A Report Prepared For:

King County Wastewater Treatment Division
Brightwater Project
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PHASE II ENVIRONMENTAL SITE ASSESSMENT
BRIGHTWATER CONVEYANCE SYSTEM
BALLINGER WAY PORTAL SITE
20031 BALLINGER WAY NE
SHORELINE, WASHINGTON

September 3, 2004

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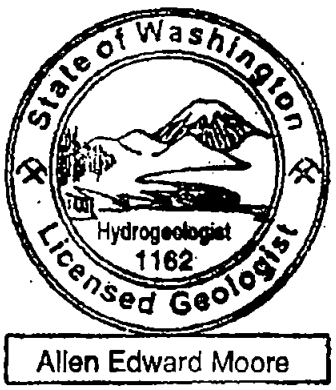

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Executive Summary

This report presents the results of a Phase II environmental site assessment (ESA) conducted in August 2004 by Camp Dresser & McKee Inc. (CDM) at the proposed Ballinger Way Portal location (the site) at 20031 Ballinger Way N.E. in Shoreline, Washington. The Phase II ESA was conducted to explore potential contamination sources identified in a Phase I ESA report dated April 2004.

The 0.94-acre site is rectangular shaped, with the long axis trending northeast. The site contains two one- story commercial buildings, one office/retail and one warehouse. Potential sources of contamination identified during the Phase I ESA included the following:

- Potential leakage /spillage from known or suspected UST used to store heating oil at the site and chemicals used in the swimming pool/hot tub business and pesticides/herbicides from Washington Tree Service.

- Potential migration of petroleum hydrocarbon constituents and volatile organic compounds (VOCs) from off-site sources (Ballinger Cleaners, Washington Tree Service and three service stations).

Subsurface conditions were explored in the areas of potential contamination on the site by drilling 6 soil borings to depths of between 17.5 and 30.5 feet below ground surface (bgs). Subsurface soil conditions encountered included Fill, Recessional Outwash, and Glacial Till. The thickness of the recessional outwash increases from approximately 8 feet to 25 feet across the site's long axis from the southwest to the northeast. Underlying the recessional outwash is glacial till. Each boring terminated in the glacial till. Perched groundwater was encountered at 20 feet bgs in the two borings in the northeast corner of the site. Each boring was completed as a monitoring well.

Soil samples collected from the borings were analyzed for petroleum hydrocarbon constituents and VOCs. Analytical test results were compared to Model Toxics Control Act (MTCA) Method A cleanup levels. Petroleum hydrocarbon constituents and VOCs detected were at concentrations below Method A cleanup levels.

Surface soil samples were collected near the southwest corner of the office/retail building and a chemical storage unit. The sample collected from the southwest building corner contained the pesticide 4, 4'-DDT at a concentration above Method A cleanup.

Groundwater samples collected from the two monitoring wells located in the northeast corner of the site were analyzed for petroleum hydrocarbon constituents and VOCs. Gasoline-range hydrocarbons and one or more of petroleum hydrocarbon constituents benzene, ethyl benzene, toluene, and xylene were detected at concentrations exceeding Method A cleanup.

Section 1
Introduction

1.1 Purpose and Scope

This report summarizes Phase II environmental site assessment (ESA) activities performed by Camp Dresser & McKee Inc. (CDM) on behalf of King County (the county) at the proposed Ballinger Way Portal (the site) at 20031 Ballinger Way N.E. in Shoreline, Washington (**Figure 1**). CDM's services were performed in accordance with our June 10, 2004 proposal, under Contract No. E23007E Task 622.

The purpose of CDM's services was to perform a Phase II ESA at the site to assess whether on-site and /or off-site sources identified in a Phase I ESA conducted in early 2004 by another consultant might have impacted soil and groundwater. CDM's scope of services included:

- Drilling soil borings and installing groundwater monitoring wells to evaluate soil and groundwater conditions.
- Collecting surface soil samples to determine potential impacts from current chemical usage and storage.
- Obtaining and analyzing soil and groundwater samples.
- Evaluating chemical analysis results against applicable State of Washington Model Toxics Control Act (MTCA) cleanup criteria (Ecology, 2001).
- Preparing this report.

1.2 Previous Investigations

Gary Struthers Associates Inc. in association with HDR Engineering, Inc. conducted a Phase 1 ESA for the county and presented the results in a report dated April 2004. Potential soil and groundwater contamination sources from onsite chemical use and storage and five off-site sources were identified. The information obtained from the Phase I ESA was used as the basis to develop the scope for this Phase II ESA. Potential on-site sources of contamination identified during the Phase I ESA included heating oil and stored chemicals associated with the swimming pool/hot tub business. The five potential off-site sources for soil and groundwater contamination in close proximity to the site include three service stations and two properties not listed in the regulatory agency databases, Ballinger Cleaners and Washington Tree Service. Both Ballinger Cleaners and Washington Tree Service are located upgradient to the site.

→ now listed on CSCS

For the Phase I ESA, a search for nearby sites was performed in February 2003 with the center of the search located at the center of the area King County was considering for possible portal sites. Since the actual site selected for the Ballinger Way Portal fell at a 0.25 mile radius from the original search center (the limit of the ASTM standard search radius for underground storage tank (UST) sites), a records check was performed revealing two nearby, upgradient UST sites not identified in the original search. These are the Washington Tree Service site located at 20057

Ballinger Way N.E. and the Sound Oil site located at 20041 Ballinger Way N.E. The USTs were removed from the Washington Tree Service site and no releases were identified. The USTs at the Sound Oil site were removed last year, a release was identified, and the site was cleaned up as an independent remedial action in accordance with Washington State law.

The Sound Oil site (presently occupied by Shurgard Storage) is located immediately adjacent to the site's northwest property boundary and was previously used by a paving company, Seattle Service, and a distribution facility for heating oil (Seattle Service and Sound Oil Company). Sound Oil Company was the last major tenant. The environmental conditions recognized on the adjacent property include:

- Four 20,000-gallon bulk heating oil USTs.
- One 500-gallon heating oil supply UST.
- One former waste oil UST and one former gasoline UST (removed in 1989).
- Used oil drainage sink.
- Concrete-lined wash rack and sump.

The four 20,000-gallon heating oil USTs were located at the southwest end of the property. Only diesel and heating oil were known to have been stored in these four USTs. TPH releases were noted to be associated with the fill pipes. TPH-Diesel was detected in a soil sample at 15 feet bgs from a soil boring drilled west of the tank nest. All USTs, the drainage sink, and concrete-lined wash rack and sump have since been removed. TPH-Gas was not detected in soils associated with the former gasoline UST. Trace levels of dichlorobenzene were detected in a soil sample collected beneath the concrete-lined wash rack. Groundwater was not encountered and groundwater quality was not investigated during drilling or during excavation and removal of the USTs, drainage sink, and the concrete-lined wash rack and sump.

1.3 Site Description

The site is rectangular shaped and covers an area of 0.94 acres, with the long axis trending southwest - northeast. The site contains two 1-story commercial buildings, one office/retail, and one warehouse. **Figure 2** shows a site plan and pertinent site features.

The office/retail building, built in 1951, is wood framed construction. The warehouse, built in 1978, is prefabricated steel construction. The majority of the property around the buildings is asphalt paved.

The site is owned by Washington Tree Service. The current tenant is Master Pools, a swimming pool and hot tub business. The surrounding area is a general mix of residential and commercial development (e.g., office buildings, Washington Tree Service, Shurgard Storage Center, service stations with convenience stores, and the Ballinger Village Shopping Center). Commercial development is primarily along Ballinger Way NE, which parallels the eastern perimeter of the site. Residential properties are located to the south and southwest of the site.

Overall, the site slopes gently downward from the southwest to the northeast toward Ballinger Way NE. The site ranges in elevation from approximately 415 feet (METRO datum) at the southwest corner to approximately 406 feet at the northeast corner. McAleer creek is located about 1,000 feet to the southwest. Land immediately east, west, and north of the site slopes downwards toward the subject property. Ballinger Way N.E. slopes down to the southeast in the vicinity.

1.4 Subsurface Conditions

The site is located within the Central Puget Lowland, a north-south trending structural and topographic depression bordered on the west by the Olympic Mountains and on the east by the Cascade Mountains. Soils deposited during and between repeated glacial advances and retreats in the Pleistocene Epoch underlie the Central Puget Lowland.

Geologic information for the area was obtained from the Pacific Northwest Center for Geologic Mapping Studies database at the University of Washington's Department of Earth and Space Sciences. The local subsurface geology consists of Recessional Outwash. Underlying the Recessional Outwash is Glacial Till (Till).

Recessional Outwash is described as reddish-brown or brown, loose to medium dense silty sand and sandy silt with gravel. The Till is a heterogeneous mixture of clay, silt, sand, and gravel that was deposited and compacted by glacial ice. Groundwater is commonly perched on the immediately underlying Till or older strata.

Six soil borings were drilled along the site's axis to explore subsurface conditions. Soil conditions encountered include Fill, Recessional Outwash, and Till. The southwestern one-third of the site is underlain by shallow fill. The fill consists of silty sand with gravel to silty gravel with sand and varies in thickness from two to eight feet. Beneath the fill, reddish brown /brownish red sand was encountered and interpreted to be Recessional Outwash. Recessional Outwash was encountered over the remainder of the site at or near the surface. The Recessional Outwash varied in thickness from approximately 8 feet in the southwest corner to 25 feet in the northeast corner. Underlying the Recessional Outwash we encountered glacial till. The till contact varied in depth across the site, from a depth of 10 feet bgs in the site's southwest corner to approximately 25 feet below ground surface (bgs) at the site's northeast corner.

Perched groundwater was encountered in the northeast corner of the site, at 20 feet bgs. All six borings were completed as groundwater monitoring wells in the Recessional Outwash to monitor seasonal fluctuations in groundwater elevations and quality, as needed, throughout the hydrogeologic cycle.

The amount of perched water can vary with location and seasonal precipitation as evidenced by the reported presence of groundwater in studies by other consultants at an existing service station approximately 100 feet east where groundwater level ranged from 16 to 20 feet bgs. The consultant information for the service station was obtained from Washington State Department of Ecology (Ecology) files.

Section 2
Field Investigation

CDM's field investigation was conducted on August 2nd and 3rd, 2004. The following describes the field activities. Subsurface exploration and sampling procedures are summarized in **Appendix A.** Soil samples collected during the investigation were submitted for analytical testing to OnSite Environmental Inc. (OnSite) in Redmond, Washington.

2.1 Drilling and Installation of Monitoring Wells

A drill rig equipped with a 4-inch-inside-diameter hollow-stem auger was used to drill 6 borings on August 2nd and 3rd, 2004. Geo-Tech Explorations, Inc. of Kent, Washington, was the drilling contractor. Boring depths ranged from 17.5 to 30.5 feet bgs. Soil samples were collected at 5-foot intervals during drilling beginning at 5 feet bgs. The hollow-stem auger soil samples were collected using a split-barrel sampler. Soil samples were classified according to the Unified Soil Classification System as shown on **Figure B1** in **Appendix B**. Logs of the borings and well construction details are presented in **Appendix B** as **Figures B3** through **B8.**

Groundwater was encountered during drilling in two of the six borings, HB-1 and HB-2. However all soil borings were completed as 2-inch-diameter PVC groundwater monitoring wells (designated, HB-1 through HB-6 on **Figure 2),** in accordance with Washington Administrative Code (WAC) 173-160. A typical monitoring well construction is shown on **Figure B2** in **Appendix B.** Decontamination procedures for soil sampling and drilling equipment were conducted as described in **Appendix A.**

The only field evidence of petroleum hydrocarbons found during the subsurface investigation was in borings HB-1, HB-2, and HB-3 and consisted of noticeable hydrocarbon-like odors in soils and elevated organic vapor readings obtained using the OVM-PID.

2.2 Surface Soil Sampling

A reconnaissance of the property was also conducted on August 3rd, 2004 to check for visual signs of surface releases of chemicals (sheen or discolored soils) in the area of a chemical storage unit and the pool supply building. At the pool supply building 's southwest corner, two uncovered 50 gallon drums containing an unknown liquid and pool filters were staged within a shallow drainage area. A whitish powdery substance was observed on the surface within the drainage area, adjacent to the drums. A surface soil sample from the shallow drainage area adjacent to the drums and from the chemical storage area was collected for soil quality assessment.

2.3 Groundwater Sampling

CDM conducted groundwater quality sampling on August 5th, 2004. Groundwater monitoring wells HB-1 and HB-2 were the only monitoring wells that were purged and sampled. Groundwater monitoring well purging and sampling were conducted as described in **Appendix A.**

2.4 Analytical Schedule

Soil samples were screened in the field for the presence of volatile organic compounds using an OVM-PID. In addition, odor indications or stained soil were noted. Selected soil samples from each boring were submitted for the following analyses:

- Methyl tertiary-butyl ether (MTBE) by U.S. Environmental Protection Agency (EPA) Method 8260B.
- Gasoline-range total petroleum hydrocarbons (TPH) and benzene, toluene, ethyl benzene, and xylenes (BTEX) by Northwest Method NWTPH-Gx/BTEX.
- Diesel- and oil-range TPH by Northwest Method NWTPH-Dx.
- Halogenated volatiles by EPA Method 8260B.

Surface soil samples were analyzed for the same analytes listed above and also for the following:

- Organochlorine Pesticides by EPA Method 8081A.
- Organophosphorus Pesticides by EPA Method 8141A.
- Chlorinated Acid Herbicides by EPA Method 8151A.
- pH

Groundwater samples were submitted for the following analyses:

- Methyl tertiary-butyl ether (MTBE) by U.S. Environmental Protection Agency (EPA) Method 8260B.
- Gasoline-range TPH and BTEX by Northwest Method NWTPH-Gx/BTEX.
- Diesel- and oil-range TPH by Northwest Method NWTPH-Dx.
- Halogenated volatiles by EPA Method 8260B.

Section 3
Analytical Testing Results

The laboratory results for testing performed on soil and groundwater samples are presented in **Tables 1** and **2**, respectively. The laboratory report is presented in **Appendix C**.

3.1 Soil Chemistry

Total petroleum hydrocarbons, BTEX, pesticides, and volatile organic compounds (VOC) detected in soil samples are listed below.

3.1.1 Subsurface

- HB-6 @10 feet bgs – TPH-lube oil and tetrachloroethene.

3.1.2 Surface

- HB-3 @ surface – TPH-gas, and xylene.
- Surface A – TPH-lube oil and pesticides (heptachloro epoxide, gamma-chlordane, alpha-chlordane, 4, 4'-DDE, 4, 4'DDD, and 4, 4'DDT).

3.2 Groundwater Chemistry

Total petroleum hydrocarbons, BTEX, and VOC compounds detected in groundwater are listed below.

- HB-1 –TPH-gas, BTEX, and 1, 1, 1-trichloroethane.
- HB-2 –TPH-gas, BTEX, 1, 1, 1-trichloroethane, trichloroethene, 1, 3-dichlorobenzene, and 1, 4-dichlorobenzene.

