FS1	06-218-01	8
FS2	06-218-02	23

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z - = Hydrocarbons in diesel range are impacting the lube oil range results.

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

06-218

HERRERA ENVIRONMENTAL CONSULTANTS

2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

CHAIN OF CUSTODY RECORD

PROJECT NAME: GTownFlume2	PROJECT NUMBER: 06-03385-001	CLIENT: SPU
REPORT TO: Peter Jowise		COPY TO: Gina Catarra
SAMPLED BY: GC		DELIVERY METHOD: Courier
LABORATORY: OnSite	REQUESTED COMPLETION DATE: Standard	TOTAL # OF CONTAINERS: 4
LAB USE:		

ANALYSES REQUESTED

SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270	NWTPH-Dx	% MOISTURE
FS1	6/26/09	11:05	Soil	2	X	X	X	X
FS2	6/26/09	11:30	Soil - petroleum odor	2	X	X	X	X

REMARKS: Full data package deliverable.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		6/26/09 / 14:30	M. VOWLOSE		6/29/09 1015
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

Sample/Cooler Receipt and Acceptance Checklist

Client: HEC

Client Project Name/Number: 06-03385-001

OnSite Project Number: 06-218

Initiated by: JMV

Date Initiated: 6/29/09

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4	
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature: 2		
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	N/A			
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup	Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No	1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No	1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No	1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No	1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No	1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No	1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and air bubbles?	Yes	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

//SERVER\OSE\Administration\forms\cooler_checklist.xls

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 8, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-220

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 29, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

Case Narrative

Samples were collected on June 29, 2009, and received by the laboratory on June 29, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

NWTPH-Dx

Date Extracted:	6-30-09
Date Analyzed:	7-1-09

Matrix:	Soil
Units:	mg/kg (ppm)

Client ID:	**FS3**
Lab ID:	06-220-01

Diesel Range:	**ND**
PQL:	33
Identification:	---

Lube Oil Range:	**ND**
PQL:	66
Identification:	---

Surrogate Recovery	
o-Terphenyl:	73%

Flags:	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-30-09
Date Analyzed:	6-30-09

Matrix:	Soil
Units:	mg/kg (ppm)

Lab ID:	MB0630S2

Diesel Range:	**ND**
PQL:	25
Identification:	---

Lube Oil Range:	**ND**
PQL:	50
Identification:	---

Surrogate Recovery	
o-Terphenyl:	102%

Flags:	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 6-30-09
Date Analyzed: 7-1-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	06-195-25	06-195-25 DUP
Diesel Range:	**ND**	**ND**
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	93%	90%
Flags:	Y	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS3**					
Laboratory ID:	06-220-01					
Naphthalene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthylene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Fluorene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Phenanthrene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Anthracene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Fluoranthene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Pyrene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]anthracene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Chrysene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[k]fluoranthene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[g,h,i]perylene	**ND**	0.0088	EPA 8270/SIM	6-29-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*48*	*39 - 103*				
Pyrene-d10	*94*	*39 - 115*				
Terphenyl-d14	*92*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0629S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	6-29-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*39 - 103*				
Pyrene-d10	*87*	*39 - 115*				
Terphenyl-d14	*87*	*50 - 118*				

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Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Laboratory Reference: 0906-220
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0629S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0607**	**0.0572**	0.0833	0.0833	73	69	31 - 102	6	30	
Acenaphthylene	**0.0613**	**0.0665**	0.0833	0.0833	74	80	48 - 104	8	26	
Acenaphthene	**0.0656**	**0.0670**	0.0833	0.0833	79	80	46 - 105	2	26	
Fluorene	**0.0688**	**0.0696**	0.0833	0.0833	83	84	52 - 107	1	25	
Phenanthrene	**0.0681**	**0.0698**	0.0833	0.0833	82	84	58 - 104	2	21	
Anthracene	**0.0526**	**0.0537**	0.0833	0.0833	63	64	56 - 103	2	21	
Fluoranthene	**0.0707**	**0.0741**	0.0833	0.0833	85	89	65 - 111	5	20	
Pyrene	**0.0725**	**0.0761**	0.0833	0.0833	87	91	65 - 115	5	20	
Benzo[a]anthracene	**0.0657**	**0.0689**	0.0833	0.0833	79	83	55 - 111	5	19	
Chrysene	**0.0687**	**0.0719**	0.0833	0.0833	82	86	58 - 121	5	19	
Benzo[b]fluoranthene	**0.0698**	**0.0733**	0.0833	0.0833	84	88	57 - 120	5	20	
Benzo[k]fluoranthene	**0.0689**	**0.0734**	0.0833	0.0833	83	88	52 - 123	6	21	
Benzo[a]pyrene	**0.0437**	**0.0454**	0.0833	0.0833	52	55	49 - 106	4	22	
Indeno(1,2,3-c,d)pyrene	**0.0682**	**0.0724**	0.0833	0.0833	82	87	56 - 125	6	22	
Dibenz[a,h]anthracene	**0.0681**	**0.0724**	0.0833	0.0833	82	87	55 - 129	6	24	
Benzo[g,h,i]perylene	**0.0684**	**0.0730**	0.0833	0.0833	82	88	55 - 122	7	23	
Surrogate:										
2-Fluorobiphenyl					*80*	*78*	*39 - 103*			
Pyrene-d10					*92*	*91*	*39 - 115*			
Terphenyl-d14					*88*	*89*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Lab Traveler: 0906-220
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS3**					
Laboratory ID:	06-220-01					
Aroclor 1016	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Aroclor 1221	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Aroclor 1232	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Aroclor 1242	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Aroclor 1248	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Aroclor 1254	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Aroclor 1260	**ND**	0.066	EPA 8082	7-1-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*76*	*33-122*				

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Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Lab Traveler: 0906-220
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*98*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-218-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.558**	**0.575**	0.500	0.500	ND	**112**	**115**	24-125	3	18	
Surrogate:											
DCB						*88*	*91*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 8, 2009
Samples Submitted: June 29, 2009
Lab Traveler: 0906-220
Project: 06-03385-001

% MOISTURE

Date Analyzed: 6-29-09

Client ID	Lab ID	% Moisture
FS3	06-220-01	24

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

OnSite Environmental Inc.
Phone. (425) 883-3881 • Fax (425) 885-4603

Company: Herrera
Project Number: 06-03385-001
Project Name: Georgetown Flume
Project Manager: P. Jowise
Sampled by: G.C.

Turnaround Request (in working days)

(Check One)

- [ ] Same Day
- [ ] 1 Day
- [ ] 2 Day
- [ ] 3 Day
- [x] Standard (7 working days) (TPH analysis 5 working days)
- [ ] _____ (other)

Laboratory Number: 06-220

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664							% Moisture
1	FS3	6/29/09	1125	S	2			X				X	X												X

	Signature	Company	Date	Time
Relinquished by	[signature]	Herrera	6/29/09	1230
Received by	[signature]	[illegible]	6/29/09	1230
Relinquished by				
Received by				
Relinquished by				
Received by				

Reviewed by/Date

Reviewed by/Date

Comments/Special Instructions: Full data deliverable

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 10, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0906-235

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 30, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

Case Narrative

Samples were collected on June 30, 2009, and received by the laboratory on June 30, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

NWTPH-Dx

Date Extracted:	7-1-09
Date Analyzed:	7-6-09

Matrix:	Soil
Units:	mg/kg (ppm)

Client ID:	**FS4**
Lab ID:	06-235-01

Diesel Range:	**ND**
PQL:	58
Identification:	---

Lube Oil Range:	**650**
PQL:	58
Identification:	Lube Oil

Surrogate Recovery	
o-Terphenyl:	82%

Flags:	Y,U1

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Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	7-1-09
Date Analyzed:	7-1-09

Matrix:	Soil
Units:	mg/kg (ppm)

Lab ID:	MB0701S1

Diesel Range:	**ND**
PQL:	25
Identification:	---

Lube Oil Range:	**ND**
PQL:	50
Identification:	---

Surrogate Recovery	
o-Terphenyl:	77%

Flags:	Y

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Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 7-1-09
Date Analyzed: 7-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	06-234-01	06-234-01 DUP
Diesel Range:	**ND**	**ND**
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	89%	91%
Flags:	Y	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS4**					
Laboratory ID:	06-235-01					
Naphthalene	**0.034**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
2-Methylnaphthalene	**0.037**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
1-Methylnaphthalene	**0.035**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Acenaphthylene	**0.054**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Acenaphthene	**0.010**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Fluorene	**0.032**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Phenanthrene	**0.30**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Anthracene	**0.046**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Fluoranthene	**0.25**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Pyrene	**0.28**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[a]anthracene	**0.11**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Chrysene	**0.14**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[b]fluoranthene	**0.14**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[k]fluoranthene	**0.049**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[a]pyrene	**0.12**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Indeno(1,2,3-c,d)pyrene	**0.083**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Dibenz[a,h]anthracene	**0.029**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[g,h,i]perylene	**0.14**	0.0078	EPA 8270/SIM	7-6-09	7-7-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*39 - 103*				
Pyrene-d10	*88*	*39 - 115*				
Terphenyl-d14	*85*	*50 - 118*				

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Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0706S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*65*	*39 - 103*				
Pyrene-d10	*79*	*39 - 115*				
Terphenyl-d14	*84*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Laboratory Reference: 0906-235
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0706S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0541**	**0.0607**	0.0833	0.0833	65	73	31 - 102	11	30	
Acenaphthylene	**0.0586**	**0.0631**	0.0833	0.0833	70	76	48 - 104	7	26	
Acenaphthene	**0.0533**	**0.0577**	0.0833	0.0833	64	69	46 - 105	8	26	
Fluorene	**0.0560**	**0.0587**	0.0833	0.0833	67	70	52 - 107	5	25	
Phenanthrene	**0.0573**	**0.0594**	0.0833	0.0833	69	71	58 - 104	4	21	
Anthracene	**0.0597**	**0.0611**	0.0833	0.0833	72	73	56 - 103	2	21	
Fluoranthene	**0.0657**	**0.0691**	0.0833	0.0833	79	83	65 - 111	5	20	
Pyrene	**0.0666**	**0.0700**	0.0833	0.0833	80	84	65 - 115	5	20	
Benzo[a]anthracene	**0.0691**	**0.0717**	0.0833	0.0833	83	86	55 - 111	4	19	
Chrysene	**0.0654**	**0.0680**	0.0833	0.0833	79	82	58 - 121	4	19	
Benzo[b]fluoranthene	**0.0635**	**0.0680**	0.0833	0.0833	76	82	57 - 120	7	20	
Benzo[k]fluoranthene	**0.0677**	**0.0685**	0.0833	0.0833	81	82	52 - 123	1	21	
Benzo[a]pyrene	**0.0602**	**0.0609**	0.0833	0.0833	72	73	49 - 106	1	22	
Indeno(1,2,3-c,d)pyrene	**0.0774**	**0.0808**	0.0833	0.0833	93	97	56 - 125	4	22	
Dibenz[a,h]anthracene	**0.0793**	**0.0828**	0.0833	0.0833	95	99	55 - 129	4	24	
Benzo[g,h,i]perylene	**0.0786**	**0.0820**	0.0833	0.0833	94	98	55 - 122	4	23	
Surrogate:										
2-Fluorobiphenyl					*65*	*70*	*39 - 103*			
Pyrene-d10					*80*	*85*	*39 - 115*			
Terphenyl-d14					*89*	*92*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Lab Traveler: 0906-235
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS4**					
Laboratory ID:	06-235-01					
Aroclor 1016	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Aroclor 1221	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Aroclor 1232	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Aroclor 1242	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Aroclor 1248	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Aroclor 1254	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Aroclor 1260	**ND**	0.058	EPA 8082	7-1-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*57*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Lab Traveler: 0906-235
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*98*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-218-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.558**	**0.575**	0.500	0.500	ND	**112**	**115**	24-125	3	18	
Surrogate:											
DCB						*88*	*91*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: June 30, 2009
Lab Traveler: 0906-235
Project: 06-03385-001

% MOISTURE

Date Analyzed: 7-1-09

Client ID	Lab ID	% Moisture
FS4	06-235-01	14

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Herrera
Project Number: 06-03385-001
Project Name: Georgetown Plume
Project Manager: P. Jowise
Sampled by: GC

Turnaround Request (In working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 06-235

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664							% Moisture
1	FS4	6/30/09	14:05	S	1			X				X	X												X

	Signature	Company	Date	Time
Relinquished by	[signature]	Herrera ENV.	6/30/09	1455
Received by	[signature]	OSE	6/30/09	1455
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions

Chromatograms with final report ☐

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OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 10, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0907-008

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 1, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

Case Narrative

Samples were collected on July 1, 2009, and received by the laboratory on July 1, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

NWTPH-Dx

Date Extracted:	7-2-09
Date Analyzed:	7-2-09

Matrix:	Soil
Units:	mg/kg (ppm)

Client ID:	**FS5**
Lab ID:	07-008-01

Diesel Range:	**ND**
PQL:	28
Identification:	---

Lube Oil Range:	**ND**
PQL:	56
Identification:	---

Surrogate Recovery	
o-Terphenyl:	82%
Flags:	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	7-2-09
Date Analyzed:	7-2-09

Matrix:	Soil
Units:	mg/kg (ppm)

Lab ID:	MB0702S1

Diesel Range:	**ND**
PQL:	25
Identification:	---

Lube Oil Range:	**ND**
PQL:	50
Identification:	---

Surrogate Recovery	
o-Terphenyl:	103%

Flags:	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 7-2-09
Date Analyzed: 7-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	07-008-01	07-008-01 DUP
Diesel Range:	**ND**	**ND**
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	82%	90%
Flags:	Y	Y

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS5**					
Laboratory ID:	07-008-01					
Naphthalene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
2-Methylnaphthalene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
1-Methylnaphthalene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Acenaphthylene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Acenaphthene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Fluorene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Phenanthrene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Anthracene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Fluoranthene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Pyrene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[a]anthracene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Chrysene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[b]fluoranthene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[k]fluoranthene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[a]pyrene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Dibenz[a,h]anthracene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Benzo[g,h,i]perylene	**ND**	0.0074	EPA 8270/SIM	7-6-09	7-7-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*39 - 103*				
Pyrene-d10	*90*	*39 - 115*				
Terphenyl-d14	*92*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0706S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	7-6-09	7-6-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*65*	*39 - 103*				
Pyrene-d10	*79*	*39 - 115*				
Terphenyl-d14	*84*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Laboratory Reference: 0907-008
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0706S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0541**	**0.0607**	0.0833	0.0833	65	73	31 - 102	11	30	
Acenaphthylene	**0.0586**	**0.0631**	0.0833	0.0833	70	76	48 - 104	7	26	
Acenaphthene	**0.0533**	**0.0577**	0.0833	0.0833	64	69	46 - 105	8	26	
Fluorene	**0.0560**	**0.0587**	0.0833	0.0833	67	70	52 - 107	5	25	
Phenanthrene	**0.0573**	**0.0594**	0.0833	0.0833	69	71	58 - 104	4	21	
Anthracene	**0.0597**	**0.0611**	0.0833	0.0833	72	73	56 - 103	2	21	
Fluoranthene	**0.0657**	**0.0691**	0.0833	0.0833	79	83	65 - 111	5	20	
Pyrene	**0.0666**	**0.0700**	0.0833	0.0833	80	84	65 - 115	5	20	
Benzo[a]anthracene	**0.0691**	**0.0717**	0.0833	0.0833	83	86	55 - 111	4	19	
Chrysene	**0.0654**	**0.0680**	0.0833	0.0833	79	82	58 - 121	4	19	
Benzo[b]fluoranthene	**0.0635**	**0.0680**	0.0833	0.0833	76	82	57 - 120	7	20	
Benzo[k]fluoranthene	**0.0677**	**0.0685**	0.0833	0.0833	81	82	52 - 123	1	21	
Benzo[a]pyrene	**0.0602**	**0.0609**	0.0833	0.0833	72	73	49 - 106	1	22	
Indeno(1,2,3-c,d)pyrene	**0.0774**	**0.0808**	0.0833	0.0833	93	97	56 - 125	4	22	
Dibenz[a,h]anthracene	**0.0793**	**0.0828**	0.0833	0.0833	95	99	55 - 129	4	24	
Benzo[g,h,i]perylene	**0.0786**	**0.0820**	0.0833	0.0833	94	98	55 - 122	4	23	
Surrogate:										
2-Fluorobiphenyl					*65*	*70*	*39 - 103*			
Pyrene-d10					*80*	*85*	*39 - 115*			
Terphenyl-d14					*89*	*92*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Lab Traveler: 0907-008
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**FS5**					
Laboratory ID:	07-008-01					
Aroclor 1016	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Aroclor 1221	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Aroclor 1232	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Aroclor 1242	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Aroclor 1248	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Aroclor 1254	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Aroclor 1260	**ND**	0.056	EPA 8082	7-1-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Lab Traveler: 0907-008
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0701S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-1-09	7-1-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*98*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-218-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.558**	**0.575**	0.500	0.500	ND	**112**	**115**	24-125	3	18	
Surrogate:											
DCB						*88*	*91*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 10, 2009
Samples Submitted: July 1, 2009
Lab Traveler: 0907-008
Project: 06-03385-001

% MOISTURE

Date Analyzed: 7-1-09

Client ID	Lab ID	% Moisture
FS5	07-008-01	10

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Page _____ of _____

Company: Herrera
Project Number: 06-03385-001
Project Name: Georgetown Flume
Project Manager: P. Jowitt
Sampled by: GC

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☑ Standard (7 working days)
(TPH analysis 5 working days)
☐ _____ (other)

Laboratory Number: 07-008

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664							% Moisture
1	FS5	7/1/09	1020	S	1			X				X	X												X

	Signature	Company	Date	Time
Relinquished by	[signature]	Herrera	7/1/09	1106
Received by	[signature]	OSE	7/1/09	1106
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions: Full Data Package

Chromatograms with final report ☐

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OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 7, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0907-022

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 2, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 7, 2009
Samples Submitted: July 2, 2009
Laboratory Reference: 0907-022
Project: 06-03385-001

Case Narrative

Samples were collected on July 2, 2009, and received by the laboratory on July 2, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 7, 2009
Samples Submitted: July 2, 2009
Lab Traveler: 0907-022
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CC1**					
Laboratory ID:	07-022-01					
Aroclor 1016	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*68*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 7, 2009
Samples Submitted: July 2, 2009
Lab Traveler: 0907-022
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solids
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0702S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-2-09	7-2-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*94*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-017-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.287**	**0.246**	0.500	0.500	ND	**57**	**49**	24-125	15	18	
Surrogate:											
DCB						*71*	*53*	*33-122*			

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

CHAIN OF CUSTODY RECORD

07-022

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC	DELIVERY METHOD: Drop-off

LABORATORY:	REQUESTED COMPLETION DATE:	TOTAL # OF CONTAINERS: 1
OnSite		

LAB USE:

ANALYSES REQUESTED

SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270/SIM	NWTPH-Dx
CC1	7/02/09	1035	Concrete	1	X		

REMARKS: Full data package deliverable. 1-DAY TA.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.	[signature]	7/02/09 / 1145	M. VOWLOSE	[signature]	7/2/09 1145
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

gc o:\proj\y2006\06-03385-001\data\cocs\7-02-09 coc.doc

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 14, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0907-075

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 9, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

Case Narrative

Samples were collected on July 9, 2009, and received by the laboratory on July 9, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Lab Traveler: 0907-075
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS2 A**					
Laboratory ID:	07-075-01					
Aroclor 1016	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*92*	*33-122*				
Client ID:	**CS3 A**					
Laboratory ID:	07-075-02					
Aroclor 1016	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.064	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*65*	*33-122*				
Client ID:	**CS4 A**					
Laboratory ID:	07-075-03					
Aroclor 1016	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*97*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Lab Traveler: 0907-075
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS5 A**					
Laboratory ID:	07-075-04					
Aroclor 1016	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.065	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*89*	*33-122*				
Client ID:	**CS6 A**					
Laboratory ID:	07-075-05					
Aroclor 1016	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.067	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*33-122*				
Client ID:	**CS7 A**					
Laboratory ID:	07-075-06					
Aroclor 1016	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*64*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Lab Traveler: 0907-075
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS8 A**					
Laboratory ID:	07-075-07					
Aroclor 1016	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1221	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1232	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1242	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1248	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1254	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Aroclor 1260	**ND**	0.066	EPA 8082	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*62*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Lab Traveler: 0907-075
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0710S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-10-09	7-14-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*106*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-058-03										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.398**	**0.451**	0.500	0.500	ND	**80**	**90**	24-125	12	18	
Surrogate:											
DCB						*98*	*95*	*33-122*			

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS2A**					
Laboratory ID:	07-075-01					
Naphthalene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
2-Methylnaphthalene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
1-Methylnaphthalene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthylene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Fluorene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Phenanthrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Anthracene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Pyrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]anthracene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Chrysene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[b]fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[k]fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]pyrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Dibenz[a,h]anthracene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[g,h,i]perylene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*72*	*39 - 103*				
Pyrene-d10	*86*	*39 - 115*				
Terphenyl-d14	*112*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS3A**					
Laboratory ID:	07-075-02					
Naphthalene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
2-Methylnaphthalene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
1-Methylnaphthalene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthylene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Fluorene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Phenanthrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Anthracene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Pyrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]anthracene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Chrysene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[b]fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[k]fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]pyrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Dibenz[a,h]anthracene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[g,h,i]perylene	**ND**	0.0085	EPA 8270/SIM	7-10-09	7-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*67*	*39 - 103*				
Pyrene-d10	*83*	*39 - 115*				
Terphenyl-d14	*90*	*50 - 118*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS4A**					
Laboratory ID:	07-075-03					
Naphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Acenaphthylene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Acenaphthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Fluorene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Phenanthrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Anthracene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Pyrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[a]anthracene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Chrysene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[k]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[g,h,i]perylene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*39 - 103*				
Pyrene-d10	*85*	*39 - 115*				
Terphenyl-d14	*109*	*50 - 118*				

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS5A**					
Laboratory ID:	07-075-04					
Naphthalene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
2-Methylnaphthalene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
1-Methylnaphthalene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthylene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Fluorene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Phenanthrene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Anthracene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Fluoranthene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Pyrene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]anthracene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Chrysene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[b]fluoranthene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[k]fluoranthene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]pyrene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Dibenz[a,h]anthracene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[g,h,i]perylene	**ND**	0.0087	EPA 8270/SIM	7-10-09	7-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*68*	*39 - 103*				
Pyrene-d10	*81*	*39 - 115*				
Terphenyl-d14	*108*	*50 - 118*				

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS6A**					
Laboratory ID:	07-075-05					
Naphthalene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
2-Methylnaphthalene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
1-Methylnaphthalene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthylene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Fluorene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Phenanthrene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Anthracene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Fluoranthene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Pyrene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]anthracene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Chrysene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[k]fluoranthene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[g,h,i]perylene	**ND**	0.0089	EPA 8270/SIM	7-10-09	7-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*76*	*39 - 103*				
Pyrene-d10	*83*	*39 - 115*				
Terphenyl-d14	*108*	*50 - 118*				

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS7A**					
Laboratory ID:	07-075-06					
Naphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthylene	**0.019**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthene	**0.014**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Fluorene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Phenanthrene	**0.089**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Anthracene	**0.082**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Fluoranthene	**0.51**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Pyrene	**0.34**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]anthracene	**0.13**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Chrysene	**0.20**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[b]fluoranthene	**0.20**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[k]fluoranthene	**0.056**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]pyrene	**0.085**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Indeno(1,2,3-c,d)pyrene	**0.051**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Dibenz[a,h]anthracene	**0.018**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[g,h,i]perylene	**0.057**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*66*	*39 - 103*				
Pyrene-d10	*86*	*39 - 115*				
Terphenyl-d14	*103*	*50 - 118*				

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS8A**					
Laboratory ID:	07-075-07					
Naphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthylene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Acenaphthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Fluorene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Phenanthrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Anthracene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Pyrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]anthracene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Chrysene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[k]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Benzo[g,h,i]perylene	**ND**	0.0088	EPA 8270/SIM	7-10-09	7-11-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*60*	*39 - 103*				
Pyrene-d10	*80*	*39 - 115*				
Terphenyl-d14	*115*	*50 - 118*				

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0710S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	7-10-09	7-10-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*39 - 103*				
Pyrene-d10	*101*	*39 - 115*				
Terphenyl-d14	*95*	*50 - 118*				

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-059-13										
	MS	MSD	MS	MSD		MS	MSD				
Naphthalene	**0.0584**	**0.0557**	0.0833	0.0833	ND	70	67	29 - 104	5	27	
Acenaphthylene	**0.0706**	**0.0634**	0.0833	0.0833	ND	85	76	44 - 111	11	20	
Acenaphthene	**0.0702**	**0.0632**	0.0833	0.0833	ND	84	76	45 - 108	10	19	
Fluorene	**0.0828**	**0.0748**	0.0833	0.0833	ND	99	90	49 - 113	10	16	
Phenanthrene	**0.100**	**0.0866**	0.0833	0.0833	0.0193	97	81	43 - 124	14	36	
Anthracene	**0.0811**	**0.0768**	0.0833	0.0833	0.00999	85	80	51 - 115	5	17	
Fluoranthene	**0.101**	**0.0855**	0.0833	0.0833	0.0365	77	59	42 - 140	17	27	
Pyrene	**0.160**	**0.147**	0.0833	0.0833	0.0789	97	82	40 - 140	8	30	
Benzo[a]anthracene	**0.101**	**0.0930**	0.0833	0.0833	0.0276	88	79	33 - 134	8	21	
Chrysene	**0.137**	**0.116**	0.0833	0.0833	0.0513	103	78	32 - 141	17	21	
Benzo[b]fluoranthene	**0.0967**	**0.0944**	0.0833	0.0833	0.0531	52	50	35 - 139	2	32	
Benzo[k]fluoranthene	**0.0788**	**0.0742**	0.0833	0.0833	0.0152	76	71	44 - 124	6	23	
Benzo[a]pyrene	**0.0899**	**0.0850**	0.0833	0.0833	0.0360	65	59	34 - 130	6	28	
Indeno(1,2,3-c,d)pyrene	**0.0755**	**0.0760**	0.0833	0.0833	0.0180	69	70	50 - 127	1	20	
Dibenz[a,h]anthracene	**0.0687**	**0.0683**	0.0833	0.0833	ND	82	82	58 - 122	1	15	
Benzo[g,h,i]perylene	**0.0777**	**0.0781**	0.0833	0.0833	0.0213	68	68	47 - 126	1	21	
Surrogate:											
2-Fluorobiphenyl						*74*	*68*	*39 - 103*			
Pyrene-d10						*76*	*72*	*39 - 115*			
Terphenyl-d14						*85*	*87*	*50 - 118*			

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Laboratory Reference: 0907-075
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0710S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0561**	**0.0530**	0.0833	0.0833	67	64	31 - 102	6	30	
Acenaphthylene	**0.0678**	**0.0578**	0.0833	0.0833	81	69	48 - 104	16	26	
Acenaphthene	**0.0656**	**0.0582**	0.0833	0.0833	79	70	46 - 105	12	26	
Fluorene	**0.0731**	**0.0856**	0.0833	0.0833	88	103	52 - 107	16	25	
Phenanthrene	**0.0763**	**0.0724**	0.0833	0.0833	92	87	58 - 104	5	21	
Anthracene	**0.0701**	**0.0670**	0.0833	0.0833	84	80	56 - 103	5	21	
Fluoranthene	**0.0861**	**0.0750**	0.0833	0.0833	103	90	65 - 111	14	20	
Pyrene	**0.0899**	**0.0778**	0.0833	0.0833	108	93	65 - 115	14	20	
Benzo[a]anthracene	**0.0822**	**0.0795**	0.0833	0.0833	99	95	55 - 111	3	19	
Chrysene	**0.0764**	**0.0728**	0.0833	0.0833	92	87	58 - 121	5	19	
Benzo[b]fluoranthene	**0.0720**	**0.0772**	0.0833	0.0833	86	93	57 - 120	7	20	
Benzo[k]fluoranthene	**0.0739**	**0.0750**	0.0833	0.0833	89	90	52 - 123	1	21	
Benzo[a]pyrene	**0.0696**	**0.0693**	0.0833	0.0833	84	83	49 - 106	0	22	
Indeno(1,2,3-c,d)pyrene	**0.0750**	**0.0721**	0.0833	0.0833	90	87	56 - 125	4	22	
Dibenz[a,h]anthracene	**0.0762**	**0.0713**	0.0833	0.0833	91	86	55 - 129	7	24	
Benzo[g,h,i]perylene	**0.0666**	**0.0700**	0.0833	0.0833	80	84	55 - 122	5	23	
Surrogate:										
2-Fluorobiphenyl					*87*	*66*	*39 - 103*			
Pyrene-d10					*112*	*98*	*39 - 115*			
Terphenyl-d14					*71*	*76*	*50 - 118*			

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Date of Report: July 14, 2009
Samples Submitted: July 9, 2009
Lab Traveler: 0907-075
Project: 06-03385-001

% MOISTURE

Date Analyzed: 7-10-09

Client ID	Lab ID	% Moisture
CS2A	07-075-01	22
CS3A	07-075-02	22
CS4A	07-075-03	24
CS5A	07-075-04	23
CS6A	07-075-05	25
CS7A	07-075-06	24
CS8A	07-075-07	24

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

07-075

CHAIN OF CUSTODY RECORD

PROJECT NAME: GTownFlume2	PROJECT NUMBER: 06-03385-001	CLIENT: SPU
REPORT TO: Peter Jowise		COPY TO: Gina Catarra
SAMPLED BY: GC		DELIVERY METHOD: Drop-off
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 2-DAY	TOTAL # OF CONTAINERS: 6
LAB USE:		

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270/SIM	NWTPH-Dx													% MOISTURE
1	CS2 A	7/09/09	1153	Soil	1	X	X														X
2	CS3 A	7/09/09	1219	Soil	1	X	X														
3	CS4 A	7/09/09	1239	Soil	1	X	X														
4	CS5 A	7/09/09	1337	Soil	1	X	X														
5	CS6 A	7/09/09	1353	Soil	1	X	X														
6	CS7 A	7/09/09	1415	Soil	1	X	X														
7	CS8A		1449		1	X	X														
8	CS2B		1155			HOLD - PENDING ANALYSIS OF "A"															
9	CS3B		1220																		
10	CS4B		1240																		
11	CS5B		1338																		
12	CS6B		1354																		
13	CS7B		1416																		
14	CS8B		1450																		

REMARKS: Full data package deliverable. 2-DAY Turn

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		7/09/09 / 1600	M. YOUN/OSE		7/9/09 1600
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 17, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0907-112

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 15, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

Case Narrative

Samples were collected on July 15, 2009, and received by the laboratory on July 15, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Lab Traveler: 0907-112
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS9A**					
Laboratory ID:	07-112-01					
Aroclor 1016	**ND**	0.067	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.067	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.067	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.067	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.067	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**0.13**	0.067	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.067	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*79*	*33-122*				
Client ID:	**CS10A**					
Laboratory ID:	07-112-02					
Aroclor 1016	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*80*	*33-122*				
Client ID:	**CS11A**					
Laboratory ID:	07-112-03					
Aroclor 1016	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.064	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*81*	*33-122*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Lab Traveler: 0907-112
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS12A**					
Laboratory ID:	07-112-04					
Aroclor 1016	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Aroclor 1221	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Aroclor 1232	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Aroclor 1242	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Aroclor 1248	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Aroclor 1254	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Aroclor 1260	**ND**	0.063	EPA 8082	7-16-09	7-17-09	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*72*	*33-122*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Lab Traveler: 0907-112
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0716S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*33-122*				
Laboratory ID:	MB0716S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Aroclor 1221	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Aroclor 1232	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Aroclor 1242	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Aroclor 1248	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Aroclor 1254	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Aroclor 1260	**ND**	0.050	EPA 8082	7-16-09	7-17-09	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*95*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-112-02										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.358**	**0.372**	0.500	0.500	ND	**72**	**74**	24-125	4	18	
Surrogate:											
DCB						*73*	*75*	*33-122*			

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS9A**					
Laboratory ID:	09-112-01					
Naphthalene	**ND**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
2-Methylnaphthalene	**ND**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
1-Methylnaphthalene	**ND**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthylene	**ND**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthene	**ND**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Fluorene	**ND**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Phenanthrene	**0.029**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Anthracene	**0.022**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Fluoranthene	**0.13**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Pyrene	**0.12**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]anthracene	**0.074**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Chrysene	**0.088**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[b]fluoranthene	**0.12**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[k]fluoranthene	**0.027**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]pyrene	**0.069**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Indeno(1,2,3-c,d)pyrene	**0.039**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Dibenz[a,h]anthracene	**0.016**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[g,h,i]perylene	**0.048**	0.0089	EPA 8270/SIM	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*73*	*39 - 103*				
Pyrene-d10	*87*	*39 - 115*				
Terphenyl-d14	*85*	*50 - 118*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS10A**					
Laboratory ID:	09-112-02					
Naphthalene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
2-Methylnaphthalene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
1-Methylnaphthalene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthylene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Fluorene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Phenanthrene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Anthracene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Fluoranthene	**0.018**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Pyrene	**0.024**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]anthracene	**0.014**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Chrysene	**0.018**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[b]fluoranthene	**0.029**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[k]fluoranthene	**0.0095**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]pyrene	**0.031**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Indeno(1,2,3-c,d)pyrene	**0.023**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[g,h,i]perylene	**0.034**	0.0083	EPA 8270/SIM	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*39 - 103*				
Pyrene-d10	*88*	*39 - 115*				
Terphenyl-d14	*79*	*50 - 118*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS11A**					
Laboratory ID:	09-112-03					
Naphthalene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
2-Methylnaphthalene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
1-Methylnaphthalene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthylene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Fluorene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Phenanthrene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Anthracene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Pyrene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]anthracene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Chrysene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[b]fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[k]fluoranthene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]pyrene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Dibenz[a,h]anthracene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[g,h,i]perylene	**ND**	0.0085	EPA 8270/SIM	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*39 - 103*				
Pyrene-d10	*86*	*39 - 115*				
Terphenyl-d14	*79*	*50 - 118*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS12A**					
Laboratory ID:	09-112-04					
Naphthalene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
2-Methylnaphthalene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
1-Methylnaphthalene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Acenaphthylene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Acenaphthene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Fluorene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Phenanthrene	**0.028**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Anthracene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Fluoranthene	**0.082**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Pyrene	**0.062**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Benzo[a]anthracene	**0.017**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Chrysene	**0.037**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Benzo[b]fluoranthene	**0.046**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Benzo[k]fluoranthene	**0.013**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Benzo[a]pyrene	**0.023**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Indeno(1,2,3-c,d)pyrene	**0.021**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Benzo[g,h,i]perylene	**0.029**	0.0083	EPA 8270/SIM	7-16-09	7-17-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*39 - 103*				
Pyrene-d10	*88*	*39 - 115*				
Terphenyl-d14	*87*	*50 - 118*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0716S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*39 - 103*				
Pyrene-d10	*87*	*39 - 115*				
Terphenyl-d14	*80*	*50 - 118*				

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Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Laboratory Reference: 0907-112
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0716S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0708**	**0.0729**	0.0833	0.0833	85	88	31 - 102	3	30	
Acenaphthylene	**0.0675**	**0.0698**	0.0833	0.0833	81	84	48 - 104	3	26	
Acenaphthene	**0.0700**	**0.0719**	0.0833	0.0833	84	86	46 - 105	3	26	
Fluorene	**0.0695**	**0.0717**	0.0833	0.0833	83	86	52 - 107	3	25	
Phenanthrene	**0.0706**	**0.0748**	0.0833	0.0833	85	90	58 - 104	6	21	
Anthracene	**0.0632**	**0.0678**	0.0833	0.0833	76	81	56 - 103	7	21	
Fluoranthene	**0.0701**	**0.0747**	0.0833	0.0833	84	90	65 - 111	6	20	
Pyrene	**0.0757**	**0.0806**	0.0833	0.0833	91	97	65 - 115	6	20	
Benzo[a]anthracene	**0.0759**	**0.0811**	0.0833	0.0833	91	97	55 - 111	7	19	
Chrysene	**0.0754**	**0.0804**	0.0833	0.0833	91	97	58 - 121	6	19	
Benzo[b]fluoranthene	**0.0777**	**0.0804**	0.0833	0.0833	93	97	57 - 120	3	20	
Benzo[k]fluoranthene	**0.0738**	**0.0766**	0.0833	0.0833	89	92	52 - 123	4	21	
Benzo[a]pyrene	**0.0739**	**0.0784**	0.0833	0.0833	89	94	49 - 106	6	22	
Indeno(1,2,3-c,d)pyrene	**0.0822**	**0.0859**	0.0833	0.0833	99	103	56 - 125	4	22	
Dibenz[a,h]anthracene	**0.0836**	**0.0878**	0.0833	0.0833	100	105	55 - 129	5	24	
Benzo[g,h,i]perylene	**0.0833**	**0.0874**	0.0833	0.0833	100	105	55 - 122	5	23	
Surrogate:										
2-Fluorobiphenyl					*78*	*79*	*39 - 103*			
Pyrene-d10					*87*	*91*	*39 - 115*			
Terphenyl-d14					*79*	*83*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 17, 2009
Samples Submitted: July 15, 2009
Lab Traveler: 0907-112
Project: 06-03385-001

% MOISTURE

Date Analyzed: 7-16-09

Client ID	Lab ID	% Moisture
CS9A	07-112-01	25
CS10A	07-112-02	20
CS11A	07-112-03	22
CS12A	07-112-04	20

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

07-112

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra
SAMPLED BY: GC/BH	DELIVERY METHOD: Drop-off

LABORATORY:	REQUESTED COMPLETION DATE:	TOTAL # OF CONTAINERS:
OnSite	2-DAY	

LAB USE:

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270/SIM	NWTPH-Dx	Hold												% Moisture
1	CS9A	7/15/09	1050	Soil	1	X	X														X
2	CS10A	7/15/09	1135	Soil	1	X	X														
3	CS11A	7/15/09	1215	Soil	1	X	X														
4	CS12A	7/15/09	1315	Soil	1	X	X														
5	CS9B	7/15/09	1100	Soil	1				X												
6	CS10B	7/15/09	1140	Soil	1				X												
7	CS11B	7/15/09	1220	Soil	1				X												
8	CS12B	7/15/09	1320	Soil	1				X												

REMARKS: Full data package deliverable. 2 day turn around
HOLD all "B" samples pending results from "A".