Section 4
Conclusions

Subsurface conditions were explored in the areas of potential contamination on the property by drilling 6 soil borings to depths of between 17.5 and 30.5 feet bgs, and completing each boring as a groundwater monitoring well. Subsurface soil conditions encountered included Fill, Recessional Outwash, and Glacial Till. In the southwest corner of the site approximately 2 to 8 feet of Fill overlies the Recessional Outwash. Underlying the Recessional Outwash is Glacial Till. Each boring terminated in the glacial till. The thickness of the Recessional Outwash increases from approximately 8 feet to 25 feet across the site's long axis from the southwest to the northeast. Perched groundwater was encountered at 20 feet bgs in the two borings in the northeast corner of the site.

Soil quality chemical analyses results indicate the presence of TPH quantified as lube oil (TPH-Lube Oil) and tetrachloroethene in soil sample HB-6 at 10 feet bgs; xylene and TPH-Gas in sample HB-3 Surface; and TPH-Lube Oil in sample, Surface A . Concentrations detected were below Method A cleanup levels.

The pesticide 4, 4'-DDT was also detected in sample, Surface A at a concentration above Method A cleanup. This sample was collected near the southwest corner of the office/retail building within a shallow drainage area.

Groundwater chemical analyses results indicate the presence of petroleum hydrocarbons quantified as gasoline (TPH-Gas) and gasoline constituents, benzene, ethylbenzene, toluene, and xylenes (BTEX) in HB-1 and HB-2. Petroleum hydrocarbon concentrations above Method A Cleanup Levels include BTEX and TPH-Gas in HB-1 and benzene and TPH-Gas in HB-2. VOCs 1, 1, 1-trichloroethane and trichloroethene were detected in groundwater at concentrations well below Method A cleanup. In addition, trace levels of dichlorobenzene were detected in groundwater from HB-2.

Petroleum hydrocarbon contamination in groundwater appears to be confined to the northeast corner of the site and suggests an off-site source(s). Based on groundwater gradient information in the surrounding area, the site's groundwater gradient is inferred to be southeast, towards Lake Washington. Of the five potential off site sources identified in the Phase I ESA, the Chevron Station located 100 feet east of the site is considered down gradient and unlikely to have impacted the site. At the other four potential off site sources, that either have been or are being cleaned up, only impacts to soil were noted. Impacts to groundwater quality were not investigated.

On the adjacent property formerly occupied by Sound Oil, impacts to soil quality were investigated. Areas of impacted soil were removed. However, impacts to groundwater quality were not investigated.

To determine the nature of the petroleum hydrocarbon contamination in groundwater and the off-site source(s) at the site, further investigation will be necessary.

Section 5
References

Ecology. 2001. *Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC* Washington State Department of Ecology Toxics Cleanup Program. Publication No. 94-06, Amended February 12, 2001.

Gary Struthers Associates, Inc. 2004. *Phase I Environmental Site Assessment, Brightwater Conveyance System, Ballinger Way Portal, 20031 Ballinger Way NE, Shoreline, Washington.* Prepared for King County Department of Natural Resources and Parks, Wastewater Treatment Division. April 2004.

Pacific Northwest Center for Geologic Mapping Studies, Department of Earth and Space Sciences, University of Washington database. http://geomapnw.ess.washington.edu

Distribution

1 Copy	King County Wastewater Treatment Division Brightwater Project 201 South Jackson Street, Suite 503 Seattle, Washington 98104-3855 Attention: Mr. Doug Williams and Mr. Leon Maday

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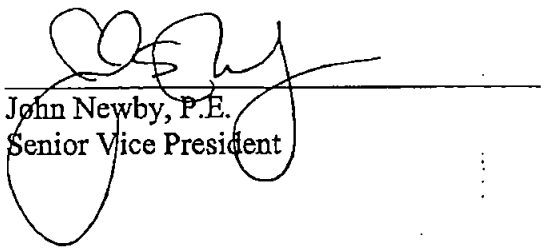


John Newby, P.E.
Senior Vice President

Tables

Table 1
Summary of Soil Analytical Results
King County/Ballinger Way Portal Site
Shoreline, Washington

Sample Location:	HB 6	HB 5	HB 4	HB 4	HB 3	HB 3	HB 2	HB 1			Method A Cleanup Level [a]
Sample I.D.:	HB-6 10 ft	HB-5 12.5 ft	HB-4 15 ft	HB-4 25 ft	HB-3 Surface	HB-3 20 ft	HB-2 23.5 ft	HB-1 15 ft	Surface A	Surface B	
Depth (ft bgs):	10	12.5	15	25	Surface	20	23.5	15	0-1	0-1	
Compound											
NWTPH-Gx/BTEX (mg/kg)											
MTBE	<0.054	<0.053	<0.055	<0.056	<0.052	<0.058	<0.060	<0.053	<0.057	<0.053	0.1
Benzene	<0.011	<0.011	<0.011	<0.011	<0.010	<0.012	<0.012	<0.011	<0.011	<0.011	0.03
Toluene	<0.054	<0.053	<0.055	<0.056	<0.052	<0.058	<0.060	<0.053	<0.057	<0.053	7
Ethylbenzene	<0.054	<0.053	<0.055	<0.056	<0.052	<0.058	<0.060	<0.053	<0.057	<0.053	6
m,p-Xylene	<0.054	<0.053	<0.055	<0.056	<0.052	<0.058	<0.060	<0.053	<0.057	<0.053	9
o-Xylene	<0.054	<0.053	<0.055	<0.056	0.082	<0.058	<0.060	<0.053	<0.057	<0.053	9
TPH-Gas	<5.4	<5.3	<5.5	<5.6	25	<5.8	<6.0	<5.3	<5.7	<5.3	30
NWTPH-Dx (mg/kg)											
Diesel	<27	<27	<28	<28	<26	<29	<30	<26	<28	<26	2,000
Lube Oil	64	<53	<55	<56	<52	<58	<60	<53	200	<53	2,000
Halogenated Volatiles (mg/kg) (Detected)											
Tetrachloroethene	0.0028	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	0.05
Organochlorine Pesticides (µg/kg) (Detected)											
Heptachloro Epoxide	NA	NA	NA	NA	ND	NA	NA	NA	310	<5.3	N/A
Gamma-Chlordane	NA	NA	NA	NA	ND	NA	NA	NA	2,300	<11	N/A
Alpha-Chlordane	NA	NA	NA	NA	ND	NA	NA	NA	2,500	<11	N/A
4,4'-DDE	NA	NA	NA	NA	ND	NA	NA	NA	510	<11	N/A
4,4'-DDD	NA	NA	NA	NA	ND	NA	NA	NA	240	<11	N/A
4,4'-DDT	NA	NA	NA	NA	ND	NA	NA	NA	5,100	<11	3,000
Organophosphorous Pesticides (µg/kg) (Detected)	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	N/A

[redacted]

Table 1
Summary of Soil Analytical Results
King County/Ballinger Way Portal Site
Shoreline, Washington

Sample Location:	HB 6	HB 5	HB 4	HB 4	HB 3	HB 3	HB 2	HB 1			Method A Cleanup Level [a]
Sample I.D.:	HB-6 10 ft	HB-5 12.5 ft	HB-4 15 ft	HB-4 25 ft	HB-3 Surface	HB-3 20 ft	HB-2 23.5 ft	HB-1 15 ft	Surface A	Surface B	
Depth (ft bgs):	10	12.5	15	25	Surface	20	23.5	15	0-1	0-1	
Compound											
Chlorinated Acid Herbicides (µg/kg) (Detected)	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	N/A
pH	NA	NA	NA	NA	7.9	NA	NA	NA	7.2	8.3	N/A

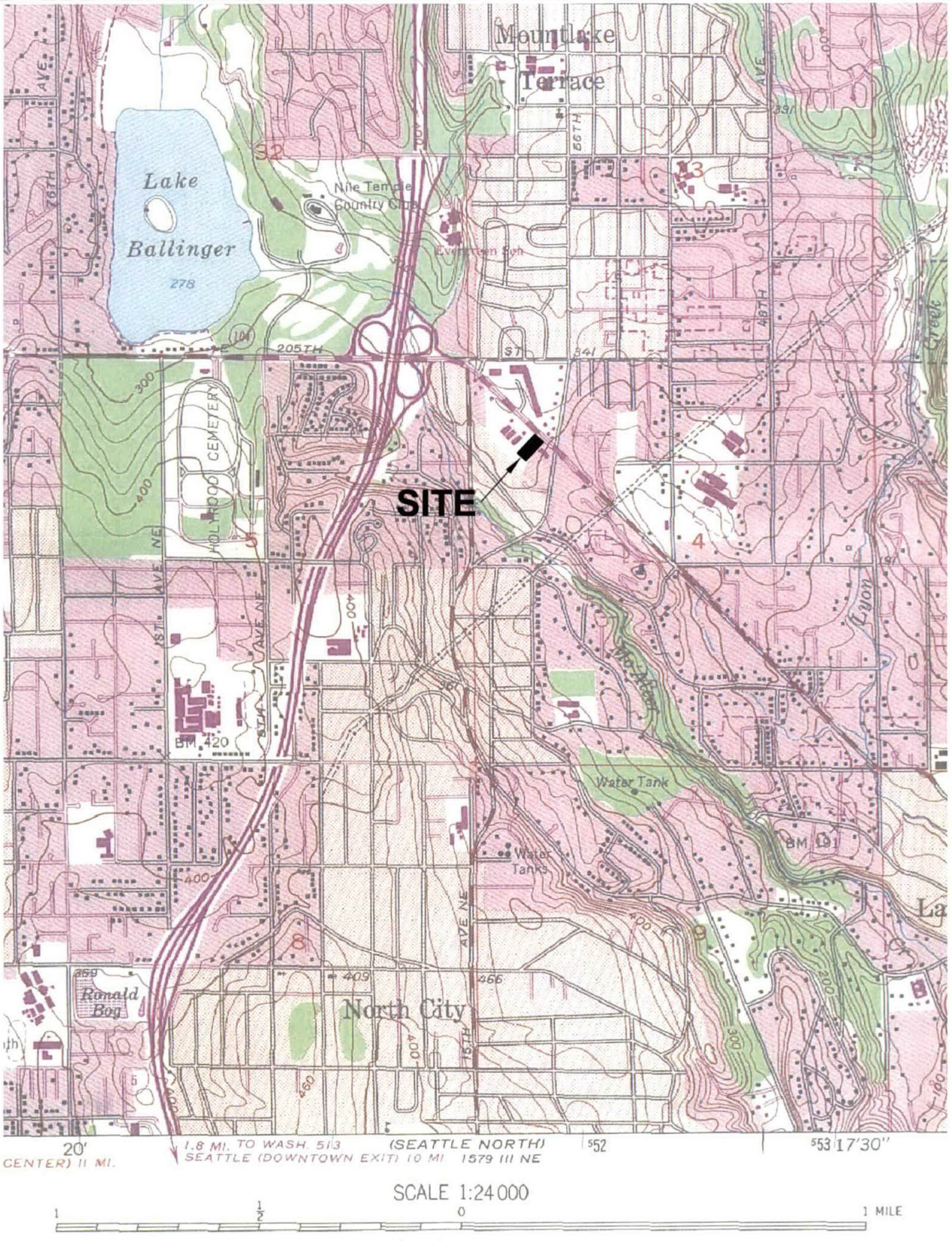
Notes:
a) Washington Administrative Code Chapter 173-340, Model Toxics Control Act Cleanup Regulation, Method A suggested soil cleanup level for unrestricted land uses; updated August 15, 2001.
ft bgs - feet below ground surface.
mg/kg - milligrams per kilogram.
µg/kg - micrograms per kilogram (parts per billion).
NA - not analyzed.
N/A - not available.
< - analyte not detected at or greater than the listed concentration (practical quantitation limit [PQL]).

Table 2
Summary of Groundwater Analytical Results
King County/Ballinger Way Portal Site
Shoreline, Washington

Sample Location: / Sample I.D.: / Compound	HB1 HB-1 8/5/04	HB 2 HB-2 8/5/04	Method A Cleanup Level [a]
NWTPH-Gx/BTEX (µg/L)			
MTBE	<5	<5	20
Benzene	40	8.8	5
Toluene	1,400	19	1,000
Ethylbenzene	2,100	69	700
m,p-Xylene	7,700	190	1,000
o-Xylene	3,600	130	1,000
TPH-Gas	66,000	2,200	800 [b]
NWTPH-Dx (mg/L)			
Diesel	<0.27	<0.27	500
Lube Oil	<0.43	<0.43	500
Halogenated Volatiles (µg/L) (Detected)			
1,1,1-Trichloroethane	22	2.8	200
Trichloroethene	<0.40	1.1	5
1,3-Dichlorobenzene	<0.40	0.81	N/A
1,4-Dichlorobenzene	<0.40	0.81	N/A

Notes:
a) Washington Administrative Code Chapter 173-340, Model Toxics Control Act Cleanup Regulation, Method A suggested groundwater cleanup level; updated August 15, 2001.
b) 800 µg/L if benzene is present in groundwater.
mg/L - milligrams per liter (parts per million).
µg/L - micrograms per liter (parts per billion).
N/A - not available.
< - analyte not detected at or greater than the listed concentration (practical quantitation limit [PQL]).