2-DAY

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		7/15/09 / 1425	Bob Walker		7-15-09 / 1425
RELINQUISHED BY (NAME/CO.):	SIGNATURE: Bob	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

gc /o:\proj\y2006\06-03385-001\data\cocs\7-15-09 coc.doc

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 21, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0907-121

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 16, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 16, 2009
Laboratory Reference: 0907-121
Project: 06-03385-001

Case Narrative

Samples were collected on July 16, 2009, and received by the laboratory on July 16, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 16, 2009
Lab Traveler: 0907-121
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Concrete
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**A/BC1**					
Laboratory ID:	07-121-01					
Aroclor 1016	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**0.096**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*72*	*33-122*				
Client ID:	**A/BC2**					
Laboratory ID:	07-121-02					
Aroclor 1016	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 16, 2009
Lab Traveler: 0907-121
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Solids
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0716S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-112-02										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.358**	**0.372**	0.500	0.500	ND	**72**	**74**	24-125	4	18	
Surrogate:											
DCB						*73*	*75*	*33-122*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 16, 2009
Lab Traveler: 0907-121
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**WIPE5**					
Laboratory ID:	07-121-03					
Aroclor 1016	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*68-125*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 16, 2009
Lab Traveler: 0907-121
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0716P1					
Aroclor 1016	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1221	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1232	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1242	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1248	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1254	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Aroclor 1260	**ND**	2.0	EPA 8082	7-16-09	7-16-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*91*	*68-125*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0716P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**19.8**	**19.8**	20.0	20.0	N/A	**99**	**99**	86-120	0	5	
Surrogate:											
DCB						*97*	*99*	*68-125*			

This report pertains to the samples analyzed in accordance with the chain of custody,
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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

07-121

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

CHAIN OF CUSTODY RECORD

PROJECT NAME:	PROJECT NUMBER:	CLIENT:
GTownFlume2	06-03385-001	SPU

REPORT TO:	COPY TO:
Peter Jowise	Gina Catarra

SAMPLED BY:	DELIVERY METHOD:
GC	Drop-off

LABORATORY:	REQUESTED COMPLETION DATE:	TOTAL # OF CONTAINERS:
OnSite	Same Day	2

LAB USE:

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270/SIM	NWTPH-Dx
1	A/BC1	7/16/09	1120	Concrete	1	X		
2	A/BC2	7/16/09	1130	Concrete	1	X		
3	WIPE5	7/16/09	1345	WIPE SAMPLE	1	X		

REMARKS: Full data package deliverable. Results by FRIDAY COB.

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
BRADY HANSON AEC	[signature]	7/16/09 / 1500	[signature]	Blair Goodrich	7/16/09 1500
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 21, 2009

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 06-03385-001
Laboratory Reference No. 0907-130

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 17, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

Case Narrative

Samples were collected on July 17, 2009, and received by the laboratory on July 17, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Lab Traveler: 0907-130
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS13A**					
Laboratory ID:	07-130-01					
Aroclor 1016	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1221	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1232	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1242	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1248	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1254	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1260	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*69*	*33-122*				
Client ID:	**CS14A**					
Laboratory ID:	07-130-02					
Aroclor 1016	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1221	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1232	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1242	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1248	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1254	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1260	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*75*	*33-122*				
Client ID:	**CS15A**					
Laboratory ID:	07-130-03					
Aroclor 1016	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Aroclor 1221	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Aroclor 1232	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Aroclor 1242	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Aroclor 1248	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Aroclor 1254	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Aroclor 1260	**ND**	0.062	EPA 8082	7-17-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*80*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Lab Traveler: 0907-130
Project: 06-03385-001

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS16A**					
Laboratory ID:	07-130-04					
Aroclor 1016	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1221	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1232	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1242	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1248	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1254	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Aroclor 1260	**ND**	0.063	EPA 8082	7-17-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*33-122*				
Client ID:	**CS17A**					
Laboratory ID:	07-130-05					
Aroclor 1016	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Aroclor 1221	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Aroclor 1232	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Aroclor 1242	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Aroclor 1248	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Aroclor 1254	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Aroclor 1260	**ND**	0.060	EPA 8082	7-17-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*78*	*33-122*				
Client ID:	**CS18A**					
Laboratory ID:	07-130-06					
Aroclor 1016	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1221	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1232	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1242	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1248	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1254	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Aroclor 1260	**ND**	0.066	EPA 8082	7-17-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*83*	*33-122*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Lab Traveler: 0907-130
Project: 06-03385-001

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717S1					
Aroclor 1016	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Aroclor 1221	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Aroclor 1232	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Aroclor 1242	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Aroclor 1248	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Aroclor 1254	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Aroclor 1260	**ND**	0.050	EPA 8082	7-14-09	7-20-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*95*	*33-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-130-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.345**	**0.411**	0.500	0.500	ND	**69**	**82**	24-125	17	18	
Surrogate:											
DCB						*70*	*86*	*33-122*			

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS13A**					
Laboratory ID:	09-130-01					
Naphthalene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**0.011**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**0.013**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*39 - 103*				
Pyrene-d10	*91*	*39 - 115*				
Terphenyl-d14	*89*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS14A**					
Laboratory ID:	09-130-02					
Naphthalene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*65*	*39 - 103*				
Pyrene-d10	*93*	*39 - 115*				
Terphenyl-d14	*86*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS15A**					
Laboratory ID:	09-130-03					
Naphthalene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0082	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*70*	*39 - 103*				
Pyrene-d10	*90*	*39 - 115*				
Terphenyl-d14	*87*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS16A**					
Laboratory ID:	09-130-04					
Naphthalene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0084	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*69*	*39 - 103*				
Pyrene-d10	*86*	*39 - 115*				
Terphenyl-d14	*84*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS17A**					
Laboratory ID:	09-130-05					
Naphthalene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0080	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*39 - 103*				
Pyrene-d10	*91*	*39 - 115*				
Terphenyl-d14	*88*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CS18A**					
Laboratory ID:	09-130-06					
Naphthalene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0088	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*69*	*39 - 103*				
Pyrene-d10	*90*	*39 - 115*				
Terphenyl-d14	*87*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0720S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Fluorene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Anthracene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Pyrene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Chrysene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	7-20-09	7-21-09	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*39 - 103*				
Pyrene-d10	*99*	*39 - 115*				
Terphenyl-d14	*94*	*50 - 118*				

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-130-05										
	MS	MSD	MS	MSD		MS	MSD				
Naphthalene	**0.0693**	**0.0797**	0.0833	0.0833	ND	83	96	29 - 104	14	27	
Acenaphthylene	**0.0788**	**0.0873**	0.0833	0.0833	ND	95	105	44 - 111	10	20	
Acenaphthene	**0.0746**	**0.0822**	0.0833	0.0833	ND	90	99	45 - 108	10	19	
Fluorene	**0.0752**	**0.0798**	0.0833	0.0833	ND	90	96	49 - 113	6	16	
Phenanthrene	**0.0741**	**0.0773**	0.0833	0.0833	ND	89	93	43 - 124	4	36	
Anthracene	**0.0748**	**0.0748**	0.0833	0.0833	ND	90	90	51 - 115	0	17	
Fluoranthene	**0.0765**	**0.0779**	0.0833	0.0833	ND	92	94	42 - 140	2	27	
Pyrene	**0.0800**	**0.0841**	0.0833	0.0833	ND	96	101	40 - 140	5	30	
Benzo[a]anthracene	**0.0799**	**0.0821**	0.0833	0.0833	ND	96	99	33 - 134	3	21	
Chrysene	**0.0760**	**0.0774**	0.0833	0.0833	ND	91	93	32 - 141	2	21	
Benzo[b]fluoranthene	**0.0851**	**0.0830**	0.0833	0.0833	ND	102	100	35 - 139	2	32	
Benzo[k]fluoranthene	**0.0833**	**0.0877**	0.0833	0.0833	ND	100	105	44 - 124	5	23	
Benzo[a]pyrene	**0.0836**	**0.0858**	0.0833	0.0833	ND	100	103	34 - 130	3	28	
Indeno(1,2,3-c,d)pyrene	**0.0826**	**0.0854**	0.0833	0.0833	ND	99	103	50 - 127	3	20	
Dibenz[a,h]anthracene	**0.0821**	**0.0848**	0.0833	0.0833	ND	99	102	58 - 122	3	15	
Benzo[g,h,i]perylene	**0.0797**	**0.0824**	0.0833	0.0833	ND	96	99	47 - 126	3	21	
Surrogate:											
2-Fluorobiphenyl						*78*	*89*	*39 - 103*			
Pyrene-d10						*93*	*94*	*39 - 115*			
Terphenyl-d14						*87*	*89*	*50 - 118*			

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Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Laboratory Reference: 0907-130
Project: 06-03385-001

PAHs by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0720S1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0738**	**0.0752**	0.0833	0.0833	89	90	31 - 102	2	30	
Acenaphthylene	**0.0800**	**0.0812**	0.0833	0.0833	96	97	48 - 104	1	26	
Acenaphthene	**0.0744**	**0.0760**	0.0833	0.0833	89	91	46 - 105	2	26	
Fluorene	**0.0746**	**0.0761**	0.0833	0.0833	90	91	52 - 107	2	25	
Phenanthrene	**0.0731**	**0.0731**	0.0833	0.0833	88	88	58 - 104	0	21	
Anthracene	**0.0697**	**0.0740**	0.0833	0.0833	84	89	56 - 103	6	21	
Fluoranthene	**0.0757**	**0.0762**	0.0833	0.0833	91	91	65 - 111	1	20	
Pyrene	**0.0817**	**0.0821**	0.0833	0.0833	98	99	65 - 115	0	20	
Benzo[a]anthracene	**0.0821**	**0.0813**	0.0833	0.0833	99	98	55 - 111	1	19	
Chrysene	**0.0777**	**0.0775**	0.0833	0.0833	93	93	58 - 121	0	19	
Benzo[b]fluoranthene	**0.0837**	**0.0815**	0.0833	0.0833	100	98	57 - 120	3	20	
Benzo[k]fluoranthene	**0.0882**	**0.0840**	0.0833	0.0833	106	101	52 - 123	5	21	
Benzo[a]pyrene	**0.0811**	**0.0840**	0.0833	0.0833	97	101	49 - 106	4	22	
Indeno(1,2,3-c,d)pyrene	**0.0858**	**0.0855**	0.0833	0.0833	103	103	56 - 125	0	22	
Dibenz[a,h]anthracene	**0.0862**	**0.0855**	0.0833	0.0833	103	103	55 - 129	1	24	
Benzo[g,h,i]perylene	**0.0828**	**0.0831**	0.0833	0.0833	99	100	55 - 122	0	23	
Surrogate:										
2-Fluorobiphenyl					*81*	*83*	*39 - 103*			
Pyrene-d10					*92*	*95*	*39 - 115*			
Terphenyl-d14					*90*	*89*	*50 - 118*			

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 21, 2009
Samples Submitted: July 17, 2009
Lab Traveler: 0907-130
Project: 06-03385-001

% MOISTURE

Date Analyzed: 7-17-09

Client ID	Lab ID	% Moisture
CS13A	07-130-01	24
CS14A	07-130-02	21
CS15A	07-130-03	19
CS16A	07-130-04	21
CS17A	07-130-05	17
CS18A	07-130-06	24

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

HERRERA ENVIRONMENTAL CONSULTANTS
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
(206) 441-9080
FAX (206) 441-9108

07-130

CHAIN OF CUSTODY RECORD

PROJECT NAME: GTownFlume2	PROJECT NUMBER: 06-03385-001	CLIENT: SPU
REPORT TO: Peter Jowise		COPY TO: Gina Catarra
SAMPLED BY: GC/BH		DELIVERY METHOD: Drop-off
LABORATORY: OnSite	REQUESTED COMPLETION DATE: 2-DAY	TOTAL # OF CONTAINERS: 12
LAB USE:		

ANALYSES REQUESTED

	SAMPLE ID:	DATE:	TIME:	SAMPLE DESCRIPTION	# OF CONTAINERS:	PCBs by EPA 8082	PAHs by EPA 8270/SIM	NWTPH-Dx	Hold	% MOISTURE
1	CS13A	7/16/09	1027	Soil	1	X	X			X
2	CS14A	7/16/09	1056	Soil	1	X	X			
3	CS15A	7/16/09	1125	Soil	1	X	X			
4	CS16A	7/16/09	1155	Soil	1	X	X			
5	CS17A	7/16/09	1215	Soil	1	X	X			
6	CS18A	7/16/09		Soil	1	X	X			
7	CS13B	7/16/09	1030	Soil	1				X	
8	CS14B	7/16/09	1100	Soil	1				X	
9	CS15B	7/16/09	1130	Soil	1				X	
10	CS16B	7/16/09	1200	Soil	1				X	
11	CS17B	7/16/09	1220	Soil	1				X	
12	CS18B	7/16/09		Soil	1				X	

REMARKS: Full data package deliverable. 2 day turn around
HOLD all "B" samples pending results from "A".

RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:
Gina Catarra / Herrera Env.		7/16/09 / 1337	M. VOUN / OSE		7/17/09 1337
RELINQUISHED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:	RECEIVED BY (NAME/CO.):	SIGNATURE:	DATE/TIME:

APPENDIX F

EPA 401 Certification Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
WASHINGTON OPERATIONS OFFICE
300 Desmond Drive SE, Suite 102
Lacey, Washington 98503

MEMORANDUM

March 12, 2008

SUBJECT: Need for 401 Certification for cleaning and replacement of Georgetown Steam Plant Flume

FROM: Erika Hoffman (ARU)

TO: Karen Keeley (CERCLA)

I have reviewed the 100% design information (Georgetown Steam Plant Flume Slip 4 Outfall Work Plan) that you have provided for this project. The flume outfall is located at the head of Slip 4 on the Lower Duwamish River. The work associated with this project that will be conducted below MHHW includes: the removal of sediments from in front of the outfall, repairs to the outfall face, installation of a new splash pad and outfall pipe, and bank restoration. All the aforementioned work will take place during sufficiently low tides so that no actual in-water work will be required.

Based on review of the design information on this project, I have determined that the proposed work can be authorized under Nationwide (NW) Permit #19 (minor discharges less than 25 cubic yards). Since NW #19 is automatically certified for 401 in Washington State, there is no additional 401 Certification required. This project qualifies for automatic certification because it meets the general conditions imposed by Washington State, namely:

- The work is not be likely to cause or contribute to violation of a State WQ or SMS standard
- The work will not cause further exceedances in an impaired waterway
- The work will not affect difficult to replace wetlands

Regarding work windows, it is my understanding that NMFS (March 6, 2008 letter) has set no timing restrictions for this project since it involves working in the dry. Thus, the work can occur at any time.

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APPENDIX G

Slip 4 404 Determination

Substantive Compliance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act Slip 4 Duwamish Waterway, Seattle, WA

SUMMARY OF FINDINGS

1. Introduction.
This document is a record of the U.S. Environmental Protection Agency's (EPA's) evaluation and findings regarding the Slip 4 Early Action Area (EAA) removal action, located within the boundaries of the Lower Duwamish Waterway (LDW) Superfund Site in Seattle, WA (Figure 1). This evaluation is pursuant to requirements of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, and is intended to support and supplement the engineering evaluation/cost analysis (EE/CA) (February, 2006) for this project. This document contains a summary of findings, an evaluation of compliance with the Section 404(b)(1) Guidelines [40 CFR §230] (Attachment 1), and an evaluation of compliance with the Regulatory Programs of the U.S. Army Corps of Engineers (USACE) [33 CFR §320-330] (Attachment 2). The removal actions covered by this document are the dredging of contaminated marine sediments, piling and bulkhead, and debris removal, excavation of bank material, and the placement of clean fill materials. This technical memorandum was prepared as a draft on March 8, 2006 and was finalized after EPA signed the Action Memorandum (May 5, 2006) for a non-time-critical removal action (NTCRA) at the Slip 4 EAA.

The information contained in this document reflects the findings of the project record. Specific sources of information include the following:

a. Engineering Evaluation/Cost Analysis for the Slip 4 Early Action Area (Integral 2006)
b. Lower Duwamish Waterway Remedial Investigation (Windward 2003c)
c. Summary of Existing Information and Identification of Data Gaps Report (SEA 2004)
d. Cruise and Data Report (Integral 2004a)
e. Revised Draft Technical Memorandum on Proposed Boundary of the Removal Action (Integral 2005)
f. Site characterization studies (NOAA 1998; Weston 1999; Exponent 1998; Parametrix 2005)
g. Candidate Technologies Memorandum (RETEC 2005) and other studies such as the Puget Sound Confined Disposal Site Study (USACE 2003)
h. Administrative Order on Consent (AOC) (USEPA 2000)

i. Project Biological Assessment in support of the Endangered Species Act. (In Progress)

2. Background Information.
The City of Seattle and King County are conducting a sediment removal action for early cleanup of contaminated sediments in the Slip 4 EAA. Slip 4 is located approximately 2.8 miles (river mile 2.8) from the southern end of Harbor Island on the east bank of the Duwamish river. The goal of this sediment cleanup is to significantly reduce unacceptable risks to the aquatic environment resulting from potential exposure to contaminants in sediments in the slip. This cleanup will also reduce potential human health risks associated with polychlorinated biphenyls (PCBs) in sediment within the LDW.

The LDW was added to EPA's National Priorities List (aka Superfund) in September 2001 because of chemical contaminants in sediments. The key parties involved in the LDW site are the Lower Duwamish Waterway Group (LDWG) (comprised of the City of Seattle, King County, the Port of Seattle, and The Boeing Company), EPA, and Washington Department of Ecology (Ecology). EPA is the lead regulatory agency for the sediment investigation and cleanup work under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Ecology is the lead regulatory agency for source control work. The LDWG is voluntarily conducting the LDW remedial investigation and feasibility study (RI/FS) under an AOC.

Information on the nature and extent of chemical distributions, obtained during the LDW Phase 1 RI, was used to identify candidate LDW locations for early cleanup action (Windward 2003a,b,c). Slip 4 was identified as a candidate early action site by EPA and Ecology (Windward 2003a) based primarily on elevated concentrations of PCBs. The existing information for the Slip 4 EAA was compiled by SEA (2004) and included descriptions of the physical environment, potential chemical sources, sediment data collections, and existing habitat and human uses of the slip. Sediment and bank chemistry data were collected in March and July 2004 (Integral 2004a; Landau 2004). Additional sediment and bank chemistry data were collected in 2005 (Parametrix 2005; CH2M Hill 2005).

EPA determined that Slip 4 meets the criteria for initiating a removal action under CERCLA and that the proposed action is non-time-critical. The City of Seattle and King County have characterized Slip 4 and prepared an EE/CA under Tasks 9 and 10 of the LDWG AOC and associated Statement of Work, and per requirements of the Slip 4 Revised Work Plan (Integral 2004b).

The EE/CA includes a streamlined ecological risk assessment that shows that PCBs in surface sediments within the Slip 4 EAA clearly exceed promulgated Washington State Sediment Management Standards (SMS) standards [(Sediment Quality Standards (SQS)

and Cleanup Screening Levels (CSL)] for protection of benthic organisms. The EE/CA also includes a streamlined evaluation of human health risk. The need for a removal action was supported by the qualitative human health risk assessment which identified three primary routes for human exposure to chemicals in LDW sediments:

- Contact with sediment during commercial netfishing (adults)
- Contact with intertidal sediment during beach play (children)
- Consumption of fish and shellfish (tribal and Asian and Pacific Islander adults and children).

The preliminary development and rationale for the Slip 4 removal action boundary is described in the Revised Draft Technical Memorandum on Proposed Boundary of the Removal Action (Integral 2005). Certain portions of this boundary were revised in the EE/CA (Integral 2006) to address certain embankment and under-pier areas. The removal boundary is based primarily on the areal extent of PCBs because the characterization data showed that PCBs are the primary contaminant of concern. The removal boundaries were developed with consideration of the SMS criteria corresponding to a low likelihood of adverse effects on biological resources (the SQS for PCBs is 12 mg/kg OC). Figure 3-1 in the EE/CA (Integral 2006) shows the removal boundaries. Bank soils with elevated PCB concentrations exist along the eastern shoreline of Slip 4. The banks comprise eroding, low-bank bluffs and dilapidated bulkheads and likely include fill material that may be a historic and/or ongoing source to Slip 4 sediments, and are therefore included in the removal boundaries. The boundaries of the removal action may be slightly modified in response to results of pre-design sediment sampling efforts scheduled for June 2006.

Areas in the LDW outside of the Slip 4 removal action boundary will continue to be evaluated by the LDWG, EPA, and Ecology under the LDW RI/FS.

3. Description of the Action. (See also Section 8c—Alternative 2.)
The removal action will clean up contaminated sediments within the Slip 4 EAA, which encompasses approximately the northern half, or head, of Slip 4. Based on the streamlined ecological and human health risk evaluations, the EE/CA defined the following removal action objective (RAO) for the Slip 4 removal action:

- Reduce the concentrations of contaminants in post-cleanup surface sediments [biologically active zone (0–10 cm)] to below the state Sediment Quality Standards (SQS) for PCBs and other chemicals of interest.

The EE/CA also states that contaminated source material in bank areas adjacent to the removal boundary and in the outfall segment of the Georgetown flume will be addressed such that contaminants will not be released into the waterway or result in unacceptable exposure to human and ecological receptors.

Figures 5-6 through 5-9 in the EE/CA (Integral 2006) depict the project elements, which are also shown on Figure 2 of this document. The project includes the following actions:

- Removal and disposal of approximately 500 tons of piling, failed bulkheads, and debris. All piles will be pulled or cut at the mudline prior to capping, depending on the condition of the pile.
- Dredging approximately 4,300 cubic yards (cy) of contaminated sediments over approximately 0.7 acres of intertidal habitat [below mean higher high water (MHHW); MHHW is +11.1 feet mean lower low water (MLLW) for the site].
- Excavating approximately 9,700 cy of contaminated soils/sediments along approximately 700 linear feet of intertidal embankment habitats.[1]
- Removal of contaminated sediments from within the Georgetown Flume outfall pipe.
- Placement of sediment caps over the entire Slip 4 EAA, covering approximately 3.5 acres of intertidal and subtidal habitats and approximately 0.2 acres of riparian habitat. The estimated total volume of fill materials to be placed as caps is 27,000 cy.

All dredged/excavated materials, piling, bulkhead material, and debris will be disposed of off-site at an approved commercial upland disposal site.

The fill material for capping will consist of clean, sandy, or coarser materials from upland source(s). All cap materials and thicknesses will be determined in design. Erosion protection requirements will vary by location. At the head of Slip 4, from Station 0+00 to Station 2+50, the cap will be appropriately graded and designed to resist erosive forces from outfall flows and allow proper drainage. On embankments and in locations with high erosive forces, the cap would typically consist of layers of filter material (an engineered sandy gravel), quarry spalls or riprap, and a surface layer of sand and gravel for improved habitat quality. From Station 2+50 to the southern removal area boundary, the cap will consist of sand or sandy gravel and may include an armoring layer in certain areas as needed to resist erosive forces from propeller wash.

It is anticipated that the cap will typically be 3 feet thick. In the eastern portion of the slip from Station 2+00 to 6+00, the cap will be up to 5 feet thick to increase the upper intertidal habitat area and to allow potential future shellfishing activities in accordance with Native American shellfishing treaty rights. All cap materials and thicknesses will be determined in design.

As discussed in the EE/CA, Slip 4 is a net depositional environment. Following construction, accumulations of fine-grained sediments are expected to deposit on top of

[1] Approximately 70 percent of the bank excavation material is considered sediment and 30 percent is considered soil.

the constructed cap surface over time. This sediment deposition will change the post-construction substrate over time, affecting the types and abundance of organisms that live in the sediments. The fine-grained deposits may improve habitat quality over time, even in areas with cap armoring.

The Slip 4 NTCRA is scheduled to occur during the fall 2007/winter 2008 construction season, and construction is anticipated to take 12-16 weeks. In-water work will occur consistent with identified "fish window" closure periods, to minimize impacts to migratory juvenile salmonids. Intertidal work will be done at low tides, to the extent practicable, to minimize water quality and fishery impacts.

4. Description of the Project Site.
Detailed site descriptive information can be found in the EE/CA (Integral 2006); the following presents a selective summary of this information.

Slip 4 is approximately 1,400 feet long, with an average width of 200 feet. It encompasses approximately 6.4 acres from the mouth to the confluence with the LDW main channel. The slip is relatively shallow, ranging from +5 feet MLLW at the head of the slip to approximately -20 feet MLLW at the mouth. The shallowest depths occur at the head and along the eastern shoreline where the bottom relief gradually slopes to the current and historical dredging boundary located approximately halfway across the slip.

The Slip 4 removal action boundaries encompass approximately 3.6 acres[2] in the northern half, or head, of Slip 4. Within the removal action boundaries, sandy mud or muddy shallow subtidal habitat exists within the general footprint of the inner berth at depths of -4 to -13 feet MLLW. Intertidal mudflat habitat exists at the head and on the east side of the slip. Surrounding these aquatic habitats are embankments that transition from about +5 feet MLLW to the uplands at about +18 feet MLLW. Bank soils consist of a surface fill layer (4 to 14 feet in depth), underlain by tideflat and river deposits. Nearly all of the Slip 4 shoreline has been highly modified and includes an over-water pier, riprap (some mixed with sand and gravel), wooden bulkheads, and miscellaneous fill. The small areas of unarmored shoreline are generally steep, eroded slopes, vegetated by mixed grasses and shrubs.

Properties immediately adjacent to Slip 4 are currently owned by Crowley Marine Services, First South Properties, and The Boeing Company. Aquatic land uses in Slip 4 include the Crowley pier and berthing areas. There have been no previous removal actions or sediment cleanup activities in Slip 4. Known dredging events were in 1981 and 1996 when sediments on the west side of the slip were removed to allow ship and barge access to the berthing area.

[2] The project will encompass approximately 3.67 acres, which includes the defined removal action boundaries and a small area of existing nearshore uplands that will be over-excavated at the head of the slip for habitat improvements.

Most of the NTCRA work will be completed on submerged land currently owned by Crowley Marine Services. Crowley's land within the EAA includes a berthing area that has a permitted depth of -15 feet MLLW. This area was last dredged in 1981 under USACE permit #071-OYB-2-006580.

Prior to the cleanup, the City intends to purchase or otherwise acquire rights to the portion of Crowley's land within the EAA. Portions of the bank work (above +10 feet MLLW) will extend onto property owned by First South Properties. A small portion of the bank work may extend onto property owned by The Boeing Company.

5. Project Need. Actual or threatened releases of hazardous substances from Slip 4 Early Action Area, if not addressed, represent an imminent and substantial endangerment to public health, welfare, or the environment. These hazardous substances have contaminated the sediments of Slip 4. The primary threat from contaminated sediments is through exposure of resident benthic communities living at or near the sediment-water interface, fish that feed on benthic organisms or live in close association with surface sediments, and humans who consume organisms that have been exposed to the sediments and have accumulated contaminants.

6. Project Purpose. The project purpose is to significantly reduce the potential risk to human health and/or marine ecological receptors resulting from exposure to contaminants present in sediment in the project area.

7. Aquatic Resource Impact Evaluation. This document evaluates the aquatic impacts associated with the removal action (i.e., dredging, excavating, capping, piling and bank removal at the project site).

8. Availability of Less Environmentally Damaging Practicable Alternatives to Meet the Project Purpose. The EE/CA provides a detailed description of potential alternatives for this project, which are summarized below:

a) No Action Alternative. This alternative would fail to significantly reduce the potential risk to human health and/or marine ecological receptors and therefore fails to meet the project purpose. EPA rejected this alternative from further consideration.

b) Alternative 1 (Capping and Habitat Enhancement). This alternative is based on an approach of containment of contaminants by capping in place while minimizing excavation and the need for offsite disposal. Substantial sediment deposits extending up the Georgetown Steam Plant Flume (GSTPF) outfall would be removed. Approximately 700 cy of sediment would be excavated near outfalls at the head of Slip 4 to accommodate a cap while allowing proper outfall drainage. Approximately 7,300 cy of sediment/soil[3] along 700 feet of shoreline would be excavated an average of 3 feet to prepare a uniform

[3] For each alternative, approximately 70 percent of the bank excavation material is considered sediment and 30 percent is considered soil.

slope no steeper than 2H:1V for capping. Approximately 250 feet of this shoreline would be over-excavated to an approximate 3.5V:1H slope to expand and enhance intertidal habitat (resulting in the net creation of 0.06 acres of new aquatic habitat). An estimated 400 tons of piling and debris would be removed and disposed of offsite. Engineered sediment caps would be constructed over the entire Slip 4 removal area (and over-excavated embankment areas), covering 3.66 acres. Portions of the cap would be thickened and graded to expand and enhance shallow subtidal and intertidal habitat—this would include thickening portions of the cap to a thickness of up to 5 feet. The engineered caps would contain the remaining contaminated sediments, would prevent bioturbation of contaminated sediments, and would provide a clean surface for recolonization by benthic organisms. The total volume of contaminated sediments and soils that would be excavated and removed from the site is approximately 8,100 cy. The estimated total volume of fill is 27,000 cy. Under Alternative 1, the final grades in most areas would be
3–5 feet higher than existing grades. Alternative 1 limits the landowner's potential use of a permitted berthing area in the inner portion of the slip. As compensation, the City of Seattle is willing to purchase or otherwise acquire rights to the affected property.

c) Alternative 2 (Capping, Targeted Sediment Removal and Habitat Enhancement). This alternative includes targeted removal of sediments with the highest concentrations of contaminants, along with capping. Substantial sediment deposits extending up the GSTPF outfall would be removed. An area from the head of the slip to approximately Station 3+00 would be dredged a minimum of 3 feet, removing approximately 4,300 cy of sediment. Approximately 9,700 cy of sediment/soil along 700 feet of shoreline would be excavated an average of 3 feet to prepare a uniform slope no steeper than 2H:1V for capping. Approximately 250 feet of this shoreline would be over-excavated to an approximate 3.5V:1H slope to expand and enhance intertidal habitat (resulting in the net creation of 0.08 acres of new aquatic habitat). An estimated 500 tons of piling and debris would be removed and disposed of offsite. Engineered sediment caps would be constructed over the entire Slip 4 removal area (and over-excavated embankment areas), covering 3.67 acres. Portions of the cap would be thickened and graded to expand and enhance shallow subtidal and intertidal habitat—this would include thickening portions of the cap to a thickness of up to 5 feet. The engineered caps would contain the remaining contaminated sediments, would prevent bioturbation of contaminated sediments, and would provide a clean surface for recolonization by benthic organisms. The total volume of contaminated sediments and soils that would be excavated and removed from the site is approximately 14,000 cy. The estimated total volume of fill is 27,000 cy. Under Alternative 2, the final grades in the intertidal area at the head of the slip (Station 0+00 to 2+50) would approximately match existing grades. Areas south of Station 2+50 would be 3–5 feet higher than existing grades. Alternative 2 limits the landowner's potential use of a permitted berthing area in the inner portion of the slip. As compensation, the City of Seattle is willing to purchase or otherwise acquire rights to the affected property.

d) Alternative 3 (Inner Berth Sediment Removal and Capping). This alternative includes removal of contaminated sediments in the inner berth and at the head of Slip 4, along with capping outside of the inner berth. Substantial sediment deposits extending up the GSTPF outfall would be removed. An area from the head of the slip to approximately Station 3+00 would be dredged a minimum of 3 feet. The inner berth would be dredged to -16 feet MLLW or deeper to restore permitted navigation depths and expose a clean sediment surface. The dredging would remove approximately 24,000 cy of sediment. Approximately 3,200 cy of sediment/soil along 550 feet of shoreline would be excavated an average of 3 feet to prepare a uniform slope no steeper than 2H:1V for capping. The bank excavation would ensure no net loss of aquatic habitat. An estimated 600 tons of piling and debris would be removed and disposed of offsite. Engineered sediment caps would be constructed outside of the inner berth, covering 2.5 acres. The engineered caps would contain the remaining contaminated sediments, would prevent bioturbation of contaminated sediments, and would provide a clean surface for recolonization by benthic organisms. The total volume of contaminated sediments and soils that would be excavated and removed from the site is approximately 27,000 cy. The estimated total volume of fill is 20,000 cy. Under Alternative 3, the final grades in the intertidal area at the head of the slip (Station 0+00 to 3+00) would approximately match existing grades. The inner berth would be deepened to sublittoral elevations (deeper than -10 feet MLLW). Areas east of the inner berth and south of Station 3+00 would be 3 feet higher than existing grades. Alternative 3 restores the historically permitted navigation depth in the inner berth.

e) Alternative 4 (Maximum Reasonable Sediment Removal and Capping). This alternative includes removal of the majority of contaminated sediments throughout the Slip 4 EAA. Under Alternative 4, all contaminated material would be removed where reasonably feasible, but the dredging would be limited in scope to minimize the potential for destabilizing adjacent slopes, structures, and outfalls. Substantial sediment deposits extending up the GSTPF outfall would be removed. The inner berth would be dredged to -16 feet MLLW or deeper to restore permitted navigation depths and expose a clean sediment surface. Areas outside the inner berth would be dredged to elevations where clean sediments are expected to be encountered, removing approximately 4 to 10 feet of sediment (dredge depths would be determined in design). The dredging would remove approximately 36,000 cy of sediment. Approximately 4,300 cy of sediment/soil along 550 feet of shoreline would be excavated an average of 3 feet to prepare a uniform slope no steeper than 2H:1V for capping. The bank excavation would ensure no net loss of aquatic habitat. An estimated 600 tons of piling and debris would be removed and disposed of offsite. To minimize loss of intertidal habitat caused by the dredging, backfill material would be placed outside of the inner berth, covering 2.5 acres. The backfill would also function as a cap to contain the remaining contaminated sediments, would prevent bioturbation of contaminated sediments, and would provide a clean surface for recolonization by benthic organisms. The total volume of contaminated sediments and soils that would be excavated and removed from the site is approximately 40,000 cy. The

estimated total volume of fill is 29,000 cy. Under Alternative 4, the final grades outside of the inner berth would approximately match existing grades. The inner berth would be deepened to sublittoral elevations. Alternative 4 restores the historically permitted navigation depth in the inner berth.

f) Maximum Feasible Removal Alternative. This alternative was considered to evaluate an approach of attempting to remove all of the contaminated sediments within Slip 4, with an objective of avoiding the need for capping. This alternative would expand the amount of dredging/excavation described under Alternative 4 to accomplish this objective. Site limitations (including slope stability; structural stability of piers, outfalls, and bulkheads; and depth of contamination) would require extensive engineering measures to accomplish complete removal of all contaminated material. These measures are described in detail in the EE/CA and would include sheetpile retaining walls, more extensive bank excavations, engineered outfall stabilization measures, diver-operated hydraulic dredging of the under-pier area, extensive confirmation sampling and contingency measures (such as overdredging), and more extensive backfilling. This alternative could require capping if contingency measures failed to remove all contaminated sediments. This approach offered no additional benefits in terms of effectiveness, could require two construction seasons to implement, and had substantially greater incremental costs than other, equally protective alternatives. EPA rejected this alternative from further consideration.

Findings. Alternatives 1 through 4 would each satisfy the RAO for the Slip 4 removal action by creating a post-construction surface that meets the cleanup standards and providing effective long-term containment of remaining material with engineered caps. EPA selected Alternative 2 for the following reasons:

- Alternative 2 removes material containing the highest PCB concentrations from Slip 4 and reliably contains the remaining contaminated materials with engineered caps. In the unlikely event of significant cap erosion, the potential for recontamination of surrounding areas is much lower compared to Alternative 1.
- Alternative 2 has a lower potential for releases of contaminated material to surrounding areas during construction and lesser short-term impacts to water quality compared to Alternatives 3 and 4.
- Alternative 2 results in the greatest habitat benefits among the alternatives:
  - The changes in elevation distributions and habitat function were evaluated both against the existing conditions and the historically permitted conditions (when the inner berth was deepened to a permitted depth of -15 feet MLLW in 1981). The historically permitted conditions represent an existing allowable use and are considered when determining the need for compensatory mitigation.
  - Relative to existing conditions, Alternative 2 expands shallow subtidal habitat by approximately 0.26 acres and expands intertidal habitat by

approximately 0.54 acres. This expansion is primarily through conversion of existing sublittoral habitat (deeper than -10 feet MLLW). Alternative 2 creates 0.08 acres of new aquatic habitat. Alternative 1 would expand shallow subtidal, intertidal, and total aquatic habitat by similar amounts, but would decrease lower intertidal (-4 to +4 feet MLLW) habitat by approximately 0.41 acres. In contrast, Alternatives 3 and 4 would both decrease existing shallow subtidal habitat by approximately 0.37 acres and decrease existing lower intertidal habitat by approximately 0.26–0.29 acres. These decreases are primarily through deepening of the inner berth to sublittoral elevations.

  - Relative to historically permitted conditions, Alternatives 1 and 2 expand total aquatic habitat, intertidal habitat, and shallow subtidal habitat. Alternatives 3 and 4 approximately reestablish the historically permitted habitat distributions.

- Alternative 2 requires less armoring than Alternatives 3 and 4, because future heavy tug operations would not be permitted in the removal action area. Therefore, the quality of habitat would be higher under Alternative 2 than under Alternatives 3 or 4.
- Alternative 2 requires less long-term maintenance than Alternatives 3 or 4 for two reasons: 1) the change in navigation uses will result in a decreased potential for erosional damage to cap materials; and, 2) the inner berth area would be expected to shoal over time under Alternatives 3 or 4, requiring periodic maintenance dredging. Alternative 2 is also easier to implement compared to Alternatives 3 and 4.
- Alternative 2 represents the most practical and cost-effective balance of contaminant removal and containment, while maximizing long-term effectiveness, preserving habitat, and minimizing potential long-term O&M requirements.

EPA determined that Alternative 2 meets the CERCLA cleanup standards. Ecology and other natural resource agencies are supportive of Alternative 2.

9. Significant Degradation, either Individually or Cumulatively, of the Aquatic Ecosystem.

a) Evaluation of Impacts on Ecosystem Function. EPA determined that dredging, excavation, and capping will result in temporary impacts to approximately 3.38 acres of existing aquatic habitat. The primary aquatic resource support functions associated with these habitats include feeding, resting, and refugia for migratory salmonids, foraging habitat for migratory and resident birds, food chain support for other marine fish species, and food chain support for small mammals. There will be an initial loss of benthic and

epibenthic organisms due to dredging and filling. The impacts associated with construction activities will be temporary. EPA expects the areas of clean sediment to rapidly recolonize after construction. EPA expects that ongoing sedimentation processes will result in the deposition of finer material on top of cap materials, which will facilitate recolonization of the area with a commensurate benthic community to that which will be lost/disturbed as a result of the removal construction activities. EPA expects this habitat to be fully functioning approximately 3 years after construction.

The post-construction surface sediment concentrations within the removal boundary will be at or below the SQS chemical criteria of the SMS (WAC 173-204-320) for all chemicals of interest. The SQS criteria correspond to a low likelihood of adverse effects on sediment-dwelling biological resources. Therefore, the post-construction surface will improve long-term benthic health.

The dredging, excavation, and capping will result in some conversions between elevation ranges, including sublittoral, shallow subtidal, lower intertidal, and upper intertidal. This action will cause a net shallowing of Slip 4 and will substantially expand both intertidal habitat areas (0.54-acre increase) and shallow subtidal habitat areas (0.25-acre increase) compared to existing conditions. The bank excavations at the head of the slip will result in a net increase in total aquatic habitat of approximately 0.08 acres.

The remedial action is not expected to jeopardize the continued existence of threatened and/or endangered species. The removal action is expected to be beneficial to threatened Puget Sound chinook and Coastal-Puget Sound bull trout by greatly reducing their potential exposure to PCBs and by increasing their available habitat. EPA will consult with the NOAA Fisheries and USFWS about the potential effects of removal activities and ways to minimize those effects. For this ESA consultation, a biological assessment will be completed as part of the removal design process to assess the potential effects of removal activities and ways to minimize adverse effects.

b) Evaluation of Impacts on Recreational, Aesthetic, and Economic Values. EPA finds that the work at Slip 4 Early Action Area will have no significant negative impact on the values provided by this aquatic ecosystem. Slip 4 is in an industrial waterway, however, and possible recreational activities within and near the slip may include kayaking, canoeing, and motorboating. Sport fishing within Slip 4 is possible, and Muckleshoot tribal members harvest salmon and steelhead in the vicinity of Slip 4 (St. Amant 2003, pers. comm.). As discussed in the previous section, the removal action is expected to be beneficial to salmonids. Construction will occur during EPA-approved environmental work windows. Recreational and navigational use of the area may be restricted during construction, but these impacts will not be significant and will be limited in duration. The Slip 4 removal action will result in the loss of historically permitted navigable depths in the inner berth area. However, Crowley has not used the inner berth for navigation in recent years and has sufficient berthing space in the middle and outer berths for their

water-dependent operations. EPA's removal action will substantially improve recreational, aesthetic, and economic values of the area in the long term.

Findings. EPA has evaluated all relevant aspects of the removal action and finds that the removal will not individually or cumulatively result in significant degradation of the aquatic ecosystem. EPA also finds that there will be no significant impacts, either cumulatively or individually, on the recreational, aesthetic, and economic values of the aquatic environment.

10. Determination on Inclusion of All Appropriate and Practicable Measures to Minimize Potential Harm to the Aquatic Environment.

a) Impact Avoidance and Minimization Measures. The removal action avoids and minimizes aquatic resources impacts to the maximum extent practicable while achieving the intended purpose of the removal action. Additional care will be taken during design and construction to ensure that temporary construction impacts are avoided and/or minimized to the maximum extent practicable. Such measures will include erosion and sedimentation controls, water quality protection measures, timing to take advantage of working at low tides ('in-the-dry'), and rapid execution of the project to minimize disturbance time. The potential for releases of material to the environment during construction would be minimal because a relatively small volume of contaminated material would be excavated or dredged, and much of the excavation would occur in the dry. Further, the entire Slip 4 EAA will subsequently be capped (see Figure 2).

b) Compensatory Mitigation Measures. The removal action will not result in any long-term loss of aquatic resources; will result in long-term gains in total aquatic habitat, intertidal habitat, and shallow subtidal habitat; and will ultimately enhance the functional values the area currently provides. The project will cause a temporary loss of benthic food sources through dredging, excavating, filling, and pile removal. However, the resulting clean surface is expected to rapidly recolonize with benthic organisms. As discussed in the EE/CA, Slip 4 is a net depositional environment. Following construction, accumulations of fine-grained sediments are expected to deposit on top of the constructed cap surface over time. This sediment deposition will change the post-construction substrate over time, affecting the types and abundance of organisms that live in the sediments. The fine-grained deposits may improve habitat quality over time, even in areas with cap armoring.

To compensate for the temporary habitat disruption, EPA will require that the placement of fill and cap materials be designed to provide maximum habitat benefit after placement, consistent with other design requirements such as erosion resistance. This will include the placement of suitable substrate materials that will support aquatic organisms, with specifics to be determined during the upcoming construction design phase.

Findings. EPA will take all appropriate and practicable steps during construction and monitoring of this project to minimize impacts to aquatic resources. EPA will monitor water quality during and after construction to ensure that any impacts to water quality will be temporary in nature and minimal in overall impact. EPA will observe in-water construction windows to ensure that impacts to migratory fish will be avoided or minimized. EPA will continue to review design documents for issues related to compliance with the substantive requirements of CWA 404(b)(1). EPA will subsequently modify or amend this document, as appropriate, when additional compliance/design information becomes available.

11. Other Factors in the Public Interest.

a) Need for the Project. Actual or threatened releases of hazardous substances from the Slip 4 EAA, if not addressed, represent an imminent and substantial endangerment to public health, welfare, or the environment (EE/CA, Integral 2006). These hazardous substances have contaminated the sediments of Slip 4. The primary threat from contaminated sediments is through exposure of resident benthic communities living at or near the sediment-water interface, fish that feed on benthic organisms or live in close association with surface sediments, and humans who consume organisms that have been exposed to the sediments and have accumulated contaminants.

b) Fish and Wildlife. The primary threat from contaminated sediments to fish and wildlife is through exposure of resident benthic communities living at or near the sediment-water interface. Fish and wildlife feed on benthic organisms or live in close association with surface sediments, which allows a pathway for contaminant exposure to both fish and wildlife species and to humans who consume these organisms. The project will significantly reduce the availability of bioaccumulative contaminants to biological resources. In addition, construction activities will minimize any short-term harm to fish and wildlife resources to the maximum extent practicable. The project has been coordinated with the Washington State and federal natural resource agencies and the Muckleshoot Indian Tribe to ensure appropriate consideration of fish and wildlife resources at the project site.

c) Water Quality. EPA will coordinate the construction design with the Washington Department of Ecology to assure compliance with State Water Quality Standards. EPA will prepare an equivalent 401 Water Quality Certification that will specify construction timing, mixing zones, monitoring requirements and any other appropriate conditions for in-water work as has been done for previous CERCLA actions in the Puget Sound region.

d) Historic and Cultural Resources. There are no upland areas or other features associated with this project that are listed or eligible for listing on the National Historic Register. No cultural resource issues have been identified for this site.

e) Activities Affecting Coastal Zones. The project is consistent with King County and City of Seattle regulations for shoreline management procedures and is therefore consistent with the Coastal Zone Management Act and State Shoreline Management Act.

f) Environmental Benefits. EPA's actions will result in substantially cleaner marine sediments that will, in turn, support a healthier riverine and estuarine ecosystem at this site.

12. Conclusions. EPA has determined that this project is expected to comply with the substantive elements of the referenced applicable or relevant and appropriate requirements (ARARs). EPA will modify or amend this document, as appropriate, when additional compliance information becomes available.

CONCURRENCE: DATE:
_____/s/_____ _____May 31, 2006_____
Erika Hoffman
Aquatic Resources Unit
Office of Ecosystems, Tribal and Public Affairs
U.S. EPA Region 10

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Attachment 1

404(b)(1) Evaluation [40 CFR §230]

1. Potential Impacts on Physical and Chemical Characteristics (Subpart C)

a) Substrate [230.20]. Two basic aquatic habitat types can be identified in the Slip 4 Early Action Area based on depth, sediment grain size, and general topography. The first is sandy mud or muddy shallow subtidal habitat. This area is within the general footprint of the inner berth at depths of -4 to -13 feet MLLW and is over 60 percent fine-grained material. The second general habitat type is intertidal mudflat at the head and on the east side of the slip, composed primarily of 15–60 percent fine-grained material. Surrounding these aquatic habitats are embankments that transition from about +5 feet MLLW to the uplands at about +18 feet MLLW. Bank soils consist of a surface fill layer (4 to 14 feet in depth), underlain by tideflat and river deposits. The fill is generally sand and silty sand and possibly layers of silt. Nearly all of the Slip 4 shoreline has been highly modified and includes an over-water pier, riprap (some mixed with sand and gravel), wooden bulkheads, and miscellaneous fill. The small areas of unarmored shoreline are generally steep, eroded slopes, vegetated by mixed grasses and shrubs.

The project will change the characteristics of the existing surface by removing contaminated sediments, debris, and wooden piles and replacing it with clean sand, gravel, and rock fill materials. Caps will be designed according to site-specific conditions using established EPA and USACE design procedures (USEPA 1998). Armored caps are required where erosive forces (i.e., shear stresses) on cap particles would be sufficient to move typical sand cap particles. Where rock is needed for erosion resistance and/or slope stability, a surface layer of sandy gravel will be applied over the rock to improve the ecological function of the surface substrate. Based on observed historical shoaling rates in Slip 4 and the existing fine-grained substrate, EPA expects that ongoing sedimentation in Slip 4 will result in a fine-grained surface substrate depositing over time.

b) Suspended Particulates/Turbidity [230.21]. Dredging and excavation will result in short-term increases in suspended particulates and turbidity within the removal area and mixing zones. EPA expects the dredging and excavation impacts to be localized and minimal in nature. Capping could also result in short-term increases in suspended particulates and turbidity. EPA expects any turbidity increases to be small because of the coarse sediments (sands or larger) used for most of the cap construction and because intertidal construction work will be completed 'in-the-dry' as practicable. Locally elevated turbidities generated by the remedial action are not expected to directly affect juvenile or adult salmonids that may be present—EPA's Clean Water Act (CWA) 401 water quality certification will specify mixing zone(s) that would not present a barrier to salmonid migration, and hence salmonids may avoid locally elevated turbidities.

Dredging, excavation, and capping operations will be carefully monitored and managed to minimize turbidity effects. EPA's CWA 401 water quality certification will specify water quality monitoring requirements and performance standards for turbidity and/or TSS. The Contractor will be required to modify their operations as needed to meet these performance standards.

c) Water [230.22]. Dredging, excavation, and capping operations will result in turbidity plumes and possibly minor reductions in dissolved oxygen (DO) concentrations in the nearby area. These perturbations are judged to be temporary and localized. Short-term and localized decreases in DO or increases in turbidity due to remedial activities may result in short-term avoidance of immediate work areas by salmonids. No long-term effects are anticipated.

Because the primary contaminants of concern are hydrophobic PCBs and based on project experience at other sites in Puget Sound including recent monitoring during the East Waterway Phase II Removal Action on the Duwamish River, dissolved constituents are not considered likely to exceed acute water quality standards for the project. It is also expected that effluent water from the dewatering process will be suitable for returning to the Duwamish River. Special monitoring requirements for chemical constituents will be added to the project water quality certification to confirm this expectation. Additionally, water quality monitoring will include DO and turbidity. EPA's CWA 401 water quality certification will specify water quality monitoring requirements and performance standards for DO, temperature, turbidity, and other parameters as appropriate. The Contractor will be required to modify their operations, as needed, to meet these performance standards.

EPA will also review the design of containment caps to ensure that the containment measures will be effective in isolating contaminants present in the underlying sediments. The site will be carefully monitored in accordance with CERLCA compliance requirements for contaminant control.

Overall, in-water construction activities are not expected to result in long-term adverse changes in chemical contamination, temperature, or DO. Therefore, the effects of dredging, excavation, and capping of contaminated sediments will be to maintain or improve water quality at Slip 4.

d) Current Patterns and Water Circulation [230.23]. Circulation in Slip 4 is influenced primarily by general circulation patterns in the Duwamish Waterway and secondarily by slip geometry. EPA expects no disruption of current patterns and water circulation at this site during and after construction. EPA will review the design to ensure that no obstructions to drainage are introduced by the capping actions.

e) Normal Water Fluctuations [230.24]. EPA expects no disruption of the normal ebb and flow of the tide at this site during or after construction.

f) Salinity Gradients [230.25]. This action will have no effect on salinity gradients at the Slip 4 EAA project site or within the Lower Duwamish Waterway.

2. Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)

a) Threatened and Endangered Species [230.30]. The removal action is expected to be beneficial to threatened Puget Sound chinook and Coastal-Puget Sound bull trout by greatly reducing their potential exposure to PCBs and by increasing their available habitat. No endangered species will be impacted by the project. EPA is currently coordinating with the U.S. Fish and Wildlife Service and the NOAA Fisheries to ensure compliance with the Endangered Species Act. EPA will incorporate all appropriate conservation and recovery measures to ensure compliance with the Endangered Species Act.

b) Fish, Crustaceans, Mollusks and Other Aquatic Organisms in the Food Web [230.31]. The current contaminated sediment in this area has the potential to adversely impact organisms in the aquatic food chain. Further, the chemicals at this site are bioaccumulative and have the potential to adversely affect higher trophic-level organisms. The dredging, excavation, and capping activities will remove and/or isolate the contaminated sediments from the food chain. The removal action is expected to be beneficial to fish and shellfish by greatly reducing their potential exposure to PCBs and by increasing their available habitat.

Dredging, excavation, and capping activities will destroy existing benthic and epibenthic communities. However, EPA expects re-colonization of the new substrates by benthic and epibenthic invertebrates after construction. EPA expects significant overall improvement over existing conditions for aquatic organisms upon completion of construction.

EPA has determined that the project does not adversely affect essential fish habitat, in compliance with substantive requirements of the Magnuson-Stevens Fishery Conservation Management Act (EPA, May 3, 2006).

c) Other Wildlife [230.32]. Other bird and wildlife life use will be disrupted at the site during construction. These impacts are expected to be short-term and minor in nature.

3. Potential Impacts to Special Aquatic Sites (Subpart E)

a) Sanctuaries and Refuges [230.40]. Not applicable.

b) Wetlands [230.41]. Not applicable.

c) Mudflats [230.42]. The Slip 4 EAA includes approximately 1.86 acres of existing intertidal mudflat and intertidal embankments (areas between -4 feet MLLW and +12 feet MLLW). Parts of the mudflat areas will be dredged, and all of the mudflat areas will be capped by the action. The final cap surface in the dredged area will approximately re-establish the existing mudline. In other areas, the final cap surface will raise the existing mudline, in some cases converting subtidal areas to intertidal areas. The final contours of the EAA will include approximately 2.40 acres of intertidal mudflat and intertidal embankments (areas between -4 feet MLLW and +12 feet MLLW). Relative to existing conditions, the action will cause a net shallowing of Slip 4 and will substantially increase both intertidal habitat areas (0.54-acre increase) and shallow subtidal habitat areas (0.25-acre increase). The bank excavations at the head of the slip will result in a net increase in total aquatic habitat of approximately 0.08 acres. The expansion of intertidal and shallow subtidal areas will increase the overall refugia function of the habitat.

The result of capping will be a change in substrate from fine silt, sand, and organic materials to sands, gravels, and, in some locations, rock. Where rock is needed, a surface layer of sandy gravel will be applied to fill the rock interstices. This substrate modification will likely result in a somewhat different benthic community re-colonizing the site after construction. However, EPA expects that the re-colonizing benthic organisms will provide the same or better food-chain support functions than the area currently provides. EPA also expects that finer sediments and organic materials will settle out over time and create additional habitat diversity at the site. Accordingly, EPA believes that any adverse impacts to mudflats at this site will be short-term and minor in nature.

d) Vegetated Shallows [230.43]. There are currently no eelgrass beds or upper intertidal marsh areas in the Slip 4 EAA. Expansion and enhancement of shallow subtidal (-10 feet MLLW to -4 feet MLLW) and intertidal (-4 feet MLLW to +12 feet MLLW) elevations is a habitat conservation strategy for the Duwamish estuary (King County 2005). In addition, the Natural Resource Trustees have identified the elevation ranges of +4 feet to +12 feet as being particularly desirable for creation/expansion of upper intertidal marsh habitat (Steinhoff, pers. comm., 2006). Although the cap is intended to isolate contaminants at depth, EPA believes that the substrate will be suitable for colonization by vegetation. EPA also expects that finer sediments and organic materials will settle out over time and create additional habitat diversity at the site.

e) Coral Reefs [230.44]. Not applicable.

f) Riffle and Pool Complexes [230.45]. Not applicable.

4. Potential Effects on Human Use Characteristics (Subpart F)

a) Municipal and Private Water Supplies [230.50]. Not applicable.

b) Recreational and Commercial Fisheries [230.51]. Fish could be exposed to suspended sediments during dredging, excavation, and backfilling/capping activities. EPA expects that the potential short-term exposure of fish to sediments will not adversely affect fisheries. No commercial fisheries occur at the project site, although some sport and tribal fisheries occur the LDW. Construction activities will be coordinated with Muckleshoot tribal members, as necessary to allow their continued harvest of salmon and steelhead in the vicinity of Slip 4 during construction. After construction, the cleaner sediments of the site will likely provide better fish habitat and may contribute to a healthier fishery for the area.

c) Water-related Recreation [230.52]. Slip 4 is an industrial waterway, and the impact of construction on recreation is assumed to be small. EPA does not anticipate adverse long-term effects to consumptive (e.g., harvesting) and nonconsumptive (e.g., boating, birding) recreational activities at the project site due to the project.

d) Aesthetics [230.53]. The project will not significantly change the general character of this site. However, EPA anticipates that more public and private activities may be attracted to the shoreline after the removal of the contaminated sediments and pilings, and after bank cleanup activities are completed at the site. Visual characteristics will also be enhanced by the removal of surface debris.

e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves [230.54]. Not applicable.

5. Evaluation and Testing (Subpart G)

a) General Evaluation of Dredged or Fill Material [230.60]. The characteristics of the sediments that will be dredged or excavated at the project site are documented in the CERCLA files for this project (see EE/CA, Integral 2006). The sediments are contaminated and not suitable for open water disposal. They will be disposed of off-site in an approved upland facility that can ensure isolation and control of the contaminants. Fill materials used for backfill and capping after dredging and excavating will be characterized as suitable for in-water placement and will fulfill the physical characteristics necessary to achieve the project purpose at the site.

b) Chemical, Biological, and Physical Evaluation and Testing [230.61]. EPA required appropriate and site-specific testing and evaluation of the dredged material pursuant to

the CERCLA action at this site (see EE/CA, Integral 2006). Fill materials used for backfill and capping after dredging and excavation will be characterized as suitable for in-water placement (including chemical characterization as appropriate) and will fulfill the physical characteristics necessary to achieve the project purpose at the site.

6. Actions to Minimize Adverse Effects (Subpart H)

a) Actions Concerning the Location of the Discharge [230.70]. The dredged and excavated materials will be disposed of off-site at an approved upland facility with no associated impacts to the aquatic environment. The fill materials (backfill and cap) will be suitable for in-water placement and suitable to meet the project purpose. Fill will be limited to the project site.

b) Actions Concerning the Material to be Discharged [230.71]. See 230.61 above.

c) Actions Controlling the Material after Discharge [230.72]. EPA will require monitoring of the dredged, excavated, and filled areas after construction to ensure compliance with CERCLA. EPA will determine whether any additional or contingency actions are necessary for any aspect of the project that does not function as intended.

d) Actions Affecting the Method of Dispersion [230.73]. EPA will take appropriate measures to ensure minimal suspension of contaminated sediments within the water column during construction. Disposal of contaminated materials will occur offsite with little or no contact with the aquatic environment. Work will be done at low tide to the maximum extent practicable. Clean cap materials will likely be placed mechanically with a bucket to create an evenly graded cap of the designed thicknesses and grades. Actual placement methods will be determined in removal design documents and/or removal action work plans.

e) Actions Related to Technology [270.74]. The discharge technology will be adapted to the needs of the site as well as in consideration of any advances in available technology. EPA anticipates that standard upland excavation and placement equipment will be used for work on embankments at low tide. For mechanical dredging, a barge-mounted excavator or derrick will likely use a bucket to remove material from the bed and place it into a haul barge. The dredged material will likely be dewatered on the haul barge using best management practices, such as sideboards for bulk containment and filter fabric and drainage systems to limit turbidity releases to the waterway. The dredged material will likely be moved in the haul barge to a waterfront location for offloading and transport to a selected disposal facility. Clean cap materials will likely be placed mechanically with a bucket to create an evenly-graded cap of the designed thicknesses and grades.

f) Actions Affecting Plant and Animal Populations [270.75]. The placement of clean fill materials suitable for supporting benthic and epibenthic populations will offset short-

term impacts due to dredging, excavating, and capping. Work will occur at low tides, to the maximum extent practicable, to minimize impacts to fish and wildlife.

g) Actions Affecting Human Use [230.76]. EPA has extensively coordinated with the affected public on these actions and will take all appropriate and practicable steps to ensure minimal impacts to human use and general appreciation of the area.

h) Other Actions [230.77]. EPA has determined that this project will meet the requirements of CERCLA to control the releases of hazardous substances that may present imminent threat to human health and the environment.

Attachment 2

Evaluation for General Policies for the Evaluation of Permit Applications [33 CFR §320.4]

1. Public Interest Review [320.4(a)]. EPA has determined that these actions are in compliance with the 404(b)(1) Guidelines and are not contrary to the public interest.

2. Effects on Wetlands [320.4(b)]. Not applicable.

3. Fish and Wildlife [320.4(c)]. EPA has worked diligently to avoid and minimize effects of the proposed removal action on fish and wildlife. Further, the fundamental results of the removal action at Slip 4 will benefit fish and wildlife resources in the long term. EPA will continue to consult with state and federal natural resource agencies, the Muckleshoot Tribe, the Suquamish Tribe and other interested members of the public to minimize adverse effects on fish and wildlife resources and to support conservation of Endangered Species Act (ESA) listed species.

4. Water Quality [320.4(d)]. As plans and specifications for the removal action are developed, EPA will prepare water quality specifications to ensure that these actions will comply with State Water Quality Standards. EPA will prepare an equivalent 401 Water Quality Certification that will specify allowable mixing zones, monitoring requirements, and any other appropriate conditions for in-water work.

5. Historic, Cultural, Scenic, and Recreational Values [320.4(e)]. EPA has consulted with the Muckelshoot Indian Tribe and determined that these actions will have no effect on historic and cultural resources. No consultation with the State Historic Preservation Office was required because there were no areas or features listed or suitable for listing on the National Register of Historic Places. These actions may improve other aesthetic and recreational values by cleaning up the contaminated sediments and removing piling and debris.

6. Effects on Limits of the Territorial Sea [320.4(f)]. Not applicable.

7. Consideration of Property Ownership [320.4(g)]. The City is acquiring ownership of the majority of the Slip 4 EAA from Crowley Marine Services. The City is coordinating with property owners to arrange access and staging areas during the work, implement land-use restrictions for long-term protection of the capped area, and provide easements allowing access for future long-term monitoring activities.

8. Activities Affecting Coastal Zones [320.4(h)]. The Shoreline Management Act (SMA) is the core authority of the Washington State Coastal Zone Management Program. Under the SMA, local governments have primary administrative responsibility for the SMA. The

actions are located within the shoreline jurisdiction of the City of Seattle and King County. KCC Title 25 regulations implement the State Shoreline Management Act and are applicable to all building, excavation, dredging, and filling within 200 feet of regulated shorelines. Minor changes to the shoreline resulting from cleanup will be evaluated in design. The Shoreline Management section of the City of Seattle municipal code is the City's administrative tool for determining consistency with SMA.

The removal actions will isolate or remove contaminated sediments (and thereby protect environmental health and welfare) and improve habitat. This action will not change the overall character of the shoreline and is consistent with the City of Seattle's and King County's use designations. EPA determined that the project is consistent to the maximum extent practicable with the policies of the approved Washington State shoreline management programs.

9. Activities in Marine Sanctuaries [320.4(i)]. Not applicable.

10. Other Federal, State, or Local Requirements [320.4(j)]. See EE/CA, Integral 2006.

11. Safety of Impoundment Structures [320.4(k)]. Not applicable.

12. Water Supply and Conservation [320.4(m)]. Not applicable.

13. Energy Conservation and Development [320.4(n)]. Not applicable.

14. Navigation [320.4(o)]. The project is outside of the federal navigation channel. Currently, there is no active shipping or cargo loading within the EAA limits (i.e., in the inner berth area), although the middle and outer berths are used for barge moorage and cargo loading. Remedial activities will be coordinated with Crowley to minimize disturbances to navigation during construction. The project will eliminate the historical commercial moorage capacity in the inner berth; however, this will not substantially impair the overall navigation needs of the adjacent landowners.

15. Environmental Benefits [320.4(p)]. See EE/CA, Integral 2006 and 404(b)(1) evaluation.

16. Economics [320.4(q)]. Not applicable.

17. Mitigation [320.4(r)]. See 404(b)(1) evaluation, Section 10 (b).

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APPENDIX H

King County Discharge Permit

King County
Wastewater Treatment Division
Industrial Waste Program
Department of Natural Resources and Parks
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
206-263-3000 Fax 206-263-3001
TTY Relay: 711

RECEIVED
JUL 23 2008
Environmental Affairs Division

July 21, 2008

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Wanda Shulze
Project Manager
Seattle City Light
P.O. Box 34023
Seattle, WA 98124

Issuance of Wastewater Discharge Authorization No. 4152-01 to Seattle City Light - Georgetown Flume Remediation

Dear Ms. Shulze:

The King County Industrial Waste Program has reviewed your application to discharge industrial wastewater to the sewer system from the Seattle City Light - Georgetown Flume Remediation facility located east of Ellis Avenue South, between South Warsaw Street and South Willow Street, Seattle, Washington and has issued the enclosed Major Discharge Authorization.

This authorization permits you to discharge limited amounts of industrial wastewater into King County's sewer system in accordance with the effluent limitations and other requirements and conditions set forth in the document and the regulations outlined in King County Code 28.84.060 (enclosed). The formal requirements and fees of a full wastewater permit will not be required as long as you maintain good compliance and do not change the nature and volume of your discharge.

If you propose to increase the volume of your discharge or change the type or quantities of substances discharged, you must contact King County at least 60 days before making these changes.

If at any time you have questions about this discharge authorization, or other questions about your discharge, please feel free to call me at 206-263-3012.

Sincerely,

for Arnaud Girard
Investigator
Industrial Waste Program

Enclosures

cc: Court Harris, Herrera Environmental
Susie Larson, Seattle Public Utilities
Doug Hilderbrand, King County

King County

MAJOR DISCHARGE AUTHORIZATION
King County Industrial Waste Program
130 Nickerson Street, Suite 200
Seattle, Washington 98109-1658

NUMBER 4152-01
For

Seattle City Light
Georgetown Flume Remediation

Plant Address: east of Ellis Avenue S. - Between S. Warsaw St. and S. Willow St.
Seattle, Washington

Mailing Address: P.O. Box 34023
Seattle, WA 98124

Phone: 206-233-2192

Industry Type: Construction Dewatering

Sample Site No.: A46101 – Spigot on discharge pipe of wastewater treatment system

Discharge To: West Point Treatment Plant

*Note: This authorization is valid only for the specific discharges shown below:

Discharge Process: Wastewater generated by Construction Dewatering (remediation) activities

Pre-treatment Process: Gravity separation, filtration & carbon absorption

Maximum Volume:

	Industrial:	144,000 gallons per day
	Other:	0 gallons per day
	Total:	144,000 gallons per day

Effective Date: October 1, 2008
Expiration Date: July 1, 2009

Permission is hereby granted to discharge industrial wastewater from the above-identified facility into the King County sewer system in accordance with the effluent limitations and monitoring requirements set forth in this authorization.

If the industrial user wishes to continue to discharge after the expiration date, an application must be filed for re-issuance of this discharge authorization at least 180 days prior to the expiration date. For information concerning this King County Discharge Authorization please call Arnaud Girard, Industrial Waste Investigator, at 206-263-3012.

24-HOUR EMERGENCY NOTIFICATION

West Point Treatment Plant: 206-263-3801
Department of Ecology: 425-649-7000

SPECIAL CONDITIONS

1. Discharge to the sanitary sewer shall not start until King County has conducted a pre-operative inspection of the pretreatment facilities and has sent written notification (e-mail is sufficient) to the permittee that discharge can begin.