Figures



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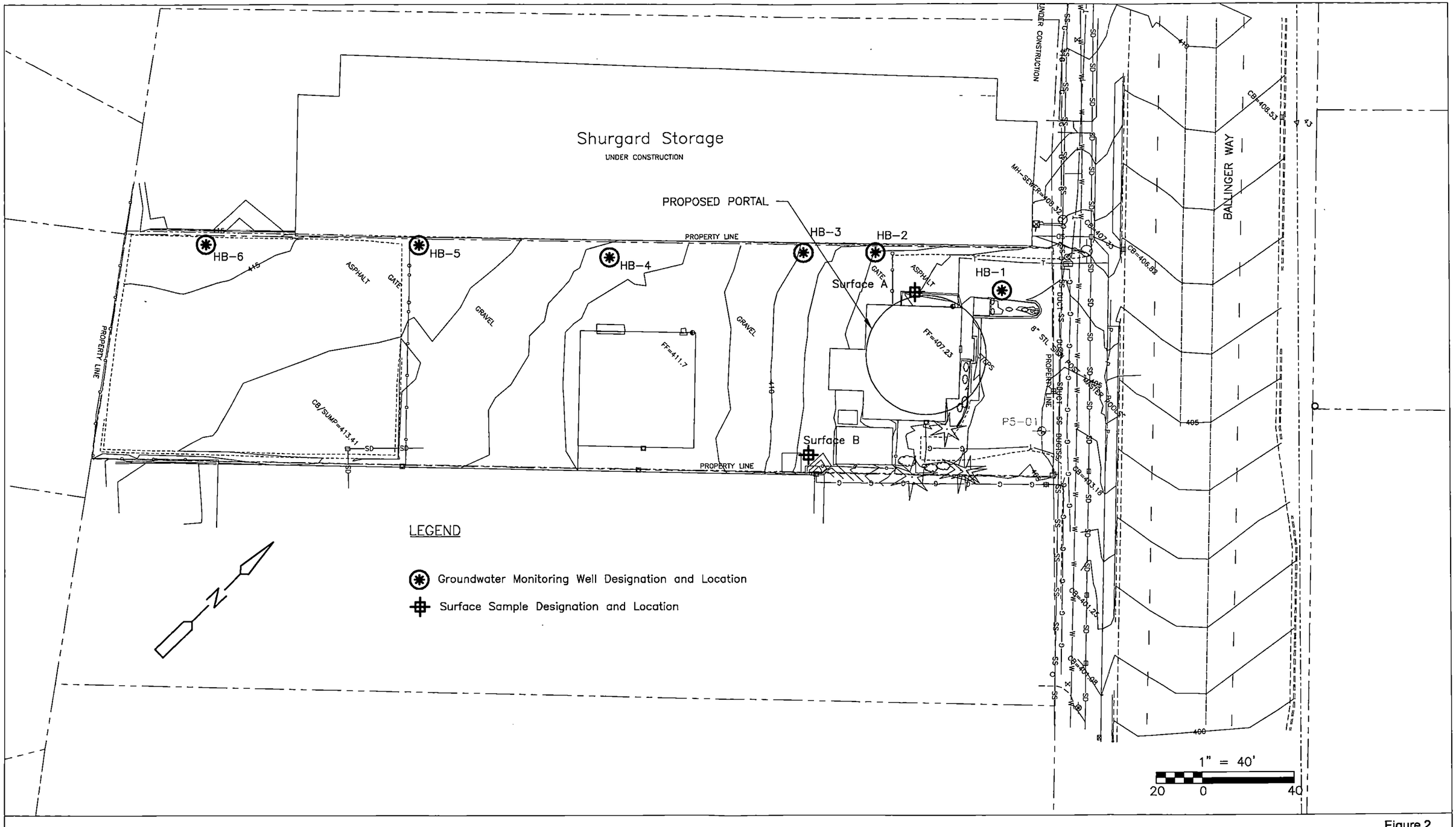
King County
Department of Natural Resources and Parks
Wastewater Treatment Division

CDM

Figure 1
Vicinity Map



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Wastewater Treatment Division

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Figure 2
Site Plan
CONVEYANCE GEOTECHNICAL SERVICES
PHASE 2 - EXPLORATIONS

Appendix A
Field Exploration and Sampling Procedures

Appendix A
Field Exploration and Sampling Procedures

Drilling

Geo-Tech Explorations Inc. of Kent, Washington drilled 6 soil borings, completing each boring as a groundwater monitoring well at the proposed Ballinger Way Portal on August 2 and 3, 2004. A Camp Dresser &McKee (CDM) geologist observed the drilling/monitoring well installation. The borings were advanced from 17.5 to 30.5 feet below ground surface (bgs) using a drill rig equipped with 4-inch inside-diameter hollow-stem augers.

Organic vapors were monitored during drilling to aid in protecting on-site personnel from potential inhalation hazards and to make qualitative judgments about the degree of petroleum hydrocarbons in soil. Measurements were taken routinely around the workers' breathing space.

Soil Sampling

During drilling, soil was sampled at 5-foot intervals by driving a 2-inch-diameter split-barrel sampler 18-inches into undisturbed soil ahead of the borehole bottom. Driving was terminated when the full 18-inch drive was completed or when 50 blows over less than a 6-inch drive was obtained. Each sampled interval was logged according to the Unified Soil Classification System.

The following procedures were used to collect subsurface soil samples during drilling:

1. Driller retrieved split-barrel sampler from borehole.
2. The split-barrel sampler was opened and sample recovery was measured.
3. At sampled intervals subject to laboratory analysis, a soil sample was collected by transferring it to 4-ounce laboratory supplied glass jars using a stainless steel implement. The sample containers were labeled, secured with a chain-of-custody seal, placed in a cooler, and chilled with ice.
4. A representative sample was placed in a resealable plastic bag to measure headspace using an organic vapor meter equipped with a photoionization detector (OVM-PID).
5. The contents of the sampler were described on the field log.
6. The split-barrel sampler was decontaminated by the procedures described later in this appendix.

Field Screening

An OVM-PID was used to screen samples from the test pits and soil borings as follows: soil samples were placed in a plastic resealable bag and disaggregated; after approximately 1 minute, the OVM-PID probe was inserted through the bag in the space (headspace) above the soil and the maximum reading on the instrument was recorded. This screening technique is not a compound-specific analysis and is affected by climate (e.g., temperature and humidity), soil type and condition, and

instrument calibration and operation. The intent of this analysis is to qualitatively compare samples and assist in selecting samples for chemical analysis.

Monitoring Well Installation

Each groundwater monitoring well was installed in the soil boring as the augers were extracted. Each groundwater monitoring well was constructed in accordance with Chapter 173-160 Washington Administrative Code (WAC) *Standards for Resource Protection Wells* (March 13, 1990).

All monitoring wells were constructed of 2-inch-diameter Schedule 40, flush-threaded PVC screen and riser pipe. All screen, casing, and caps were precleaned by the manufacturer and shipped in plastic. The well was constructed with 10 feet of machine-slotted (No. 10 slot) screen with an end cap at the bottom. A blank riser pipe extended from the top of the screen to approximately 0.3 foot bgs. A PVC cap was placed at the top of the blank riser pipe.

The filter pack was installed in the borehole as the auger flights were withdrawn. Quantities of material used were recorded in the daily field investigation report. Depths to the well construction materials were measured frequently with a precleaned weighted measuring tape during installation to prevent overfilling and bridging in the augers. The 10-20 silica sand pack was then placed in the annular space from the bottom of the screen to approximately 2 feet above the top of the screen.

A seal of bentonite chips was placed on top of the sand pack to about 2 feet bgs. The well was completed with tamper-resistant, flush-mount, protective casings cemented into place.

Monitoring Well Development and Sampling

Following monitoring well installation, each well was developed by a combination of surging with a surge block and steady pumping with a submersible pump. Physical parameters (conductivity, pH, and temperature) were measured during development. Once stabilized, the pump was moved to a different depth and the process repeated. Physical parameters, characteristics (odor and color), and pumping rate were recorded on a well development record. Well development water was contained in 55-gallon drums.

The groundwater monitoring wells were allowed to stabilize 48 hours before sampling. Prior to collecting a representative groundwater sample, each monitoring well was purged using a bailer. Physical parameters listed above were measured frequently during purging. Measurements were taken until three well volumes had been removed or the variation of physical parameters was less than 10 percent for three successive measurements.

A bailer equipped with a Teflon check-valve and suspended on nylon chord was used to sample each monitoring well. The bailer was slowly emptied into the sample containers, two amber colored 500milliliter (mL) glass and five 40 mL glass vials to avoid degassing.

Decontamination Procedures

Drilling Equipment

Drilling equipment, including the auger flights and sampling tools, were decontaminated with a high-pressure steam cleaner/pressure wash between each exploration location.

Sampling Equipment

The following decontamination procedures were used to decontaminate soil and groundwater sampling equipment:

1. Rinse and preclean in potable water.
2. Wash and scrub with nonphosphate-based detergent and potable water.
3. Rinse with potable tap water.
4. Rinse with deionized water.
5. Store on clean plastic between sampling.

Sample Handling and Shipping

Soil and groundwater samples were kept out of direct sunlight and were checked for label completeness and cap tightness. Each sealed sample container was placed in packing material upright in a cooler and chilled with Blue Ice. Chain of custody seals were placed on the cooler prior to delivery to the analytical laboratory. The samples were stored and transported under chain-of-custody procedures. Copies of the completed chain-of-custody forms are presented with the laboratory reports in **Appendix C**.

Materials Generated During Fieldwork

Materials generated during fieldwork were placed in 55-gallon drums, labeled to identify the contents, and temporarily stored onsite pending laboratory results. Materials included soil cuttings and decontamination, development, and purge water.

Documentation

Daily Field Report

The CDM representative reported daily activities on a Field Investigation Daily Report form. Personnel on site, visitors, weather, general activities planned and performed, and any problems were included on the Daily Report. Daily Field Reports and other documentation of field activities are contained in the project file.

Drilling and Well Construction

Drilling was conducted by Geo-Tech Explorations, Inc. and documented by a CDM geologist. Documentation of drilling, soil sampling, and well construction was made on a Field Log of Exploration. The log was completed in the field by the CDM representative.

Appendix B
Monitoring Well and Boring Logs

SOIL CLASSIFICATION LEGEND

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS More than half is larger than No. 200 sieve	GRAVELS More than half coarse fraction is larger than No. 4 sieve size	Clean gravels with little or no fines	GW	Well graded gravels, gravel-sand mixtures
			GP	Poorly graded gravels, gravel-sand mixtures
		Gravel with over 12% fines	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than half coarse fraction is smaller than No. 4 sieve size	Clean sands with little or no fines	SW	Well graded sands, gravelly sands
			SP	Poorly graded sands, gravelly sands
		Sands with over 12% fines	SM	Silty sand, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS More than half is smaller than No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic clays and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils

SAMPLE TYPE SYMBOLS

- Disturbed bag or jar sample
- Std. Penetration Test (2.0" OD)
- Type U Ring Sampler (3.25" OD)
- California Sampler (3.0" OD)
- Undisturbed Tube Sample
- Grab Sample
- Core Run
- Non-standard Penetration Test (with split spoon sampler)
- Bulk Sample

CONTACT BETWEEN UNITS

- Change in geologic unit
- Soil type change within geologic unit
- Obscure or gradational change

DESCRIPTORS FOR SOIL STRATA AND STRUCTURE (ENGLISH/METRIC)

General Thickness or Spacing

Parting:	less than 1/16 in. (1/6 cm)
Seam:	1/16 to 1/2 in. (1/6 to 1 1/4 cm)
Layer:	1/2 to 12 in. (1 1/4 to 30 1/2 cm)
Stratum:	> 12 in. (30 1/2 cm)
Scattered:	< 1 per ft. (30 1/2 cm)
Numerous:	> 1 per ft. (30 1/2 cm)

Structure

Pocket:	Erratic, discontinous deposit of limited extent
Lens:	Lenticular deposit
Varved:	Alternating seams of silt and clay
Laminated:	Alternating seams
Interbedded:	Alternating layers

General Attitude

Near horizontal:	0 to 10 deg.
Low angle:	10 to 45 deg.
High angle:	45 to 80 deg.
Near Vertical:	80 to 90 deg.

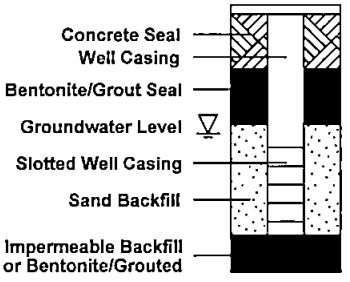
STRUCTURE DESCRIPTION (cont.)

Fractured	Breaks easily along definite fractured planes
Slickensided	Polished, glossy, fractured planes
Blocky, Diced	Breaks easily into small angular lumps
Sheared	Disturbed texture, mix of strengths
Homogenous	Same color and appearance throughout

MOISTURE DESCRIPTION

- Dry - Free of moisture, dusty
- Moist - Damp but no visible free water
- Wet - Visible free water, saturated

WELL COMPLETIONS



RELATIVE DENSITY OR CONSISTENCY VS. SPT N-VALUE

COARSE GRAINED			FINE GRAINED		
Density	N (blows/ft)	Approx. Relative Density (%)	Consistency	N (blows/ft)	Approx. Undrained Shear Str. (psf)
Very Loose	0 to 4	0 - 15	Very Soft	0 to 2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Medium Dense	10 to 30	35 - 65	Medium Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	Over 50	85 - 100	Very Stiff	15 to 30	2000 - 4000
			Hard	over 30	>4000

PHYSICAL PROPERTY TEST

AL -	Atterberg Limits
FC -	Fines Content
GSD -	Grain Size Distribution
MC -	Moisture Content
MD -	Moisture Content/Dry Density
Comp -	Compaction Test (Proctor)
SG -	Specific Gravity
CBR -	California Bearing Ratio
RM -	Resilient Modulus
Perm -	Permeability
TXP -	Triaxial Permeability
Cons -	Consolidation
Chem -	Analytical Chemical Analysis
Corr -	Corrosion
VS -	Vane Shear
DS -	Direct Shear
UC -	Unconfined Compression
TX -	Triaxial Compression
UU -	Unconsolidated, Undrained
CU -	Consolidated, Undrained
CD -	Consolidated, Drained

Notes:

1. Sample descriptions in this report are based on visual field and laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates, and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual classification methods in accordance with ASTM D 2488 were used as an identification guide. Where laboratory data are available, soil classifications are in general accordance with ASTM D 2487.

2. Dual symbols are used to indicate gravel and sand units with 5 to 12 percent fines.

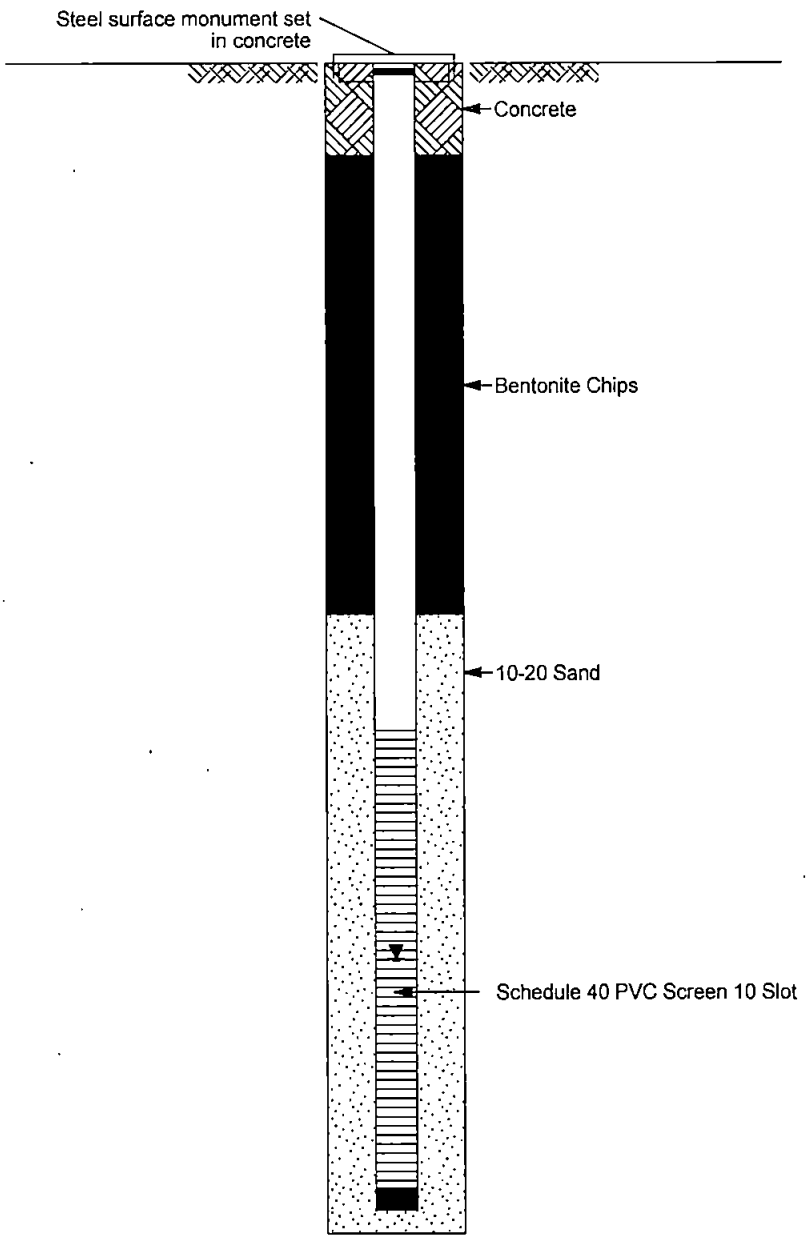
3. WOR = weight of rod.

CDM

King County
Brightwater Conveyance System
Shoreline, Washington

Project No: 19897.43502 Figure: B1

SOIL CLASSIFICATION/LEGEND 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.



MONITORING WELL CONSTRUCTION 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

TYPICAL MONITORING WELL CONSTRUCTION

King County
Brightwater Conveyance System
Shoreline, Washington

Project No: 19897.43502 Figure: B2
1 of 1

CDM

Boring Log HB-1

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PID (ppm)	Penetration Resistance (blows / foot)	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)	Well or Piezometer Completion
				1.3			G			Asphalt.		
										Loose, brown-red, slightly moist SAND (SP), with some gravel, fine to some medium sand, gravel fine to medium, subrounded (**Qvr**).		
				0	7 11 12	5		SP		Medium dense, brown-red, slightly moist SAND (SP), with gravel, fine to medium sand, fine to coarse gravel, oxidation (**Qvr**).		
				0	36 50/5"	10				As above, grading coarser.		
								SP-SM		Very dense, brown-gray, moist, silty SAND (SP-SM), with gravel, fine to trace medium sand, coarse gravel (**Qvr**).		
				7	20 50/5"	15				Very dense, brown-gray, very moist SAND (SP), with trace gravel, fine to medium sand, fine gravel, subrounded (**Qvr**).		
								SP				
						▽				Water encountered.		
				110	4 26 42	20				Dense, gray, saturated SAND (SW), with gravel, fine to coarse sand, fine to medium gravel, subrounded to rounded (**Qvr**).		
								SW				
				98 30	50/5"	25		GM		Very dense, gray-brown, moist, silty GRAVEL (GM), with sand, sand fine to coarse, gravel fine to medium, subangular to subrounded.		
										Terminated boring at 25.5 feet below ground surface.		
										Groundwater encountered at 19.5 ft bgs.		

LOG OF BORING WITH WELL 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

Location: _____
Surface Elevation: _____
Logged By: SEC

Drill Rig: HSA Foremost Mobile B-59
Equipment/Hammer: D&M/300/30
Date Completed: 8-3-04

CDM

King County
Brightwater Conveyance System
Shoreline, Washington

Boring Log HB-1
Project No: 19897.43502

Figure: B3
1 of 1

Boring Log HB-2

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PID (ppm)	Penetration Resistance (blows / foot)	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)	Well or Piezometer Completion
				0			G	FILL		Crushed Rock/Gravel (Fill).		
										Loose, brown-red, slightly moist SAND (SP), with gravel, fine to medium sand, fine to medium gravel (Qvr).		
				0	14 11 7	5		SP		Medium dense, brown-red, moist SAND (SP), with gravel, same as above, some coarse gravel, subrounded (Qvr).		
				0	14 19 18	10				Medium dense, same as above, except grading coarser with depth, subrounded.		
										Very dense, brown-gray, moist SAND (SP-SM), with graveland trace clay/silt binder, sand grading coarse.		
				65/6"		15		SP-SM				
				0	27 50/3"							
				0	27 50/3"	20				Becomes very moist.		
								SP		Gray-brown, very moist to wet SAND (SP), with silt, some fine to medium sand, trace gravel.		
				9.6	37 50/6"			SP-SM		Very dense, gray-brown, wet, silty SAND (SP-SM), sand fine to medium.		
						25				Terminated boring at 25 feet below ground surface.		

LOG OF BORING WITH WELL 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

Location: _____
Surface Elevation: _____
Logged By: SEC

Drill Rig: HSA Foremost Mobile B-59
Equipment/Hammer: D&M/300/30
Date Completed: 8-3-04

CDM

King County
Brightwater Conveyance System
Shoreline, Washington

Boring Log HB-2
Project No: 19897.43502

Figure: B4
1 of 1

Boring Log HB-3

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PID (ppm)	Penetration Resistance (blows / foot)	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)	Well or Piezometer Completion
				23			G			Loose, brown-red, slightly moist SAND (SP), with gravel, fine to medium sand, fine to medium gravel, subangular to subrounded, odor-woody (**Qvr**).		
				0	11 14 17	5		SP		Medium dense, brown-red, slightly moist SAND (SP), with some gravel, fine to medium sand, fine to medium gravel, subrounded, no odor (**Qvr**).		
				0	14 16 20	10				As above, except moist, increase in gravel, medium to coarse, trace coarse sand, grading coarse (**Qvr**).		
				0	21 50/5"	15		SP-SM		Very dense, brown-gray, moist, silty SAND (SP-SM), with gravel, fine to medium sand, fine to medium gravel, subangular to subrounded, weathered till(?) (**Qvr & Qvt**).		
				0.7	15 50/5"	20				Very dense, brown-gray, very moist, silty sand, increase in silt at 20.5 ft bgs, trace gravel, fine to medium sand, fine gravel.		
				0	30 50/2"	25		SP		Very dense, brown-gray, moist SAND (SP), with trace silt, fine to medium sand (**Qvr**).		
								SP-SM		Very dense, gray-brown, moist, silty SAND (SP-SM), with some gravel, fine to medium sand, fine gravel, subangular to subrounded (**Qvt**).		
				0	50/6"	30				Terminated boring at 30.5 feet below ground surface.		

Location: _____
Surface Elevation: _____
Logged By: SEC

Drill Rig: HSA Foremost Mobile B-59
Equipment/Hammer: D&M/300/30
Date Completed: 8-3-04

CDM

King County
Brightwater Conveyance System
Shoreline, Washington

Boring Log HB-3
Project No: 19897.43502

Figure: B5
1 of 1

LOG OF BORING WITH WELL 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

Boring Log HB-4

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PID (ppm)	Penetration Resistance (blows / foot)	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)	Well or Piezometer Completion
							G			Loose, brown-red, slightly moist SAND (SP), fine to medium sand, medium to coarse gravel, Recessional Outwash (**Qvr**).		
				0	15 50/5"	5		SP		Dense, brown-red, moist SAND (SP), with gravel, some grading as above, Recessional Outwash (**Qvr**).		
				0	36 50/5"	10				Very dense, brown-red, moist SAND (SP), with some gravel, fine to medium sand, medium gravel, subrounded (**Qvr**).		
										Very dense, brown-gray, moist SAND with silt and gravel (SP-SM), fine to medium sand, medium to coarse gravel, with silty/clay matrix border.		
				0	60/6"	15		SP-SM				
					75/6"	20		SP		Very dense, brown-gray, slightly moist SAND (SP), with gravel, similar to above with less silt, no binder.		
				0	22 50/5"	25		SP-SM		Medium dense, brown-gray, moist SAND (SP-SM), with gravel (**Till/Qvt**)		
										Very dense, gray-brown, moist, silty SAND (SP-SM), with some gravel and clay matrix, fine to trace medium sand. Terminated boring at 26 feet below ground surface.		

LOG OF BORING WITH WELL 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

Location: _____
Surface Elevation: _____
Logged By: SEC

Drill Rig: HSA Foremost Mobile B-59
Equipment/Hammer: D&M/300/30
Date Completed: 8-3-04

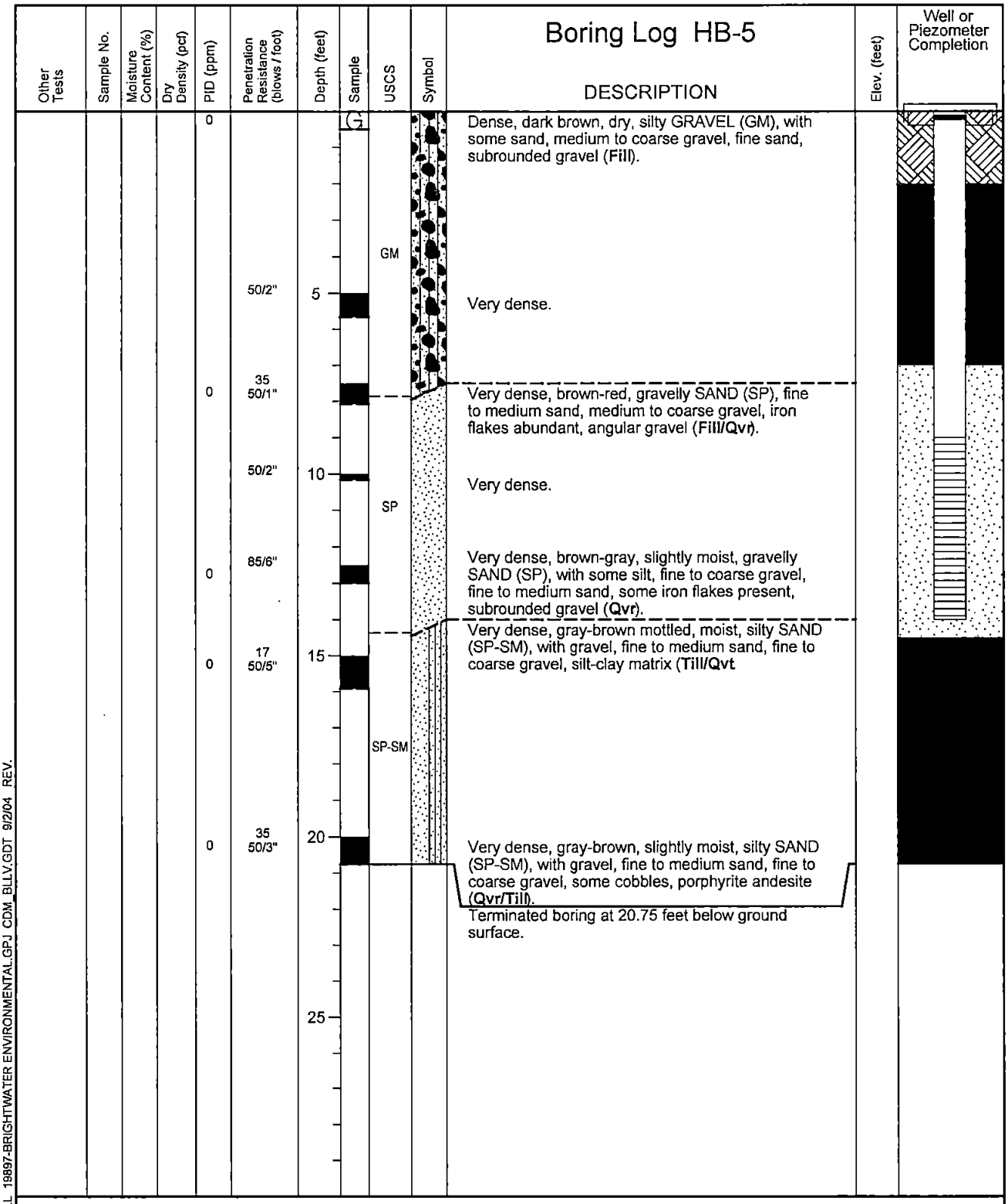
CDM

King County
Brightwater Conveyance System
Shoreline, Washington

Boring Log HB-4
Project No: 19897.43502

Figure: B6
1 of 1

Boring Log HB-5



Location: _____
Surface Elevation: _____
Logged By: SEC

Drill Rig: HSA Foremost Mobile B-59
Equipment/Hammer: D&M/300/30
Date Completed: 8-2-04

LOG OF BORING WITH WELL 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

CDM

King County
Brightwater Conveyance System
Shoreline, Washington

Boring Log HB-5
Project No: 19897.43502

Figure: B7
1 of 1

Boring Log HB-6

Other Tests	Sample No.	Moisture Content (%)	Dry Density (pcf)	PID (ppm)	Penetration Resistance (blows / foot)	Depth (feet)	Sample	USCS	Symbol	DESCRIPTION	Elev. (feet)	Well or Piezometer Completion
				0			G	SM		Loose, brown, dry, silty, SAND with Gravel (SM), wood chips, fibrous, fine to medium gravel, fine to medium sand, angular gravel (**Fill**).		
										Medium dense, red-brown, dry, fine to medium, SAND (SP), poorly graded, trace coarse, and trace silt, Recessional Outwash (**Qvr**).		
				0	5 12 13	5		SP				
				0	22 50/5"	10				Very dense, brown-gray mottled, moist, silty, SAND with GRAVEL (SP-SM), fine to medium sand, medium coarse gravel (**Till?**).		
					50/2"	15		SP-SM				
				0	48 50/3"					Terminated boring at 17.5 feet below ground surface.		
						20						
						25						

Location: _____
Surface Elevation: _____
Logged By: SEC

Drill Rig: HSA Foremost Mobile B-59
Equipment/Hammer: D&M/300/30
Date Completed: 8-2-04

King County
Brightwater Conveyance System
Shoreline, Washington

CDM

Boring Log HB-6 Figure: B8
Project No: 19897.43502 1 of 1

LOG OF BORING WITH WELL 19897-BRIGHTWATER ENVIRONMENTAL.GPJ CDM_BLLV.GDT 9/2/04 REV.

Appendix C
Analytical Laboratory Reports

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name:	Ballinger Way Site
Project No.:	19897 43507 622.2
Lab Name:	OnSite Environmental Inc (Onsite) - Redmond, WA and Severn Trent Laboratories (STL) - Tacoma, WA
Lab Number:	OnSite 0408-031(STL 122672), and 0408-042
Sample No.:	Soil Samples: HB-6 10 ft, HB-5 12.5 ft, HB-4 15 ft, HB-4 25 ft, HB-3 surface, HB-3 20ft, HB-3 20ft, HB-2 23.5 ft, HB-1 15 ft, Surface A, and Surface B. Water Samples: HB-1 8/5/04 and HB2 8/5/04
Matrix:	Soil and Water

REPORT ORGANIZATION

This report is a quality assurance (QA) review of the chemical data associated with samples listed above. Associated worksheets are stored with project files and can be provided upon request.

QUALITY ASSURANCE SUMMARY

Eleven soil samples and two water samples were collected by Camp Dresser & McKee Inc. (CDM). Samples were collected on August 2, 3, and 5 of 2004 and submitted to OnSite for analyses. OnSite subcontracted with STL to perform organophosphorus pesticide analysis. Samples submitted to OnSite were analyzed for volatile organic compounds (VOCs), gasoline, benzene, ethylbenzene, toluene, xylenes (BETX), diesel extended range fuel hydrocarbons, organochlorine pesticides, chlorinated acid herbicides, organophosphorus pesticides, and measured for moisture content. Data review was performed using OnSite control limit criteria, *National Functional Guidelines for Organic Data Review* (USEPA, 1999) and *National Functional Guidelines for Inorganic Data Review* (USEPA, 2002).