2. All persons responsible for monitoring the discharge to the sanitary sewer shall review a copy of this Discharge Authorization.

3. A copy of this Discharge Authorization shall be on site at all times for review and reference.

4. The permit holder, Seattle City Light, is responsible for compliance with the conditions and requirements specified in this discharge approval. The permit holder must develop and implement a wastewater compliance supervision program designed to oversee contractors hired to operate and maintain the wastewater pretreatment system. The purpose of this program is to ensure compliance with the conditions and requirements specified in this discharge approval. A written description of this supervision program must be submitted to King County no later than October 15, 2008.

5. The discharge shall not cause hydraulic overloading conditions of the sewerage conveyance system. During periods of peak hydraulic loading, King County and Seattle Public Utilities representatives reserve the authority to request that discharge to the sewer be stopped.

6. During the initial four-week discharge period, discharge to the sewer shall not occur until analytical test results associated with required sampling indicate compliance with discharge limits specified in the Self-Monitoring Requirements section of this Discharge Authorization. Following this initial monitoring period, King County may allow "direct discharge" (without having to hold the wastewater until analytical test results indicate compliance) of treated wastewater to the sewer provided that:

   a. A written request is submitted for King County's review and approval;
   b. Effluent samples collected by the permittee and King County during this initial monitoring period indicate compliance with established discharge limits;
   c. Proposed Granulated Activated Carbon (GAC) breakthrough monitoring and response procedures are submitted with the request to start direct discharge. These procedures must describe how the permittee will monitor GAC units performance to prevent break through and detail procedures for maintaining these units.

   "Direct discharge" shall not begin until written approval is granted by King County.

7. This document permits the discharge of limited amounts of the following types of wastewater from the Seattle City Light Georgetown Flume remediation project site into the sanitary sewer:

   a. Excavation dewatering
   b. Well point dewatering
   c. Wheel wash water

   Wastes or contaminants from sources other than permitted herein shall not be discharged to the sanitary sewer without prior approval from King County's Industrial Waste Program.

8. Wastewater monitoring logs containing the results of the required field monitoring specified in the Self-Monitoring Requirements section of this discharge authorization must be maintained on-site and must be available for review at reasonable times by authorized representatives of King County.

9. All contaminated wastewater generated during this remediation project shall be treated in accordance with treatment methods described in the original waste discharge permit application and subsequent submittals reviewed and approved by King County. Modifications to the treatment system shall not occur without prior approval from King County. If the permittee proposes to make any revisions to the originally proposed treatment system, a new set of treatment system plans shall be submitted. At a minimum, these plans will need to include the following items:

    a. Site diagram describing the final location of processes generating wastewater, dewatering well(s) and pumps, piping, wastewater treatment systems, sample site, and discharge point.
    b. Sound engineering justification through the use of pilot plant data, results from other similar installations, and/or scientific evidence from the literature that indicates that the effluent from the proposed facility will meet applicable permit effluent limitations and/or pretreatment standards.
    c. Basic design data and sizing calculations of the pretreatment system components (for example pumps, tanks, mixers).
    d. Description of your treatment process including the amount and kind of chemicals used in the treatment process.
    e. The general operations and the set points of all control features.
    f. A process flow diagram of the treatment process, illustrating treatment units, piping, pumps, mixers, control features, valves, and sampling location.
    g. Wastewater sources, quantity, and chemical characteristics to be treated by the pretreatment system.
    h. Provide the maximum instantaneous flow rate for the pretreatment system in units of gallons-per-minute (gpm).
    i. Provide the maximum discharge rate of the pump that discharges to the influent pipe of the pretreatment system. Provide pump specifications, including maximum discharge rate in units of gpm. Please note that the maximum discharge rate of the piping-pump system must be compatible with the instantaneous maximum flow rate for the pretreatment system.

10. An accessible sampling spigot must be installed on the outlet from the last treatment unit of the wastewater treatment system. This sample site shall be accessible to King County representatives when discharge to the sewer is occurring.

11. A totalizer, non-resettable water meter must be installed on the discharge pipe to the sewer.

12. With the initial self-monitoring report, the permittee must submit to King County a list of site contacts responsible for the operation and maintenance of the wastewater treatment system and monitoring of the discharge to the sanitary sewer. The list shall include the site contacts' names, titles, company/agency, and phone numbers (office and cell).

13. Discharge to the sewer shall be into Seattle Public Utilities (SPU) manholes 071-145 or 071-135.

14. Seattle City Light must contact Cheryl Jones of SPU at 206-684-5089 to set up a sewer account for assessment of sewer charges.

15. Discharge to the sanitary sewer shall be in accordance with SPU conditions.

SELF-MONITORING REQUIREMENTS

1. The following self-monitoring requirements shall be met for this discharge authorization. All compliance samples must be collected at Sample site A46101, which is the spigot on the discharge pipe from the wastewater treatment system.

Parameter		Frequency	Sample Type	Daily Average Discharge Limit
PCB's	Aroclor 1016	Each Batch	Composite*	0.3 µg/L
	Aroclor 1221	Each Batch	Composite*	0.3 µg/L
	Aroclor 1232	Each Batch	Composite*	0.3 µg/L
	Aroclor 1242	Each Batch	Composite*	0.3 µg/L
	Aroclor 1248	Each Batch	Composite*	0.3 µg/L
	Aroclor 1254	Each Batch	Composite*	0.3 µg/L
	Aroclor 1260	Each Batch	Composite*	0.3 µg/L
Benzo(a)pyrene		Weekly	Composite*	6.3 µg/L
Lead		Weekly/Monthly**	Composite*	2.0 mg/L
Mercury		Weekly/Monthly**	Composite*	0.1 mg/L
Discharge Volume		Daily	Meter Reading	144,000 gpd
Total Monthly Discharge Volume		Report monthly	Meter Reading	NA
Hydrogen Sulfide		Only if operating criteria are exceeded	Meter reading	See General Discharge Limitations section.
Settleable Solids		Only if operating criteria are exceeded	Grab	
Explosivity		Only if operating criteria are exceeded	Meter reading	

*A composite sample is defined as at least four grab samples of equal volume taken throughout the processing day from a well-mixed final effluent chamber, and analyzed as a single sample.

**Weekly, during the initial four-week discharge period; monthly, thereafter.

2. If a violation of any discharge limits or operating criteria is detected in monitoring, you shall notify the Industrial Waste Program immediately upon receipt of analytical data.

3. A self-monitoring report shall be filed with Industrial Waste no later than the 15th day of the time period following the sample collection (i.e., the 15th day of the following month for monthly, weekly, daily samples). The first report, for October 2008, is due November 15, 2008. If no discharge takes place during any monitoring period, it shall be noted on the report.

4. All self-monitoring data submitted to Industrial Waste, which required a laboratory analysis, must have been performed by a laboratory accredited by the Washington State Department of Ecology for each parameter tested, using procedures approved by 40 CFR 136. This does not apply to field measurements performed by the industrial user such as pH, temperature, flow, atmospheric hydrogen sulfide, total dissolved sulfides, total settleable solids by Imhoff cone, or process control information.

5. All sampling data collected by the Permittee and analyzed using procedures approved by 40 CFR 136 or approved alternatives shall be submitted to King County whether required as part of this permit or done voluntarily by the Permittee.

6. Self-monitoring reports shall be signed by an authorized representative of the industrial user. The authorized representative of the industrial user is defined as:

   a. A principal executive officer of at least the level of vice president, if the industrial user is a corporation;
   b. A general partner or proprietor if the industrial user is a partnership or proprietorship, respectively;
   c. A director or highest official appointed or designated to oversee the operation and performance of the industry if the industrial user is a government agency; or
   d. A duly authorized representative of the individual designated above if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates.

GENERAL DISCHARGE LIMITATIONS

Operating Criteria

There shall be no odor of solvent, gasoline, or hydrogen sulfide (rotten egg odor), oil sheen, unusual color, or visible turbidity. The discharge must remain translucent. If any of the discharge limits are exceeded, you must stop discharging and notify the King County Industrial Waste Program at 206-263-3000.

Corrosive Substances

Limits	
Maximum:	pH 12.0 (s.u.)
Instantaneous Minimum:	pH 5.0 (s.u.)
Daily Minimum:	pH 5.5 (s.u.)

The instantaneous minimum pH limit is violated whenever any single grab sample or any instantaneous recording is less than pH 5.0. The daily minimum pH limit is violated whenever any continuous recording of 15 minutes or longer remains below pH 5.5 or when each pH value of four consecutive grab samples collected at 15-minute intervals or longer within a 24-hour period remains below pH 5.5.

Discharges of more than 50 gallons per day of caustic solutions equivalent to more than five percent (5%) NaOH by weight or greater than pH 12.0 are prohibited unless authorized by King County and subject to special conditions to protect worker safety, the collection system, and treatment works.

Fats, Oils, and Grease (FOG)

Discharge of FOG shall not result in significant accumulations that either alone or in combination with other wastes are capable of obstructing flow or interfere with the operation or performance of sewer works or treatment facilities.

Non-polar FOG (oil and grease from petroleum sources): The industrial user shall not discharge wastes that contain in excess of 100 milligrams per liter (mg/L) of non-polar FOG.

Polar FOG (oil and grease from animal and/or vegetable origin): Dischargers of polar FOG shall minimize free-floating polar FOG. Dischargers may not add emulsifying agents exclusively for the purpose of emulsifying free floating FOG.

Flammable or Explosive Materials

No person shall discharge any pollutant, as defined in 40 CFR 403.5, that creates a fire or explosion hazard in any sewer or treatment works, including, but not limited to, waste streams with a closed cup flashpoint of less than 140° Fahrenheit or 60° Centigrade using the test methods specified in 40 CFR 261.21.

At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system), be more than five percent (5%) nor any single reading be more than ten percent (10%) of the Lower Explosive Limit (LEL) of the meter.

Pollutants subject to this prohibition include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and sulfides, and any other substances that King County, a fire department, the State, or EPA has notified the user are a fire hazard or a hazard to the system.

Heavy Metals/Cyanide

The industrial user shall not discharge waste, which exceed the following limitations:

Heavy Metals and Cyanide	Instantaneous Maximum (mg/L)*	Daily Average (mg/L)**	Maximum Loading (Lbs/day)
Arsenic	4.0	1.0	1.2
Cadmium	0.6	0.5	0.3***
Chromium	5.0	2.75	2.4***
Copper	8.0	3.0	3.6
Lead	4.0	2.0	2.4
Mercury	0.2	0.1	0.12
Nickel	5.0	2.5	2.7***
Silver	3.0	1.0	1.2
Zinc	10.0	5.0	6.0
Cyanide	3.0	2.0	NA

*The instantaneous maximum is violated whenever the concentration of any sample, including a grab within a series used to calculate daily average concentrations, exceeds the limitation.

**The daily average limit is violated: a) for a continuous flow system when a composite sample consisting of four or more consecutive samples collected during a 24-hour period over intervals of 15 minutes or greater exceeds the limitation, or b) for a batch system when any sample exceeds the limitation. A composite sample is defined as at least four grab samples of equal volume taken throughout the processing day from a well-mixed final effluent chamber, and analyzed as a single sample.

***Due to the elevated permitted daily discharge volume, the daily maximum poundage limits for these metals parameters have been adjusted (reduced). The more restrictive limitation (concentration or mass) shall prevail for determining violations.

High Temperature

The industrial user shall not discharge material with a temperature in excess of 65 °C (150 °F).

Hydrogen Sulfide

Atmospheric hydrogen sulfide: 10.0 ppm
(As measured at a monitoring manhole designated by King County)

Soluble sulfide limits may be established on a case-by-case basis depending upon volume of discharge and conditions in the receiving sewer, including oxygen content and existing sulfide concentrations.

Organic Compounds

No person shall discharge any organic pollutants that result in the presence of toxic gases, vapors, or fumes within a public or private sewer or treatment works in a quantity that may cause worker health and safety problems. Organic pollutants subject to this restriction include, but are not limited to: Any organic pollutants compound listed in 40 CFR Section 433.11 (e) (Total Toxic Organics (TTO) definition), Acetone, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK), and xylenes.

Settleable Solids

Settleable solids concentrations: 7.0 ml/L

GENERAL CONDITIONS

1. All requirements of King County Code pertaining to the discharge of wastes into the municipal sewer system are hereby made a condition of this Discharge Authorization.

2. The industrial discharger shall implement measures to prevent accidental spills or discharges of prohibited substances to the metropolitan sewer system. Such measures include, but are not limited to, secondary containment of chemicals and wastes, elimination of connections to the metropolitan sewer system, and spill response equipment.

3. Any facility changes, which will result in a change in the character or volume of the pollutants discharged to the municipal sewer system, must be reported to your Industrial Waste representative. Any facility changes that will cause the violation of the effluent limitations specified herein will not be allowed.

4. In the event the industrial user is unable to comply with any of the conditions of this Discharge Authorization because of breakdown of equipment or facilities, an accident caused by human error, negligence, or any other cause, such as an act of nature the company shall:

   a. Take immediate action to stop, contain, and clean up the unauthorized discharges and correct the problem;
   b. immediately notify the King County Industrial Waste Program, 206-263-3000, so steps can be taken to prevent damage to the sewerage system; and
   c. submit a written report within 14 days describing the breakdown, the actual quantity and quality of resulting waste discharged, corrective action taken, and the steps taken to prevent recurrence.

5. Compliance with these requirements does not relieve the industrial user from responsibility to maintain continuous compliance with the conditions of the Discharge Authorization or the resulting liability for failure to comply.

6. The industrial user shall, at all reasonable times, allow authorized representatives of King County to enter that portion of the premises where an effluent source or disposal system is located or in which any records are required to be kept under the terms and conditions of this Discharge Authorization.

7. Nothing in the Discharge Authorization shall be construed as excusing the industrial user from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including discharge into waters of the state. Any such discharge is subject to regulation and enforcement action by the Department of Ecology.

8. This authorization does not authorize discharge after its expiration date. If the industrial user wishes to continue to discharge after the expiration date, an application must be filed for reissuance of this discharge authorization at least 180 days prior to the expiration date. If the industrial user submits its reapplication in the time specified herein, the industrial user shall be deemed to have an effective waste discharge authorization until Industrial Waste issues or denies the new waste discharge authorization. If the industrial user fails to file its reapplication in the time period specified herein, the industrial user will be deemed to be discharging without a discharge authorization.

Investigator: Jim Hippel for Arnaud Girard Date: 7/21/08

APPENDIX I

NFMS Biological Assessment Letter to EPA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

RECEIVED

MAR 11 2008

Seattle City Light
Environmental Affairs

NMFS Tracking No.:
2008/00937

March 6, 2008

Karen Keeley
Project Manager
United States Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

RE: Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Georgetown Flume, Slip 4 Superfund Site Project, Duwamish River. (King County, Washington) Lower Green River HUC 171100130399

Dear Ms. Keeley:

This correspondence is in response to your request for consultation under the Endangered Species Act (ESA).

Endangered Species Act

The National Marine Fisheries Service (NMFS) has reviewed your February 25, 2008 request for informal consultation for Puget Sound (PS) Chinook (*Oncorhynchus tshawytscha*) salmon and for PS steelhead (*O. mykiss*) which are ESA listed as threatened, and for potential effects on PS Chinook critical habitat. This consultation is conducted under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

According to the Biological Assessment (BA), the Environmental Protection Agency (EPA) is authorizing local entities to work under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The City of Seattle proposes to upgrade an existing stormwater flume at the site of a future Superfund cleanup site in Slip 4 on the Duwamish River. The overall cleanup of Slip 4 has been delayed at this time to complete the upgrade of the flume to ensure that possible contamination from the existing flume does not comprise future cleanup efforts. Initial work consists of cleaning the existing concrete pipe of accumulated sediments and then slip-lining it with a new 24-inch high density polyethylene (HDPE) pipe. No sediment or water from cleaning the pipe will be allowed to enter the Duwamish River.

Work that will take place below Mean Higher High Water (MHHW) will consist of site preparation, removing sediment from in front of the outfall, preparation of an outfall face and temporary plate installation, installation of a new splash pad and outfall pipe, and bank

restoration once the project is complete. To access the site, an 8-foot path will be cleared and quarry spalls and geotextile fabric will be used to construct a ramp. Approximately 10 cubic yards of quarry spalls, in a 250 square foot area, will be placed below MHHW to 4.40 feet elevation. Fifteen to twenty cubic yards of sediment will be removed to expose the existing splash pad so that the existing grating can be removed and a temporary plate can be installed onto the concrete face of the existing outfall. Since excavation in front of the outfall may expose contaminated sediments, approximately 5 cubic yards of new clean material will be used to cover this area (10 by 8 foot square area) down to 1.39 feet elevation. Once the new pipe is in place, the quarry spalls used for the access ramp will be removed and topsoil placed in disturbed areas. Long-term planting of the area will occur in conjunction with completion of the Slip 4 Remediation Action.

The action area for this project encompasses an area 300 feet downstream from the project site to account for any possible effects from turbidity.

Species Determinations

Puget Sound Chinook
Puget Sound Steelhead

NMFS expects the effects from the proposed construction to be discountable for PS Chinook and PS steelhead because construction will take place during times when those fish are unlikely to be exposed to the effects of the action. The proposed construction will only occur "in the dry" when the tide is out.

The proposed project has the potential to alter water quality during construction through mobilization of sediment and possible petroleum product spill that may enter the water column. However, Best Management Practices (BMPs), such as silt fencing, silt booms, and an oil boom will be employed to minimize possible effects, and therefore water quality will not be significantly affected.

Therefore, NMFS concurs with the effects determination of "may affect, not likely to adversely affect," for PS Chinook and PS steelhead.

Critical Habitat Determination

NMFS designated critical habitat for the PS Chinook salmon Evolutionary Significant Unit (ESU) on September 2, 2005 (70 FR 52630). The primary constituent element (PCE) for the PS Chinook salmon ESU critical habitat in this action area is:

> Estuarine areas free of obstruction and excessive predation with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation, and natural cover such as submerged and overhanging large wood, aquatic vegetation, etc.

Designated critical habitat boundaries within the action area for the proposed project include areas water-ward from the shoreline. NMFS analyzed the potential impacts of the project on this PCE and determined that the potential effects will be insignificant and discountable because:

1. The project will not result in a barrier to migration, or through, the estuarine area. No overwater structures are proposed as part of this action. Effects to migratory habitat are expected to be discountable.

2. The proposed construction will not alter the food base within the action area. Macro-invertebrate production and fish prey species will continue to be available from the surrounding intertidal and shallow subtidal area in the immediate area. Therefore, the project is not likely to reduce the abundance of prey species, and any effects would be discountable.

3. While the proposed project has a slight potential to mobilize sediment during construction and alter water quality for several hours, the effects are expected to be local and temporary and not measurably affect water quality. In addition, water quality would be expected to improve with the upgrades to the stormwater system and therefore, the effects are insignificant.

Therefore, NMFS concurs with your "may affect, not likely to adversely affect" determination for critical habitat for PS Chinook salmon.

This concludes informal conference pursuant to the regulations implementing the ESA, 50 CFR 402.10. This project should be reinitiated if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation. The project should also be reinitiated if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation, and/or if a new species is listed or critical habitat for another species is designated that may be affected by this project.

Magnuson-Stevens Fishery Conservation and Management Act

Federal agencies are required, under §305(b)(20) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The MSA (section 3) defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(A)). This consultation is based, in part, on the information provided by the Federal agency and descriptions of EFH for Pacific coast groundfish, coastal pelagic species, and Pacific salmon contained in the Fishery Management Plans developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce.

The proposed action is described in the BA submitted by the EPA. The project area includes habitat in the Puget Sound which has been designated as EFH for various life stages of 46 species of groundfish, four species of coastal pelagics, and three species of Pacific salmon (Table 1, Enclosure).

EFH Conservation Recommendations: Because the conservation measures that the EPA included as part of the proposed action to address ESA concerns are also adequate to avoid, minimize, or otherwise offset potential adverse impacts to the EFH of the species in Table 1, conservation recommendations pursuant to MSA (section 305(b)(4)(A)) are not necessary. Since NMFS is not providing conservation recommendations at this time, no 30-day response from the EPA is required (MSA section 305(b)(4)(B)).

This concludes consultation under the MSA. If the proposed action is modified in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations, the EPA will need to reinitiate consultation in accordance with the implementing regulations for EFH at 50 CFR 600.920(k).

The efforts by the EPA and the applicant to design this project to minimize environmental impacts are appreciated. If you have any questions, please contact Shandra O'Haleck, of my staff, at (360) 753-9533 or shandra.o'haleck@noaa.gov.

Sincerely,

for D. Robert Lohn
Regional Administrator

Enclosure

cc: Jennie Goldberg, City of Seattle

Table 1. Species of fishes with designated EFH occurring in Puget Sound.

Groundfish Species	redstripe rockfish *S. proriger*	Dover sole *Microstomus pacificus*
spiny dogfish *Squalus acanthias*	rosethorn rockfish *S. helvomaculatus*	English sole *Parophrys vetulus*
big skate *Raja binoculata*	rosy rockfish *S. rosaceus*	flathead sole *Hippoglossoides elassodon*
California skate *Raja inornata*	rougheye rockfish *S. aleutianus*	petrale sole *Eopsetta jordani*
longnose skate *Raja rhina*	sharpchin rockfish *S. zacentrus*	rex sole *Glyptocephalus zachirus*
ratfish *Hydrolagus colliei*	splitnose rockfish *S. diploproa*	rock sole *Lepidopsetta bilineata*
Pacific cod *Gadus macrocephalus*	stripetail rockfish *S. saxicola*	sand sole *Psettichthys melanostictus*
Pacific whiting (hake) *Merluccius productus*	tiger rockfish *S. nigrocinctus*	starry flounder *Platichthys stellatus*
black rockfish *Sebastes melanops*	vermilion rockfish *S. miniatus*	arrowtooth flounder *Atheresthes stomias*
bocaccio *S. paucispinis*	yelloweye rockfish *S. ruberrimus*	
brown rockfish *S. auriculatus*	yellowtail rockfish *S. flavidus*	**Coastal Pelagic Species**
canary rockfish *S. pinniger*	shortspine thornyhead *Sebastolobus alascanus*	anchovy *Engraulis mordax*
China rockfish *S. nebulosus*	cabezon *Scorpaenichthys marmoratus*	Pacific sardine *Sardinops sagax*
copper rockfish *S. caurinus*	lingcod *Ophiodon elongatus*	Pacific mackerel *Scomber japonicus*
darkblotch rockfish *S. crameri*	kelp greenling *Hexagrammos decagrammus*	market squid Loligo opalescens
greenstriped rockfish *S. elongatus*	sablefish *Anoplopoma fimbria*	**Pacific Salmon Species**
Pacific ocean perch *S. alutus*	Pacific sanddab *Citharichthys sordidus*	Chinook salmon *Oncorhynchus tshawytscha*
quillback rockfish *S. maliger*	butter sole *Isopsetta isolepis*	coho salmon *O. kisutch*
redbanded rockfish *S. babcocki*	curlfin sole *Pleuronichthys decurrens*	Puget Sound pink salmon *O. gorbuscha*

APPENDIX J

Bird Survey Memorandum

Herrera Environmental Consultants, Inc.

Memorandum

To	Wanda Schulze, Seattle City Light
From	Bret Magdasy, Herrera Environmental Consultants
Date	June 2, 2008
Subject	Georgetown Flume Bird Nest Survey

Introduction

The purpose of this assessment was to evaluate the presence of any bird nesting activities within trees designated for removal as part of the Georgetown Flume project. Removal requires compliance with all parts of the Migratory Bird Treaty Act.

Methods

On April, 3, 2008, trees designated for removal were located and visual and auditory scans for birds were conducted of each tree. Trees were visually observed systematically from the base to the crown for any nesting activities with emphasis placed on branch junctions and dead limbs. The tree closest to Marginal Way was the first to be assessed for nests, followed by each subsequent tree to the north.

Results

Table 1 presents trees observed and Table 2 presents the bird species observed in the Georgetown Flume tree removal project area.

Tree 1 was identified as Pacific willow (*Salix lucida*). Birds identified in this tree included American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), and Bewick's wren (*Thryomanes bewickii*). All birds were displaying courting or foraging behavior and signs of nesting activities were not observed. One nest was observed in the tree; no sign of current bird activities were observed in association with the nest and the nest contained no eggs. Debris observed in the nest indicates a lack of current use. It has been determined to be a remnant nest from the previous nesting season. A subsequent site visit on the morning of April, 7, 2008, confirmed that no birds were observed in association with the nest and that the nest was inactive.

No nests were observed in trees 2 through 9. An American crow (*Corvus brachyrhynchos)* was observed in Tree 5 and a European starling (*Sturnus vulgaris*) was observed in Tree 6.

Table 1. Trees observed within the Georgetown Flume tree removal project area.

Tree Identification Number	Scientific Name	Common Name
Tree 1	Salix lucida	Pacific Willow
Tree 2	Pseudotsuga menziesii	Douglas-fir
Tree 3	Populus nigra	Lombardi poplar
Tree 4	Populus nigra	Lombardi poplar
Tree 5	Populus balsamifera	Black cottonwood
Tree 6	Populus balsamifera	Black cottonwood
Tree 7	Chamaecyparis nootkatensis	Yellow cedar
Tree 8	Betula sp.	Birch
Tree 9	Arbutus menziesii	Madrone

Table 2. Bird species observed in the Georgetown Flume tree removal project area.

Scientific Name	Common Name
Pipilo maculatus	Rufous-sided towhee
Turdus migratorius	American robin
Melospiza melodia	Song sparrow
Carduelis tristis	American goldfinch
Corvus brachyrhynchos	American crow
Sturnus vulgaris	European starling
Thryomanes bewickii	Bewick's wren

Migratory Bird Treaty Act Implications

According to the Migratory Bird Treaty Act, it is illegal for anyone to take, possess, import, export, transport, sell, purchase, barter or offer for sale any migratory bird, or the parts, nests, or eggs of such birds. Habitat or nest destruction prior to egg laying is not considered a take and does not violate the Migratory Bird Treaty Act. Nests may be removed from the trees if there are no eggs or chicks in them.

The observed nest on Tree 1 should be removed as soon as possible before mating birds use the nest for the current nesting season. Based on the nest observed and the species identified within the project area, potential nesting opportunities will mostly occur between the May 1 and July 31.

Vicinity map.

05-15-08/rb/HEC-R/06-03385-001

External shot of abandoned bird nest in Tree 1

Tree 1, Pacific willow

Inside abandoned nest in Tree 1

Photo Log 1.

05-15-08/rb/HEC-R/06-03385-001

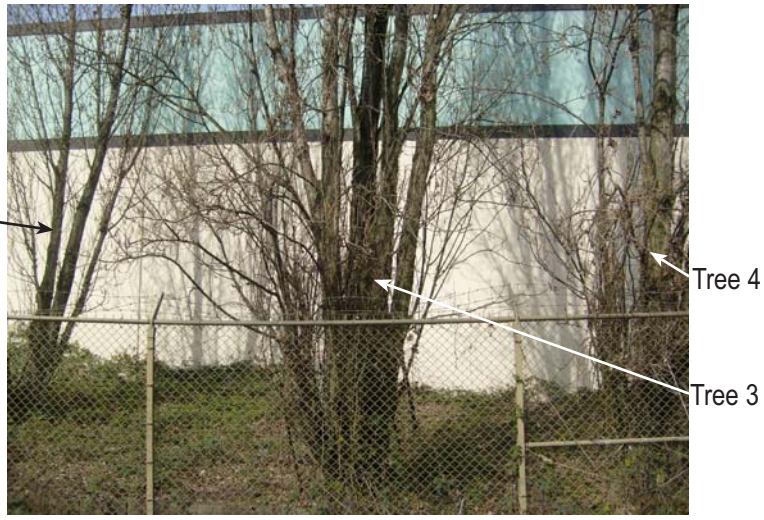
Inside abandoned nest in Tree 1

Tree 1, Pacific willow

Tree 2, Douglas-fir

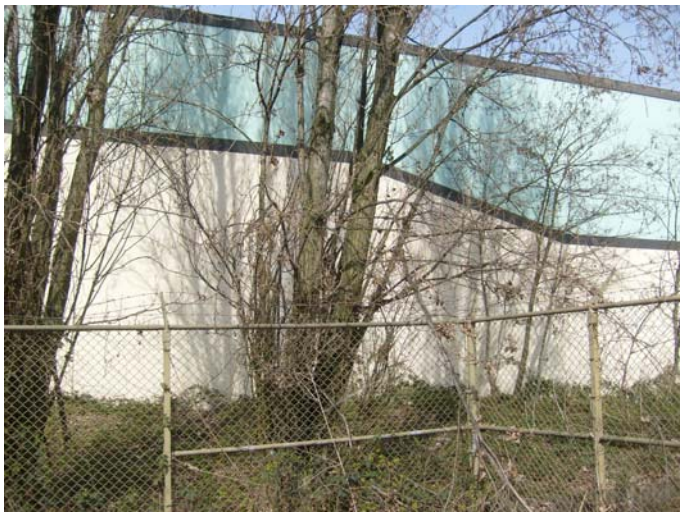
Photo Log 2.

06- 2- /rtb/HEC-R/06- 338 1



Tree 3 (middle) and 4 (right), Lombardi Poplars

Tree stump to the left (south) of Tree 3, to be removed



Tree 4 (right), Lombardi Poplar

Photo Log 3.

06-02-08/rb/HEC-R/06-03385-001

Young Madrone in Ellis Substation site (not to be removed)

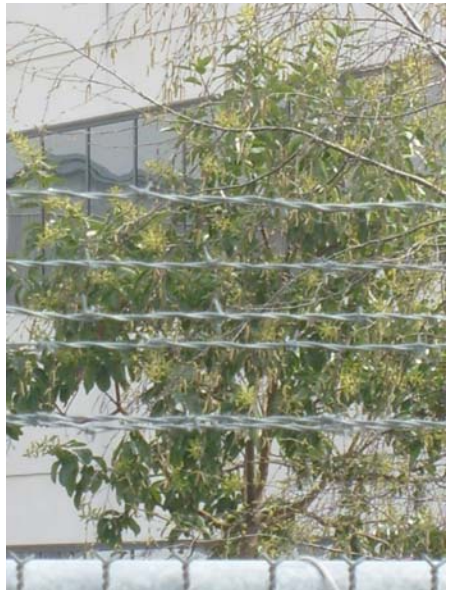
Young Madrone (not to be removed)

Trees 5 and 6, Black Cottonwood (next to Ellis yard)

Photo Log 4.

Tree 7, Yellow Ced r

Ta s (mi le) 9 (left),
B e



Ta 9, e

Tree 7, Yellow Cedara

Photo Log 5.

APPENDIX K

Waste Disposal and Bill of Lading Documentation

403745

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 40 CFR PART 761
2. Page 1 of: 2+
3. Emergency Response Phone: (800) 424-9300
4. Manifest Tracking Number: 002273190 FLE

5. Generator's Name and Mailing Address
SEATTLE CITY LIGHT (ATTN: WANDA SCHULZE)
PO BOX 34023
SEATTLE WA 98121-4023
Generator's Phone: (206) 733-2192

Generator's Site Address (if different than mailing address)
SEATTLE CITY LIGHT
MYRHE ST. & ELLIS AVE.
SEATTLE WA 98103

6. Transporter 1 Company Name: ENVIRO CON & TRUCKING INC
U.S. EPA ID Number: WAD988518820

7. Transporter 2 Company Name: UNION PACIFIC RAILROAD
U.S. EPA ID Number: NED001792910

8. Designated Facility Name and Site Address
CWMNW, INC
17629 CEDAR SPRINGS LANE
ARLINGTON OR 97812-9709
Facility's Phone: (541) 454-2643
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,UN3432,POLYCHLORINATED BIPHENYLS,SOLID,9,III,	001	CM	2495	K	X002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
TOPPING MATERIAL FROM 171 (RQ-UN3432) CONTAINERS CWM01 7150
REMEDIATION WASTE MAX PCB CONCENTRATION 52 MG/KG
PCB Out of Service Date: 06-01-09 Weight: 2495 Type: SOLID
Jan 7-16-09 UN 5700P 2495K

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Wanda B Schulze
Signature: Wanda B Schulze
Month 07 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jesse Burt
Signature:
Month 7 Day 13 Year 09
Transporter 2 Printed/Typed Name: L Sotomo
Signature:
Month 7 Day 13 Year 9

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Quantity changed Section 11 + 14 per Mike McFarland/E3 Related Sample
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Tamara Strand
Signature:
Month Day Year 07 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

405745

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: 40CFR PART 761

22. Page: 2

23. Manifest Tracking Number: 002279190 FLE

24. Generator's Name: Seattle City Light

25. Transporter 3 Company Name: Columbia Ridge Landfill — U.S. EPA ID Number: ORD 987173457

26. Transporter _____ Company Name — U.S. EPA ID Number:

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name: Angela Timmerman — Signature: Angela Timmerman — Month 7 Day 15 Year 09

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name — Signature — Month — Day — Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

SEATTLE CITY LIGHT
~~WAZ000008172~~
MYRHE ST & ELLIS AVE
SEATTLE WA 98108

CERTIFICATE OF DISPOSAL

Chemical Waste Management of the Northwest, Inc., ORD089452353, has received the following waste material and certifies that the material has been landfilled in accordance with 40 CFR part 761 as it pertains to the land disposal of Polychlorinated Biphenyl contaminated materials.

GENERATOR:	SEATTLE CITY LIGHT
MANIFEST #:	002279190FLE
LINE ITEM:	9b.1
PROFILE #:	OR297735
CWM TRACKING ID:	403745-01
DATE RECEIVED:	07/15/09
DISPOSAL PROCESS(ES):	LANDFILL
FINAL DISPOSAL LOCATION:	LANDFILL 14
DISPOSAL DATE:	07/15/09
CONTAINER #:	1 CM

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.

Becky Sumner

CWMNW RECORDS DEPARTMENT
Date 07/17/09

From everyday collection to environmental protection, Think Green.® Think Waste Management.