All data are of known quality and acceptable for use with the following qualifier:

> Laboratory Number 0408-031: Methylene chloride (DCM) was detected in sample Surface A at 0.010 mg/Kg. OnSite qualified the DCM detection "H" to indicate that it was a common lab contaminant however DCM was not detected in the associated method blank. The DCM detection in sample Surface A is qualified as estimated (J) to indicate that the detection is likely a lab contaminant.

ANALYTICAL METHODS

Parameter	Technique	Method
VOCs	GC/MS	EPA 8260B
Gasoline/BETX	GC/PID	NWTPH-Gx
Diesel and Extended Range	GC/FID	NWTPH-Dx
Organochlorine Pesticides	GC/ECD	EPA 8081A
Chlorinated Acid Herbicides	GC/ECD	EPA 8151A
Organophosphorus Pesticides	GC/MS Mod	EPA 8141
pH	Probe	EPA 9045C

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name:	Ballinger Way Site
Project No.:	19897 43507 622.2
Lab Name:	OnSite Environmental Inc (Onsite) - Redmond, WA and Severn Trent Laboratories (STL) – Tacoma, WA
Lab Number:	OnSite 0408-031(STL 122672), and 0408-042
Sample No.:	Soil Samples: HB-6 10 ft, HB-5 12.5 ft, HB-4 15 ft, HB-4 25 ft, HB-3 surface, HB-3 20ft, HB-3 20ft, HB-2 23.5 ft, HB-1 15 ft, Surface A, and Surface B. Water Samples: HB-1 8/5/04 and HB2 8/5/04
Matrix:	Soil and Water

TIMELINESS

All samples were extracted and analyzed within recommended holding times.

CHAIN OF CUSTODY

Samples were collected August 2, 3, and 5 of 2004 and hand delivered to OnSite in insulated shipping containers. Field chain-of-custody forms (COCs) were complete and accompanied each container. There were no problems with sample receipt conditions for samples received by OnSite. All chain-of-custody forms were signed and dated.

FIELD QUALITY CONTROL SAMPLES

No field quality control was collected.

LAB QUALITY CONTROL SAMPLES

Method Blank: VOCs: No target compounds were detected in the blank at concentrations greater than or equal to the reporting limits with the following discussion:

> Laboratory Number 0408-031: Methylene chloride (DCM) was detected in sample Surface A at 0.010 mg/Kg. OnSite qualified the DCM detection "H" to indicate that it was a common lab contaminant however DCM was not detected in the associated method blank. The DCM detection in sample Surface A is qualified as estimated (J) to indicate that the detection is likely a lab contaminant.

NWTPH-Gx and NWTPH-Dx: No target compounds were detected in the blanks at concentrations greater than or equal to the reporting limits.

Organochlorine Pesticides, Chlorinated Acid Herbicides, and Organophosphorus Pesticides: No target compounds were detected in the blanks at concentrations greater than or equal to the OnSite or STL reporting limits.

Surrogates: VOCs: The laboratory used three surrogate spiking compounds for VOC analyses. All surrogate % R values were within the laboratory control limits.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name:	Ballinger Way Site
Project No.:	19897 43507 622.2
Lab Name:	OnSite Environmental Inc (Onsite) - Redmond, WA and Severn Trent Laboratories (STL) - Tacoma, WA
Lab Number:	OnSite 0408-031(STL 122672), and 0408-042
Sample No.:	Soil Samples: HB-6 10 ft, HB-5 12.5 ft, HB-4 15 ft, HB-4 25 ft, HB-3 surface, HB-3 20ft, HB-3 20ft, HB-2 23.5 ft, HB-1 15 ft, Surface A, and Surface B. Water Samples: HB-1 8/5/04 and HB2 8/5/04
Matrix:	Soil and Water

NWTPH-Gx/BTEX: The laboratory used one surrogate spiking compound for gasoline/BETX analysis. All surrogate % R values were within the laboratory control limits.

NWTPH-Dx: The laboratory used one surrogate spiking compound for diesel and extended range screening analyses. All surrogate % R values were within the laboratory control limits.

Organochlorine Pesticides: The laboratory used two surrogate spiking compounds for analyses. All surrogate % R values were within the laboratory control limits.

Chlorinated Acid Herbicides: The laboratory used one surrogate spiking compound for chlorinated acid herbicides analyses. All surrogate % R values were within the laboratory control limits.

Organophosphorus Pesticides: The laboratory used two surrogate spiking compounds for organophosphorus pesticides analyses. All surrogate % R values were within the laboratory control limits.

Matrix Spike:

VOCs: Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed and spike percent recoveries (%R) and RPDs were acceptable and within OnSite's control limit criteria.

NWTPH-Gx/BTEX: Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed and spike percent recoveries (%R) and RPDs were acceptable and within OnSite's control limit criteria.

NWTPH-Dx: MS/MSD analyses were not performed. Refer to laboratory duplicate data for precision results.

Organochlorine Pesticides: MS/MSD analyses were performed and spike % R and RPDs were acceptable and within OnSite's control limit criteria.

Chlorinated Acid Herbicides: MS/MSD analyses were performed and spike %

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name:	Ballinger Way Site
Project No.:	19897 43507 622.2
Lab Name:	OnSite Environmental Inc (Onsite) - Redmond, WA and Severn Trent Laboratories (STL) – Tacoma, WA
Lab Number:	OnSite 0408-031(STL 122672), and 0408-042
Sample No.:	Soil Samples: HB-6 10 ft, HB-5 12.5 ft, HB-4 15 ft, HB-4 25 ft, HB-3 surface, HB-3 20ft, HB-3 20ft, HB-2 23.5 ft, HB-1 15 ft, Surface A, and Surface B. Water Samples: HB-1 8/5/04 and HB2 8/5/04
Matrix:	Soil and Water

R and RPDs were acceptable and within OnSite's control limit criteria.

Organophosphorus Pesticides: MS/MSD and blank spike/blank spike duplicate analyses (BS/BSD) were performed and spike % R and RPDs were acceptable and within STL's control limit criteria with one exception.

Laboratory Number 122672: Percent recovery for spike compound azinphos, methyl was low and below STL's acceptance criteria. No action was taken as the remaining matrix spike compound recoveries were acceptable and the BS/BSD spike recoveries and RPD were acceptable and within STL's acceptance criteria.

Laboratory Duplicate:

VOCs: Laboratory duplicate analyses were not performed. Refer to MS/MSD results for precision data.

NWTPH-Gx/BTEX: Laboratory duplicate relative percent difference (RPD) value was less than the control limit of 20%.

NWTPH-Dx: Laboratory duplicate relative percent difference (RPD) value was less than the control limit of 20%.

Organochlorine Pesticides, Chlorinated Acid Herbicides, and Organophosphorus Pesticides: Laboratory duplicate analyses were not performed. Refer to MS/MSD results for precision data.

General Chemistry: Laboratory duplicate analyses were not performed on pH and moisture measurements. No action is taken other than to note this in the report.

Laboratory Control Sample:

All parameters: Laboratory control and laboratory control sample duplicate (LCS/LCSD) samples were not performed. For VOCs, gasoline, diesel, organochlorine pesticides, chlorinated acid herbicides, and organophosphorus pesticides refer to laboratory duplicate data, matrix spike, or blank spike data for precision and accuracy.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name:	Ballinger Way Site
Project No.:	19897 43507 622.2
Lab Name:	OnSite Environmental Inc (Onsite) - Redmond, WA and Severn Trent Laboratories (STL) – Tacoma, WA
Lab Number:	OnSite 0408-031(STL 122672), and 0408-042
Sample No.:	Soil Samples: HB-6 10 ft, HB-5 12.5 ft, HB-4 15 ft, HB-4 25 ft, HB-3 surface, HB-3 20ft, HB-3 20ft, HB-2 23.5 ft, HB-1 15 ft, Surface A, and Surface B. Water Samples: HB-1 8/5/04 and HB2 8/5/04
Matrix:	Soil and Water

Reporting Limits: VOCs: The laboratory met the reporting limit levels for all analytes with a few exceptions.

Laboratory Number 0408-042: OnSite notes that MTCA cleanup levels are not achievable for samples HB-1 8/5/04 and HB-2 8/5/04 due to a high concentration of non-target analytes in the samples. Review of samples HB-1 8/5/04 and HB-2 8/5/04 results indicates that there are elevated concentrations of gasoline in both samples – particularly sample HB-1 8/5/04. No action is taken other than to note this in the report.

NWTPH-Gx/BTEX: The laboratory met the reporting limit levels for all analytes with a few exceptions:

Laboratory Number 0408-042: Reporting limits are elevated due to the high concentrations of target analytes in samples HB-1 8/5/04 and HB-2 8/5/04.

Organochlorine Pesticides, Chlorinated Acid Herbicides, and Organophosphorus Pesticides: The laboratory met the reporting limit levels for all analytes with a few exceptions:

Lab Number 0408-031 – Elevated concentrations of pesticides (Organochlorine Pesticides via EPA Method 8081) were detected in Sample Surface A. As a result the laboratory was unable to achieve PQL objectives on the Chlorinated Acid Herbicide analysis for 2,4-DB and Dinoseb. No action was taken other than to note this in the report.

Quantitation Note: Organochlorine Pesticides: Sample Surface A had hits for gamma and alpha chlordane. The pattern for technical grade chlordane was not detected and the isomers (gamma and alpha chlordane) are reported instead. Tabulated results should be footnoted to indicate that chlordane isomers are reported and not technical grade chlordane.

Case narrative notes include a discussion regarding continuing calibration verification (CCV) data. CCV data was greater than 15 % difference on column #2 and sample quantitations were taken from column #1. Target analytes, alpha-BHC and endrin were greater than -15% difference on column 1 (pest mid level) indicating a high bias. Neither compound (alpha-BHC and endrin) was detected in any of the samples. Target analyte endrin aldehyde was

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name:	Ballinger Way Site
Project No.:	19897 43507 622.2
Lab Name:	OnSite Environmental Inc (Onsite) - Redmond, WA and Severn Trent Laboratories (STL) - Tacoma, WA
Lab Number:	OnSite 0408-031(STL 122672), and 0408-042
Sample No.:	Soil Samples: HB-6 10 ft, HB-5 12.5 ft, HB-4 15 ft, HB-4 25 ft, HB-3 surface, HB-3 20ft, HB-3 20ft, HB-2 23.5 ft, HB-1 15 ft, Surface A, and Surface B. Water Samples: HB-1 8/5/04 and HB2 8/5/04
Matrix:	Soil and Water

greater than 15% on column 1 (low and mid level) indicating a low bias. In this case no action was taken since the average for all analytes on both columns was less than 15%.

SIGNATURES

Jessie Compeau

Prepared by _____ Date 9/27/04

Checked by Ali Moor Date 9/27/04

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

August 17, 2004

Scott Coffey
CDM
P.O. Box 3885
Bellevue, WA 98009

Re: Analytical Data for Project 19897-37576-170.1
Laboratory Reference No. 0408-031

Dear Scott:

Enclosed are the analytical results and associated quality control data for samples submitted on August 4, 2004.

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

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

Case Narrative

Samples were collected on August 2 and 3, 2004 and received by the laboratory on August 4, 2004. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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.

NWTPH Gx/BTEX Analysis

The sample chromatogram is not similar to a typical gasoline chromatogram.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Organochlorine Pesticides by EPA 8081A Analysis

Sample Surface A (08-031-09) had hits for gamma and alpha chlordane. Since the pattern for technical grade chlordane was not detected, these chlordane isomers were reported instead.

The average percent difference across all analytes in continuing calibration verification standard (CCV) PEST MID LEVEL 0812-1 was greater than 15% on column #2. Therefore, all sample quantitations were taken from column #1.

The percent difference values for the following analytes were greater than the quality control limit of -15% (high bias) on column #1 in the following continuing calibration verification standards (CCV's):

PEST MID LEVEL 0812-1: alpha-BHC and Endrin.
PEST MID LEVEL 0812-2: alpha-BHC and Endrin.

The percent difference values for the following analytes were greater than the quality control limit of +15% (low bias) on column #1 in the following continuing calibration verification standards (CCV's):

PEST LOW LEVEL 0812-2: Endrin Aldehyde
PEST MID LEVEL 0812-2: Endrin Aldehyde

Since the average was less than 15% D for all analytes on both columns, no further action required.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Chlorinated Acid Herbicides EPA 8151A Analysis

Sample Surface A (08-031-09) has very high concentrations of pesticides. Consequently, interfering compounds prevented quantitation for 2,4-DB and Dinoseb below the given PQL. All Quality control limits associated with this sample batch are within limits.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX

Date Extracted:	8-5-04	
Date Analyzed:	8-5&6-04	
Matrix: Soil		
Units: mg/kg (ppm)		
Client ID:	**HB-6 10ft**	**HB-5 12.5ft**
Lab ID:	08-031-01	08-031-02

	Result	Flags	PQL	Result	Flags	PQL
MTBE	**ND**		0.054	**ND**		0.053
Benzene	**ND**		0.011	**ND**		0.011
Toluene	**ND**		0.054	**ND**		0.053
Ethyl Benzene	**ND**		0.054	**ND**		0.053
m,p-Xylene	**ND**		0.054	**ND**		0.053
o-Xylene	**ND**		0.054	**ND**		0.053
TPH-Gas	**ND**		5.4	**ND**		5.3
Surrogate Recovery:						
Fluorobenzene	90%			91%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX

Date Extracted: 8-5-04
Date Analyzed: 8-5-04

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	HB-4 15ft			HB-4 25ft		
Lab ID:	08-031-03			08-031-04		
	Result	Flags	PQL	**Result**	Flags	PQL
MTBE	**ND**		0.055	**ND**		0.056
Benzene	**ND**		0.011	**ND**		0.011
Toluene	**ND**		0.055	**ND**		0.056
Ethyl Benzene	**ND**		0.055	**ND**		0.056
m,p-Xylene	**ND**		0.055	**ND**		0.056
o-Xylene	**ND**		0.055	**ND**		0.056
TPH-Gas	**ND**		5.5	**ND**		5.6
Surrogate Recovery: Fluorobenzene	88%			81%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX

Date Extracted: 8-5-04
Date Analyzed: 8-6-04

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	**HB-3 surface**			**HB-3 20ft**		
Lab ID:	08-031-05			08-031-06		
	Result	Flags	PQL	**Result**	Flags	PQL
MTBE	**ND**		0.052	**ND**		0.058
Benzene	**ND**		0.010	**ND**		0.012
Toluene	**ND**		0.052	**ND**		0.058
Ethyl Benzene	**ND**		0.052	**ND**		0.058
m,p-Xylene	**ND**		0.052	**ND**		0.058
o-Xylene	**0.082**		0.052	**ND**		0.058
TPH-Gas	**25**	T	5.2	**ND**		5.8
Surrogate Recovery:						
Fluorobenzene	95%			89%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX

Date Extracted: 8-5-04
Date Analyzed: 8-6-04

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	HB-2 23.5 ft			HB-1 15ft		
Lab ID:	08-031-07			08-031-08		
	Result	Flags	PQL	**Result**	Flags	PQL
MTBE	ND		0.060	ND		0.053
Benzene	ND		0.012	ND		0.011
Toluene	ND		0.060	ND		0.053
Ethyl Benzene	ND		0.060	ND		0.053
m,p-Xylene	ND		0.060	ND		0.053
o-Xylene	ND		0.060	ND		0.053
TPH-Gas	ND		6.0	ND		5.3
Surrogate Recovery: Fluorobenzene	85%			96%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX

Date Extracted: 8-5-04
Date Analyzed: 8-6-04

Matrix: Soil
Units: mg/kg (ppm)

Client ID:	Surface A			Surface B		
Lab ID:	08-031-09			08-031-10		
	Result	Flags	PQL	**Result**	Flags	PQL
MTBE	**ND**		0.057	**ND**		0.053
Benzene	**ND**		0.011	**ND**		0.011
Toluene	**ND**		0.057	**ND**		0.053
Ethyl Benzene	**ND**		0.057	**ND**		0.053
m,p-Xylene	**ND**		0.057	**ND**		0.053
o-Xylene	**ND**		0.057	**ND**		0.053
TPH-Gas	**ND**		5.7	**ND**		5.3
Surrogate Recovery: Fluorobenzene	91%			96%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 8-5-04
Date Analyzed: 8-6-04

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0805S1

	Result	Flags	PQL
MTBE	ND		0.050
Benzene	ND		0.010
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0
Surrogate Recovery:			
Fluorobenzene	96%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 8-5-04
Date Analyzed: 8-6-04

Matrix: Soil
Units: mg/kg (ppm)

Lab ID:	08-031-01 Original	08-031-01 Duplicate	RPD	Flags
MTBE	ND	ND	NA	
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	90%	90%		

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 8-5-04
Date Analyzed: 8-5-04

Matrix: Soil
Units: mg/kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	08-031-01 MS	Percent Recovery	08-031-01 MSD	Percent Recovery	RPD	Flags
MTBE	0.923	92	0.969	97	5	
Benzene	0.909	91	0.882	88	3	
Toluene	0.974	97	0.934	93	4	
Ethyl Benzene	0.976	98	0.936	94	4	
m,p-Xylene	0.977	98	0.934	93	5	
o-Xylene	0.979	98	0.938	94	4	

Surrogate Recovery:			
Fluorobenzene	92%		89%

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Dx

Date Extracted:	8-9-04
Date Analyzed:	8-10-04
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID:	**HB-6 10ft**	**HB-5 12.5ft**	**HB-4 15ft**
Lab ID:	08-031-01	08-031-02	08-031-03
Diesel Range:	ND	ND	ND
PQL:	27	27	28
Identification:	---	---	---
Lube Oil Range:	64	ND	ND
PQL:	54	53	55
Identification:	Lube Oil	---	---
Surrogate Recovery			
o-Terphenyl:	87%	97%	93%
Flags:	Y	Y	Y

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Dx

Date Extracted:	8-9-04		
Date Analyzed:	8-10-04		
Matrix:	Soil		
Units:	mg/kg (ppm)		
Client ID:	**HB-4 25ft**	**HB-3 surface**	**HB-3 20ft**
Lab ID:	08-031-04	08-031-05	08-031-06
Diesel Range:	ND	ND	ND
PQL:	28	26	29
Identification:	---	---	---
Lube Oil Range:	ND	ND	ND
PQL:	56	52	58
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	102%	94%	89%
Flags:	Y	Y	Y

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Dx

Date Extracted:	8-9-04
Date Analyzed:	8-10-04
Matrix:	Soil
Units:	mg/kg (ppm)

Client ID:	**HB-2 23.5ft**	**HB-1 15ft**	**Surface A**
Lab ID:	08-031-07	08-031-08	08-031-09
Diesel Range:	ND	ND	ND
PQL:	30	26	28
Identification:	---	---	---
Lube Oil Range:	ND	ND	200
PQL:	60	53	57
Identification:	---	---	Lube Oil
Surrogate Recovery			
o-Terphenyl:	90%	97%	89%
Flags:	Y	Y	Y

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Dx

Date Extracted:	8-9-04
Date Analyzed:	8-10-04
Matrix:	Soil
Units:	mg/kg (ppm)
Client ID:	**Surface B**
Lab ID:	08-031-10
Diesel Range:	ND
PQL:	26
Identification:	---
Lube Oil Range:	ND
PQL:	53
Identification:	---
Surrogate Recovery	
o-Terphenyl:	86%
Flags:	Y

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	8-9-04
Date Analyzed:	8-10-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0809S2
Diesel Range:	ND
PQL:	25
Identification:	---
Lube Oil Range:	ND
PQL:	50
Identification:	---
Surrogate Recovery	
o-Terphenyl:	106%
Flags:	Y

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	8-9-04
Date Analyzed:	8-10-04
Matrix:	Soil
Units:	mg/kg (ppm)

Lab ID:	08-031-01	08-031-01 DUP
Diesel Range:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	87%	94%
Flags:	Y	Y

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-01
Client ID:	**HB-6 10 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0054
Methylene Chloride	ND		0.0054
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0054
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

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Lab ID: 08-031-01
Client ID: HB-6 10 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	0.0028		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0054
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0054
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	71-126
Toluene, d8	91	73-130
4-Bromofluorobenzene	84	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-02
Client ID:	**HB-5 12.5 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0053
Methylene Chloride	ND		0.0053
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0053
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

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Lab ID: 08-031-02
Client ID: HB-5 12.5 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0053
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0053
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	86	71-126
Toluene, d8	91	73-130
4-Bromofluorobenzene	86	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-03
Client ID:	**HB-4 15 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0055
Methylene Chloride	ND		0.0055
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0055
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
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HALOGENATED VOLATILES by EPA 8260B

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Lab ID: 08-031-03
Client ID: HB-4 15 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0055
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0055
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	71-126
Toluene, d8	94	73-130
4-Bromofluorobenzene	88	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
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Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-04
Client ID:	**HB-4 25 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0056
Methylene Chloride	ND		0.0056
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0056
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
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Lab ID: 08-031-04
Client ID: HB-4 25 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0056
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0056
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-126
Toluene, d8	95	73-130
4-Bromofluorobenzene	83	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-05
Client ID:	**HB-3 surface**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0052
Methylene Chloride	ND		0.0052
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0052
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: August 17, 2004
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Lab ID: 08-031-05
Client ID: HB-3 surface

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0052
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0052
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene, d8	75	73-130
4-Bromofluorobenzene	107	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-06
Client ID:	**HB-3 20 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0012
Chloroethane	ND		0.0012
Trichlorofluoromethane	ND		0.0012
1,1-Dichloroethene	ND		0.0012
Iodomethane	ND		0.0058
Methylene Chloride	ND		0.0058
(trans) 1,2-Dichloroethene	ND		0.0012
1,1-Dichloroethane	ND		0.0012
2,2-Dichloropropane	ND		0.0012
(cis) 1,2-Dichloroethene	ND		0.0012
Bromochloromethane	ND		0.0012
Chloroform	ND		0.0012
1,1,1-Trichloroethane	ND		0.0012
Carbon Tetrachloride	ND		0.0012
1,1-Dichloropropene	ND		0.0012
1,2-Dichloroethane	ND		0.0012
Trichloroethene	ND		0.0012
1,2-Dichloropropane	ND		0.0012
Dibromomethane	ND		0.0012
Bromodichloromethane	ND		0.0012
2-Chloroethyl Vinyl Ether	ND		0.0058
(cis) 1,3-Dichloropropene	ND		0.0012
(trans) 1,3-Dichloropropene	ND		0.0012

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
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Lab ID: 08-031-06
Client ID: HB-3 20 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	ND		0.0012
1,3-Dichloropropane	ND		0.0012
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0012
Chlorobenzene	ND		0.0012
1,1,1,2-Tetrachloroethane	ND		0.0012
Bromoform	ND		0.0012
Bromobenzene	ND		0.0012
1,1,2,2-Tetrachloroethane	ND		0.0012
1,2,3-Trichloropropane	ND		0.0012
2-Chlorotoluene	ND		0.0012
4-Chlorotoluene	ND		0.0012
1,3-Dichlorobenzene	ND		0.0012
1,4-Dichlorobenzene	ND		0.0012
1,2-Dichlorobenzene	ND		0.0012
1,2-Dibromo-3-chloropropane	ND		0.0058
1,2,4-Trichlorobenzene	ND		0.0012
Hexachlorobutadiene	ND		0.0058
1,2,3-Trichlorobenzene	ND		0.0012

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	71-126
Toluene, d8	90	73-130
4-Bromofluorobenzene	94	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
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Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-07
Client ID:	**HB-2 23.5 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0012
Chloroethane	ND		0.0012
Trichlorofluoromethane	ND		0.0012
1,1-Dichloroethene	ND		0.0012
Iodomethane	ND		0.0060
Methylene Chloride	ND		0.0060
(trans) 1,2-Dichloroethene	ND		0.0012
1,1-Dichloroethane	ND		0.0012
2,2-Dichloropropane	ND		0.0012
(cis) 1,2-Dichloroethene	ND		0.0012
Bromochloromethane	ND		0.0012
Chloroform	ND		0.0012
1,1,1-Trichloroethane	ND		0.0012
Carbon Tetrachloride	ND		0.0012
1,1-Dichloropropene	ND		0.0012
1,2-Dichloroethane	ND		0.0012
Trichloroethene	ND		0.0012
1,2-Dichloropropane	ND		0.0012
Dibromomethane	ND		0.0012
Bromodichloromethane	ND		0.0012
2-Chloroethyl Vinyl Ether	ND		0.0060
(cis) 1,3-Dichloropropene	ND		0.0012
(trans) 1,3-Dichloropropene	ND		0.0012

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
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Lab ID: 08-031-07
Client ID: HB-2 23.5 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	ND		0.0012
1,3-Dichloropropane	ND		0.0012
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0012
Chlorobenzene	ND		0.0012
1,1,1,2-Tetrachloroethane	ND		0.0012
Bromoform	ND		0.0012
Bromobenzene	ND		0.0012
1,1,2,2-Tetrachloroethane	ND		0.0012
1,2,3-Trichloropropane	ND		0.0012
2-Chlorotoluene	ND		0.0012
4-Chlorotoluene	ND		0.0012
1,3-Dichlorobenzene	ND		0.0012
1,4-Dichlorobenzene	ND		0.0012
1,2-Dichlorobenzene	ND		0.0012
1,2-Dibromo-3-chloropropane	ND		0.0060
1,2,4-Trichlorobenzene	ND		0.0012
Hexachlorobutadiene	ND		0.0060
1,2,3-Trichlorobenzene	ND		0.0012

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	71-126
Toluene, d8	93	73-130
4-Bromofluorobenzene	90	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
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Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-08
Client ID:	**HB-1 15 ft**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0053
Methylene Chloride	ND		0.0053
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0053
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
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Lab ID: 08-031-08
Client ID: HB-1 15 ft

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0053
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0053
1;2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	81	71-126
Toluene, d8	92	73-130
4-Bromofluorobenzene	82	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
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Date Extracted:	8-6-04
Date Analyzed:	8-6-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-09
Client ID:	**Surface A**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0057
Methylene Chloride	0.010	H	0.0057
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0057
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
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HALOGENATED VOLATILES by EPA 8260B

Lab ID: 08-031-09
Client ID: Surface A

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0057
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0057
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	111	71-126
Toluene, d8	90	73-130
4-Bromofluorobenzene	122	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-6-04
Date Analyzed:	8-6-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	08-031-10
Client ID:	**Surface B**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0053
Methylene Chloride	ND		0.0053
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0053
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
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Lab ID: 08-031-10
Client ID: Surface B

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0053
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0053
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	112	71-126
Toluene, d8	96	73-130
4-Bromofluorobenzene	111	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	8-4-04
Date Analyzed:	8-4-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0804S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0050
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0804S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene, d8	88	73-130
4-Bromofluorobenzene	89	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	8-6-04
Date Analyzed:	8-6-04
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0806S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0050
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0806S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	114	71-126
Toluene, d8	91	73-130
4-Bromofluorobenzene	107	70-130

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 8-4-04
Date Analyzed: 8-4-04

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-016-02

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	0.0500	0.0534	107	0.0572	114	53-141	
Benzene	ND	0.0500	0.0437	87	0.0437	87	66-135	
Trichloroethene	ND	0.0500	0.0468	94	0.0484	97	69-130	
Toluene	ND	0.0500	0.0452	90	0.0483	97	72-127	
Chlorobenzene	ND	0.0500	0.0491	98	0.0543	109	68-134	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	7	11	
Benzene	0	11	
Trichloroethene	3	13	
Toluene	7	11	
Chlorobenzene	10	12	

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

HALOGENATED VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 8-6-04
Date Analyzed: 8-6-04

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-006-04

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	0.0500	0.0500	100	0.0506	101	53-141	
Benzene	ND	0.0500	0.0538	108	0.0507	101	66-135	
Trichloroethene	ND	0.0500	0.0513	103	0.0466	93	69-130	
Toluene	ND	0.0500	0.0520	104	0.0486	97	72-127	
Chlorobenzene	ND	0.0500	0.0560	112	0.0503	101	68-134	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	1	11	
Benzene	6	11	
Trichloroethene	10	13	
Toluene	7	11	
Chlorobenzene	11	12	

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

ORGANOCHLORINE PESTICIDES by EPA 8081A

Date Extracted:	8-6-04
Date Analyzed:	8-12-04
Matrix:	Soil
Units:	ug/kg (ppb)
Lab ID:	08-031-05
Client ID:	HB-3 surface

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.2	
gamma-BHC	ND	5.2	
Heptachlor	ND	5.2	
Aldrin	ND	5.2	
beta-BHC	ND	5.2	
delta-BHC	ND	5.2	
Heptachlor epoxide	ND	5.2	
Endosulfan I	ND	5.2	
gamma-Chlordane	ND	10	
alpha-Chlordane	ND	10	
4,4'-DDE	ND	10	
Dieldrin	ND	10	
Endrin	ND	10	
Endosulfan II	ND	10	
4,4'-DDD	ND	10	
4,4'-DDT	ND	10	
Endrin Aldehyde	ND	10	
Endosulfan Sulfate	ND	10	
Methoxychlor	ND	10	
Endrin ketone	ND	10	
Toxaphene	ND	52	

Surrogate	Percent Recovery	Control Limits
Tetrachloro-m-xylene	77	34 - 109
Decachlorobiphenyl	72	30 - 115

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

ORGANOCHLORINE PESTICIDES by EPA 8081A

Date Extracted:	8-6-04
Date Analyzed:	8-12-04
Matrix:	Soil
Units:	ug/kg (ppb)
Lab ID:	08-031-09
Client ID:	Surface A

Analyte	Result	PQL	Flags
alpha-BHC	ND	110	
gamma-BHC	ND	110	
Heptachlor	ND	110	
Aldrin	ND	110	
beta-BHC	ND	110	
delta-BHC	ND	110	
Heptachlor epoxide	310	110	
Endosulfan I	ND	110	
gamma-Chlordane	2300	230	
alpha-Chlordane	2500	230	
4,4'-DDE	510	230	
Dieldrin	ND	230	
Endrin	ND	230	
Endosulfan II	ND	230	
4,4'-DDD	240	230	
4,4'-DDT	5100	230	
Endrin Aldehyde	ND	230	
Endosulfan Sulfate	ND	230	
Methoxychlor	ND	230	
Endrin ketone	ND	230	
Toxaphene	ND	1100	

Surrogate	Percent Recovery	Control Limits
Tetrachloro-m-xylene	78	34 - 109
Decachlorobiphenyl	85	30 - 115

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

ORGANOCHLORINE PESTICIDES by EPA 8081A

Date Extracted:	8-6-04
Date Analyzed:	8-12-04
Matrix:	Soil
Units:	ug/kg (ppb)
Lab ID:	08-031-10
Client ID:	**Surface B**

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.3	
gamma-BHC	ND	5.3	
Heptachlor	ND	5.3	
Aldrin	ND	5.3	
beta-BHC	ND	5.3	
delta-BHC	ND	5.3	
Heptachlor epoxide	ND	5.3	
Endosulfan I	ND	5.3	
gamma-Chlordane	ND	11	
alpha-Chlordane	ND	11	
4,4'-DDE	ND	11	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	ND	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	53	

Surrogate	Percent Recovery	Control Limits
Tetrachloro-m-xylene	64	34 - 109
Decachlorobiphenyl	65	30 - 115

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

ORGANOCHLORINE PESTICIDES by EPA 8081A METHOD BLANK QUALITY CONTROL

Date Extracted: 8-6-04
Date Analyzed: 8-12-04

Matrix: Soil
Units: ug/kg (ppb)

Lab ID: MB0806S1

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.0	
gamma-BHC	ND	5.0	
Heptachlor	ND	5.0	
Aldrin	ND	5.0	
beta-BHC	ND	5.0	
delta-BHC	ND	5.0	
Heptachlor epoxide	ND	5.0	
Endosulfan I	ND	5.0	
gamma-Chlordane	ND	10	
alpha-Chlordane	ND	10	
4,4'-DDE	ND	10	
Dieldrin	ND	10	
Endrin	ND	10	
Endosulfan II	ND	10	
4,4'-DDD	ND	10	
4,4'-DDT	ND	10	
Endrin Aldehyde	ND	10	
Endosulfan Sulfate	ND	10	
Methoxychlor	ND	10	
Endrin ketone	ND	10	
Toxaphene	ND	50	

Surrogate	Percent Recovery	Control Limits
Tetrachloro-m-xylene	79	34 - 109
Decachlorobiphenyl	91	30 - 115

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

ORGANOCHLORINE PESTICIDES by EPA 8081A MS/MSD QUALITY CONTROL

Date Extracted: 8-6-04
Date Analyzed: 8-12-04

Matrix: Soil
Units: ug/kg (ppb)

Lab ID: 08-031-05

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
gamma-BHC	50	34.1	68	34.4	69	1	
Heptachlor	50	29.5	59	30.9	62	5	
Aldrin	50	30.2	60	30.8	62	2	
Dieldrin	125	84.8	68	86.2	69	2	
Endrin	125	88.5	71	88.9	71	0	
4,4'-DDT	125	74.7	60	73.9	59	1	

Surrogate	Percent Recovery	Percent Recovery	Control Limits
Tetrachloro-m-xylene	73	75	34 - 109
Decachlorobiphenyl	67	66	30 - 115

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

CHLORINATED ACID HERBICIDES by EPA 8151A

Date Extracted:	8-5-04
Date Analyzed:	8-9-04
Matrix:	Soil
Units:	ug/kg (ppb) free acid equivalent
Lab ID:	08-031-05
Client ID:	HB-3 surface

Analyte	Result	PQL	Flags
Dalapon	ND	240	
Dicamba	ND	49	
MCPP	ND	9800	
MCPA	ND	9700	
Dichlorprop	ND	49	
2,4-D	ND	49	
2,4,5-TP (Silvex)	ND	50	
2,4,5-T	ND	49	
2,4-DB	ND	49	
Dinoseb	ND	49	

Surrogate	Percent Recovery	Control Limits
DCAA	79	39-131

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

CHLORINATED ACID HERBICIDES by EPA 8151A

Date Extracted:	8-5-04
Date Analyzed:	8-11-04
Matrix:	Soil
Units:	ug/kg (ppb) free acid equivalent
Lab ID:	08-031-09
Client ID:	**Surface A**

Analyte	Result	PQL	Flags
Dalapon	ND	260	
Dicamba	ND	53	
MCPP	ND	11000	
MCPA	ND	11000	
Dichlorprop	ND	54	
2,4-D	ND	53	
2,4,5-TP (Silvex)	ND	54	
2,4,5-T	ND	54	
2,4-DB	ND	540	
Dinoseb	ND	540	

Surrogate	Percent Recovery	Control Limits
DCAA	83	39-131

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

CHLORINATED ACID HERBICIDES by EPA 8151A

Date Extracted: 8-5-04
Date Analyzed: 8-11-04

Matrix: Soil
Units: ug/kg (ppb) free acid equivalent

Lab ID: 08-031-10
Client ID: Surface B

Analyte	Result	PQL	Flags
Dalapon	ND	240	
Dicamba	ND	49	
MCPP	ND	9900	
MCPA	ND	9800	
Dichlorprop	ND	50	
2,4-D	ND	49	
2,4,5-TP (Silvex)	ND	50	
2,4,5-T	ND	50	
2,4-DB	ND	50	
Dinoseb	ND	50	

Surrogate	Percent Recovery	Control Limits
DCAA	45	39-131

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

CHLORINATED ACID HERBICIDES by EPA 8151A METHOD BLANK QUALITY CONTROL

Date Extracted:	8-5-04
Date Analyzed:	8-9-04
Matrix:	Soil
Units:	ug/kg (ppb) free acid equivalent
Lab ID:	MB0805S1

Analyte	Result	PQL	Flags
Dalapon	ND	230	
Dicamba	ND	47	
MCPP	ND	9400	
MCPA	ND	9400	
Dichlorprop	ND	47	
2,4-D	ND	47	
2,4,5-TP (Silvex)	ND	48	
2,4,5-T	ND	47	
2,4-DB	ND	47	
Dinoseb	ND	47	

Surrogate	Percent Recovery	Control Limits
DCAA	80	39-131

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

CHLORINATED ACID HERBICIDES by EPA 8151A MS/MSD QUALITY CONTROL

Date Extracted: 8-5-04
Date Analyzed: 8-9-04

Matrix: Soil
Units: ug/kg (ppb) free acid equivalent

Lab ID: 08-031-05

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Dicamba	94.0	49.9	53	54.1	58	8	
2,4-D	94.0	58.8	63	58.1	62	1	
2,4,5-T	94.8	58.0	61	59.3	63	2	
2,4-DB	94.7	65.6	69	69.6	74	6	

Surrogate	Percent Recovery	Percent Recovery	Control Limits
DCAA	66	70	39-131

Flags:

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

pH
EPA 9045C

Date Prepared:	8-5-04
Date Analyzed:	8-5-04
Matrix:	Soil

Client ID	Lab ID	pH (@ 25°C)
HB-3 Surface	08-031-05	**7.9**
Surface A	08-031-09	**7.2**
Surface B	08-031-10	**8.3**

Date of Report: August 17, 2004
Samples Submitted: August 4, 2004
Laboratory Reference: 0408-031
Project: 19897-37576-170.1

% MOISTURE

Date Analyzed: 8-4-04

Client ID	Lab ID	% Moisture
HB-6 10ft	08-031-01	7
HB-5 12.5ft	08-031-02	6
HB-4 15ft	08-031-03	9
HB-4 25ft	08-031-04	10
HB-3 surface	08-031-05	4
HB-3 20ft	08-031-06	14
HB-2 23.5ft	08-031-07	17
HB-1 15ft	08-031-08	5
Surface A	08-031-09	12
Surface B	08-031-10	5

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.

G - Insufficient sample quantity for duplicate analysis.

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 (toluene-napthalene) are present in the sample.

O - Hydrocarbons indicative of diesel fuel 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 gasoline.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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 silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: August 11, 2004

TO: David Baumeister
OnSite Environmental, Inc.
14648 N. E. 95th St.
Redmond, WA 98052

PROJECT: 19897-375736-170.1

REPORT NUMBER: 122672

TOTAL NUMBER OF PAGES: 10

Enclosed are the test results for three samples received at STL Seattle on August 5, 2004.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Stan Palmquist
Project Manager

STL Seattle

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
122672-1	HB-3 Surface	08-03-04 *	solid
122672-2	Surface A	08-03-04 *	solid
122672-3	Surface B	08-03-04 *	solid

* - Sampling time not specified for this sample

STL Seattle

Client Name	OnSite Environmental, Inc.
Client ID:	HB-3 SURFACE
Lab ID:	122672-01
Date Received:	8/5/2004
Date Prepared:	8/6/2004
Date Analyzed:	8/7/2004
% Solids	96.03
Dilution Factor	10

Organophosphorus Pesticides by USEPA Method 8141 GC/MS Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Tributyl Phosphate	123		55	128
Triphenyl Phosphate	76.4		47	138

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**PQL**	**MDL**	**Flags**
Dichlorvos	ND	13	5.09	
Mevinphos	ND	9.74	3.45	
Demeton,O-S	ND	13	4.2	
Ethoprop	ND	13	5.19	
Naled	ND	19.5	6.7	
Sulfotepp	ND	13	4.77	
Monocrotophos	ND	19.5	6.19	
Phorate	ND	13	4.22	
Dimethoate	ND	19.5	5.73	
Diazinon	ND	19.5	7.99	
Disulfoton	ND	13	3.87	
Parathion,methyl	ND	13	4.09	
Ronnel	ND	13	1.48	
Malathion	ND	26	17.2	
Chlorpyrifos	ND	52	4.17	
Fenthion	ND	19.5	6.25	
Parathion	ND	13	4.57	
Trichloronate	ND	19.5	5.82	
Tetrachlorvinphos	ND	6.5	2.41	
Fensulfothion	ND	39	14.2	
Tokuthion	ND	19.5	8.71	
Merphos	ND	19.5	7.9	
Bolstar	ND	19.5	5.82	
EPN	ND	13	5.07	
Azinphos,methyl	ND	19.5	5.52	
Coumaphos	ND	52	13.2	

STL Seattle

Client Name	OnSite Environmental, Inc.
Client ID:	SURFACE A
Lab ID:	122672-02
Date Received:	8/5/2004
Date Prepared:	8/6/2004
Date Analyzed:	8/7/2004
% Solids	94.81
Dilution Factor	10

Organophosphorus Pesticides by USEPA Method 8141 GC/MS Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Tributyl Phosphate	121		55	128
Triphenyl Phosphate	89.3		47	138

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**PQL**	**MDL**	**Flags**
Dichlorvos	ND	13.9	5.43	
Mevinphos	ND	10.4	3.68	
Demeton,O-S	ND	13.9	4.48	
Ethoprop	ND	13.9	5.53	
Naled	ND	20.8	7.15	
Sulfotepp	ND	13.9	5.09	
Monocrotophos	ND	20.8	6.61	
Phorate	ND	13.9	4.51	
Dimethoate	ND	20.8	6.12	
Diazinon	ND	20.8	8.53	
Disulfoton	ND	13.9	4.13	
Parathion,methyl	ND	13.9	4.37	
Ronnel	ND	13.9	1.58	
Malathion	ND	27.7	18.4	
Chlorpyrifos	ND	55.5	4.45	
Fenthion	ND	20.8	6.67	
Parathion	ND	13.9	4.87	
Trichloronate	ND	20.8	6.22	
Tetrachlorvinphos	ND	6.93	2.57	
Fensulfothion	ND	41.6	15.1	
Tokuthion	ND	20.8	9.3	
Merphos	ND	20.8	8.43	
Bolstar	ND	20.8	6.21	
EPN	ND	13.9	5.41	
Azinphos,methyl	ND	20.8	5.89	
Coumaphos	ND	55.5	14.1	

STL Seattle

Client Name	OnSite Environmental, Inc.
Client ID:	SURFACE B
Lab ID:	122672-03
Date Received:	8/5/2004
Date Prepared:	8/6/2004
Date Analyzed:	8/7/2004
% Solids	96.51
Dilution Factor	10

Organophosphorus Pesticides by USEPA Method 8141 GC/MS Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Tributyl Phosphate	128		55	128
Triphenyl Phosphate	92.8		47	138

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**PQL**	**MDL**	**Flags**
Dichlorvos	ND	13.6	5.33	
Mevinphos	ND	10.2	3.61	
Demeton,O-S	ND	13.6	4.4	
Ethoprop	ND	13.6	5.43	
Naled	ND	20.4	7.01	
Sulfotepp	ND	13.6	4.99	
Monocrotophos	ND	20.4	6.48	
Phorate	ND	13.6	4.42	
Dimethoate	ND	20.4	6	
Diazinon	ND	20.4	8.36	
Disulfoton	ND	13.6	4.05	
Parathion,methyl	ND	13.6	4.29	
Ronnel	ND	13.6	1.55	
Malathion	ND	27.2	18	
Chlorpyrifos	ND	54.4	4.37	
Fenthion	ND	20.4	6.55	
Parathion	ND	13.6	4.78	
Trichloronate	ND	20.4	6.1	
Tetrachlorvinphos	ND	6.8	2.52	
Fensulfothion	ND	40.8	14.9	
Tokuthion	ND	20.4	9.12	
Merphos	ND	20.4	8.27	
Bolstar	ND	20.4	6.09	
EPN	ND	13.6	5.31	
Azinphos,methyl	ND	20.4	5.77	
Coumaphos	ND	54.4	13.9	

STL Seattle

Lab ID:	Method Blank - OS0158
Date Received:	-
Date Prepared:	8/6/2004
Date Analyzed:	8/6/2004
% Solids	
Dilution Factor	10

Organophosphorus Pesticides by USEPA Method 8141 GC/MS Modified

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Tributyl Phosphate	106		55	128
Triphenyl Phosphate	97.5		47	138

Sample results are on an as received basis.