Printed on 100% post-consumer recycled paper.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-17-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle WA

Contact Person: Mike M

Telephone Number: 253-539-0766

Waste Profile # 101616 WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: NN Reg Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In _____ Liners 0 1 2

End Time _____ Box # Out CWMU 7173 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro-Gon Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

NO 23639

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Sch
Driver JBURT

Date 6-17-09	Truck # 23	Type BALLAST	Truck Hours
Shipper Seattle City Light	Consignee		Driver Hours
			Demurrage
Seattle, WA			Rate
			Weight
Load #	Manifest #	Tracking #	Net
Special Handling Profile #101 follow WA			
		Seattle to #	Eumit
Job # 6000350			7173

Receiver Date

Signature Print or Type Name

Driver Signature Date 6-17-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-14-09

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Light
Seattle WA

Contact Person: Mike

Telephone Number: 539-0766

Waste Profile # 101611WA

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
02 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In 7173 (Ewmc) Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out 910213 (Wmhw) Liners 0 1 2 End Time _____

Transporter Name: Enviro-Con Truck/Chassis # 25 196

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-14-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike

Telephone Number: 253-539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: Non Reg mat Per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
402 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out 7313 Liners 0 1 2 End Time _____

Transporter Name: Envirocon Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

No. 23635

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Ecti
Driver JBURT

8/14/09 25 ROLL OFF

Date SEATTLE CITY LIGHT	Truck #	Type	Truck Hours
Shipper SEATTLE, WA	Consignee		Driver Hours
			Demurrage
			Rate
Profile # Tolt Yard WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling			

DO # 100350

WS TO SEATTLE
SEATTLE TO UP — SCWMU 713
SEATTLE TO UP — SCWMU 7363
WMHU 910313

Receiver | Date

Signature | Print or Type Name 8-14-09

Driver Signature | Date

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-14-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: mike

Telephone Number: 253-539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: non Reg Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2

End Time _____ Box # Out CWMU 8518 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Emvim Con Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-14-07

Time scheduled for pickup

Generator Name and Loading Address
Seattle City Light
Seattle WA
Contact Person: Seattle City Light Mike
Telephone Number: 253 539 0766

Waste Profile # 1016116 WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out Cwmk 8524 Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Bird (Please Print) Driver Signature _____

Remarks:

№ 23636

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company ECH
Driver JBURT

Date 8-14-09	Truck # 25	Type ROLLOFF	Truck Hours
Shipper Seattle City Light	Consignee		Driver Hours
			Demurrage
Seattle, WA			Rate
			Weight
Load #	Manifest #	Tracking #	Net

Special Handling PROMPT DELIVERY

SEATTLE TO UP CWMIL 8504

PO# 600350

SEATTLE TO UP CWMIL 8510

Receiver

Date

Signature

Print or Type Name

Driver Signature

Date 8-14-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 6-7-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike

Telephone Number: 253-539-0766

Waste Profile # 101GWWA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☐ Other: NN Reg Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In WM HU 910213 Liners 0 1 2

End Time _____ Box # Out CWMR 7073 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Bell (Please Print) Driver Signature _____

Remarks:

37333

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-7-09

Time scheduled for pickup

enerator Name and Loading Address

Seattle City Light
Seattle, WA

ontact Person: Mike

elephone Number: 253-539-0766

Waste Profile # 101 Yellow WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg Mat per 49 CFR

cknowledgement of Loading:

ompany Name: Rich Hogan Date:

gnature: Name:
erator's Authorized Representative Please Print

liver to:
n Pacific Seattle Immemodul Facility (ARGO Yard)
South Dawson Street
tle, Washington 98108
e (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

ontainer Inspection Upon Pickup:

	Yes	No
rp in good serviceable condition	☐	☐
ontainer is in good condition	☐	☐
free standing water	☐	☐
ontainer is empty and clean	☐	☐

rcle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

oading

Start Time Box # In CWMU 8518 Liners 0 1 2 Unloading Start Time

End Time Box # Out IN CWMU 8524 Liners 0 1 2 End Time

ansporter Name: Enviro Con Truck/Chassis # 25 146

river Name Jesse Bodt Driver Signature
Please Print

emarks:

Box out # CWMU 7176

87833

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-7-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: mike

Telephone Number: 253 539-0766

Waste Profile # 101616-WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non-Reg-mat per-49-CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: Rich Nelson
Generator's Authorized Representative

Name: _____
Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
2 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In WA Enviro 7149 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out _____ Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Burr
Please Print

Driver Signature _____

Remarks:

NO 19335

Ewing-Don AND TRUCKING INC.

PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company ECI
Driver JBURT

Date 8-7-09	Truck # 25	Type Roll-off	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle, WA			Weight
Load #	Manifest #	Tracking #	Net

Special Handling Profile* Bellevue

WMWC
up to Seattle 9:10 AM

PO# 6000350

Seattle to up 7:00 PM

Receiver Date

Signature Print or Type Name

Driver Signature Date 8-7-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

NO 19336

Swinson AND TRUCKING INC.

PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company [illegible]
Driver JBURT

Date 8-7-09	Truck # 25	Type Roll-off	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling	Pick up Millwork WA		# Cumu
		up to Seattle	8519
Pick up 6000350		up to Seattle	Cumu 8534
			Cumu 9176
		Seattle to up	Cumu 9194
		Seattle to up	

Receiver [illegible] Date

Signature [illegible] Print or Type Name

Driver Signature [illegible] Date 8-7-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-4-09

Time scheduled for pickup _____

Generator Name and Loading Address
Gt Seattle City Light
Seattle, WA

Contact Person:

Telephone Number:

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non-Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In CWMU 7144 Liners 0 1 2

End Time _____ Box # ~~Out~~ IN CWMU 7363 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro-Con Truck/Chassis # 25 146

Driver Name Jesse Burt
Please Print

Driver Signature _____

Remarks:

Box out # CWMU 7130

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-4-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person:

Telephone Number:

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: [illegible] (Generator's Authorized Representative) Name: _____ (Please Print)

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
402 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In CWMU 7176 Liners 0 1 2

End Time _____ Box # Out SWMU 8528 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro-Con Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature [illegible]

Remarks:

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 8-4-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person:

Telephone Number:

Waste Profile # _____

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2

End Time _____ Box # Out SWMU 7451 Liners 0 1 2

Unloading
Start Time _____
End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Burt
Please Print

Driver Signature _____

Remarks:

SWMU 7450

No

No 18327

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Ecl.
Driver JBURT

Date 8-4-09	Truck # 25	Type Rollnoff	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net

Special Handling profile # 10106 WA

Left Tacoma 7:15

UP TO Seattle

PO# 600550

Seattle To UP

Finish 8:59 8:00

Receiver Date

Signature Print or Type Name

Driver Signature Date 8/ 8-4-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

NO 19328

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Ecl
Driver JBURT

Date 9-4-09	Truck # 38	Type ROLL-OFF	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling	Profile # 101616WA		CWMU
		UP TO Seattle	7194
	DW# 100350	UP to Seattle	CWMU - 7363
		Seattle TO UP.	CWMU - 7130
		Seattle TO UP	CWMU - 7451
Receiver		Date	
Signature		Print or Type Name	
Driver Signature		Date 9-4-09	

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-28-09

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Light
Seattle, WA

Contact Person:

Telephone Number:

Waste Profile # 101616WA

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
02 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In N/A Liners 0 1 2

End Time _____ Box # Out WMTHL 910211 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro Com Truck/Chassis # 25 1416

Driver Name Jesse Burt
Please Print

Driver Signature _____

Remarks:

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-28-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike M.

Telephone Number: 253-539-0766

Waste Profile # 101611 WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
02 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2

End Time _____ Box # Out _____ Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-28-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike M.

Telephone Number: 253-539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: Non Reg Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Drop in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading
Start Time _____ Box # In BOX IN CWMLL 7451 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out IN CWMLL 7073 Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Buet (Please Print) Driver Signature _____

Remarks:
Box out # _____

37333

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-28-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike M.

Telephone Number: 253-539-0766

Waste Profile # 1016161WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non-Reg-Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In CWMU 7130 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # ~~Out~~ IN CWMU 8528 Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Burt Driver Signature _____
Please Print

Remarks:

Box out # WM #4 910206

NO. 23600

Swinson
AND TRUCKING INC.

PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company ECTI
Driver J BURT

Date 7-28-09	Truck # 55	Type ROLL-OFF	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle, WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling Profile # 1616 WA			
		UP TO Seattle	8528 cwmd
PO#		UP TO Seattle	7130 cwmd
600350		Seattle TO UP	910200 wmhd
		Seattle TO UP	910211

Receiver Date

Signature Print or Type Name

Driver Signature Date 7-28-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

No. 23601

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Seth
Driver JBUET

Date 7-28-09	Truck # 35	Type roll-off	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net

Special Handling profile # 101 wilbur

UP TO Seattle # CWMCL 7451

CWMCL 7073

PO# 100350 UP TO Seattle #

Seattle TO UP

Receiver Date Seattle TO UP

Signature Print or Type Name

Driver Signature Date

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-24-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: mike M.

Telephone Number: 253-539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In WMHU 910211 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out WMHU 910206 Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse BORT (Please Print) Driver Signature _____

Remarks:

Box # out # 7148

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-24-09

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Light
Seattle, WA

Contact Person: Mike M.

Telephone Number: 253-539-0766

Waste Profile # 101616

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non-Reg-Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
12 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out 7165 Liners 0 1 2 End Time _____

Transporter Name: Enviro-Con Truck/Chassis # 25 146

Driver Name Jesse Boet (Please Print) Driver Signature _____

Remarks:

Swinson
AND TRUCKING INC.

PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

№ 20397

Company Ecli
Driver JBURT

Date 7-24-09	Truck # 25	Type Kolloff	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net

Special Handling DIDPIK # 101616 WA
UP TO Seattle 910 AM
PO# 600550 UP TO Seattle 910 AM
Seattle TO UP 7105
Seattle TO UP 7105

Receiver Date

Signature Print or Type Name

Driver Signature Date 7-24-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-23-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike E. McFarland

Telephone Number: 253 539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
2 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In N/A Liners 0 1 2

End Time _____ Box # Out EWMU 7164 Liners 0 1 2

Unloading
Start Time _____
End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name JESSE BURT Driver Signature _____
Please Print

Remarks:

EWMU 7160

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-23-07

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Light
Seattle, WA

Contact Person:

Telephone Number:

Waste Profile # 101616 WA

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
2 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In CWMU 7494 Liners 0 1 2

End Time _____ Box # ~~Out~~ IN CWMU 7105 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name _____ Driver Signature _____
Please Print

Remarks:

BIN # OUT # CWMU 7180

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

№ 19324

Company Esti
Driver Juan

Date	Truck #	Type	Truck Hours
Shipper		Consignee	Driver Hours
			Demurrage
			Rate
			Weight
Load #	Manifest #	Tracking #	Net
Special Handling			

Seattle CWMU 7404
Seattle CWMU 7105
Seattle to UP CWMU 7180
Seattle to UP CWMU 7164

Receiver
Date
Signature
Print or Type Name
Driver Signature
Date 7-23-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-23-09

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Light
Seattle, WA

Contact Person: Mike M.

Telephone Number: 253 539-0766

Waste Profile # 101614WA

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
402 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2

End Time _____ Box # Out _____ Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse BURT
Please Print

Driver Signature _____

Remarks:

37333

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-23-09

Time scheduled for pickup 7-23-09

Generator Name and Loading Address
Seattle City Light
Seattle, WA
Contact Person: mike M
Telephone Number: 253-539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☐ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
02 South Dawson Street
eattle, Washington 98108
hone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In CWMU 7128 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out CWMU 7415 Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name JESSE BURT Driver Signature _____
Please Print

Remarks:
BIN OUT #

No. 19322

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Eqi
Driver JBURT

Date 7-23-09	Truck # 625	Type Rolloff	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling	Notify: Milbourn		
		up to Seattle	7139
		up to Seattle	7415
PO # 600250			
		Seattle to US	
		Seattle to US	

Receiver
Date
Signature
Print or Type Name
Driver Signature
Date 7-23-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-20-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike McFarland

Telephone Number: 253-539-0766

Waste Profile # 101 6116 WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: Non-Reg-Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
402 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time CWMU 7148 Box # In NA Liners 0 1 2

End Time CWMU 7165 Box # Out CWMU 7134 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro-Con Truck/Chassis # 25 146

Driver Name Jesse Burt Driver Signature _____
Please Print

Remarks:

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-20-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike McFarland

Telephone Number: 253-539-0766

Waste Profile # 101626WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
102 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In CWMU 7148 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # ~~Out~~ IN CWMU 7165 Liners 0 1 2 End Time _____

Transporter Name: Enviro Con Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

Box out # CWMU 8510

Box out #

NO 20390

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Sch1
Driver JBURT

Date 7-20-09	Truck # 25	Type ROLL-OFF	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Lights			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net

Special Handling DOE, Jeff 10161 WA

UP TO Seattle # Cwmil 7148

PO # 600550 UP TO Seattle # Cwmil 7165

Seattle TO UP # Cwmil 8510

Seattle TO UP # 7134

Receiver Date

Signature Print or Type Name

Driver Signature Date 7-20-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

37333

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-20-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Light
Seattle, WA

Contact Person: Mike McFarland

Telephone Number: 253-537-0766

Waste Profile # 101616 WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg Mat per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
402 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In BOX IN CWMU 7180 Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # ~~Out~~ IN CWMU 7164 Liners 0 1 2 End Time _____

Transporter Name: Ewing Con Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

Box # out CWMU 7177

Box # out _____

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-20-09

Time scheduled for pickup _____

enerator Name and Loading Address
Seattle City Light
Seattle, WA

ontact Person: mike M'Farland

elephone Number: 253-539-0766

Waste Profile # 101616WA

Waste Type
- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: non Reg Mat per 49 CFR

cknowledgement of Loading:

ompany Name: _____ Date: _____

ignature: _____ Name: _____
enerator's Authorized Representative — Please Print

eliver to:
nion Pacific Seattle Immemodul Facility (ARGO Yard)
2 South Dawson Street
eattle, Washington 98108
hone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out 7180 CWMU 2506 Liners 0 1 2 End Time _____

Transporter Name: Envirocom Truck/Chassis # 25 146

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

(2)

№ 20391

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company ECH
Driver JBOT

Date 7-20-09	Truck # 5	Type Rolloff	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Lights			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net

Special Handling Omnile 10161 WA

UP TO Seattle CWMA 7190

DN 600 350 UP TO Seattle CWMA 7190

Seattle Seattle UP TO UP 7177

Receiver	Date	CWMA
Signature	Print or Type Name	8506
Driver Signature	Date 7-20-09	

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

37333

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-15-09

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Lights
Seattle, WA

Contact Person: Mike McFarland

Telephone Number: (253) 539-0766

Waste Profile # 161616WA

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☒ Other: non Reg mat for 19-3 CDR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
[illegible] South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: DROP ONLY PICK UP ONLY SWAP WTL

Loading

Start Time _____ Box # In _____ Liners 0 1 2

End Time _____ Box # Out _____ Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Gowins Corp Truck/Chassis # 25 14

Driver Name: Jesse Burt
Please Print

Driver Signature: _____

Remarks:

Box # In

Box # Out

Box # OUT

NO 20410

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company
Driver JBURT

Date 7-15-09	Truck # 08	Type Roll off	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling			

Cumulu
profit notifiedWA
UP To Seattle 7:35
UP To Seattle/Cumulu 7:47

Cumulu
Reef Port 600350
Seattle To UP 8:57
Cumulu
Seattle To UP 9:11

Receiver
Date

Signature
Print or Type Name

Driver Signature
Date 7-15-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 7-13-09

Time scheduled for pickup _____

Generator Name and Loading Address
Seattle City Lights
Seattle, WA

Contact Person: Mike McFarland

Telephone Number: 253-539-0766

Waste Profile # OR297735

Waste Type
- [ ] CDL
- [ ] Contaminated Soil
- [ ] Asbestos
- [x] Other: Soil and Sediment

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: [signature] Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
92 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In NA Liners 0 1 2

End Time _____ Box # Out CWMU 7180 Liners 0 1 2

Unloading

Start Time _____

End Time _____

Transporter Name: Enviro-Con Truck/Chassis # 25 146

Driver Name Jesse Buet (Please Print) Driver Signature: [signature]

Remarks:

№ 20417

Swinson
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Enviro Con
Driver JBURT

Date 7-13-09	Truck # 25	Type Roll-off	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle, WA			Weight
Load #	Manifest #	Tracking #	Net
Special Handling Disp Site # OR297735		Seattle	# Cwmll
		~~OB~~ TO WD	7180
DO# 700367			

Receiver Date

Signature Bentley or Kelly Print or Type Name

Driver Signature Date 7-13-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

37333

WASTE MANAGEMENT

Columbia Ridge Landfill and Recycling Center
a subsidiary of Waste Management
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
(541) 454-2030

Bill Of Lading

Date scheduled for pickup 6-25-09

Time scheduled for pickup _____

Generator Name and Loading Address

Seattle City Lights

Contact Person: Mike M.

Telephone Number: 253 539-0764

Waste Profile # 101616 WA

Waste Type

- ☐ CDL
- ☐ Contaminated Soil
- ☐ Asbestos
- ☑ Other: non Reg not per 49 CFR

Acknowledgement of Loading:

Company Name: _____ Date: _____

Signature: _____ Name: _____
Generator's Authorized Representative — Please Print

Deliver to:
Union Pacific Seattle Immemodul Facility (ARGO Yard)
12 South Dawson Street
Seattle, Washington 98108
Phone (206) 764-1541 or Night (206) 764-1438

Disposal Facility:
Columbia Ridge Landfill and Recycling Center
18177 Cedar Springs Lane
Arlington, Oregon 97812-6512
Phone # (541) 454-2030

Container Inspection Upon Pickup:

	Yes	No
Tarp in good serviceable condition	☐	☐
Container is in good condition	☐	☐
No free standing water	☐	☐
Container is empty and clean	☐	☐

Circle ONE: **DROP ONLY** **PICK UP ONLY** **SWAP** **WTL**

Loading

Start Time _____ Box # In _____ Liners 0 1 2 Unloading Start Time _____

End Time _____ Box # Out 0510 (swmu) Liners 0 1 2 End Time _____

Transporter Name: Environ Corp Truck/Chassis # 25 144

Driver Name Jesse Burt (Please Print) Driver Signature _____

Remarks:

No 20406

Ewing-Son
AND TRUCKING INC.
PMB 509, 26910 92nd Ave. NW, Stanwood, WA 98292
(360) 629-8047~(800) 887-4206~Fax (360) 629-7477

Company Scott
Driver JBURT

Date 6-25-09	Truck #	Type Bulldozer	Truck Hours
Shipper	Consignee		Driver Hours
Seattle City Light			Demurrage
			Rate
Seattle			Weight
Load #	Manifest #	Tracking #	Net
Special Handling Profile Highway			
20 yd	600530	Seattle to up	GWMW 8510

Receiver | Date

Signature | Print or Type Name

Driver Signature | Date 6-25-09

Signature of this truck invoice will be considered your notice of our intent to lien this project, if necessary.
Interest @ 1.5% per month will be charged on all past due accounts. Charges due by the tenth of the month following date of this billing.

APPENDIX L

Archeol Monitoring Report

Exemption 3

Exemption 3

Exemption 3

Exemption 3

Exemption 3

Exemption 3

Exemption 3

Exemption 3

APPENDIX M

SEPA DNS and Checklist

DETERMINATION OF NONSIGNIFICANCE (DNS)

RCW 197-11-970

Description of proposal: The City of Seattle proposes to perform a project to cleanup and replace the Georgetown Steam Plant Flume. The project is required by federal and state environmental regulations. The project will require the removal of contaminated sediments, soil and debris. All contaminated materials will be disposed at a permitted, offsite disposal site subject to the approval of the Environmental Protection Agency and Department of Ecology. The flume will be replaced with an underground pipe that will convey storm water from the Steam Plant and South Myrtle Street out to Slip 4 of the Duwamish Waterway. Two grass bioswales will be installed near South Myrtle Street. The project is expected to begin in June 2008 and be completed in November 2008.

Proponent: City of Seattle, City Light Department and Seattle Public Utilities

Location of proposal, including street address, if any: The Georgetown Steam Plant Flume begins at the Steam Plant, 6605 13th Avenue S. in the Georgetown neighborhood of Seattle. The flume is approximately 2500 feet long and about one-half of it is located within North Boeing Field. The Flume crosses underneath East Marginal Way near its intersection with Ellis Avenue and ends in Slip 4 of the Duwamish Waterway.

Lead agency: City of Seattle, City Light Department

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

The project will be conducted in a manner to avoid or mitigate impacts on earth, water, plant, and aesthetic elements of the environment. When completed, the project will protect Slip 4 from potential future contamination.

___ There is no comment period for this DNS.

_X_ This DNS is issued under 197-11-340(2); the lead agency will not act on this proposal until after the close of the comment period. Comments must be submitted by March 5, 2008.

Responsible official Jorge Carrasco

Position/title Superintendent Phone (206) 684-3200

Address 700 - 5th Avenue, Suite 3200, PO Box 34023 Seattle, WA 98124-4023

Date 2/1/08 Signature Lynn Best for

_X_ You may appeal this determination to the Office of Hearing Examiner, 1320 Alaska Building, 618 Second Avenue, Seattle, WA 98104. The letter of appeal and a $50.00 filing fee (check payable to the City of Seattle) must reach the Office of Hearing Examiner before 5:00 p.m. on March 12, 2008. The appeal must state specifically why the appellant believes the interpretation is incorrect.

___ There is no agency appeal.

NOTE:

Distribution:

City of Seattle
Department of Planning & Development (2)
Public Resource Center
700 Fifth Avenue Suite 2000
Seattle, WA 98104-5070

State of Washington
Department of Ecology
Central Programs - SEPA
P.O. Box 47600
Olympia, WA 98504-7600

State of Washington
Department of Ecology
Central Files - SEPA
3190 160th Avenue SE
Bellevue, WA 98008-5452

Mark Edens
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Karen Keeley
US EPA Region 10
1200 Sixth Avenue, Suite 900, ECL-111
Seattle, Washington 98101-3140

bcc: Schulze
Library

ENVIRONMENTAL (SEPA) CHECKLIST

Purpose of Checklist

The State Environmental Policy Act (SEPA), Chapter 43.21 RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from your proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of Checklist for Nonproject Proposals

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply". IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS
(Part D). For nonproject actions, the references in the checklist to the words

"project", "applicant", and "property or site" should be read as "proposal", "proposer", and "affected geographic area", respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Georgetown Flume Remediation and Drainage Project

2. Name of applicant:

   Wanda Schulze, Seattle City Light

3. Address and phone number of applicant and contact person:

   Address: PO BOX 34023 98124-4023

   Phone: (206) 233-2192 Email: wanda.schulze@seattle.gov

4. Date checklist prepared:

   January 22, 2008.

5. Agency requesting checklist:

   Seattle City Light

6. Proposed timing or schedule (including phasing, if applicable):

   Construction activities are expected to begin in April 2008 and last for approximately 22 weeks.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   No, noting however the flume is bordered by the Department of Ecology listed site referred to as North Boeing Field / Georgetown Steam Plant (NBF/GSP). Ecology is leading the NBF/GSP site investigation and cleanup. Ecology could require future work if needed within the SCL flume project area, however this is not anticipated.

   Due to the closure of the flume, the Boeing Company will be required to reroute or abandon some piped connections into the flume and may modify the storm drainage system for North Boeing Field. The Boeing Company activities are not described in this checklist.

   Also, this work will precede a Seattle led project to cleanup Slip 4 which is part of the Duwamish Waterway Superfund Site.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Environmental reports directly related to the Georgetown Flume Demolition and Contaminated Soil Project includes the following:

- **Site Characterization and Alternatives Evaluation Report, Georgetown Flume Demolition and Contaminated Soil Removal, (prepared for Seattle City Light by Herrera Environmental Consultants, April, 2007).**
- **80% Design Memorandum, Georgetown Flume (Herrera Environmental Consultants, September,-2007)**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None to our knowledge.

10. List any government approvals or permits that will be needed for your proposal, if known.

This project requires approval by the Environmental Protection Agency (EPA) and Washington State Department of Ecology (WDOE). The portion of the project under EPA oversight is required as part of an Administrative Order on Consent under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The remainder of the project will be conducted under WDOE oversight under the Model Toxics Control Act (MTCA). Both CERCLA and MTCA require that removal and cleanup actions comply with applicable local, state, and federal laws, as well as other relevant and appropriate requirements. A list of these requirements has already been approved by EPA and WDOE for the flume removal action. For that portion of the flume removal action conducted pursuant to CERCLA, regulatory permits are not required; however, all work must be conducted in a manner that meets the substantive provisions of the regulations. For that portion of the project conducted under MTCA, applicable regulatory permits will be obtained and include: a municipal street use permit from Seattle Department of Transportation, and two wastewater discharge permits from King County.

Also, the flume is part of the Georgetown Steam Plant National Historic Landmark designation and demolition of the flume requires Section 106 consultation under the National Historic Preservation Act of 1966.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The following section details the activities that will be occurring under this project. Please see the attached figures to view the locations described in this section.

The Georgetown Steam Plant Flume conveyance system is a 2500-foot long system of wood and concrete-lined ditches, culverts, pipes and a concrete tunnel that connect the Georgetown Steam Plant to the Duwamish Waterway at Slip 4. See Figure 1 for a vicinity map and Figure 2 for a map indicating the various structures that comprise the flume. The flume was constructed in the early 1900s to convey cooling water to Slip 4 in the Duwamish Waterway, and is part of the Georgetown Steam Plant National Historic Landmark. The Steam Plant ceased operations in 1960's, however the flume continued to be a conveyance for storm water, surface run-off and some permitted and non-permitted inputs from adjacent businesses, including North Boeing Field. Additionally, sediment from Slip 4 is carried into the flume during high tides. The flume has collected soil and contaminated sediments containing Polychlorinated Biphenyls (PCBs), Polyaromatic Hydrocarbons (PAHs), and some metals. See section 7 for more information on contamination levels.

This project will remove approximately 250 cubic yards of contaminated sediment from the flume, demolish the wooden portions of the flume structure, and install a new underground storm water drainage system, including a new outfall structure in Slip 4. The project will eliminate the flume as a potential pathway for contaminants to enter Slip 4.

In addition, this project will remove PCB contaminated soil from two substation sites that are adjacent to the flume. One site, Willow Substation, is an active substation that provides power to a portion of North Boeing Field. The other site, Ellis Substation, has been decommissioned and contains no electrical equipment. Approximately 13 cubic yards of soil will be removed from the two substation sites. This soil will likely be drummed for transport to an off-site disposal facility.

Contaminated sediment will be removed from pipe, culvert, and tunnel sections of the flume using jetting and suction techniques. Excavation equipment or hand tools will be used to remove sediment from open channel sections and at the outfall end at Slip 4. Sediment will be dewatered and contained in appropriate shipping vessels prior to transport and disposal at an offsite facility. Water removed during the course of the sediment removal will be treated to the required discharge limits prior to discharge to the sanitary sewer or surface water. Appropriate BMPs will be instituted for earthwork, sediment removal, stockpiling, and traffic. More detail is provided in subsequent sections.

Demolition will entail partially removing portions of vertical concrete walls along open-channel segments of the flume and sections of concrete floor slabs for the construction of adequate foundations for manholes and pipe sections. Wooden walls and floors will be completely removed as part of this project. All wooden and metal supports and metal fencing will be removed along all open channel segments. Existing culvert crossings at South Willow Street and South Myrtle Street will be removed to accommodate the new drainage pipe.

The steam plant tunnel will be cleaned and then filled with granular fill. No demolition of the steam plant structure itself will occur as part of this project.

The replacement drainage pipe will begin at the steam plant and convey only roof drainage for the first 1,000 feet. This upper section essentially functions as a private storm drain connection for SCL.

The new drainage pipe will be constructed to follow the existing flume alignment along its entirety. For the portions of the flume that are currently pipes

(segments A, B and D in Figure 2), the new drainage pipe will be slip lined through the existing pipe. Near South Willow Street, SPU will connect a new drainage catch basin. From this connection point, the drainage pipe functions as a public drainage system. SPU will pick up several other discreet inputs, including treated runoff from bio-swales near South Myrtle Street and catch basins serving properties immediately adjacent to or on the flume property.

The flume excavation will be backfilled to match existing grade and surfaced with crushed rock. A bio swale is planned to cover a portion of the alignment extending downstream from South Myrtle Street for approximately 300 feet. No new pavement will be added as part of this project. Figures 3 and 4 provide general construction plans.

A new, smaller outfall pipe will be installed inside the existing outfall at Slip 4. The cleaning and slip-lining of the existing outfall structure will require that some work be done below Mean Higher High Water (MHHW). However, this work will be done during sufficiently low tides so that no actual in-water work is required, minimizing potential direct impacts to fish. Sediment that has accumulated in front of the flume outfall will be removed using either a vactor truck or an excavator. 15-20 cubic yards of sediment are expected to be removed from the front of the outfall. A design plan for work at the outfall is provided in Figure 5.

The new outfall pipe will be equipped with a pinch-type (or duck-bill) tide valve which will prevent sediments from being carried up into the drain pipe at high tide.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The flume begins at the Georgetown Steam Plant located at 6605 13th Avenue South and continues 2500 feet south to Slip 4 near East Marginal Way South in the Georgetown Neighborhood of the Seattle, Washington. Please see Figure 1 to view the project vicinity.

The project site boundaries lie within the southeast and northeast quadrant of Section 29, Township 24 North, Range 4 East and are within tax parcels 7006700570, 2924049110 and city streets rights-of-way.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one):
Flat, rolling, hilly, steep slopes, mountainous,
other:_____

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope on the project site is the shoreline bank located at the existing outfall to Slip 4. The ground surface at this location rises approximately 11 feet over a distance of approximately 12.5 feet (i.e., 88% slope). The slope along the remaining 2,450 feet of the site ranges between 1% and 4%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soils on the project site are primarily granular fill material (top 6 to 8 feet) overlying alluvial soils.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Project is located within a liquefaction zone.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Approximately 15,000 square feet of surface area will be disturbed during demolition of the existing flume, removal of contaminated soil from within the Willow Street Substation, construction of proposed bio swales, and installation of the new drainage system. Approximately 2,400 cubic yards of contaminated material will be removed from the project site and approximately 3,500 cubic yards of clean backfill material will be imported to the site. All fill material will be required to be tested to ensure no contaminants are being introduced to the site. Unpaved portions of the flume will be surfaced with crushed gravel.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Overall, the potential for erosion on the project site is very low because most areas affected by clearing and grading activities are relatively flat. However, work near the outfall will be conducted on a slope and there is potential for erosion. Measures to be put in place to minimize erosion are discussed more in subsequent sections.

Stockpiles of soil or bedding material will be covered with plastic sheeting to prevent erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Currently approximately 5,000 square feet of the 40,000 square foot site is covered with impervious surface. The proposed project will not increase the amount of impervious surface. The flume excavation will be backfilled to

match existing grade along much of the alignment and surfaced with crushed rock. Two grass lined bio swales are planned to cover a portion of the alignment extending downstream from South Myrtle Street for approximately 150 feet each.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

The contractor will be required to submit a TESC plan to be approved before construction begins.

The work on the slope near the outfall will require clearing of vegetation and grading the slope back to create an 8-ft wide path to allow equipment to access the outfall. Quarry spalls and geotextile will be used to stabilize the soils along the equipment access path. Silt fence will be required along the top of bank in the work area and along each side of the construction access path. Coir waddles will be placed in areas where silt fencing can not be installed.

No exposed earth will remain unstabilized for more than 7 days from May 1st to September 30th. From October 1st to April 30th, no exposed earth shall remain unstabilized for more than 2 days. Stabilization of exposed earth will be with approved TESC methods (i.e. mulching, netting, erosion blankets, covering, etc.) After the project is complete, some TESC measures will remain in place until vegetation is reestablished on the slope.

2. Air

a. What type of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No new air emissions will result from the completed project. During construction, dust may be released into the air during demolition activities, installation of the new drainage pipe, and during transport of materials to and from the site. Operating diesel and gasoline powered construction equipment and generators will release exhaust emissions and odors into the air.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

- **The contractor will be required to keep all paved surfaces within the project area clean to prevent the release of dust from the site.**
- **The contractor will be required to remove dirt from trucks and other construction equipment before leaving the site to prevent loose material from being tracked onto local streets.**

- **If loose soil is transported onto a paved roadway surface, the contractor will be required to thoroughly clean the roadway surface at the end of each workday.**
- **The contractor will be required to completely cover the beds of trucks transporting demolition debris, sediment, soil or other loose material to and from the site with tarps or other appropriate covering.**
- **The contractor will be required to cover all stockpiles to control the release of dust.**
- **The contractor will be required to keep all diesel and gasoline powered construction equipment in good working order and fitted with appropriate muffler and exhaust systems.**
- **The contractor will be required to control dust during demolition, excavation, and loading activities.**

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes. The existing flume carries storm water and discharges it to the Duwamish River at Slip 4. The Duwamish River discharges to Elliot Bay in Puget Sound.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes. Removal of sediment from within the outfall pipe, installation of the new outfall and tide gate, and construction of a new splash pad at the end of the outfall pipe will all occur within 200 feet of the Duwamish Waterway. This work area is shown in Figure 5. Sediment from within the outfall pipe and in Slip 4 will be removed by excavation or pipe jetting with clean water and suctioning or collecting the loosened and suspended materials. Captured and excavated sediment will be dewatered and contained in appropriate shipping vessels prior to transport and disposal at an offsite facility. Water removed during the sediment cleanup will be contained, tested, and treated if needed prior to discharge to the sanitary sewer system. Work at the outfall will be completed during low-tide events to minimize turbidity in the waterway.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Installation of the new outfall pipe and tide gate and construction of a new splash pad will require the removal of approximately 20 cubic yards

of contaminated sediment from below the MHHW line in Slip 4. Removal of this contaminated material will provide an environmental benefit to Slip 4. In addition, about 10 cubic yards of soil below MHHW will be removed as part of constructing the temporary access road down to the outfall. See figures 4 and 5.

Approximately 80 yards of imported material will be placed below MHHW. 60 cubic yards of quarry spalls will be used to stabilize the access road and 20 cubic yards of quarry spalls and other material will be placed in Slip 4 just outside the outfall pipe to create a new splash pad to prevent sediment erosion from future storm drainage.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

   No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

   The 100-yr flood plain (FEMA Flood Insurance Rate Map No. 53033C0640) is indicated on Figure 6. The flume is not located within the floodplain. However, most of the flume is located below the 100-year flood elevation. Due to the presence of the open outfall pipe in Slip 4, the entire length of the flume bottom is inundated with water from the Duwamish all the way to the GTSP at high tide. The new outfall pipe will be fitted with a tide gate to prevent water from the Duwamish entering the pipe.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

   The potential for discharge of waste material to Slip 4 and the Duwamish Waterway will be greatly reduced by the proposed project. Several piped connections from North Boeing Field will be abandoned or rerouted away from the flume by Boeing. Two new bio swales will also be constructed as part of the project to treat runoff from South Myrtle Street.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

   The finished project will not create any new withdrawal of ground water or any new discharges to groundwater. However, during construction, ground water will likely be withdrawn from excavations as needed to allow the new maintenance holes and catch basins to be installed. The groundwater will be tested, treated if necessary, and discharged with a permit to the King County sanitary sewer system. The quantity of ground water is not known at this time as it will depend on weather and tidal conditions.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals ...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The flume currently conveys storm water to the Duwamish Waterway from both piped connections and surface runoff draining approximately 6 acres, which includes the GTSP roof, City rights-of-way along South Myrtle and South Willow Streets, portions of North Boeing Field, and private property adjacent to the flume. This conveyance will continue via the new drainage pipe, although several existing inputs from North Boeing Field will be removed.

During construction, storm water runoff will be routed around the project site to the extent possible. Storm water entering excavations or other potentially contaminated areas will be collected in tanks, tested, and treated if needed prior to discharge to the King County sanitary sewer system. The quantity of water will depend on the amount of rainfall during construction and is not known at this time.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Waste materials are not expected to enter ground or surface waters. Waste generated during construction will include soil, sediment, construction-related water, and demolition debris. All solid wastes will either be direct-loaded into trucks and covered for immediate off-site transport or will be stored in areas where secondary containment is provided. Waste stockpiles will be kept covered. Waste water will be collected in tanks and treated prior to discharge to surface water. Hazardous materials stored onsite will be required to be covered and provided with secondary containment. Any accidental spills of hazardous materials will be cleaned up immediately.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

This project will reduce the risk of contamination entering Slip 4 and the Duwamish Waterway. Two new bio swales (shown on Figure 4) will also be constructed as part of the project to treat runoff from South Myrtle Street. See above answer for proposed measures to offset potential construction impacts.

4. Plants

a. Check or circle types of vegetation found on the site:
_**X** deciduous tree: alder, maple, aspen, other
__ evergreen tree: fir, cedar, pine, other
_**X** shrubs
_**X** grass
__ pasture
__ crop or grain
__ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
__ water plants: water lily, eelgrass, milfoil, other
__ other types of vegetation

Nearly all of the Slip 4 shoreline has been highly modified and includes berths and wharves, riprap (some mixed with sand and gravel), exposed geotextile material, bulkheads, and miscellaneous fill. The small areas of unarmored shoreline are generally steep, eroded slopes, vegetated by mixed grasses and shrubs. There is little overhanging vegetation.

The majority of vegetation along the flume consists of urban weeds and grasses and invasive shrubs. There are several small areas consisting of deciduous tree growth most notably north of Myrtle Street. The remainder of the flume is surrounded by asphalt paving.

b. What kind and amount of vegetation will be removed or altered?

Some vegetation on the site will be removed. The primary types of vegetation for removal include urban weeds, grasses, and shrubs. Up to 12 deciduous trees 5 – 8 feet in diameter will also be removed.

c. List threatened or endangered species known to be on or near the site.

None.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Two grass-lined bio swales are planned to cover a portion of the new drainage alignment extending downstream from South Myrtle Street for

approximately 150 feet each. In addition, the slope above the outfall will be hydroseeded to stabilize the slope until the Slip 4 project is completed.

5. Animals

a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:

Birds:

Bird species documented in the project area include those adapted to urban environments, such as great blue heron, killdeer, a variety of gull species, swallows, sparrows, finches, rock pigeon, crows, Canada geese, belted kingfishers, spotted sandpipers, and European starlings. Bald eagles, peregrine falcons, and osprey have been observed along the Duwamish. Aquatic species include a variety of ducks, including mallards, gadwall, scoters, goldeneyes, and scaup. Pigeon guillemots, mergansers, grebes, and cormorants may feed on small fish (Cordell et al. 1996; USACE et al. 1994). It is likely that these species would use Slip 4 primarily for resting and feeding, as nesting habitat and cover are limited.

Mammals:

Various small mammals that inhabit urban habitats could be present including rabbits, opossums, mice, shrews, moles, bats, squirrels, muskrats, and raccoon.

Fish:

Shellfish in the Lower Duwamish Waterway include crab, shrimp, clams, and mussels. Salmonid species currently in the Green/Duwamish River system include: Chinook salmon Coho salmon; Chum salmon; Pink salmon; Steelhead trout; Cutthroat trout. Primary non-salmonid fish species include English sole, Pacific staghorn sculpin, starry flounder, shiner surfperch, snake prickleback, Pacific herring, surf smelt, and Pacific sand lance (USACE 1983; USACE et al. 1994). Other estuarine species found in the Duwamish include rainbow trout, bass, bluegill, suckers, sunfish and dace (USACE et al. 1994).

b. List any threatened or endangered species known to be on or near the site.

The following are known to exist near the site:

- **Puget Sound Chinook Salmon**
- **Coastal/Puget Sound Bull Trout**
- **Bald Eagle**

c. Is the site part of a migration route? If so, explain.

Yes. The entire Puget Sound area is part of the Pacific Flyway for migratory birds. The Lower Duwamish Waterway is also a migration route for salmonid species.

d. Proposed measures to preserve or enhance wildlife, if any:

This project will provide an overall benefit to wildlife by eliminating this open conveyance for potential contamination to reach Slip 4.

Risks to the wildlife during construction would be limited through use of engineering controls and BMPs. Work at the outfall pipe in Slip 4 will be coordinated with the tide cycle to minimize habitat and water quality impacts. Tidal water will be blocked from entering the flume at the beginning of work to minimize handling requirements.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The completed project has no energy needs. Storm water will gravity flow to Slip 4.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Not Applicable

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

SCL completed several studies assessing sediment conditions in the Georgetown flume between 1984 and 2005. Sampling and analysis showed that PCBs, PAHs, metals, and petroleum products are present in sediments contained within the flume. Additional sampling of soils surrounding the flume in 2006 detected the presence of PCBs and PAHs. The investigations found that some sediment and soils exceed Model Toxics Control Act (MTCA) cleanup levels and require removal. Creosote was also detected in samples of the flume wood indicating that it had been treated. For additional information on specific levels of contamination soils, the *Site Characterization and Alternatives Evaluation Report, Georgetown Flume Demolition and Contaminated Soil Removal* (Herrera, April 2007) is available upon request from City Light.

- **The completed project will eliminate potential exposure of humans and wildlife to contaminated sediments in the flume. However, during construction, some exposure to site workers could occur.**

1) Describe special emergency services that might be required.

This project may require special emergency services, in the case of a workplace accident, injury, inadvertent spill or release of a hazardous material. As a precautionary measure, contractors will prepare a health and safety plan prior to site work. This plan will include an emergency response procedure and be reviewed by the City. All work will be conducted in accordance with site-specific health and safety plans.

2) Proposed measures to reduce or control environmental health hazards, if any:

All contractors and workers at the Georgetown flume site will be subject to the Washington Industrial Safety and Health Act (WISHA) regulations. WISHA establishes worker safety measures addressing potential exposure to chemicals and general construction procedures. The following controls will be implemented to reduce the risk of accidental exposures.

- **Work will be performed in compliance with WISHA requirements for working at contaminated sites.**
- **The contractor will be required to provide a health and safety plan for approval before beginning work, and implement the plan in conducting the work.**
- **The work area will be fenced or otherwise secured throughout construction to prevent public exposure to contamination.**
- **Trucks will be inspected and cleaned prior to leaving the site to ensure no contaminant is tracked into public areas. Bulk loads of soil, sediment, demolition debris, and other loose materials will be securely covered.**
- **Dust control requirements will be strictly enforced during demolition, excavation and loading activities.**

Testing for contamination in sediment, soil, and water will be conducted throughout the removal and demolition project.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)?

The project will not be affected by existing noise.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from site.

The completed project will not result in any changes in noise levels in the vicinity. However, during construction, this project will temporarily increase ambient noise levels when equipment is operating. Various types of construction equipment, including dump trucks, back hoes, front end loaders, bulk scrapers, pneumatic hammers, machine-mounted

grabbers, and generators will create noise during the 22-week construction period. Construction activities will be limited to between the hours of 7:00 a.m. to 10 pm Monday thru Friday, and 9:00 a.m. to 10:00 p.m. on weekends. The contractor will be responsible for ensuring that construction related noise does not exceed the maximum permissible sound levels established in the Seattle Noise Ordinance (SMC 25.08). Noise and activity during remediation operations could temporarily deter some species from the project area. Once the equipment ceases operations, there will be no long-term increases in noise.

3) Proposed measures to reduce or control noise impacts, if any:

None are anticipated.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The Georgetown flume site is located on industrial property owned by SCL that extends from the north end of King County International Airport to East Marginal Way. The flume itself currently conveys storm water from both piped connections and surface runoff from approximately 6 acres, which includes the GTSP roof, City rights-of-way along South Myrtle and South Willow Streets, portions of North Boeing Field, and private property adjacent to the flume. Properties adjacent to the site on the northwest, north, northeast, east and southeast are primarily owned by King County and leased by The Boeing Company and the Washington Air National Guard. Other adjacent properties include a motel and distribution business located southwest of South Myrtle Street and a City of Seattle storage yard to the west.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

A majority of the flume is a below grade open wood-lined structure, approximately 6 feet wide and 6 feet deep, with sections culverted through concrete or corrugated metal pipe. Other sections of the flume include concrete-lined open channels and a large tunnel section that connects to the steam plant.

A decommissioned substation is located on the flume property near E Myrtle St. All electrical equipment has been removed, but the fence and concrete pads remain. An active substation is located on the property inside the North Boeing Field fence near Willow St.

d. Will any structures be demolished? If so, what?

The fence and concrete pads associated with the decommissioned substation will be demolished. In addition, the open channel segments of the flume will be partially or completely demolished, removed, and backfilled. Piped sections will be used as casings for the new drainage pipe or filled and abandoned.

e. What is the current zoning classification of the site?

The flume is located on two parcels. Parcel No. 7006700570 owned by Seattle City Light is zoned C2-40, IG2 U/85, and IB U/65. Parcel No. 2924049110, recently acquired by the City, is zoned IG1 U/85.

f. What is the current comprehensive plan designation of the site?

Both parcels are designated as Industrial and both are covered by the Greater Duwamish (Manufacturing Industrial) Urban Village Overlay.

g. If applicable, what is the current shoreline master program designation of the site?

Parcel No. 2924049110 is designated Urban Industrial (UI).

h. Has any part of the site been classified as an "environmentally critical" area? If so, specify.

Yes, both parcels are located in a designated liquefaction zone.

i. Approximately how many people would reside or work in the completed project?

No changes are being made in the use of the project areas. Boeing will continue to use portions of the project area for their North Boeing Field operations after the project is complete.

j. Approximately how many people would the completed project displace?

N/A

k. Proposed measures to avoid or reduce displacement impacts, if any:

N/A

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

N/A

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

N/A

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

N/A

c. Proposed measures to reduce or control housing impacts, if any:

N/A

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The structural features of the existing flume are located at or below ground level.

b. What views in the immediate vicinity would be altered or obstructed?

Tree removal will change the appearance of the property

c. Proposed measures to reduce or control aesthetic impacts, if any:

The completed project will have a positive impact by removal of a highly deteriorated structure and areas of refuse and debris. The new grass bioswale will increase the aesthetics of the area near South Myrtle Street.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None. Night time construction activities requiring artificial illumination will be avoided.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None required.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Duwamish Waterway provides opportunities for boating, fishing and other forms of water recreation.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None required.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

Yes. The Georgetown flume was constructed in the early 1900s to discharge cooling water from the GTSP to the river. The GTSP is listed in the National Register of Historic Places as a National Historic Landmark (listed on July 5, 1984) and a City of Seattle landmark (designated by the City Council on September 10, 1984). The flume is part of the GTSP National Historic Landmark designation, but not part of the local landmark designation. Based on City Ordinance 111884, section 2, a Certificate of Approval is not required for the proposed project.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

Seattle City Light reviewed the records available at the Washington Department of Archaeology and Historic Preservation. Other than the Steam Plant/Flume site itself, no historic or archaeological sites are located on or next to the project site. However, the following sites are located within two miles:

- **Old Georgetown City Hall- 6202 13th Ave S**
- **Boeing Field/Maple Donation Claim – Boeing Field/Airport Way S.**
- **Columbia & Puget Sound Railroad – Airport Way S. & S. Lucile St.**
- **Ideal Cement Company/Gorst Field – 5400 W. Marginal Way SW**

c. Proposed measures to reduce or control impacts, if any:

EPA and SCL will initiate the Section 106 consultation process to include the State Historic Preservation Officer, local officials and experts, and the tribes and interested parties, to discuss the project and obtain a decision from the SHPO on effect, and guidance on mitigation measures as appropriate.

Should any archaeological or historic resources be discovered during construction of the project, construction operations in the vicinity of the discovery will be immediately stopped and appropriate state archeological authorities will be contacted to determine their disposition.

14. Transportation

a. Identify public streets and highways serving the site, and describe the proposed access to the existing street system. Show on site plans, if any.

The flume crosses under South Myrtle Street via a 60-ft long culvert. The flume also crosses under East Marginal Way South (a 6-lane arterial roadway) approximately 15 feet below the surface. Construction activities are not expected to impact traffic on E Marginal Way, however, one lane of S. Myrtle St may be closed at times during the project.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Metro operates several bus routes along East Marginal Way South.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

A temporary access path will be constructed on City-owned property to allow access to the outfall pipe in Slip 4. No other access roads will be constructed.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

No additional vehicle trips will be generated by the completed project. SCL maintenance staff will periodically visit the site, as they have always done to conduct inspections and maintenance. During construction, additional truck and vehicle traffic is expected, especially on S Myrtle Street, Ellis Street and E Marginal Way South. During peak construction, as many as 30 trucks per day could be entering the site.

g. Proposed measures to reduce or control transportation impacts, if any.

All trucks exiting the site will be put through a wheel wash station to avoid tracking soil off-site. All bulk loads of soil, sediment, construction debris, and other loose materials will be securely covered. Truck traffic will be limited to main arterials including Ellis Ave, E. Marginal Way S, and the dead-end portion of S. Myrtle Street.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None required.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

No utilities available.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in immediate vicinity which might be needed.

No permanent utilities will be installed. However, temporary utilities during construction will include electric power supplied by on site generators, sanitary service will be provided by portable bathrooms, and water will be obtained from local fire hydrants.

References

Cordell, J., L. Tear, C. Simenstad, and W. Hood. 1996. Duwamish River coastal America restoration and reference sites: Results from 1995 monitoring studies. University of Washington, Fisheries Research Institute, Seattle, WA.

Herrera Environmental Consultants. 2007. Draft Site Characterization and Alternatives Evaluation Report, Georgetown Flume Demolition and Contaminated Soil Removal, prepared for City of Seattle City Light, Seattle, WA.

Integral Consulting . 2006. Biological Assessment - Lower Duwamish Waterway Slip 4 Early Action Area, internal review draft, prepared by Incorporated, Seattle, WA.

USACE. 1983. East, West and Duwamish Waterways navigation improvement study, final feasibility report and final environmental impact statement. U.S. Army Corps of Engineers, Seattle District, Seattle, WA.

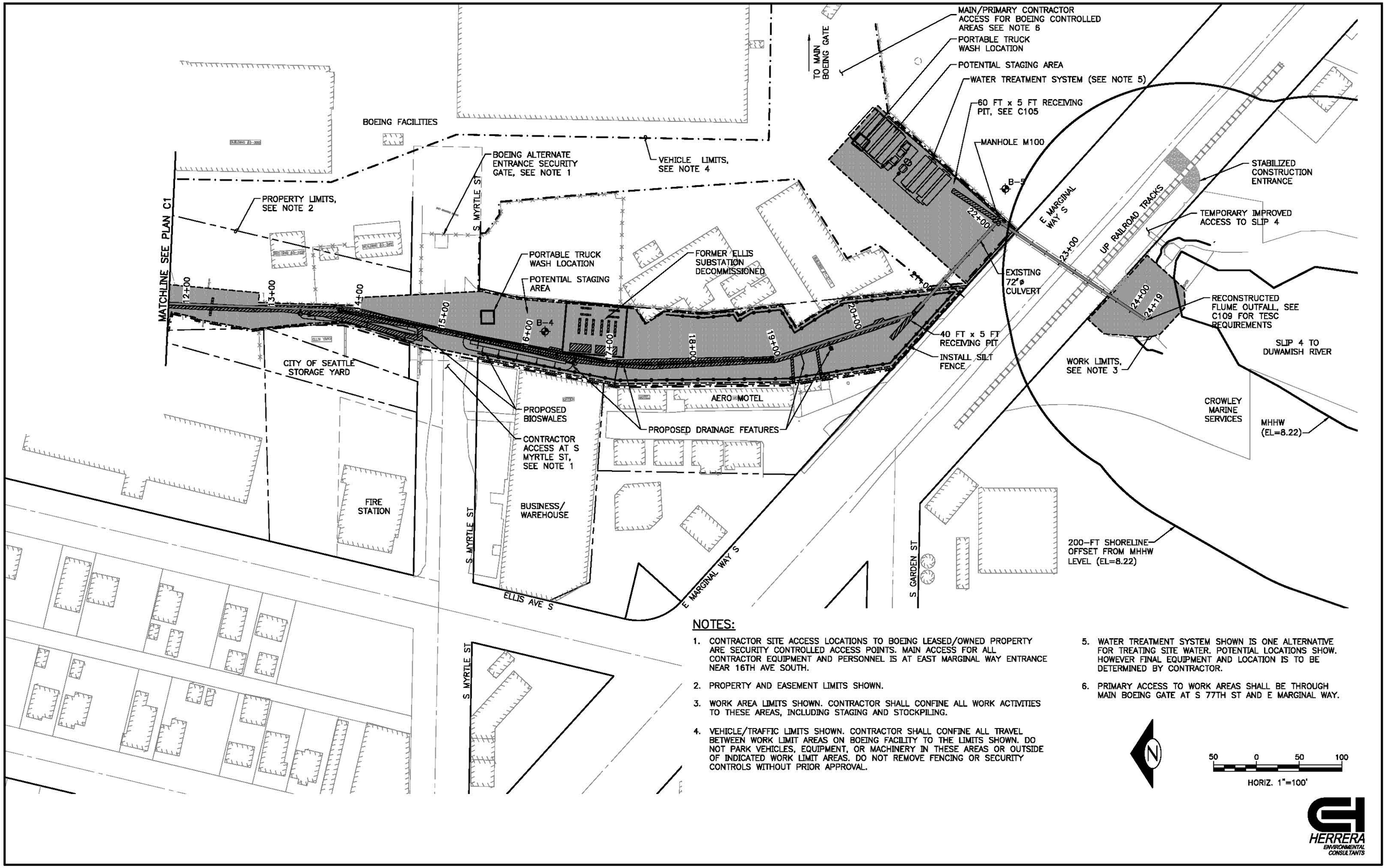
USACE, Washington Department of Ecology, and Port of Seattle. 1994. Southwest Harbor cleanup and redevelopment project: Joint Federal/State final environmental impact statement. U.S. Army Corps of Engineers, Seattle District, Seattle, WA.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand the lead agency is relying on them to make its decision.

Signature: Wanda B Schulze Sr Environmental Analyst
Seattle City Light

Date submitted: 1/25/08



NOTES:

1. CONTRACTOR SITE ACCESS LOCATIONS TO BOEING LEASED/OWNED PROPERTY ARE SECURITY CONTROLLED ACCESS POINTS. MAIN ACCESS FOR ALL CONTRACTOR EQUIPMENT AND PERSONNEL IS AT EAST MARGINAL WAY ENTRANCE NEAR 16TH AVE SOUTH.
2. PROPERTY AND EASEMENT LIMITS SHOWN.
3. WORK AREA LIMITS SHOWN. CONTRACTOR SHALL CONFINE ALL WORK ACTIVITIES TO THESE AREAS, INCLUDING STAGING AND STOCKPILING.
4. VEHICLE/TRAFFIC LIMITS SHOWN. CONTRACTOR SHALL CONFINE ALL TRAVEL BETWEEN WORK LIMIT AREAS ON BOEING FACILITY TO THE LIMITS SHOWN. DO NOT PARK VEHICLES, EQUIPMENT, OR MACHINERY IN THESE AREAS OR OUTSIDE OF INDICATED WORK LIMIT AREAS. DO NOT REMOVE FENCING OR SECURITY CONTROLS WITHOUT PRIOR APPROVAL.
5. WATER TREATMENT SYSTEM SHOWN IS ONE ALTERNATIVE FOR TREATING SITE WATER. POTENTIAL LOCATIONS SHOW. HOWEVER FINAL EQUIPMENT AND LOCATION IS TO BE DETERMINED BY CONTRACTOR.
6. PRIMARY ACCESS TO WORK AREAS SHALL BE THROUGH MAIN BOEING GATE AT S 77TH ST AND E MARGINAL WAY.

Figure 4 - Southern Portion Georgetown Flume Project Limits

NOTES:

1. CONTRACTOR SITE ACCESS LOCATIONS ARE SECURITY CONTROLLED ACCESS POINTS. MAIN ACCESS FOR ALL CONTRACTOR EQUIPMENT AND PERSONNEL IS AT EAST MARGINAL WAY ENTRANCE NEAR 16TH AVE SOUTH.
2. GEORGETOWN STEAM PLANT DRIVEWAY AND PARKING AREA SHALL BE KEPT CLEAR AT ALL TIMES. MAXIMUM VEHICLE/MACHINE SPEED THROUGH THIS AREA IS 10 MPH.
3. PROPERTY AND EASEMENT LIMITS SHOWN.
4. WORK AREA LIMITS SHOWN. CONTRACTOR SHALL CONFINE ALL WORK ACTIVITIES TO THESE AREAS, INCLUDING STAGING AND STOCKPILING.
5. VEHICLE/TRAFFIC LIMITS SHOWN. CONTRACTOR SHALL CONFINE ALL TRAVEL BETWEEN WORK LIMIT AREAS ON BOEING FACILITY TO THE LIMITS SHOWN. DO NOT PARK VEHICLES, EQUIPMENT, OR MACHINERY IN THESE AREAS OR OUTSIDE OF INDICATED WORK LIMIT AREAS. DO NOT REMOVE FENCING OR SECURITY CONTROLS WITHOUT PRIOR APPROVAL.
6. WORK INSIDE STEAM PLANT IS LIMITED TO SEDIMENT REMOVAL AND CLEANING OF TUNNEL/CONDENSER PIT. ACCESS THROUGH CONTRACTOR-MADE EXTERIOR OPENING INTO TUNNEL. NO ACCESS THROUGH FACILITY.

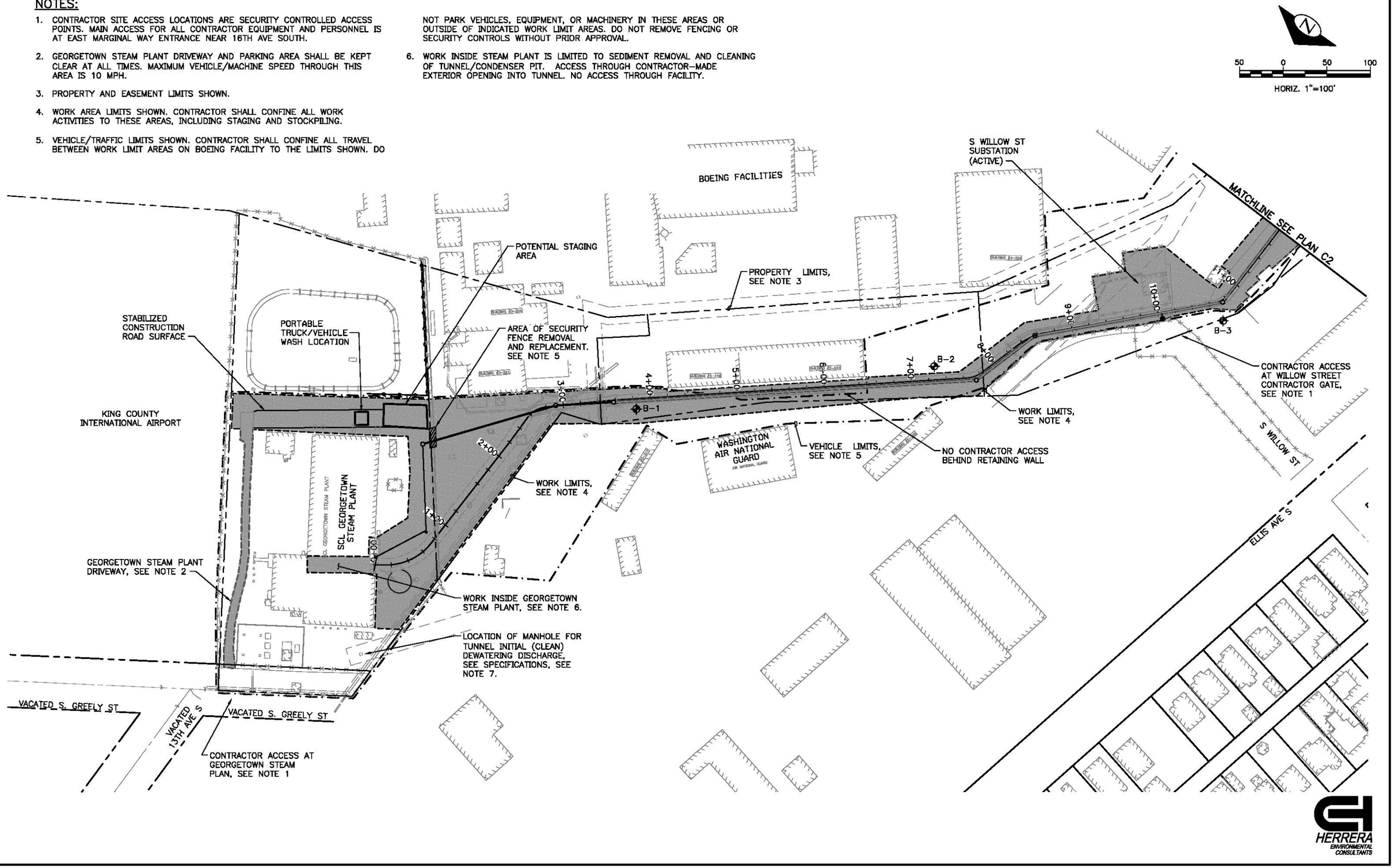


Figure 3 - Northern Portion Georgetown Flume Project Limits

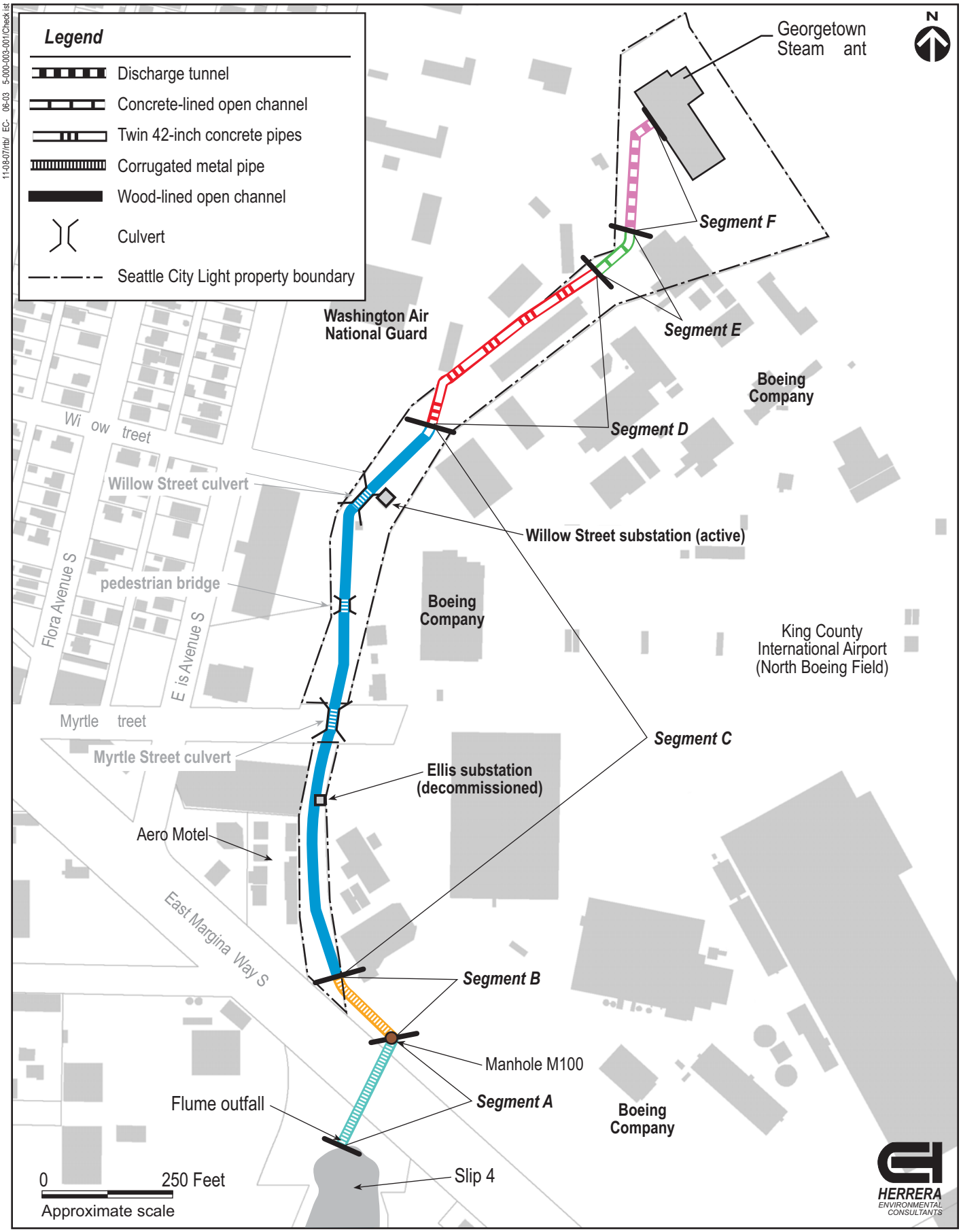


Figure 2. Georgetown flume site map, Seattle, Washington.

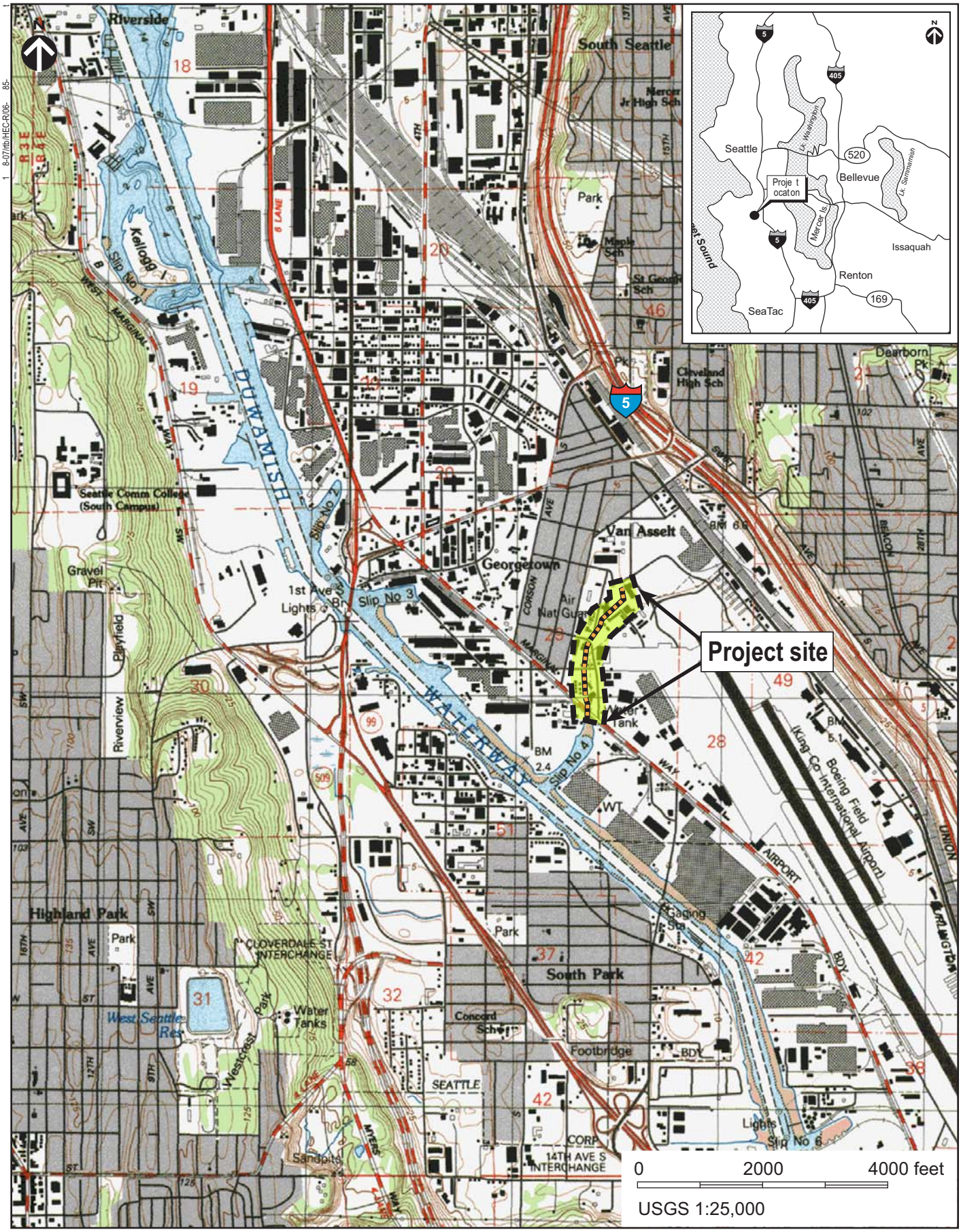


Figure 1. Vicinity map, Georgetown flume site, Seattle, Washington.

NOTES:

1. DO NOT DAMAGE OR DISTURB EXISTING CREOSOTED TIMBERS OR PILES DURING WORK. PILES OR TIMBER BROKEN OFF DURING WORK WILL BE REMOVED AND DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR.
2. DO NOT DAMAGE OUTFALL CONCRETE STRUCTURE DURING SEDIMENT REMOVAL.
3. DO NOT DAMAGE OTHER EXISTING OUTFALLS OR STRUCTURES. REPAIRS TO THESE STRUCTURES FROM CONTRACTOR ACTIVITIES WILL BE MADE AT THE EXPENSE OF THE CONTRACTOR.
4. AFTER SEDIMENT REMOVAL IS COMPLETED, EXTEND NON-WOVEN GEOSYNTHETIC SEPARATION BARRIER MATERIAL 3 FEET BEYOND LIMIT OF DISTURBED SEDIMENT PRIOR TO PLACING SPLASH PAD/COVER MATERIALS.
5. MAINTAIN SPILL RESPONSE EQUIPMENT AND MATERIALS AS REQUIRED BY CONTRACTOR SPCC PLAN.
6. CONTRACTOR SHALL PROVIDE REQUIRED UPRR NOTIFICATION PER SPECIFICATIONS.
7. CONTRACTOR SHALL FOLLOW EQUIPMENT DECONTAMINATION REQUIREMENTS AND TRACK-OUT RESTRICTIONS PER SPECIFICATIONS
8. MAINTAIN CLEAN OPERATION BETWEEN EXCAVATION AREA AND OFF LOADING AREA. CONTRACTOR SHALL PROPOSE SPECIFIC BMPS TO MINIMIZE SPILLAGE AND COLLECT/CONTAIN ANY SPILLAGE THAT DOES OCCUR. OPERATIONS WILL BE SHUT DOWN AT CONTRACTOR'S EXPENSE UNTIL CONTRACTOR CORRECTS ANY UNCONTROLLED SPILLAGE.

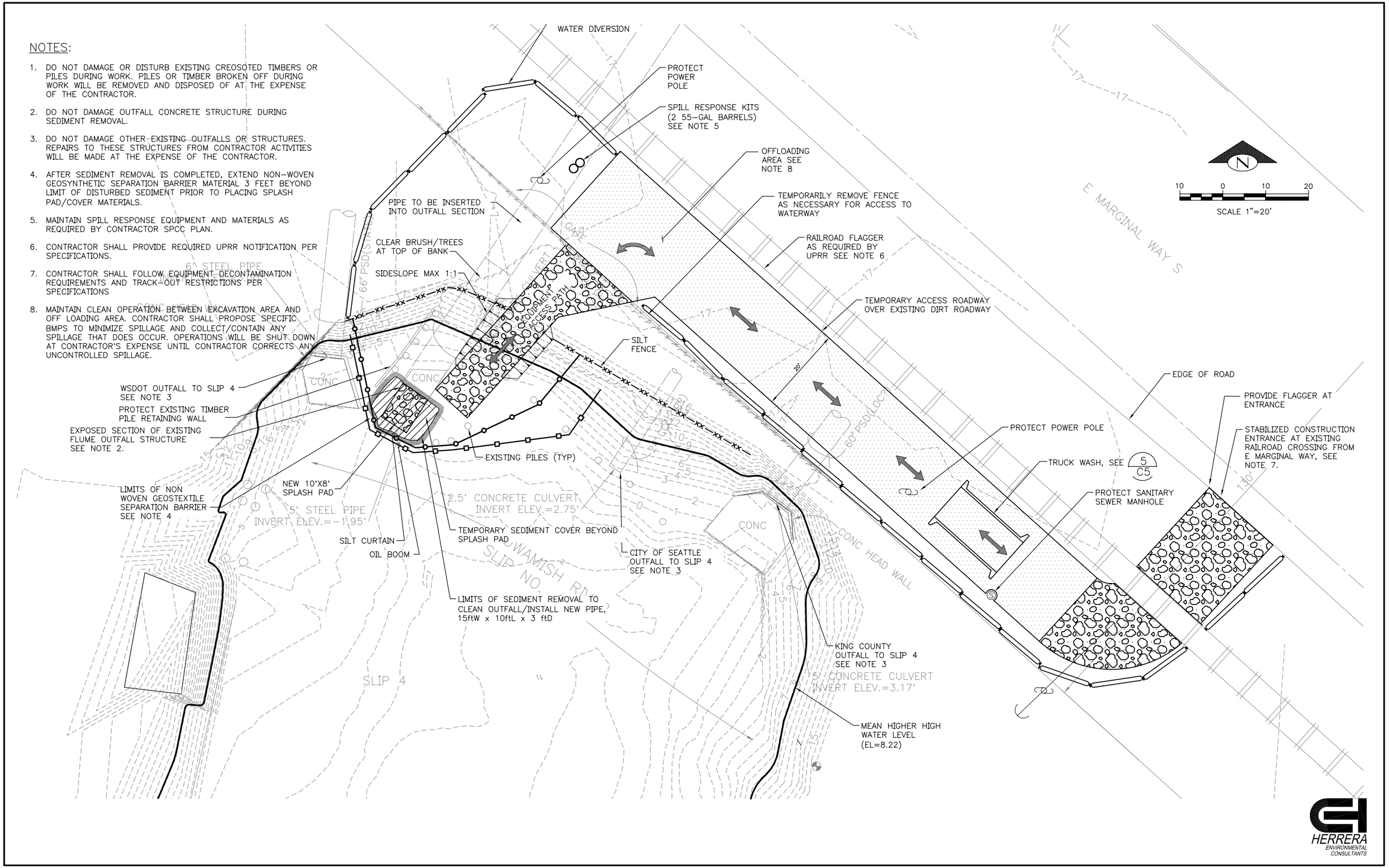


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Figure 5 - Slip 4 Shoreline and Outfall Construction Area

APPENDIX N

Contractor Cost Documentation

Seattle Public Utilities

Progress Estimate # 1

PW # 2008-025

Cut Off Date: May 30, 2009

Contract Name: GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT

Contractor: E.J. RODY & SONS, INC.

Awarded Contract Price: $ 2,205,555.38

Contract Compl. Date: October 28, 2009

Contract Time: 120 Working Days

Notice to Proceed: May 11, 2009

Comments:

	Amount to Date	Previous Amount	**Amount This Progress Estimate**
Contract Amount:	$ 416,912.50	$ 0.00	$ 416,912.50
Change Orders:	0.00	0.00	0.00
Materials on Hand:	0.00	0.00	0.00
Sales Tax:	39,606.69	0.00	39,606.69
Retainage:	0.00	0.00	0.00
Misc. Deductions/Adtns:	0.00	0.00	0.00
Payment to Contractor:	$ 456,519.19	$ 0.00	**$ 456,519.19**

Prepared by: John M Atencio
John Atencio

Reviewed by: Jason Miller — Date: 06/29/09
Construction Support Supervisor

Approved by: John Summers — Date: 6·30·09
Construction Engineering Supervisor

Reviewed By: Lyn B 7/1/09 — Date: 7/1/09
Division Director, Seattle City Light

cc: Suprv. John Summers
Res. Engr.: Bryan Nicholson
Mat'ls Lab: Euresto Busuego
Pmt. prep.: John Atencio
Proj. Mgr.: Wanda Schulze
SPU Central Files
SCL Accts. Payable
Finance/Contractor

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW # 2008-025
PROGRESS ESTIMATE # 1
FUNDING SUMMARY

Accounts Payable: Seattle City Light

Retainage: BOND IN LIEU

Primary Client: Seattle City Light

Funding Source(s): DWF
SCL

Specification No.: 3512

Acct # / Org #	Proj. # / Resource	Funding Desc.	Contract Amount	Change Orders	Material On Hand	Sales Tax	Misc. Deduct/ Additions	Revised Contract Price
760400	**70459-23**	**DWF**						
N/A	N/A	Amount To Date:	$ 110,967.60	$ 0.00	$ 0.00	$ 10,541.92	$ 0.00	$ 121,509.52
		Previous Progress E	0.00	0.00	0.00	0.00	0.00	0.00
		This Progress Est.:	**$ 110,967.60**	**$ 0.00**	**$ 0.00**	**$ 10,541.92**	**$ 0.00**	**$ 121,509.52**
760400	**70459-15**	**SCL**						
N/A	N/A	Amount To Date:	$ 305,944.90	$ 0.00	$ 0.00	$ 29,064.77	$ 0.00	$ 335,009.67
		Previous Progress E	0.00	0.00	0.00	0.00	0.00	0.00
		This Progress Est.:	**$ 305,944.90**	**$ 0.00**	**$ 0.00**	**$ 29,064.77**	**$ 0.00**	**$ 335,009.67**
		Comments for above fund: per Wanda Schulze.jma						
		AMOUNT FOR ALL FUNDS						
		Amount To Date:	$ 416,912.50	$ 0.00	$ 0.00	$ 39,606.69	$ 0.00	$ 456,519.19
		Previous Progress E	0.00	0.00	0.00	0.00	0.00	0.00
		This Progress Est.:	**$ 416,912.50**	**$ 0.00**	**$ 0.00**	**$ 39,606.69**	**$ 0.00**	**$ 456,519.19**

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 1
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
1	SAFETY AND HEALTH PROGRAM	LS	1.00	$ 30,000.00	1.0000	1.0000	$ 30,000.00	$ 30,000.00	T
2	TIRE AND TRUCK UNDERCARRIAGE WASH SYSTEM	LS	1.00	50,000.00	1.0000	1.0000	50,000.00	50,000.00	T
3	HAZARDOUS WASTE SITE CONTROL PLAN	LS	1.00	45,000.00	1.0000	1.0000	45,000.00	45,000.00	T
4	UNION PACIFIC RAILROAD FLAGMAN	HR	100.00	85.00					T
5	SPECIAL CONSTRUCTION AND ACCESS REQUIREMENTS FOR NORTH BOEING FIELD	LS	1.00	15,000.00	1.0000	1.0000	15,000.00	15,000.00	T
6	CONTRACTOR'S WORK PLANS	LS	1.00	20,000.00	1.0000	1.0000	20,000.00	20,000.00	T
7	GEORGETOWN STEAM PLANT COORDINATION AND EQUIPMENT PROTECTION	LS	1.00	5,000.00	0.7500	0.7500	3,750.00	3,750.00	T
8	MOBILIZATION	LS	1.00	143,000.00	1.0000	1.0000	143,000.00	143,000.00	T
9	MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL INC. FLAGGING	LS	1.00	16,000.00					T
10	CONSTRUCTION SIGNS CLASS A	SF	250.00	6.00					T
11	CLEARING & GRUBBING	SF	16,000.00	1.00	15,210.0000	15,210.0000	15,210.00	15,210.00	T
12	REMOVE PAVEMENT	SY	300.00	5.00					T
13	REMOVE PAVEMENT, REINF CONC	SY	75.00	12.00					T
14	REMOVE CULVERT	LF	170.00	8.00					T
15	REMOVE FENCE, CHAIN LINK	LF	525.00	5.00	392.0000	392.0000	1,960.00	1,960.00	T
16	REMOVE TREE	EA	2.00	2,000.00					T
17	SAW ASPHALT CONCRETE, FULL DEPTH	LF	980.00	3.00					T
18	SAW CONCRETE, FULL DEPTH	LF	120.00	5.00					T
19	ABANDON AND FILL PIPE, 42-INCH DIAMETER	LF	934.00	50.00					T
20	ABANDON AND FILL PIPE, 72-INCH DIAMETER	LF	338.00	150.00					T
21	ABANDON AND FILL TUNNEL	CY	1,500.00	125.00					T
22	EXCAVATION AND REMOVAL OF SOIL	TN	2,375.00	40.00					T
23	EXCAVATION AND REMOVAL OF SEDIMENT	TN	365.00	80.00					T
24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	100.00	295.00					T
25	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE D FACILITY	TN	2,690.00	55.00					T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 1
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
26	EXCAVATION, REMOVAL AND DISPOSAL OF OTHER CONTAMINATED MEDIA	TN	47.00 $	150.00					T
27	TREATED WOOD REMOVAL AND DISPOSAL	TN	120.00	140.00					T
28	CONCRETE REMOVAL AND DISPOSAL	TN	340.00	65.00	12.5000	12.5000	812.50	812.50	T
29	WATER TREATMENT FACILITY INSTALLATION AND START UP	LS	1.00	50,000.00	1.0000	1.0000	50,000.00	50,000.00	T
30	WATER TREATMENT FACILITY OPERATION AND MAINTENANCE	MO	6.00	15,000.00	0.5000	0.5000	7,500.00	7,500.00	T
31	WILLOW STREET SUBSTATION CONTAMINATED SOIL REMOVAL	TN	25.00	350.00					T
32	WILLOW STREET SUBSTATION BALLAST REPLACEMENT	TN	5.00	160.00					T
33	STREAMBED AGGREGATE, MINERAL AGGREGATE TYPE 1	CY	8.00	65.00					T
34	BIOFILTRATION SWALE FINE GRADING	LF	238.00	20.00					T
35	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE	SY	389.00	1.20					T
36	CONSTRUCTION GEOTEXTILE FOR SEPARATION	SY	2,540.00	1.20					T
37	MINERAL AGGREGATE, TYPE 2	CY	1,008.00	31.00					T
38	MINERAL AGGREGATE, TYPE 6	CY	8.00	60.00					T
39	MINERAL AGGREGATE, TYPE 17	CY	2,430.00	30.00					T
40	PAVEMENT, HMA (CL 1 IN)	TN	79.00	200.00	10.0000	10.0000	2,000.00	2,000.00	T
41	PAVEMENT PATCH, TEMPORARY	TN	6.00	180.00					T
42	CONCRETE CL B FOR RETAINING WALL	CY	6.00	450.00					T
43	STEEL REINF. BAR, GRADE 60	LB	500.00	2.00					T
44	FILTER MATERIAL	CY	67.00	40.00					T
45	MANHOLE, TYPE 200A	EA	11.00	4,500.00					T
46	MANHOLE, TYPE 200B	EA	1.00	6,500.00					T
47	EXTRA DEPTH, TYPE 200B MANHOLE	VF	2.00	450.00					T
48	CATCH BASIN, TYPE 240A	EA	2.00	1,800.00					T
49	CATCH BASIN, TYPE 241	EA	1.00	1,700.00					T
50	CATCH BASIN, TYPE 240C	EA	1.00	1,900.00					T
51	REBUILD MANHOLE 100	EA	1.00	8,500.00					T
52	BIOFILTRATION SWALE LEVEL SPREADER	EA	2.00	350.00					T
53	CLEANING EXISTING DRAINAGE STRUCTURES - TUNNEL AND CONDENSER PIT	LS	1.00	5,000.00	0.3300	0.3300	1,650.00	1,650.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 1
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
54	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS LESS THAN 42 INCH	LF	918.00 $	3.00					T
55	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS EQUAL TO OR GREATER THAN 42 INCH	LF	247.00	7.00					T
56	CLEANING EXISTING DRAINAGE STRUCTURES - EXISTING OUTFALL PIPE	LF	209.00	12.00					T
57	OUTFALL SEDIMENT CAP	LS	1.00	25,000.00					T
58	OUTFALL PLATE PLUG ASSEMBLY	LS	1.00	4,000.00					T
59	PIPE, CB CONN, PVC, 8 IN	LF	10.00	80.00					T
60	PIPE, CB CONN, PVC, 12 IN	LF	46.00	60.00					T
61	BEDDING, CL B, 8 IN PIPE	LF	191.00	9.00					T
62	BEDDING, CL B, 12 IN PIPE	LF	271.00	13.00					T
63	BEDDING, CL B, 18 IN PIPE	LF	523.00	15.00					T
64	BEDDING, CL B, 24 IN PIPE	LF	687.00	17.00					T
65	SAFETY SYSTEM FOR TRENCH EXCAVATION, MIN BID = $1.50 PER SF	SF	3,100.00	50.00					T
66	SUPPORT SYSTEM	SF	1,700.00	36.00					T
67	TELEVISION INSPECTION	LF	2,466.00	1.00					T
68	DEWATERING SYSTEM	LS	1.00	45,000.00					T
69	PIPE, SD, PVC C900, DR 25, 4 IN	LF	25.00	60.00					T
70	PIPE, PSD, PVC C900, DR 25, 8 IN	LF	181.00	38.00					T
71	PIPE, PSD, PVC C900, DR25 12 IN	LF	225.00	45.00					T
72	PIPE, PSD, PVC C905, DR 25, 18 IN	LF	523.00	60.00					T
73	PIPE, PSD, PVC C905, DR25, 24 IN	LF	687.00	75.00					T
74	PIPE, HDPE, SDR 17, 18 IN, INSERTION	LF	498.00	70.00					T
75	PIPE, HDPE, SDR 17, 24 IN, INSERTION	LF	352.00	180.00					T
76	TEE, 4 IN, CUT-IN PVC PIPE	EA	1.00	350.00					T
77	TEE, 8 IN, CUT-IN PVC PIPE	EA	2.00	375.00					T
78	TEE, 8 IN, CUT-IN HDPE PIPE	EA	1.00	1,800.00					T
79	TEE, PVC, 18 IN	EA	1.00	2,300.00					T
80	TEE, PVC, 24 IN	EA	2.00	3,200.00					T
81	TEMPORARY STORM DRAIN BYPASS	LS	1.00	35,000.00	0.3300	0.3300	11,550.00	11,550.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 1
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
82	TIDE VALVE, 24 IN	EA	1.00	$ 6,000.00					T
83	DOWNSPOUT MODIFICATION	LS	1.00	6,000.00	0.3300	0.3300	1,980.00	1,980.00	T
84	DAM, CLAY TRENCH	EA	9.00	400.00					T
85	PIPE, SD, D.I. CL 50, 6 IN	LF	22.00	50.00					T
86	TEMPORARY EROSION & SEDIMENT CONTROL	LS	1.00	35,000.00	0.5000	0.5000	17,500.00	17,500.00	T
87	EROSION CONTROL, HYDRO-SEEDING	SF	5,900.00	0.25					T
88	EROSION CONTROL, MATTING, JUTE	SF	900.00	1.50					T
89	TOPSOIL, TYPE A	CY	192.00	35.00					T
90	SEEDED LAWN INSTALLATION	SF	9,710.00	0.35					T
91	CURB, EXTRUDED ASPHALT CONCRETE	LF	310.00	5.00					T
92	CHAIN LINK FENCE	LF	375.00	35.00					T
93	HEAVY LOOSE RIPRAP	TN	8.00	50.00					T
94	QUARRY SPALLS 4-INCH TO 8-INCH	TN	389.00	22.00					T
						Contract Amount:	**$ 416,912.50**	**$ 416,912.50**	
						Amount To Date for Contract and Change Orders:	**$ 416,912.50**	**$ 416,912.50**	

Seattle Public Utilities

Progress Estimate # 2	Cut Off Date:	June 30, 2009
PW # 2008-025		

Contract Name: GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT

Contractor: E.J. RODY & SONS, INC.

Awarded Contract Price: $ 2,205,555.38 Contract Compl. Date: October 28, 2009

Contract Time: 120 Working Days

Notice to Proceed: May 11, 2009

Comments:

	Amount to Date	Previous Amount	Amount This Progress Estimate
Contract Amount:	$ 856,242.36	$ 416,912.50	$ 439,329.86
Change Orders:	0.00	0.00	0.00
Materials on Hand:	0.00	0.00	0.00
Sales Tax:	81,343.02	39,606.69	41,736.34
Retainage:	0.00	0.00	0.00
Misc. Deductions/Adtns:	0.00	0.00	0.00
Payment to Contractor:	$ 937,585.38	$ 456,519.19	**$ 481,066.20**

Prepared by: John M Atencio
John Atencio

Reviewed by: Jason Miller Date: 07/27/09
Construction Support Supervisor

Approved by: John Summers Date: 07/28/09
Construction Engineering Supervisor

Reviewed By: HM Li for L Best Date: 7/28/09
Division Director, Seattle City Light

cc: Suprv. John Summers
Res. Engr.: Bryan Nicholson
Mat'ls Lab: Euresto Busuego
Pmt. prep.: John Atencio

Proj. Mgr.: Wanda Schulze
SPU Central Files

SCL Accts. Payable
Finance/Contractor

RECEIVED
JUL 29 2009
CONSTRUCTION MGMT

RECEIVED
JUL 28 2009
COST ACCOUNTING

RECEIVED
JUL 28 2009
GENERAL ACCTG.

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW # 2008-025
PROGRESS ESTIMATE # 2
FUNDING SUMMARY

Accounts Payable: Seattle City Light
Retainage: BOND IN LIEU
Primary Client: Seattle City Light

Funding Source(s): DWF
SCL

Specification No.: 3512

Acct # / Org #	Proj. # / Resource	Funding Desc.	Contract Amount	Change Orders	Material On Hand	Sales Tax	Misc. Deduct/ Additions	Revised Contract Price
760400	70459-23	**DWF**						
N/A	N/A	Amount To Date:	$ 211,362.39	$ 0.00	$ 0.00	$ 20,079.43	$ 0.00	$ 231,441.82
		Previous Progress E	110,967.60	0.00	0.00	10,541.92	0.00	121,509.52
		This Progress Est.:	**$ 100,394.79**	**$ 0.00**	**$ 0.00**	**$ 9,537.51**	**$ 0.00**	**$ 109,932.30**
760400	70459-15	**SCL**						
N/A	N/A	Amount To Date:	$ 644,879.97	$ 0.00	$ 0.00	$ 61,263.60	$ 0.00	$ 706,143.56
		Previous Progress E	305,944.90	0.00	0.00	29,064.77	0.00	335,009.67
		This Progress Est.:	**$ 338,935.07**	**$ 0.00**	**$ 0.00**	**$ 32,198.83**	**$ 0.00**	**$ 371,133.90**
		Comments for above fund: per Wanda Schulze.jma						
		AMOUNT FOR ALL FUNDS						
		Amount To Date:	$ 856,242.36	$ 0.00	$ 0.00	$ 81,343.02	$ 0.00	$ 937,585.38
		Previous Progress E	416,912.50	0.00	0.00	39,606.69	0.00	456,519.19
		This Progress Est.:	**$ 439,329.86**	**$ 0.00**	**$ 0.00**	**$ 41,736.34**	**$ 0.00**	**$ 481,066.20**

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 2
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
1	SAFETY AND HEALTH PROGRAM	LS	1.00	$ 30,000.00		1.0000	$	30,000.00	T
2	TIRE AND TRUCK UNDERCARRIAGE WASH SYSTEM	LS	1.00	50,000.00		1.0000		50,000.00	T
3	HAZARDOUS WASTE SITE CONTROL PLAN	LS	1.00	45,000.00		1.0000		45,000.00	T
4	UNION PACIFIC RAILROAD FLAGMAN	HR	100.00	85.00					T
5	SPECIAL CONSTRUCTION AND ACCESS REQUIREMENTS FOR NORTH BOEING FIELD	LS	1.00	15,000.00		1.0000		15,000.00	T
6	CONTRACTOR'S WORK PLANS	LS	1.00	20,000.00		1.0000		20,000.00	T
7	GEORGETOWN STEAM PLANT COORDINATION AND EQUIPMENT PROTECTION	LS	1.00	5,000.00	0.2500	1.0000	1,250.00	5,000.00	T
8	MOBILIZATION	LS	1.00	143,000.00		1.0000		143,000.00	T
9	MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL INC. FLAGGING	LS	1.00	16,000.00					T
10	CONSTRUCTION SIGNS CLASS A	SF	250.00	6.00					T
11	CLEARING & GRUBBING	SF	16,000.00	1.00		15,210.0000		15,210.00	T
12	REMOVE PAVEMENT	SY	300.00	5.00	202.5000	202.5000	1,012.50	1,012.50	T
13	REMOVE PAVEMENT, REINF CONC	SY	75.00	12.00					T
14	REMOVE CULVERT	LF	170.00	8.00					T
15	REMOVE FENCE, CHAIN LINK	LF	525.00	5.00		392.0000		1,960.00	T
16	REMOVE TREE	EA	2.00	2,000.00					T
17	SAW ASPHALT CONCRETE, FULL DEPTH	LF	980.00	3.00	560.0000	560.0000	1,680.00	1,680.00	T
18	SAW CONCRETE, FULL DEPTH	LF	120.00	5.00					T
19	ABANDON AND FILL PIPE, 42-INCH DIAMETER	LF	934.00	50.00					T
20	ABANDON AND FILL PIPE, 72-INCH DIAMETER	LF	338.00	150.00					T
21	ABANDON AND FILL TUNNEL	CY	1,500.00	125.00	1,110.0000	1,110.0000	138,750.00	138,750.00	T
22	EXCAVATION AND REMOVAL OF SOIL	TN	2,375.00	40.00					T
23	EXCAVATION AND REMOVAL OF SEDIMENT	TN	365.00	80.00					T
24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	100.00	295.00	2.7500	2.7500	811.25	811.25	T
25	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE D FACILITY	TN	2,690.00	55.00	378.3000	378.3000	20,806.50	20,806.50	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 2
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
26	EXCAVATION, REMOVAL AND DISPOSAL OF OTHER CONTAMINATED MEDIA	TN	47.00 $	150.00	1.8800	1.8800	$ 282.00	$ 282.00	T
27	TREATED WOOD REMOVAL AND DISPOSAL	TN	120.00	140.00					T
28	CONCRETE REMOVAL AND DISPOSAL	TN	340.00	65.00	146.7200	159.2200	9,536.80	10,349.30	T
29	WATER TREATMENT FACILITY INSTALLATION AND START UP	LS	1.00	50,000.00		1.0000		50,000.00	T
30	WATER TREATMENT FACILITY OPERATION AND MAINTENANCE	MO	6.00	15,000.00	1.0000	1.5000	15,000.00	22,500.00	T
31	WILLOW STREET SUBSTATION CONTAMINATED SOIL REMOVAL	TN	25.00	350.00					T
32	WILLOW STREET SUBSTATION BALLAST REPLACEMENT	TN	5.00	160.00					T
33	STREAMBED AGGREGATE, MINERAL AGGREGATE TYPE 1	CY	8.00	65.00	8.0000	8.0000	520.00	520.00	T
34	BIOFILTRATION SWALE FINE GRADING	LF	238.00	20.00					T
35	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE	SY	389.00	1.20					T
36	CONSTRUCTION GEOTEXTILE FOR SEPARATION	SY	2,540.00	1.20	24.0000	24.0000	28.80	28.80	T
37	MINERAL AGGREGATE, TYPE 2	CY	1,008.00	31.00	48.7500	48.7500	1,511.25	1,511.25	T
38	MINERAL AGGREGATE, TYPE 6	CY	8.00	60.00	6.9000	6.9000	414.00	414.00	T
39	MINERAL AGGREGATE, TYPE 17	CY	2,430.00	30.00	111.5100	111.5100	3,345.30	3,345.30	T
40	PAVEMENT, HMA (CL 1 IN)	TN	79.00	200.00		10.0000		2,000.00	T
41	PAVEMENT PATCH, TEMPORARY	TN	6.00	180.00					T
42	CONCRETE CL B FOR RETAINING WALL	CY	6.00	450.00	9.0000	9.0000	4,050.00	4,050.00	T
43	STEEL REINF. BAR, GRADE 60	LB	500.00	2.00	290.0000	290.0000	580.00	580.00	T
44	FILTER MATERIAL	CY	67.00	40.00					T
45	MANHOLE, TYPE 200A	EA	11.00	4,500.00	6.0000	6.0000	27,000.00	27,000.00	T
46	MANHOLE, TYPE 200B	EA	1.00	6,500.00					T
47	EXTRA DEPTH, TYPE 200B MANHOLE	VF	2.00	450.00					T
48	CATCH BASIN, TYPE 240A	EA	2.00	1,800.00					T
49	CATCH BASIN, TYPE 241	EA	1.00	1,700.00					T
50	CATCH BASIN, TYPE 240C	EA	1.00	1,900.00					T
51	REBUILD MANHOLE 100	EA	1.00	8,500.00					T
52	BIOFILTRATION SWALE LEVEL SPREADER	EA	2.00	350.00					T
53	CLEANING EXISTING DRAINAGE STRUCTURES - TUNNEL AND CONDENSER PIT	LS	1.00	5,000.00	0.6700	1.0000	3,350.00	5,000.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 2
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
54	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS LESS THAN 42 INCH	LF	918.00 $	3.00	926.0000	926.0000 $	2,778.00 $	2,778.00	T
55	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS EQUAL TO OR GREATER THAN 42 INCH	LF	247.00	7.00					T
56	CLEANING EXISTING DRAINAGE STRUCTURES - EXISTING OUTFALL PIPE	LF	209.00	12.00	209.0000	209.0000	2,508.00	2,508.00	T
57	OUTFALL SEDIMENT CAP	LS	1.00	25,000.00	1.0000	1.0000	25,000.00	25,000.00	T
58	OUTFALL PLATE PLUG ASSEMBLY	LS	1.00	4,000.00	1.0000	1.0000	4,000.00	4,000.00	T
59	PIPE, CB CONN, PVC, 8 IN	LF	10.00	80.00					T
60	PIPE, CB CONN, PVC, 12 IN	LF	46.00	60.00					T
61	BEDDING, CL B, 8 IN PIPE	LF	191.00	9.00	141.0000	141.0000	1,269.00	1,269.00	T
62	BEDDING, CL B, 12 IN PIPE	LF	271.00	13.00	216.5000	216.5000	2,814.50	2,814.50	T
63	BEDDING, CL B, 18 IN PIPE	LF	523.00	15.00					T
64	BEDDING, CL B, 24 IN PIPE	LF	687.00	17.00					T
65	SAFETY SYSTEM FOR TRENCH EXCAVATION, MIN BID = $1.50 PER SF	SF	3,100.00	50.00	1,755.0000	1,755.0000	87,750.00	87,750.00	T
66	SUPPORT SYSTEM	SF	1,700.00	36.00					T
67	TELEVISION INSPECTION	LF	2,466.00	1.00					T
68	DEWATERING SYSTEM	LS	1.00	45,000.00					T
69	PIPE, SD, PVC C900, DR 25, 4 IN	LF	25.00	60.00					T
70	PIPE, PSD, PVC C900, DR 25, 8 IN	LF	181.00	38.00	141.0000	141.0000	5,358.00	5,358.00	T
71	PIPE, PSD, PVC C900, DR25 12 IN	LF	225.00	45.00	216.5000	216.5000	9,742.50	9,742.50	T
72	PIPE, PSD, PVC C905, DR 25, 18 IN	LF	523.00	60.00					T
73	PIPE, PSD, PVC C905, DR25, 24 IN	LF	687.00	75.00					T
74	PIPE, HDPE, SDR 17, 18 IN, INSERTION	LF	498.00	70.00	496.0000	496.0000	34,720.00	34,720.00	T
75	PIPE, HDPE, SDR 17, 24 IN, INSERTION	LF	352.00	180.00					T
76	TEE, 4 IN, CUT-IN PVC PIPE	EA	1.00	350.00					T
77	TEE, 8 IN, CUT-IN PVC PIPE	EA	2.00	375.00					T
78	TEE, 8 IN, CUT-IN HDPE PIPE	EA	1.00	1,800.00					T
79	TEE, PVC, 18 IN	EA	1.00	2,300.00					T
80	TEE, PVC, 24 IN	EA	2.00	3,200.00					T
81	TEMPORARY STORM DRAIN BYPASS	LS	1.00	35,000.00	0.3300	0.6600	11,550.00	23,100.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 2
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
82	TIDE VALVE, 24 IN	EA	1.00 $	6,000.00					T
83	DOWNSPOUT MODIFICATION	LS	1.00	6,000.00	0.3300	0.6600	1,980.00	3,960.00	T
84	DAM, CLAY TRENCH	EA	9.00	400.00	1.0000	1.0000	400.00	400.00	T
85	PIPE, SD, D.I. CL 50, 6 IN	LF	22.00	50.00	23.5000	23.5000	1,175.00	1,175.00	T
86	TEMPORARY EROSION & SEDIMENT CONTROL	LS	1.00	35,000.00	0.5000	1.0000	17,500.00	35,000.00	T
87	EROSION CONTROL, HYDRO-SEEDING	SF	5,900.00	0.25					T
88	EROSION CONTROL, MATTING, JUTE	SF	900.00	1.50					T
89	TOPSOIL, TYPE A	CY	192.00	35.00					T
90	SEEDED LAWN INSTALLATION	SF	9,710.00	0.35					T
91	CURB, EXTRUDED ASPHALT CONCRETE	LF	310.00	5.00					T
92	CHAIN LINK FENCE	LF	375.00	35.00					T
93	HEAVY LOOSE RIPRAP	TN	8.00	50.00					T
94	QUARRY SPALLS 4-INCH TO 8-INCH	TN	389.00	22.00	38.9300	38.9300	856.46	856.46	T
						Contract Amount:	**$ 439,329.86**	**$ 856,242.36**	
						Amount To Date for Contract and Change Orders:	**$ 439,329.86**	**$ 856,242.36**	

Seattle Public Utilities

Progress Estimate # 3

PW # 2008-025

Cut Off Date: July 30, 2009

Contract Name: GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT

Contractor: E.J. RODY & SONS, INC.

Awarded Contract Price: $ 2,205,555.38

Contract Compl. Date: October 28, 2009

Contract Time: 120 Working Days

Notice to Proceed: May 11, 2009

Comments:

	Amount to Date	Previous Amount	**Amount This Progress Estimate**
Contract Amount:	$ 1,405,393.40	$ 856,242.36	$ 549,151.04
Change Orders:	0.00	0.00	0.00
Materials on Hand:	0.00	0.00	0.00
Sales Tax:	133,512.37	81,343.02	52,169.35
Retainage:	0.00	0.00	0.00
Misc. Deductions/Adtns:	0.00	0.00	0.00
Payment to Contractor:	$ 1,538,905.77	$ 937,585.38	**$ 601,320.39**

Prepared by: John M Atencio
John Atencio

Reviewed by: Jason Miller
Construction Support Supervisor

Date: 08/19/09

Approved by: [illegible]
Construction Engineering Supervisor

Date: 08/21/09

Reviewed By: _____
Division Director, Seattle City Light

Date: _____

cc: Suprv. John Summers
Res. Engr.: Bryan Nicholson
Mat'ls Lab: Euresto Busuego
Pmt. prep.: John Atencio

Proj. Mgr.: Wanda Schulze
SPU Central Files

SCL Accts. Payable
Finance/Contractor

cc Wanda Schulze

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 3
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
1	SAFETY AND HEALTH PROGRAM	LS	1.00	$ 30,000.00		1.0000	$	30,000.00	T
2	TIRE AND TRUCK UNDERCARRIAGE WASH SYSTEM	LS	1.00	50,000.00		1.0000		50,000.00	T
3	HAZARDOUS WASTE SITE CONTROL PLAN	LS	1.00	45,000.00		1.0000		45,000.00	T
4	UNION PACIFIC RAILROAD FLAGMAN	HR	100.00	85.00					T
5	SPECIAL CONSTRUCTION AND ACCESS REQUIREMENTS FOR NORTH BOEING FIELD	LS	1.00	15,000.00		1.0000		15,000.00	T
6	CONTRACTOR'S WORK PLANS	LS	1.00	20,000.00		1.0000		20,000.00	T
7	GEORGETOWN STEAM PLANT COORDINATION AND EQUIPMENT PROTECTION	LS	1.00	5,000.00		1.0000		5,000.00	T
8	MOBILIZATION	LS	1.00	143,000.00		1.0000		143,000.00	T
9	MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL INC. FLAGGING	LS	1.00	16,000.00					T
10	CONSTRUCTION SIGNS CLASS A	SF	250.00	6.00					T
11	CLEARING & GRUBBING	SF	16,000.00	1.00		15,210.0000		15,210.00	T
12	REMOVE PAVEMENT	SY	300.00	5.00	124.2000	326.7000	621.00	1,633.50	T
13	REMOVE PAVEMENT, REINF CONC	SY	75.00	12.00					T
14	REMOVE CULVERT	LF	170.00	8.00	104.0000	104.0000	832.00	832.00	T
15	REMOVE FENCE, CHAIN LINK	LF	525.00	5.00	260.0000	652.0000	1,300.00	3,260.00	T
16	REMOVE TREE	EA	2.00	2,000.00					T
17	SAW ASPHALT CONCRETE, FULL DEPTH	LF	980.00	3.00		560.0000		1,680.00	T
18	SAW CONCRETE, FULL DEPTH	LF	120.00	5.00					T
19	ABANDON AND FILL PIPE, 42-INCH DIAMETER	LF	934.00	50.00	926.0000	926.0000	46,300.00	46,300.00	T
20	ABANDON AND FILL PIPE, 72-INCH DIAMETER	LF	338.00	150.00					T
21	ABANDON AND FILL TUNNEL	CY	1,500.00	125.00		1,110.0000		138,750.00	T
22	EXCAVATION AND REMOVAL OF SOIL	TN	2,375.00	40.00	772.3400	772.3400	30,893.60	30,893.60	T
23	EXCAVATION AND REMOVAL OF SEDIMENT	TN	365.00	80.00	324.7900	324.7900	25,983.20	25,983.20	T
24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	100.00	295.00		2.7500		811.25	T
25	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE D FACILITY	TN	2,690.00	55.00	1,097.1300	1,475.4300	60,342.15	81,148.65	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 3
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
54	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS LESS THAN 42 INCH	LF	918.00	$ 3.00		926.0000	$	2,778.00	T
55	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS EQUAL TO OR GREATER THAN 42 INCH	LF	247.00	7.00	165.0000	165.0000	1,155.00	1,155.00	T
56	CLEANING EXISTING DRAINAGE STRUCTURES - EXISTING OUTFALL PIPE	LF	209.00	12.00		209.0000		2,508.00	T
57	OUTFALL SEDIMENT CAP	LS	1.00	25,000.00		1.0000		25,000.00	T
58	OUTFALL PLATE PLUG ASSEMBLY	LS	1.00	4,000.00		1.0000		4,000.00	T
59	PIPE, CB CONN, PVC, 8 IN	LF	10.00	80.00	9.0000	9.0000	720.00	720.00	T
60	PIPE, CB CONN, PVC, 12 IN	LF	46.00	60.00	10.0000	10.0000	600.00	600.00	T
61	BEDDING, CL B, 8 IN PIPE	LF	191.00	9.00	9.0000	150.0000	81.00	1,350.00	T
62	BEDDING, CL B, 12 IN PIPE	LF	271.00	13.00	10.0000	226.5000	130.00	2,944.50	T
63	BEDDING, CL B, 18 IN PIPE	LF	523.00	15.00	523.0000	523.0000	7,845.00	7,845.00	T
64	BEDDING, CL B, 24 IN PIPE	LF	687.00	17.00	80.0000	80.0000	1,360.00	1,360.00	T
65	SAFETY SYSTEM FOR TRENCH EXCAVATION, MIN BID = $1.50 PER SF	SF	3,100.00	50.00	2,120.0000	3,875.0000	106,000.00	193,750.00	T
66	SUPPORT SYSTEM	SF	1,700.00	36.00					T
67	TELEVISION INSPECTION	LF	2,466.00	1.00	835.0000	835.0000	835.00	835.00	T
68	DEWATERING SYSTEM	LS	1.00	45,000.00	1.0000	1.0000	45,000.00	45,000.00	T
69	PIPE, SD, PVC C900, DR 25, 4 IN	LF	25.00	60.00					T
70	PIPE, PSD, PVC C900, DR 25, 8 IN	LF	181.00	38.00		141.0000		5,358.00	T
71	PIPE, PSD, PVC C900, DR25 12 IN	LF	225.00	45.00		216.5000		9,742.50	T
72	PIPE, PSD, PVC C905, DR 25, 18 IN	LF	523.00	60.00	523.0000	523.0000	31,380.00	31,380.00	T
73	PIPE, PSD, PVC C905, DR25, 24 IN	LF	687.00	75.00	80.0000	80.0000	6,000.00	6,000.00	T
74	PIPE, HDPE, SDR 17, 18 IN, INSERTION	LF	498.00	70.00		496.0000		34,720.00	T
75	PIPE, HDPE, SDR 17, 24 IN, INSERTION	LF	352.00	180.00	352.0000	352.0000	63,360.00	63,360.00	T
76	TEE, 4 IN, CUT-IN PVC PIPE	EA	1.00	350.00					T
77	TEE, 8 IN, CUT-IN PVC PIPE	EA	2.00	375.00	1.0000	1.0000	375.00	375.00	T
78	TEE, 8 IN, CUT-IN HDPE PIPE	EA	1.00	1,800.00	1.0000	1.0000	1,800.00	1,800.00	T
79	TEE, PVC, 18 IN	EA	1.00	2,300.00	1.0000	1.0000	2,300.00	2,300.00	T
80	TEE, PVC, 24 IN	EA	2.00	3,200.00					T
81	TEMPORARY STORM DRAIN BYPASS	LS	1.00	35,000.00	0.3400	1.0000	11,900.00	35,000.00	T

Seattle Public Utilities

Progress Estimate # 4

PW # 2008-025

Cut Off Date: August 30, 2009

Contract Name: GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT

Contractor: E.J. RODY & SONS, INC.

Awarded Contract Price: $ 2,205,555.38

Contract Compl. Date: October 28, 2009

Contract Time: 120 Working Days

Notice to Proceed: May 11, 2009

Comments:

	Amount to Date	Previous Amount	Amount This Progress Estimate
Contract Amount:	$ 1,846,726.90	$ 1,405,393.40	$ 441,333.50
Change Orders:	9,390.00	0.00	9,390.00
Materials on Hand:	0.00	0.00	0.00
Sales Tax:	176,331.11	133,512.37	42,818.73
Retainage:	0.00	0.00	0.00
Misc. Deductions/Adtns:	0.00	0.00	0.00
Payment to Contractor:	$ 2,032,448.01	$ 1,538,905.77	**$ 493,542.23**

70459-15

Prepared by: John M Atencio
John Atencio

Reviewed by: Jason M Sa — Date: 09/16/09
Construction Support Supervisor

Approved by: John Summers — Date: 9.17.09
Construction Engineering Supervisor

Reviewed By: Lynn Bot — Date: 9/23/09
Division Director, Seattle City Light

cc: Suprv. John Summers
Res. Engr.: Bryan Nicholson
Mat'ls Lab: Euresto Busuego
Pmt. prep.: John Atencio

Proj. Mgr.: Wanda Schulze
SPU Central Files

SCL Accts. Payable
Finance/Contractor

RECEIVED
SEP 24 2009
COST ACCOUNTING

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT

PW # 2008-025

PROGRESS ESTIMATE # 4

FUNDING SUMMARY

Accounts Payable: Seattle City Light

Retainage: BOND IN LIEU

Primary Client: Seattle City Light

Funding Source(s): DWF
SCL

Specification No.: 3512

Acct # / Org #	Proj. # / Resource	Funding Desc.	Contract Amount	Change Orders	Material On Hand	Sales Tax	Misc. Deduct/ Additions	Revised Contract Price
760400	70459-23	**DWF**						
N/A	N/A	Amount To Date:	$ 645,640.83	$ 0.00	$ 0.00	$ 61,335.88	$ 0.00	$ 706,976.71
		Previous Progress E	450,332.24	0.00	0.00	42,781.56	0.00	493,113.80
		This Progress Est.:	**$ 195,308.59**	**$ 0.00**	**$ 0.00**	**$ 18,554.32**	**$ 0.00**	**$ 213,862.91**
760400	70459-15	**SCL**						
N/A	N/A	Amount To Date:	$ 1,201,086.07	$ 9,390.00	$ 0.00	$ 114,995.23	$ 0.00	$ 1,325,471.30
		Previous Progress E	955,061.16	0.00	0.00	90,730.81	0.00	1,045,791.97
		This Progress Est.:	**$ 246,024.91**	**$ 9,390.00**	**$ 0.00**	**$ 24,264.42**	**$ 0.00**	**$ 279,679.32**
		Comments for above fund: per Wanda Schulze.jma						
		AMOUNT FOR ALL FUNDS						
		Amount To Date:	$ 1,846,726.90	$ 9,390.00	$ 0.00	$ 176,331.11	$ 0.00	$ 2,032,448.01
		Previous Progress E	1,405,393.40	0.00	0.00	133,512.37	0.00	1,538,905.77
		This Progress Est.:	**$ 441,333.50**	**$ 9,390.00**	**$ 0.00**	**$ 42,818.73**	**$ 0.00**	**$ 493,542.23**

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 4
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
1	SAFETY AND HEALTH PROGRAM	LS	1.00	$ 30,000.00		1.0000	$	30,000.00	T
2	TIRE AND TRUCK UNDERCARRIAGE WASH SYSTEM	LS	1.00	50,000.00		1.0000		50,000.00	T
3	HAZARDOUS WASTE SITE CONTROL PLAN	LS	1.00	45,000.00		1.0000		45,000.00	T
4	UNION PACIFIC RAILROAD FLAGMAN	HR	100.00	85.00					T
5	SPECIAL CONSTRUCTION AND ACCESS REQUIREMENTS FOR NORTH BOEING FIELD	LS	1.00	15,000.00		1.0000		15,000.00	T
6	CONTRACTOR'S WORK PLANS	LS	1.00	20,000.00		1.0000		20,000.00	T
7	GEORGETOWN STEAM PLANT COORDINATION AND EQUIPMENT PROTECTION	LS	1.00	5,000.00		1.0000		5,000.00	T
8	MOBILIZATION	LS	1.00	143,000.00		1.0000		143,000.00	T
9	MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL INC. FLAGGING	LS	1.00	16,000.00					T
10	CONSTRUCTION SIGNS CLASS A	SF	250.00	6.00					T
11	CLEARING & GRUBBING	SF	16,000.00	1.00		15,210.0000		15,210.00	T
12	REMOVE PAVEMENT	SY	300.00	5.00	138.6700	465.3700	693.35	2,326.85	T
13	REMOVE PAVEMENT, REINF CONC	SY	75.00	12.00					T
14	REMOVE CULVERT	LF	170.00	8.00		104.0000		832.00	T
15	REMOVE FENCE, CHAIN LINK	LF	525.00	5.00		652.0000		3,260.00	T
16	REMOVE TREE	EA	2.00	2,000.00	2.0000	2.0000	4,000.00	4,000.00	T
17	SAW ASPHALT CONCRETE, FULL DEPTH	LF	980.00	3.00	625.0000	1,185.0000	1,875.00	3,555.00	T
18	SAW CONCRETE, FULL DEPTH	LF	120.00	5.00					T
19	ABANDON AND FILL PIPE, 42-INCH DIAMETER	LF	934.00	50.00		926.0000		46,300.00	T
20	ABANDON AND FILL PIPE, 72-INCH DIAMETER	LF	338.00	150.00	352.0000	352.0000	52,800.00	52,800.00	T
21	ABANDON AND FILL TUNNEL	CY	1,500.00	125.00		1,110.0000		138,750.00	T
22	EXCAVATION AND REMOVAL OF SOIL	TN	2,375.00	40.00	1,483.5600	2,255.9000	59,342.40	90,236.00	T
23	EXCAVATION AND REMOVAL OF SEDIMENT	TN	365.00	80.00	114.4700	439.2600	9,157.60	35,140.80	T
24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	100.00	295.00		2.7500		811.25	T
25	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE D FACILITY	TN	2,690.00	55.00	1,598.0300	3,073.4600	87,891.65	169,040.30	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 4
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
26	EXCAVATION, REMOVAL AND DISPOSAL OF OTHER CONTAMINATED MEDIA	TN	47.00 $	150.00	7.9700	9.8500	$ 1,195.50	$ 1,477.50	T
27	TREATED WOOD REMOVAL AND DISPOSAL	TN	120.00	140.00	62.5700	89.3200	8,759.80	12,504.80	T
28	CONCRETE REMOVAL AND DISPOSAL	TN	340.00	65.00	65.3000	328.9100	4,244.50	21,379.15	T
29	WATER TREATMENT FACILITY INSTALLATION AND START UP	LS	1.00	50,000.00		1.0000		50,000.00	T
30	WATER TREATMENT FACILITY OPERATION AND MAINTENANCE	MO	6.00	15,000.00	1.0000	3.5000	15,000.00	52,500.00	T
31	WILLOW STREET SUBSTATION CONTAMINATED SOIL REMOVAL	TN	25.00	350.00					T
32	WILLOW STREET SUBSTATION BALLAST REPLACEMENT	TN	5.00	160.00					T
33	STREAMBED AGGREGATE, MINERAL AGGREGATE TYPE 1	CY	8.00	65.00		8.0000		520.00	T
34	BIOFILTRATION SWALE FINE GRADING	LF	238.00	20.00	276.0000	276.0000	5,520.00	5,520.00	T
35	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE	SY	389.00	1.20	400.0000	400.0000	480.00	480.00	T
36	CONSTRUCTION GEOTEXTILE FOR SEPARATION	SY	2,540.00	1.20		24.0000		28.80	T
37	MINERAL AGGREGATE, TYPE 2	CY	1,008.00	31.00	152.6000	285.6900	4,730.60	8,856.39	T
38	MINERAL AGGREGATE, TYPE 6	CY	8.00	60.00		6.9000		414.00	T
39	MINERAL AGGREGATE, TYPE 17	CY	2,430.00	30.00	1,786.6700	3,351.0200	53,600.10	100,530.60	T
40	PAVEMENT, HMA (CL 1 IN)	TN	79.00	200.00	88.6800	154.2200	17,736.00	30,844.00	T
41	PAVEMENT PATCH, TEMPORARY	TN	6.00	180.00	8.0000	8.0000	1,440.00	1,440.00	T
42	CONCRETE CL B FOR RETAINING WALL	CY	6.00	450.00		9.0000		4,050.00	T
43	STEEL REINF. BAR, GRADE 60	LB	500.00	2.00		290.0000		580.00	T
44	FILTER MATERIAL	CY	67.00	40.00					T
45	MANHOLE, TYPE 200A	EA	11.00	4,500.00	2.0000	10.0000	9,000.00	45,000.00	T
46	MANHOLE, TYPE 200B	EA	1.00	6,500.00	1.0000	1.0000	6,500.00	6,500.00	T
47	EXTRA DEPTH, TYPE 200B MANHOLE	VF	2.00	450.00	2.0000	2.0000	900.00	900.00	T
48	CATCH BASIN, TYPE 240A	EA	2.00	1,800.00	1.0000	2.0000	1,800.00	3,600.00	T
49	CATCH BASIN, TYPE 241	EA	1.00	1,700.00	1.0000	1.0000	1,700.00	1,700.00	T
50	CATCH BASIN, TYPE 240C	EA	1.00	1,900.00		1.0000		1,900.00	T
51	REBUILD MANHOLE 100	EA	1.00	8,500.00	1.0000	1.0000	8,500.00	8,500.00	T
52	BIOFILTRATION SWALE LEVEL SPREADER	EA	2.00	350.00	2.0000	2.0000	700.00	700.00	T
53	CLEANING EXISTING DRAINAGE STRUCTURES - TUNNEL AND CONDENSER PIT	LS	1.00	5,000.00		1.0000		5,000.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 4
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
54	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS LESS THAN 42 INCH	LF	918.00	$ 3.00		926.0000	$	2,778.00	T
55	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS EQUAL TO OR GREATER THAN 42 INCH	LF	247.00	7.00		165.0000		1,155.00	T
56	CLEANING EXISTING DRAINAGE STRUCTURES - EXISTING OUTFALL PIPE	LF	209.00	12.00		209.0000		2,508.00	T
57	OUTFALL SEDIMENT CAP	LS	1.00	25,000.00		1.0000		25,000.00	T
58	OUTFALL PLATE PLUG ASSEMBLY	LS	1.00	4,000.00		1.0000		4,000.00	T
59	PIPE, CB CONN, PVC, 8 IN	LF	10.00	80.00	12.0000	21.0000	960.00	1,680.00	T
60	PIPE, CB CONN, PVC, 12 IN	LF	46.00	60.00	20.0000	30.0000	1,200.00	1,800.00	T
61	BEDDING, CL B, 8 IN PIPE	LF	191.00	9.00	12.0000	162.0000	108.00	1,458.00	T
62	BEDDING, CL B, 12 IN PIPE	LF	271.00	13.00	20.0000	246.5000	260.00	3,204.50	T
63	BEDDING, CL B, 18 IN PIPE	LF	523.00	15.00		523.0000		7,845.00	T
64	BEDDING, CL B, 24 IN PIPE	LF	687.00	17.00	607.0000	687.0000	10,319.00	11,679.00	T
65	SAFETY SYSTEM FOR TRENCH EXCAVATION, MIN BID = $1.50 PER SF	SF	3,100.00	50.00		3,875.0000		193,750.00	T
66	SUPPORT SYSTEM	SF	1,700.00	36.00					T
67	TELEVISION INSPECTION	LF	2,466.00	1.00	1,210.0000	2,045.0000	1,210.00	2,045.00	T
68	DEWATERING SYSTEM	LS	1.00	45,000.00		1.0000		45,000.00	T
69	PIPE, SD, PVC C900, DR 25, 4 IN	LF	25.00	60.00					T
70	PIPE, PSD, PVC C900, DR 25, 8 IN	LF	181.00	38.00		141.0000		5,358.00	T
71	PIPE, PSD, PVC C900, DR25 12 IN	LF	225.00	45.00		216.5000		9,742.50	T
72	PIPE, PSD, PVC C905, DR 25, 18 IN	LF	523.00	60.00		523.0000		31,380.00	T
73	PIPE, PSD, PVC C905, DR25, 24 IN	LF	687.00	75.00	607.0000	687.0000	45,525.00	51,525.00	T
74	PIPE, HDPE, SDR 17, 18 IN, INSERTION	LF	498.00	70.00		496.0000		34,720.00	T
75	PIPE, HDPE, SDR 17, 24 IN, INSERTION	LF	352.00	180.00		352.0000		63,360.00	T
76	TEE, 4 IN, CUT-IN PVC PIPE	EA	1.00	350.00					T
77	TEE, 8 IN, CUT-IN PVC PIPE	EA	2.00	375.00	1.0000	2.0000	375.00	750.00	T
78	TEE, 8 IN, CUT-IN HDPE PIPE	EA	1.00	1,800.00		1.0000		1,800.00	T
79	TEE, PVC, 18 IN	EA	1.00	2,300.00		1.0000		2,300.00	T
80	TEE, PVC, 24 IN	EA	2.00	3,200.00	2.0000	2.0000	6,400.00	6,400.00	T
81	TEMPORARY STORM DRAIN BYPASS	LS	1.00	35,000.00		1.0000		35,000.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 4
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
82	TIDE VALVE, 24 IN	EA	1.00 $	6,000.00	0.2500	1.0000	$ 1,500.00	$ 6,000.00	T
83	DOWNSPOUT MODIFICATION	LS	1.00	6,000.00	0.3400	1.0000	2,040.00	6,000.00	T
84	DAM, CLAY TRENCH	EA	9.00	400.00	3.0000	9.0000	1,200.00	3,600.00	T
85	PIPE, SD, D.I. CL 50, 6 IN	LF	22.00	50.00		23.5000		1,175.00	T
86	TEMPORARY EROSION & SEDIMENT CONTROL	LS	1.00	35,000.00		1.0000		35,000.00	T
87	EROSION CONTROL, HYDRO-SEEDING	SF	5,900.00	0.25					T
88	EROSION CONTROL, MATTING, JUTE	SF	900.00	1.50					T
89	TOPSOIL, TYPE A	CY	192.00	35.00	152.0000	152.0000	5,320.00	5,320.00	T
90	SEEDED LAWN INSTALLATION	SF	9,710.00	0.35					T
91	CURB, EXTRUDED ASPHALT CONCRETE	LF	310.00	5.00					T
92	CHAIN LINK FENCE	LF	375.00	35.00	210.0000	210.0000	7,350.00	7,350.00	T
93	HEAVY LOOSE RIPRAP	TN	8.00	50.00					T
94	QUARRY SPALLS 4-INCH TO 8-INCH	TN	389.00	22.00		38.9300		856.46	T
						Contract Amount:	**$ 441,333.50**	**$ 1,846,726.90**	

**Change Order # 01

24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	-97.25	295.00					T
101	ADDITIONAL TUNNEL & CONDENSER PIT CLEANING	LS	1.00	9,390.00	1.0000	1.0000	9,390.00	9,390.00	T
102	SUPPLEMENT FOR SUBTITLE C WASTE DISPOSAL	LS	1.00	1,986.00					T
						Change Orders:	**$ 9,390.00**	**$ 9,390.00**	
						Amount To Date for Contract and Change Orders:	**$ 450,723.50**	**$ 1,856,116.90**	

Seattle Public Utilities

Progress Estimate # 5

PW # 2008-025

Cut Off Date: September 30, 2009

Contract Name: GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT

Contractor: E.J. RODY & SONS, INC.

Awarded Contract Price: $ 2,205,555.38

Contract Compl. Date: October 28, 2009

Contract Time: 120 Working Days

Notice to Proceed: May 11, 2009

Comments:

	Amount to Date	Previous Amount	**Amount This Progress Estimate**
Contract Amount:	$ 1,858,513.50	$ 1,846,726.90	$ 11,786.60
Change Orders:	50,019.00	9,390.00	40,629.00
Materials on Hand:	0.00	0.00	0.00
Sales Tax:	181,310.59	176,331.11	4,979.48
Retainage:	0.00	0.00	0.00
Misc. Deductions/Adtns:	0.00	0.00	0.00
Payment to Contractor:	$ 2,089,843.09	$ 2,032,448.01	**$ 57,395.08**

Prepared by: John M Atencio
John Atencio

Reviewed by: Jon Miller
Construction Support Supervisor

Date: 10/14/09

Approved by: John Summers
Construction Engineering Supervisor

Date: 10·15·09

Reviewed By: _____
Division Director, Seattle City Light

Date: _____

cc: Suprv. John Summers
Res. Engr.: Bryan Nicholson
Mat'ls Lab: Euresto Busuego
Pmt. prep.: John Atencio

Proj. Mgr.: Wanda Schulze
SPU Central Files

SCL Accts. Payable
Finance/Contractor

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW # 2008-025
PROGRESS ESTIMATE # 5
FUNDING SUMMARY

Accounts Payable: Seattle City Light
Retainage: BOND IN LIEU
Primary Client: Seattle City Light

Funding Source(s): DWF
SCL

Specification No.: 3512

Acct # / Org #	Proj. # / Resource	Funding Desc.	Contract Amount	Change Orders	Material On Hand	Sales Tax	Misc. Deduct/ Additions	Revised Contract Price
760400	**70459-23**	**DWF**						
N/A	N/A	Amount To Date:	$ 649,663.55	$ 28,225.00	$ 0.00	$ 64,399.41	$ 0.00	$ 742,287.97
		Previous Progress E	645,640.83	0.00	0.00	61,335.88	0.00	706,976.71
		This Progress Est.:	**$ 4,022.73**	**$ 28,225.00**	**$ 0.00**	**$ 3,063.53**	**$ 0.00**	**$ 35,311.26**
760400	**70459-15**	**SCL**						
N/A	N/A	Amount To Date:	$ 1,208,849.95	$ 21,794.00	$ 0.00	$ 116,911.18	$ 0.00	$ 1,347,555.12
		Previous Progress E	1,201,086.07	9,390.00	0.00	114,995.23	0.00	1,325,471.30
		This Progress Est.:	**$ 7,763.88**	**$ 12,404.00**	**$ 0.00**	**$ 1,915.95**	**$ 0.00**	**$ 22,083.82**
		Comments for above fund: per Wanda Schulze.jma						
		AMOUNT FOR ALL FUNDS						
		Amount To Date:	$ 1,858,513.50	$ 50,019.00	$ 0.00	$ 181,310.59	$ 0.00	$ 2,089,843.09
		Previous Progress E	1,846,726.90	9,390.00	0.00	176,331.11	0.00	2,032,448.01
		This Progress Est.:	**$ 11,786.60**	**$ 40,629.00**	**$ 0.00**	**$ 4,979.48**	**$ 0.00**	**$ 57,395.08**

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 5
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
1	SAFETY AND HEALTH PROGRAM	LS	1.00	$ 30,000.00		1.0000	$	30,000.00	T
2	TIRE AND TRUCK UNDERCARRIAGE WASH SYSTEM	LS	1.00	50,000.00		1.0000		50,000.00	T
3	HAZARDOUS WASTE SITE CONTROL PLAN	LS	1.00	45,000.00		1.0000		45,000.00	T
4	UNION PACIFIC RAILROAD FLAGMAN	HR	100.00	85.00					T
5	SPECIAL CONSTRUCTION AND ACCESS REQUIREMENTS FOR NORTH BOEING FIELD	LS	1.00	15,000.00		1.0000		15,000.00	T
6	CONTRACTOR'S WORK PLANS	LS	1.00	20,000.00		1.0000		20,000.00	T
7	GEORGETOWN STEAM PLANT COORDINATION AND EQUIPMENT PROTECTION	LS	1.00	5,000.00		1.0000		5,000.00	T
8	MOBILIZATION	LS	1.00	143,000.00		1.0000		143,000.00	T
9	MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL INC. FLAGGING	LS	1.00	16,000.00					T
10	CONSTRUCTION SIGNS CLASS A	SF	250.00	6.00					T
11	CLEARING & GRUBBING	SF	16,000.00	1.00		15,210.0000		15,210.00	T
12	REMOVE PAVEMENT	SY	300.00	5.00		465.3700		2,326.85	T
13	REMOVE PAVEMENT, REINF CONC	SY	75.00	12.00					T
14	REMOVE CULVERT	LF	170.00	8.00		104.0000		832.00	T
15	REMOVE FENCE, CHAIN LINK	LF	525.00	5.00		652.0000		3,260.00	T
16	REMOVE TREE	EA	2.00	2,000.00		2.0000		4,000.00	T
17	SAW ASPHALT CONCRETE, FULL DEPTH	LF	980.00	3.00		1,185.0000		3,555.00	T
18	SAW CONCRETE, FULL DEPTH	LF	120.00	5.00					T
19	ABANDON AND FILL PIPE, 42-INCH DIAMETER	LF	934.00	50.00		926.0000		46,300.00	T
20	ABANDON AND FILL PIPE, 72-INCH DIAMETER	LF	338.00	150.00		352.0000		52,800.00	T
21	ABANDON AND FILL TUNNEL	CY	1,500.00	125.00		1,110.0000		138,750.00	T
22	EXCAVATION AND REMOVAL OF SOIL	TN	2,375.00	40.00		2,255.9000		90,236.00	T
23	EXCAVATION AND REMOVAL OF SEDIMENT	TN	365.00	80.00		439.2600		35,140.80	T
24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	100.00	295.00		2.7500		811.25	T
25	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE D FACILITY	TN	2,690.00	55.00		3,073.4600		169,040.30	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 5
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
26	EXCAVATION, REMOVAL AND DISPOSAL OF OTHER CONTAMINATED MEDIA	TN	47.00	$ 150.00		9.8500	$	1,477.50	T
27	TREATED WOOD REMOVAL AND DISPOSAL	TN	120.00	140.00		89.3200		12,504.80	T
28	CONCRETE REMOVAL AND DISPOSAL	TN	340.00	65.00		328.9100		21,379.15	T
29	WATER TREATMENT FACILITY INSTALLATION AND START UP	LS	1.00	50,000.00		1.0000		50,000.00	T
30	WATER TREATMENT FACILITY OPERATION AND MAINTENANCE	MO	6.00	15,000.00		3.5000		52,500.00	T
31	WILLOW STREET SUBSTATION CONTAMINATED SOIL REMOVAL	TN	25.00	350.00					T
32	WILLOW STREET SUBSTATION BALLAST REPLACEMENT	TN	5.00	160.00					T
33	STREAMBED AGGREGATE, MINERAL AGGREGATE TYPE 1	CY	8.00	65.00		8.0000		520.00	T
34	BIOFILTRATION SWALE FINE GRADING	LF	238.00	20.00		276.0000		5,520.00	T
35	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE	SY	389.00	1.20		400.0000		480.00	T
36	CONSTRUCTION GEOTEXTILE FOR SEPARATION	SY	2,540.00	1.20		24.0000		28.80	T
37	MINERAL AGGREGATE, TYPE 2	CY	1,008.00	31.00		285.6900		8,856.39	T
38	MINERAL AGGREGATE, TYPE 6	CY	8.00	60.00		6.9000		414.00	T
39	MINERAL AGGREGATE, TYPE 17	CY	2,430.00	30.00		3,351.0200		100,530.60	T
40	PAVEMENT, HMA (CL 1 IN)	TN	79.00	200.00		154.2200		30,844.00	T
41	PAVEMENT PATCH, TEMPORARY	TN	6.00	180.00		8.0000		1,440.00	T
42	CONCRETE CL B FOR RETAINING WALL	CY	6.00	450.00		9.0000		4,050.00	T
43	STEEL REINF. BAR, GRADE 60	LB	500.00	2.00		290.0000		580.00	T
44	FILTER MATERIAL	CY	67.00	40.00					T
45	MANHOLE, TYPE 200A	EA	11.00	4,500.00		10.0000		45,000.00	T
46	MANHOLE, TYPE 200B	EA	1.00	6,500.00		1.0000		6,500.00	T
47	EXTRA DEPTH, TYPE 200B MANHOLE	VF	2.00	450.00		2.0000		900.00	T
48	CATCH BASIN, TYPE 240A	EA	2.00	1,800.00		2.0000		3,600.00	T
49	CATCH BASIN, TYPE 241	EA	1.00	1,700.00		1.0000		1,700.00	T
50	CATCH BASIN, TYPE 240C	EA	1.00	1,900.00		1.0000		1,900.00	T
51	REBUILD MANHOLE 100	EA	1.00	8,500.00		1.0000		8,500.00	T
52	BIOFILTRATION SWALE LEVEL SPREADER	EA	2.00	350.00		2.0000		700.00	T
53	CLEANING EXISTING DRAINAGE STRUCTURES - TUNNEL AND CONDENSER PIT	LS	1.00	5,000.00		1.0000		5,000.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 5
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
54	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS LESS THAN 42 INCH	LF	918.00	$ 3.00		926.0000	$	2,778.00	T
55	CLEANING EXISTING DRAINAGE STRUCTURES - PIPES AND CULVERTS EQUAL TO OR GREATER THAN 42 INCH	LF	247.00	7.00		165.0000		1,155.00	T
56	CLEANING EXISTING DRAINAGE STRUCTURES - EXISTING OUTFALL PIPE	LF	209.00	12.00		209.0000		2,508.00	T
57	OUTFALL SEDIMENT CAP	LS	1.00	25,000.00		1.0000		25,000.00	T
58	OUTFALL PLATE PLUG ASSEMBLY	LS	1.00	4,000.00		1.0000		4,000.00	T
59	PIPE, CB CONN, PVC, 8 IN	LF	10.00	80.00		21.0000		1,680.00	T
60	PIPE, CB CONN, PVC, 12 IN	LF	46.00	60.00		30.0000		1,800.00	T
61	BEDDING, CL B, 8 IN PIPE	LF	191.00	9.00		162.0000		1,458.00	T
62	BEDDING, CL B, 12 IN PIPE	LF	271.00	13.00		246.5000		3,204.50	T
63	BEDDING, CL B, 18 IN PIPE	LF	523.00	15.00		523.0000		7,845.00	T
64	BEDDING, CL B, 24 IN PIPE	LF	687.00	17.00		687.0000		11,679.00	T
65	SAFETY SYSTEM FOR TRENCH EXCAVATION, MIN BID = $1.50 PER SF	SF	3,100.00	50.00		3,875.0000		193,750.00	T
66	SUPPORT SYSTEM	SF	1,700.00	36.00					T
67	TELEVISION INSPECTION	LF	2,466.00	1.00		2,045.0000		2,045.00	T
68	DEWATERING SYSTEM	LS	1.00	45,000.00		1.0000		45,000.00	T
69	PIPE, SD, PVC C900, DR 25, 4 IN	LF	25.00	60.00					T
70	PIPE, PSD, PVC C900, DR 25, 8 IN	LF	181.00	38.00		141.0000		5,358.00	T
71	PIPE, PSD, PVC C900, DR25 12 IN	LF	225.00	45.00		216.5000		9,742.50	T
72	PIPE, PSD, PVC C905, DR 25, 18 IN	LF	523.00	60.00		523.0000		31,380.00	T
73	PIPE, PSD, PVC C905, DR25, 24 IN	LF	687.00	75.00		687.0000		51,525.00	T
74	PIPE, HDPE, SDR 17, 18 IN, INSERTION	LF	498.00	70.00		496.0000		34,720.00	T
75	PIPE, HDPE, SDR 17, 24 IN, INSERTION	LF	352.00	180.00		352.0000		63,360.00	T
76	TEE, 4 IN, CUT-IN PVC PIPE	EA	1.00	350.00					T
77	TEE, 8 IN, CUT-IN PVC PIPE	EA	2.00	375.00		2.0000		750.00	T
78	TEE, 8 IN, CUT-IN HDPE PIPE	EA	1.00	1,800.00		1.0000		1,800.00	T
79	TEE, PVC, 18 IN	EA	1.00	2,300.00		1.0000		2,300.00	T
80	TEE, PVC, 24 IN	EA	2.00	3,200.00		2.0000		6,400.00	T
81	TEMPORARY STORM DRAIN BYPASS	LS	1.00	35,000.00		1.0000		35,000.00	T

GEORGETOWN FLUME DEMOLITION, REMOVAL AND DRAINAGE PROJECT
PW NO. 2008-025
PROGRESS ESTIMATE # 5
PROGRESS ESTIMATE DETAILS

Item No.	Bid Item Description	Unit of Measure	Estimated Quantity	Unit Price	Units This Progress Est.	Units To Date	Amount This Progress Est.	Amount To Date	
82	TIDE VALVE, 24 IN	EA	1.00	$ 6,000.00		1.0000	$	6,000.00	T
83	DOWNSPOUT MODIFICATION	LS	1.00	6,000.00		1.0000		6,000.00	T
84	DAM, CLAY TRENCH	EA	9.00	400.00		9.0000		3,600.00	T
85	PIPE, SD, D.I. CL 50, 6 IN	LF	22.00	50.00		23.5000		1,175.00	T
86	TEMPORARY EROSION & SEDIMENT CONTROL	LS	1.00	35,000.00		1.0000		35,000.00	T
87	EROSION CONTROL, HYDRO-SEEDING	SF	5,900.00	0.25	32,690.0000	32,690.0000	8,172.50	8,172.50	T
88	EROSION CONTROL, MATTING, JUTE	SF	900.00	1.50					T
89	TOPSOIL, TYPE A	CY	192.00	35.00		152.0000		5,320.00	T
90	SEEDED LAWN INSTALLATION	SF	9,710.00	0.35	10,326.0000	10,326.0000	3,614.10	3,614.10	T
91	CURB, EXTRUDED ASPHALT CONCRETE	LF	310.00	5.00					T
92	CHAIN LINK FENCE	LF	375.00	35.00		210.0000		7,350.00	T
93	HEAVY LOOSE RIPRAP	TN	8.00	50.00					T
94	QUARRY SPALLS 4-INCH TO 8-INCH	TN	389.00	22.00		38.9300		856.46	T
						Contract Amount:	**$ 11,786.60**	**$ 1,858,513.50**	
Change Order # 01									
24	HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND SEDIMENT, SUBTITLE C FACILITY	TN	-97.25	295.00					T
101	ADDITIONAL TUNNEL & CONDENSER PIT CLEANING	LS	1.00	9,390.00		1.0000		9,390.00	T
102	SUPPLEMENT FOR SUBTITLE C WASTE DISPOSAL	LS	1.00	1,986.00	1.0000	1.0000	1,986.00	1,986.00	T
Change Order # 02									
66	SUPPORT SYSTEM	SF	-1,700.00	36.00					T
103	ADDITIONAL SAFETY SYSTEM FOR TRENCH EXCAVATION	SF	5,645.00	5.00	5,645.0000	5,645.0000	28,225.00	28,225.00	T
Change Order # 03									
31	WILLOW STREET SUBSTATION CONTAMINATED SOIL REMOVAL	TN	-25.00	350.00					T
32	WILLOW STREET SUBSTATION BALLAST REPLACEMENT	TN	-5.00	160.00					T
104	PROVIDE ROAD SWEEPING SERVICE	LS	1.00	10,418.00	1.0000	1.0000	10,418.00	10,418.00	T
						Change Orders:	**$ 40,629.00**	**$ 50,019.00**	
						Amount To Date for Contract and Change Orders:	**$ 52,415.60**	**$ 1,908,532.50**	