Analyte	**Result (ug/kg)**	**PQL**	**MDL**	**Flags**
Dichlorvos	ND	13.3	5.22	
Mevinphos	ND	10	3.54	
Demeton,O-S	ND	13.3	4.31	
Ethoprop	ND	13.3	5.32	
Naled	ND	20	6.87	
Sulfotepp	ND	13.3	4.89	
Monocrotophos	ND	20	6.35	
Phorate	ND	13.3	4.33	
Dimethoate	ND	20	5.88	
Diazinon	ND	20	8.2	
Disulfoton	ND	13.3	3.97	
Parathion,methyl	ND	13.3	4.2	
Ronnel	ND	13.3	1.52	
Malathion	ND	26.7	17.7	
Chlorpyrifos	ND	53.3	4.28	
Fenthion	ND	20	6.42	
Parathion	ND	13.3	4.69	
Trichloronate	ND	20	5.98	
Tetrachlorvinphos	ND	6.67	2.47	
Fensulfothion	ND	40	14.6	
Tokuthion	ND	20	8.94	
Merphos	ND	20	8.11	
Bolstar	ND	20	5.97	
EPN	ND	13.3	5.21	
Azinphos,methyl	ND	20	5.66	
Coumaphos	ND	53.3	13.6	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	OS0158
Date Prepared:	8/6/2004
Date Analyzed:	8/6/2004
QC Batch ID:	OS0158

Organophosphorus Pesticides by USEPA Method 8141 GC/MS Modified

Compound Name	Blank Result (ug/kg)	Spike Amount (ug/kg)	BS Result (ug/kg)	BS % Rec.	BSD Result (ug/kg)	BSD % Rec.	RPD	Flag
Diazinon	0	333	266	79.7	285	85.4	6.9	
Malathion	0	333	280	84.1	281	84.2	0.12	
Chlorpyrifos	0	333	248	74.5	289	86.6	15	
Azinphos,methyl	0	333	257	77.1	256	76.7	-0.52	

STL Seattle

Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID:	HB-3 SURFACE
Lab ID:	122672-01
Date Prepared:	8/6/2004
Date Analyzed:	8/7/2004
QC Batch ID:	OS0158

Organophosphorus Pesticides by USEPA Method 8141 GC/MS Modified

Compound Name	Sample Result (ug/kg)	Spike Amount (ug/kg)	MS Result (ug/kg)	MS % Rec.	MSD Result (ug/kg)	MSD % Rec.	RPD	Flag
Diazinon	0	344	266	77.2	279	80.5	4.2	
Malathion	0	344	337	98	367	106	7.8	
Chlorpyrifos	0	344	263	76.4	271	78.1	2.2	
Azinphos,methyl	0	344	86.8	25.2	87.5	25.3	0.4	X7

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be ≤ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The presence of this analyte was not verified per WAC 246-290-010. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

MRL: Method Reporting Limit

N: See analytical narrative

ND: Not Detected

PQL: Practical Quantitation Limit

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

CHAIN OF CUSTODY RECORD

Page 1 of 1

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

Laboratory Reference #: 08-031

Subcontract Laboratory: Severn Trent Laboratories, Inc.

Phone #: 1 (253) 922 - 2310

12d12

Project Manager: David Baumeister

Date/Time: _____

Project Number: 1897-3757c-17a.1

Contact Person: _____

Project Name: _____

OSE #	Sample ID	Date Sampled	Matrix	# Jars	Analysis Requested	Comments/Special Instructions
	HB-3 Surface	8/3/04	S	1	Pesticides EPA 8141	1A
	Surface A	"	"	"	"	
	Surface B	"	"	"	"	

Relinquished by:	date: 8/5/04	Received by:	date: 8/5/04
Company: OSE	time: 1020	Company: STL	time: 1022
Relinquished by:	date: 8/5/04	Received by:	date: 8/5/04
Company: STL	time: 1234	Company: STL	time: 1234
Relinquished by:	date:	Received by:	date:
Company:	time:	Company:	time:

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Laboratory Number: 08-031

Company: CDM
Project Number: 19897-37576-170.1
Project Name: Ballinger ESA Portal
Project Manager: Scott Coffey (425) 453-8383
Sampled by: Scott Coffey (SEC)

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☒ Standard (7 working days)
☐ _____ (other)

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	No. Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	MTBE by	DH	Pesticides 8141A		% Moisture
1	HB-6 10 ft	8-2-04	1000	Soil	2		X	X		X											X				X
2	HB-5 12.5 ft	8-2-04	1245	Soil	2		X	X		X											X				X
3	HB-4 15 ft	8-3-04	0732				X	X		X											X				X
4	HB-4 25 ft	8-3-04	0809				X	X		X											X				X
5	HB-3 Surface		0928				X	X		X				X	X						X	X	X		X
6	HB-3 20 ft		1017				X	X		X											X				X
7	HB-2 23.5 ft		1334				X	X		X											X				X
8	HB-1 15 ft		1600				X	X		X											X				X
9	Surface A		1140				X	X		X				X	X						X	X	X		X
10	Surface B		1310				X	X		X				X	X						X	X	X		X

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by		CDM	8-4-04	1200	
Received by		OnSite	8/4/04	1455	
Relinquished by					
Received by					
Relinquished by					
Received by					
Reviewed by/Date		Reviewed by/Date			Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

August 17, 2004

Scott Coffey
CDM
P.O. Box 3885
Bellevue, WA 98009

Re: Analytical Data for Project 19897-
Laboratory Reference No. 0408-042

Dear Scott:

Enclosed are the analytical results and associated quality control data for samples submitted on August 5, 2004.

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

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

Case Narrative

Samples were collected on August 5, 2004 and received by the laboratory on August 5, 2004. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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.

Halogenated Volatiles EPA 8260B Analysis

The MTCA cleanup level is non-achievable for some compounds in samples HB-1 8/5/04 and HB-2 8/5/04 due to the high concentration of non-target analytes present in the samples.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Gx/BTEX With MTBE

Date Extracted: 8-9&10-04
Date Analyzed: 8-9&10-04

Matrix: Water
Units: ug/L (ppb)

Client ID:	HB-1 8/5/04			HB-2 8/5/04		
Lab ID:	08-042-01			08-042-02		
	Result	Flags	PQL	**Result**	Flags	PQL
MTBE	**ND**		100	**ND**		5.0
Benzene	**40**		1.0	**8.8**		5.0
Toluene	**1400**		100	**19**		5.0
Ethyl Benzene	**2100**		100	**69**		5.0
m,p-Xylene	**7700**		100	**190**		5.0
o-Xylene	**3600**		100	**130**		5.0
TPH-Gas	**66000**		10000	**2200**		500
Surrogate Recovery: Fluorobenzene	95%			89%		

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Gx/BTEX With MTBE
METHOD BLANK QUALITY CONTROL

Date Extracted: 8-9-04
Date Analyzed: 8-9-04

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0809W1

	Result	Flags	PQL
MTBE	ND		10
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100

Surrogate Recovery:
Fluorobenzene 96%

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Gx/BTEX With MTBE
METHOD BLANK QUALITY CONTROL

Date Extracted: 8-10-04
Date Analyzed: 8-10-04

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0810W1

	Result	Flags	PQL
MTBE	ND		10
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0
TPH-Gas	ND		100

Surrogate Recovery:
Fluorobenzene 94%

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Gx/BTEX With MTBE
DUPLICATE QUALITY CONTROL

Date Extracted: 8-9-04
Date Analyzed: 8-9-04

Matrix: Water
Units: ug/L (ppb)

Lab ID:	08-027-03 Original	08-027-03 Duplicate	RPD	Flags
MTBE	6.93	7.08	2	
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	89%	78%		

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Gx/BTEX With MTBE
MS/MSD QUALITY CONTROL

Date Extracted: 8-10-04
Date Analyzed: 8-10-04

Matrix: Water
Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	08-027-03 MS	Percent Recovery	08-027-03 MSD	Percent Recovery	RPD	Flags
MTBE	43.8	74	56.4	99	25	
Benzene	52.6	105	53.4	107	2	
Toluene	53.0	106	53.7	107	1	
Ethyl Benzene	53.0	106	53.7	107	1	
m,p-Xylene	53.5	107	53.9	108	1	
o-Xylene	53.0	106	53.4	107	1	

Surrogate Recovery:

Fluorobenzene	101%	100%

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Dx

Date Extracted:	8-11-04
Date Analyzed:	8-11-04
Matrix:	Water
Units:	mg/L (ppm)

Client ID:	**HB-1 8/5/04**	**HB-2 8/5/04**
Lab ID:	08-042-01	08-042-02
Diesel Range:	ND	ND
PQL:	0.27	0.27
Identification:	---	---
Lube Oil Range:	ND	ND
PQL:	0.43	0.43
Identification:	---	---
Surrogate Recovery		
o-Terphenyl:	85%	92%
Flags:	Y	Y

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	8-11-04
Date Analyzed:	8-11-04
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0811W1
Diesel Range:	ND
PQL:	0.25
Identification:	---
Lube Oil Range:	ND
PQL:	0.40
Identification:	---
Surrogate Recovery	
o-Terphenyl:	93%
Flags:	Y

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	8-11-04
Date Analyzed:	8-11-04
Matrix:	Water
Units:	mg/L (ppm)

Lab ID:	08-042-01	08-042-01 DUP
Diesel Range:	ND	ND
PQL:	0.27	0.27
RPD:	N/A	
Surrogate Recovery		
o-Terphenyl:	85%	86%
Flags:	Y	Y

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-12-04
Date Analyzed:	8-12-04
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-042-01
Client ID:	**HB-1 8/5/04**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		10
Chloromethane	ND		10
Vinyl Chloride	ND		10
Bromomethane	ND		10
Chloroethane	ND		10
Trichlorofluoromethane	ND		10
1,1-Dichloroethene	ND		10
Iodomethane	ND		50
Methylene Chloride	ND		50
(trans) 1,2-Dichloroethene	ND		10
1,1-Dichloroethane	ND		10
2,2-Dichloropropane	ND		10
(cis) 1,2-Dichloroethene	ND		10
Bromochloromethane	ND		10
Chloroform	ND		10
1,1,1-Trichloroethane	22		10
Carbon Tetrachloride	ND		10
1,1-Dichloropropene	ND		10
1,2-Dichloroethane	ND		10
Trichloroethene	ND		10
1,2-Dichloropropane	ND		10
Dibromomethane	ND		10
Bromodichloromethane	ND		10
2-Chloroethyl Vinyl Ether	ND		50
(cis) 1,3-Dichloropropene	ND		10
(trans) 1,3-Dichloropropene	ND		10

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 08-042-01
Client ID: **HB-1 8/5/04**

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		10
Tetrachloroethene	ND		10
1,3-Dichloropropane	ND		10
Dibromochloromethane	ND		10
1,2-Dibromoethane	ND		10
Chlorobenzene	ND		10
1,1,1,2-Tetrachloroethane	ND		10
Bromoform	ND		50
Bromobenzene	ND		10
1,1,2,2-Tetrachloroethane	ND		10
1,2,3-Trichloropropane	ND		10
2-Chlorotoluene	ND		10
4-Chlorotoluene	ND		10
1,3-Dichlorobenzene	ND		10
1,4-Dichlorobenzene	ND		10
1,2-Dichlorobenzene	ND		10
1,2-Dibromo-3-chloropropane	ND		50
1,2,4-Trichlorobenzene	ND		10
Hexachlorobutadiene	ND		10
1,2,3-Trichlorobenzene	ND		10

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	102	70-123
Toluene, d8	106	70-119
4-Bromofluorobenzene	115	70-119

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	8-12-04
Date Analyzed:	8-12-04
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-042-02
Client ID:	**HB-2 8/5/04**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.40
Chloromethane	ND		0.40
Vinyl Chloride	ND		0.40
Bromomethane	ND		0.40
Chloroethane	ND		0.40
Trichlorofluoromethane	ND		0.40
1,1-Dichloroethene	ND		0.40
Iodomethane	ND		2.0
Methylene Chloride	ND		2.0
(trans) 1,2-Dichloroethene	ND		0.40
1,1-Dichloroethane	ND		0.40
2,2-Dichloropropane	ND		0.40
(cis) 1,2-Dichloroethene	ND		0.40
Bromochloromethane	ND		0.40
Chloroform	0.49		0.40
1,1,1-Trichloroethane	2.8		0.40
Carbon Tetrachloride	ND		0.40
1,1-Dichloropropene	ND		0.40
1,2-Dichloroethane	ND		0.40
Trichloroethene	1.1		0.40
1,2-Dichloropropane	ND		0.40
Dibromomethane	ND		0.40
Bromodichloromethane	ND		0.40
2-Chloroethyl Vinyl Ether	ND		2.0
(cis) 1,3-Dichloropropene	ND		0.40
(trans) 1,3-Dichloropropene	ND		0.40

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 08-042-02
Client ID: HB-2 8/5/04

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.40
Tetrachloroethene	ND		0.40
1,3-Dichloropropane	ND		0.40
Dibromochloromethane	ND		0.40
1,2-Dibromoethane	ND		0.40
Chlorobenzene	ND		0.40
1,1,1,2-Tetrachloroethane	ND		0.40
Bromoform	ND		2.0
Bromobenzene	ND		0.40
1,1,2,2-Tetrachloroethane	ND		0.40
1,2,3-Trichloropropane	ND		0.40
2-Chlorotoluene	ND		0.40
4-Chlorotoluene	ND		0.40
1,3-Dichlorobenzene	0.81		0.40
1,4-Dichlorobenzene	0.81		0.40
1,2-Dichlorobenzene	ND		0.40
1,2-Dibromo-3-chloropropane	ND		2.0
1,2,4-Trichlorobenzene	ND		0.40
Hexachlorobutadiene	ND		0.40
1,2,3-Trichlorobenzene	ND		0.40

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	106	70-123
Toluene, d8	100	70-119
4-Bromofluorobenzene	109	70-119

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	8-12-04
Date Analyzed:	8-12-04
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0812W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB0812W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	104	70-123
Toluene, d8	102	70-119
4-Bromofluorobenzene	88	70-119

Date of Report: August 17, 2004
Samples Submitted: August 5, 2004
Laboratory Reference: 0408-042
Project: 19897-

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 8-12-04
Date Analyzed: 8-12-04

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0812W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	8.20	82	8.11	81	70-130	
Benzene	10.0	9.16	92	9.34	93	70-130	
Trichloroethene	10.0	10.3	103	10.9	109	70-130	
Toluene	10.0	9.65	96	10.3	103	70-130	
Chlorobenzene	10.0	9.59	96	9.37	94	70-130	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	1	17	
Benzene	2	13	
Trichloroethene	6	12	
Toluene	7	14	
Chlorobenzene	2	9	

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.

G - Insufficient sample quantity for duplicate analysis.

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 (toluene-napthalene) are present in the sample.

O - Hydrocarbons indicative of diesel fuel 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.

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 silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: CDM / Bridgewater
Project Number: 19897-
Project Name: Ballinger
Project Manager: Scott Coffey
Sampled by: KLW

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☒ Standard (7 working days)
☐ _____ (other)

Laboratory Number: 08-042

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 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	Pb		MTBE		% Moisture
1	HB-1 8/5/04	8/5/04	1400	W	6		X	X		X											✓		X		
2	HB-2 8/5/04	"	1445	W	6		X	X		X											✓		X		

	Signature	Company	Date	Time
Relinquished by		CDM	8/5/04	1600
Received by		OnSite	8-5-04	1620
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:
Wait for call from Scott Coffey
@Added 8/6/04. DB.

Reviewed by/Date
Reviewed by/Date
Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy