DOCUMENTATION OF SOIL CLEANUP AT BOTHELL FORMER HERTZ FACILITY BOTHELL, WASHINGTON

Prepared for
City of Bothell

January 28, 2011

HWA GeoSciences Inc.
• Geotechnical Engineering
• Hydrogeology
• Geoenvironmental Services
• Inspection & Testing

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BOTHELL FORMER HERTZ FACILITY
BOTHELL, WASHINGTON

1.0 INTRODUCTION

This report documents the results of the soil cleanup conducted in September 2010 by the City of Bothell (City) at the Bothell Former Hertz Facility (Site). The City owns the Site, part of which will accommodate the realignment of State Route (SR) 522, which is currently under construction (Bothell Crossroads Project). Figure 1 is a vicinity map and Figure 2 depicts the future alignment of SR 522 through the Site and adjacent properties.

The soil cleanup was performed as an independent remedial action; however, the City may enter into an Agreed Order with the Washington Department of Ecology (Ecology) to conduct a remedial investigation (RI), feasibility study (FS), RI/FS Report, and draft cleanup action plan (DCAP). Tasks performed to date at the Site include:

1. Phase II Environmental Site Assessment (HWA, 2008b)
2. Preparation and submittal to Ecology of the *Limited Remedial Investigation and Feasibility Study Work Plan* (HWA, 2010a)
3. Preparation and submittal to Ecology of an *Interim Action Work Plan* (HWA, 2010b)
4. Completion of soil cleanup, described herein

Remaining tasks to fulfill terms and conditions of a future Agreed Order include preparation of a RI, FS, RI/FS Report, and draft cleanup action plan (DCAP) that address remaining ground water contamination at the Site..

1.1 SITE LOCATION AND DESCRIPTION

The City acquired the Former Hertz Facility from Odegard and Boseck, LLC in June 2009. The Site is located at 18030 Bothell Way NE in Bothell, Washington between downtown Bothell and the Sammamish River (Figure 1). The Site is listed by Ecology under Facility Site ID No. 11687976 as the AA Rentals of Bothell facility; the Site is also known as the former Hertz Rentals Property because Hertz Equipment Rentals Corporation was the last tenant. The latitude of the site is 47.75899 and the longitude is -122.20927. The King County Tax Parcel number of the Site is 945720005004.

The 1.92-acre Site is an approximately rectangular lot located south of Bothell Way Northeast (SR 522). The property was formerly developed with a combined office warehouse and shop building that occupied approximately one quarter of the property, as well as three smaller buildings along the east side of the property, with asphalt-paved parking and storage constituting most of the remainder of the property. All buildings

were demolished in May 2010, in advance of the soil cleanup work and subsequent construction of a new roadway. The Site is being redeveloped as part of the City's overall Downtown Revitalization Plan and will mostly accommodate the new SR 522 roadway which will roughly bisect the property. Remnant portions of the property north and south of the new roadway may be redeveloped after the roadway is completed.

1.2 AUTHORIZATION / SCOPE OF WORK

HWA GeoSciences' (HWA) work for this project was authorized under an On-Call Hazardous Materials Services Consultant Agreement with the City dated April 2010. HWA's scope of work for this portion of the project included:

- Perform environmental assessments, prepare technical documentation and develop remedial designs for cleanup of contaminated downtown properties
- Provide permitting support
- Provide contract bid phase services
- Assist in coordinating with State and Federal environmental regulatory agencies.
- Conduct cleanup monitoring, confirmation sampling, backfill & compaction monitoring during construction
- Prepare this Soil Cleanup Report

1.3 OBJECTIVES

The objective of the soil cleanup was to reduce the threat to the environment and human health posed by petroleum hydrocarbon impacted soil in areas that were accessible to the maximum extent possible consistent with the requirements of Washington's Model Toxics Control Act (MTCA) cleanup regulations (Chapter 173-340 WAC).

1.4 HISTORIC PROPERTY USE AND PREVIOUS SITE ASSESSMENTS

Details of historic property use and the site assessments performed to date at the Site can be found in ECOSS (2006), DLH (1993a, b; 2007), and HWA (2008a, b). The following is a summary of those assessments.

According to historical information and interviews, the Site has been developed since 1918; businesses operating at the Site included automobile repair and dealerships, fueling, and equipment rental (ECOSS, 2008). In 1993 three leaking underground storage tanks (LUSTs) were removed from the property followed by site assessments (DLH, 1993a, b; 2007). With reference to Figure 3; these were:

1. A tank containing less than 1,100 gallons of kerosene located in the northwestern area of the Site
2. A 500-gallon diesel fuel tank located in the east-central area of the site

3. A 7,000-gallon leaded gasoline tank co-located in the same excavation as the diesel fuel UST

To the north of the Site across SR 522, Simon and Sons Fine Dry Cleaning (18107 Bothell Way NE) is listed on Ecology's Confirmed or Suspected Contaminated Sites List (CSCSL). This former dry cleaning facility had releases of chlorinated solvents to ground water with off-site migration of contamination in the direction of the Bothell Former Hertz Facility.

The Phase II Environmental Site Assessment (HWA, 2008b) did not identify any USTs remaining at the Site. Soils in the northern and eastern portions of the Site in the vicinity of the three former LUSTs contained petroleum hydrocarbons exceeding Ecology MTCA Method A cleanup levels, and associated volatile organic compounds (VOCs) below cleanup levels. Ground water in several areas of the Site, including near the LUSTs, also contained petroleum hydrocarbons and VOCs exceeding MTCA Method A cleanup levels. Petroleum hydrocarbons detected in soil and ground water at the Site appeared to be from multiple releases, as several petroleum types were identified (i.e., gasoline, diesel, oil). Some of the VOCs detected in ground water at the Site are typically associated with petroleum products, while some chlorinated VOCs detected in ground water likely originated at the nearby Simon and Sons Fine Dry Cleaning facility. Other investigations in the vicinity have also confirmed off-site impacts from the Simon and Sons Fine Dry Cleaning facility.

1.5 CURRENT AND PLANNED SITE USE

All buildings were demolished in May 2010, in advance of planned cleanup actions and subsequent roadway construction. The Site is being redeveloped as part of the City's overall Downtown Revitalization Plan and will accommodate the new SR 522 roadway. Remnant portions of the property north and south of the new roadway may be redeveloped after the roadway is completed.

2.0 ENVIRONMENTAL SETTING

2.1 PHYSICAL CONDITIONS / TOPOGRAPHY

Figure 3 shows the site plan prior to the soil cleanup. The Site is approximately 1.92 acres in area and vacant with all buildings demolished. Concrete foundations and asphalt paving remained in place prior to the soil cleanup. The property is generally flat with an elevation of approximately 30 feet above mean sea level. The surrounding land is generally flat or slopes down to the south towards the Sammamish River.

2.2 GEOLOGY

Surficial soils in the vicinity of the Site are primarily recent alluvium (Booth and others, 2004) most likely deposited by the adjacent Sammamish River. Per HWA (2008b), soil at the site typically consists of approximately two to seven feet of silty sand fill over alluvial soil consisting of interbedded silt and silty sand. Much of the fill material is likely dredged spoils placed on the property from realignment of the Sammamish River in the 1960s. Peat or silt beds with high organic content up to four feet thick are present in alluvial soils generally below 14 feet below ground surface (bgs). These organic-rich beds may not represent a contiguous layer. Interbedded alluvial sand and silty sand typically occurs below 15 feet.

2.3 HYDROGEOLOGY

The water table at the Site is approximately 5 and 8 feet bgs with a higher surface occurring in the wet season. Based on water level surveys of the area, ground water flow is to the east-southeast, toward the Sammamish River located approximately 300 feet to the southeast. The measured ground water gradient, i, ranged from 0.035 to 0.06 feet per foot. The estimated hydraulic conductivity, K, for the water-bearing zone ranged from 6.8 x 10^{-4} to 1.1 x 10^{-3} feet per minute (0.98 to 1.58 feet per day) based on slug testing (Parametrix, 2009). Assuming an effective porosity, n_e, of 0.2 for the aquifer materials at the site, ground water flow velocities in the water-bearing zone, based on the relationship $V = Ki / n_e$ are estimated to range from:

0.98 ft/d x 0.03536 / 0.2 = 0.17 feet/day = 63 feet/year to
1.58 ft/d x 0.0576 / 0.2 = 0.45 feet/day = 166 feet/year.

3.0 NATURE AND EXTENT OF CONTAMINATION

3.1 CHEMICALS OF POTENTIAL CONCERN

Based on the *Phase II Environmental Site Assessment* (HWA, 2008b), chemicals of potential concern (COPCs) present in Site soils were associated with the three leaking USTs and included:

- Total petroleum hydrocarbons (TPH in the gasoline-, diesel-, and lube oil-ranges)
- Aromatic hydrocarbons (benzene, toluene, ethylbenzene, and xylenes (BTEX))

COPCs present in site ground water were associated with 1) the three leaking USTs, 2) chlorinated solvent releases likely originating at the nearby Simon and Sons Fine Dry Cleaning Facility, and 3) arsenic apparently mobilized as a result of reducing conditions caused by the presence of organics in the aquifer. The COPCs present in ground water included:

- Total petroleum hydrocarbons (TPH in the gasoline-, diesel-, and lube oil-ranges)
- Aromatic hydrocarbons (BTEX)
- Vinyl chloride
- Arsenic

3.2 EXTENT OF CONTAMINATION

Soils in the northern and eastern portions of the Site in the vicinity of the three former LUSTs contained petroleum hydrocarbons exceeding Ecology MTCA Method A cleanup levels, and associated aromatic hydrocarbons below cleanup levels. Ground water in several areas of the Site, including near the LUSTs, also contained petroleum hydrocarbons and aromatic hydrocarbons exceeding MTCA Method A cleanup levels. Petroleum hydrocarbons detected in soil and ground water at the Site appeared to be from multiple releases, as several petroleum types were identified (i.e., gasoline, diesel, oil).

Some of the aromatic hydrocarbons detected in ground water at the Site (e.g., BTEX) are typically associated with petroleum products. Chlorinated VOCs detected in ground water (e.g., vinyl chloride) likely originated at the nearby Simon and Sons Fine Dry Cleaning facility; other investigations in the vicinity have also confirmed off-site impacts from that facility.

3.3 CLEANUP STANDARDS

Remediation levels proposed in the *Interim Action Work Plan* (HWA, 2010b) include:

- MTCA Method A Soil Cleanup Levels for Unrestricted Land Use (WAC 173-340, Table 740-1).
- MTCA Method B Soil TPH Cleanup Levels for direct contact and protection of ground water

In order to evaluate whether the standard MTCA Method A soil cleanup levels were appropriate for the Site compared to MTCA Method B risk-based soil TPH cleanup levels, results of petroleum hydrocarbon fractionation analyses (NWVPH/NWEPH analysis) were input into Ecology's MTCATPH11.1 spreadsheet model to determine TPH soil cleanup levels protective of human health via direct contact and via leaching to a source of potable ground water. HWA's evaluation of MTCA Method B risk-based cleanup levels for TPH-impacted soil at the site is presented in Appendix A of this report. Table 1 summarizes the results of the analysis. The calculated Method B TPH cleanup levels for diesel- and oil-range petroleum hydrocarbons, including kerosene, at the Site range between 220 to 13,263 milligrams per kilogram (mg/kg) depending on the mixture of hydrocarbon fractions and specific compounds, particularly carcinogenic polynuclear aromatic hydrocarbons (cPAHs). The MTCA Method A soil cleanup level for diesel- and oil-range petroleum hydrocarbons is 2,000 mg/kg. The calculated Method B soil cleanup level for gasoline-range petroleum hydrocarbons at the Site is 3,504 mg/kg; compared to the MTCA Method A cleanup level of 100 mg/kg for soil having no benzene present and if the total of ethylbenzene, toluene, and xylenes is less than one percent of the gasoline mixture. The MTCA Method cleanup level for gasoline-range petroleum hydrocarbons is 30 mg/kg for all other mixtures.

The resulting soil remediation levels used (i.e., the more stringent of Method A or B) are extremely conservative, as following redevelopment most of the site will be covered by pavement and buildings, eliminating the direct contact pathway, and reducing ground water recharge by precipitation. These remediation levels meet all the requirements of WAC 173-340-720 through 173-340-760 and should be considered the Site cleanup levels.

3.4 REMEDIAL ACTION OBJECTIVES

The following remedial action objectives (RAOs) were established for the cleanup (HWA, 2010b):

- Achieve MTCA Method A and B soil cleanup levels at the point of compliance, thus reducing or eliminating human exposure through direct contact and inhalation of vapors.
- Use permanent solutions to the maximum extent practicable (which includes consideration of cost-effectiveness).

- Properly manage contaminated ground water that may be generated during site development activities, and ensure that activities at the site do not result in exposure to the contaminated ground water that has migrated onto the site.
- Use confirmation sampling in excavation to determine remaining contamination at that portion of the site. Confirmation samples will be further analyzed for the purpose of determining Method B cleanup levels for the remedial investigation/feasibility study and other contaminants of concern. The location of confirmation samples above cleanup levels will also determine the direction further characterization and remediation must go.

4.0 SOIL CLEANUP

The cleanup for contaminated soil at the Site included excavation and off-site disposal of all accessible impacted soils. The following sections describe the cleanup.

The City engaged a construction contractor, Hos Brothers Construction (Contractor) of Woodinville, Washington, to perform the soil cleanup from August through October 2010; HWA personnel monitored the cleanup activities and sampled soil to confirm successful cleanup. Prior to site cleanup, the Contractor demolished all the building slabs and parking lots (Photo 1 in Appendix D) and cleared and grubbed the Site in preparation for the soil cleanup and subsequent construction of the SR 522 realignment.

4.1 PRE-CLEANUP CHARACTERIZATION

Prior to large scale excavation activities at the Site, HWA personnel conducted test pit characterization (i.e., "pot holing") to delineate clean overburden soils at the Site, and to assess the lateral and vertical extent of TPH-impacted soils with respect to previous investigations.

HWA's test pit characterization activities included collecting samples of TPH-impacted soil for analysis of petroleum hydrocarbon fractionation and other target compounds in order to calculate MTCA Method B risk-based soil cleanup levels for protection of human health and potable ground water (see Section 3.2 above). The results of the of the Method B risk analysis are presented in Appendix A and summarized in Table 1.

Twenty nine test pits were excavated between August 30th and September 16th 2010 using a rubber-tired backhoe operated by the Contractor's personnel; Figure 4 shows test pit locations. Test pits were excavated to a maximum depth of 10 feet bgs. HWA personnel collected 55 representative soil samples at various depths within the test pits for chemical analysis. The test pit data indicated that 1,302 cubic yards (approximately 2,080 tons) of soil could be stockpiled on site for later reuse. Subsequent sampling and analysis of the soil stockpiles confirmed that the soil was chemically and structurally suitable for reuse; the analytical data for the stockpiled soil are summarized at the bottom of Table 2.

OnSite Environmental Inc. of Redmond, Washington, an Ecology accredited laboratory, performed the soil chemical analyses; laboratory reports are presented in Appendix B. Appendix C presents a project quality assurance audit including verification of the analytical data; the audit found that with minor exceptions, all reported data should be considered valid as qualified and acceptable for further use.

4.2 SOIL EXCAVATION

The Contractor excavated contaminated soil at the Site between September 8 and September 22, 2010. HWA personnel directed the cleanup based upon prior sampling, as well as field screening information such as soil color, odor, and photoionization detector readings. When the screening information indicated clean soil, HWA collected confirmation samples for laboratory analysis to document that the soils left in place met the Site cleanup levels. Where confirmation sample results exceeded cleanup levels, the Contractor and HWA performed additional excavation and sampling until the cleanup goals were achieved.

Soil excavation generally proceeded from north to south. Contaminated soil was excavated generally down to the contact with a peat layer underlying the site (Photos 2 and 3 in Appendix D), which was found to meet the cleanup levels. The approximate limits of soil excavation are shown on Figure 4. The final excavation was approximately 180 by 180 feet in its maximum width and length. The depth of the excavation ranged from about 5 to 16 feet bgs.

A total of 11,182.41 tons of soil were excavated and transported to the CEMEX USA soil remediation facility in Everett, Washington. Assuming a bulk density of 1.6 tons per bank cubic yard, the volume of soil excavated and transported to CEMEX was approximately 6,989 cubic yards. A copy of the CEMEX Release of Liability/Certificate of Disposal for the soil is presented in Appendix E.

Four buried hydraulic lifts and their associated oil reservoirs were removed early into the cleanup (Photos 4 and 5 in Appendix D). The lifts and oil reservoirs were decontaminated, and the housings recycled along with rebar and other steel reclaimed during site demolition.

On September 13th a small old wooden catch basin was unearthed in the northeastern extent of the excavation at the location shown on Figure 3. The catch basin held lube oil floating on top of water (Photos 6 and 7 in Appendix D), and did not appear to have a functional outlet or connect to any other utilities. Nor did it appear to have been in service for many years as indicated by the limited extent of oil impacted soil surrounding the catch basin. HWA collected a sample of the petroleum impacted soil adjacent to the catch basin and submitted it to OnSite Environmental for analysis (sample P-PEX-11 in Table 2). On September 14th an industrial vacuum truck service pumped water and oil out of the catch basin and transported it to a petroleum reclamation facility. The Contractor subsequently excavated the catch basin components and the short lengths of associated drain pipe and transported them with petroleum impacted soil to the CEMEX facility for thermal treatment.

4.3 CONFIRMATION SAMPLING

HWA personnel collected 17 excavation sidewall and 21 excavation bottom to confirm soil cleanup (Table 2). Figure 4 depicts confirmation sample locations. Laboratory certificates are included in Appendix B. Ten pre-excavation test pit samples collected at the extents of the excavation, and in some cases beyond, are included in Table 2 as confirmation samples because the soils represented by those samples did not contain chemicals of potential concern at concentrations exceeding site cleanup levels. Table 2 confirms that the cleanup achieved the site cleanup levels. In particular, the calculated Method B TPH soil cleanup level of 220 mg/kg for kerosene-impacted soil was achieved in the vicinity of the former kerosene LUST (samples H-PEX-4, H-PEX-7, H-PEX-8, and H-PEX-17).

4.4 GROUND WATER MANAGEMENT

Minor ground water seepage was present at approximately 8 to 10 feet below original grade at the Site (Photos 2 and 3 in Appendix D). Ground water flow into the excavation was managed by creating sumps and ponding the water behind soil berms. Accumulated water was removed with a gasoline powered 'trash' pump for temporary storage and settling in an on-site 20,000 gallon storage tank. This dewatering effluent was stored, tested, and discharged by the Contractor under a King County Industrial Waste Division temporary dewatering discharge permit to sanitary sewer, for treatment at King County's wastewater treatment plant.

4.5 ORC PLACEMENT

To facilitate bioremediation of ground water following soil removal, the Contractor applied 1,416 pounds of Oxygen Release Compound® (ORC) along the excavation sidewalls and bottom. The ORC was prepared by mixing the powdered compound with water in an excavator bucket to form a slurry. HWA estimates that the ORC will slowly release dissolved oxygen to ground water for approximately a year following cleanup thus encouraging destruction of residual hydrocarbons in soil and ground water by naturally-occurring aerobic bacteria in the soil, and reducing the possibility of re-contamination of clean fill.

4.6 WELL DECOMMISSIONING

Prior to cleanup actions at the Site, Slead Construction Inc, a Washington State licensed well drilling contractor under subcontract to the Contractor, decommissioned ground water monitoring wells HZ-MW-2, HZ-MW-10, HZ-MW-11, and HZ-MW-13 in accordance with WAC 173-160-381. These wells were decommissioned because of their locations within the cleanup excavation. Slead Construction personnel also

decommissioned monitoring well HZ-MW-08 following the cleanup; although not within the cleanup excavation footprint, this well was decommissioned because it will be covered by the new roadway.

4.7 SITE RESTORATION

After excavation of contaminated soil and receipt of confirmation sample analytical results, the Contractor backfilled and compacted the excavation with a combination of clean imported structural fill soils meeting the requirements of Select Borrow, per WSDOT Standard Specification 2-03.3(14)K, and 1,302 cubic yards of previously excavated soils from the Site that were tested and found to meet Site cleanup levels. The imported select borrow was obtained from CEMEX, who mined the sandy soils from a quarry in Granite Falls, Washington (i.e., not excavated or reused from any developed property).

The select borrow and native soils were compacted to Method B of WSDOT Standard Specification 2-03.3(14)C, i.e., 90 percent of maximum dry density as determined using test method ASTM D 1557 (Modified Proctor) below two feet bgs, and 95 percent of maximum dry density for the upper two feet.

The backfilling occurred in stages as portions of the Site were confirmed to have been cleaned up. The excavation was generally backfilled from the northwest to southeast as contaminated soil was removed from the Site. The remediation area was then hydro-seeded for erosion control.

5.0 REFERENCES

Booth, D. B., B.F. Cox, K.G. Troost, and S.A. Shimel, 2004, *Composite Geologic Map of the Sno-King Area*. Seattle-Area Geologic Mapping Project. (http://geomapnw.ess.washington.edu/index.php?toc=maintoc&body=services/publications/map/SnoKingDisc.htm)

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Parametrix, 2009, *Bothell Paint and Decorating Remedial Investigation/Feasibility Study, Revision No. 0*. Prepared for City of Bothell, November 2009.

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6.0 LIMITATIONS

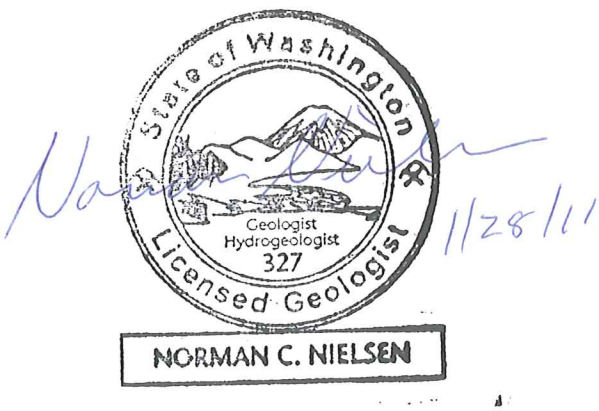
The conclusions expressed by HWA are based solely on material referenced in this report. Observations were made under the conditions stated. Within the limitations of scope, schedule and budget, HWA attempted to execute these services in accordance with generally accepted professional principles and practices in the area at the time the report was prepared. No warranty, expressed or implied, is made. Experience has shown that subsurface soil and ground water conditions can vary significantly over small distances. It is always possible that contamination may exist in areas that were not sampled. HWA's findings and conclusions must not be considered as scientific or engineering certainties, but rather as our professional opinion concerning the significance of the limited data gathered and interpreted during the course of the assessment.

This study and report have been prepared on behalf of City of Bothell, for the specific application to the subject property. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

We appreciate the opportunity to provide professional services on this project. Please feel free to call us if you have any questions or need more information.

Sincerely,

HWA GEOSCIENCES INC.



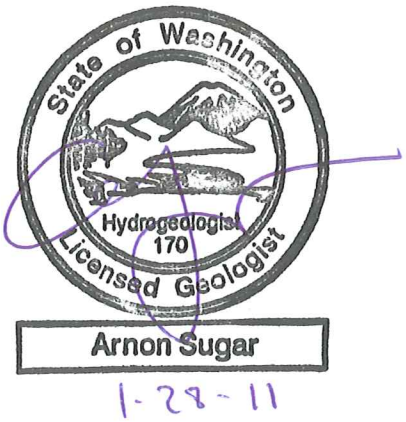


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Table 1
Summary of Method B Soil TPH Risk Calculations
Bothell Former Hertz Facility

Release area	Former USTs	Former UST		Wooden storm drain catch basin
TPH Type	Gasoline and diesel	Kerosene		Diesel and lube oil range hydrocarbons
Sample	**H-PEX-1-6**	**H-PEX-2-6**	**H-PEX-3-4**	**H-PEX-11-6**
Calculated Method B TPH cleanup level for direct skin contact (mg/Kg)	3,504	4,035	2,505	2,954
Most stringent soil risk criterion for direct skin contact	Hazard Index	Hazard Index	cPAHs mixture	Hazard Index
Method B soil TPH concentration protective of ground water (mg/Kg)	13,263	220	100% NAPL[1]	100% NAPL
Most stringent soil risk criterion for protection of ground water	Total risk = 1E-5	Hazard Index Risk 1E-6	Hazard Index Total risk 1E-5 cPAHs mixture	Hazard Index Total risk 1E-5 cPAHs mixture
Method A soil cleanup levels (mg/Kg)	30[2] (G) 2000 (D) 2000 (O) 0.03 (Benzene) 7 (Toluene) 6 (Ethylbenzene) 9 (Xylenes)	2000 (D) 2000 (O) 0.03 (Benzene) 7 (Toluene) 6 (Ethylbenzene) 9 (Xylenes)		

Notes:
1 - 100% NAPL means soil containing free product would not produce a TPH concentration ≥800 µg/L in ground water
2 - Cleanup level for gasoline mixtures with benzene

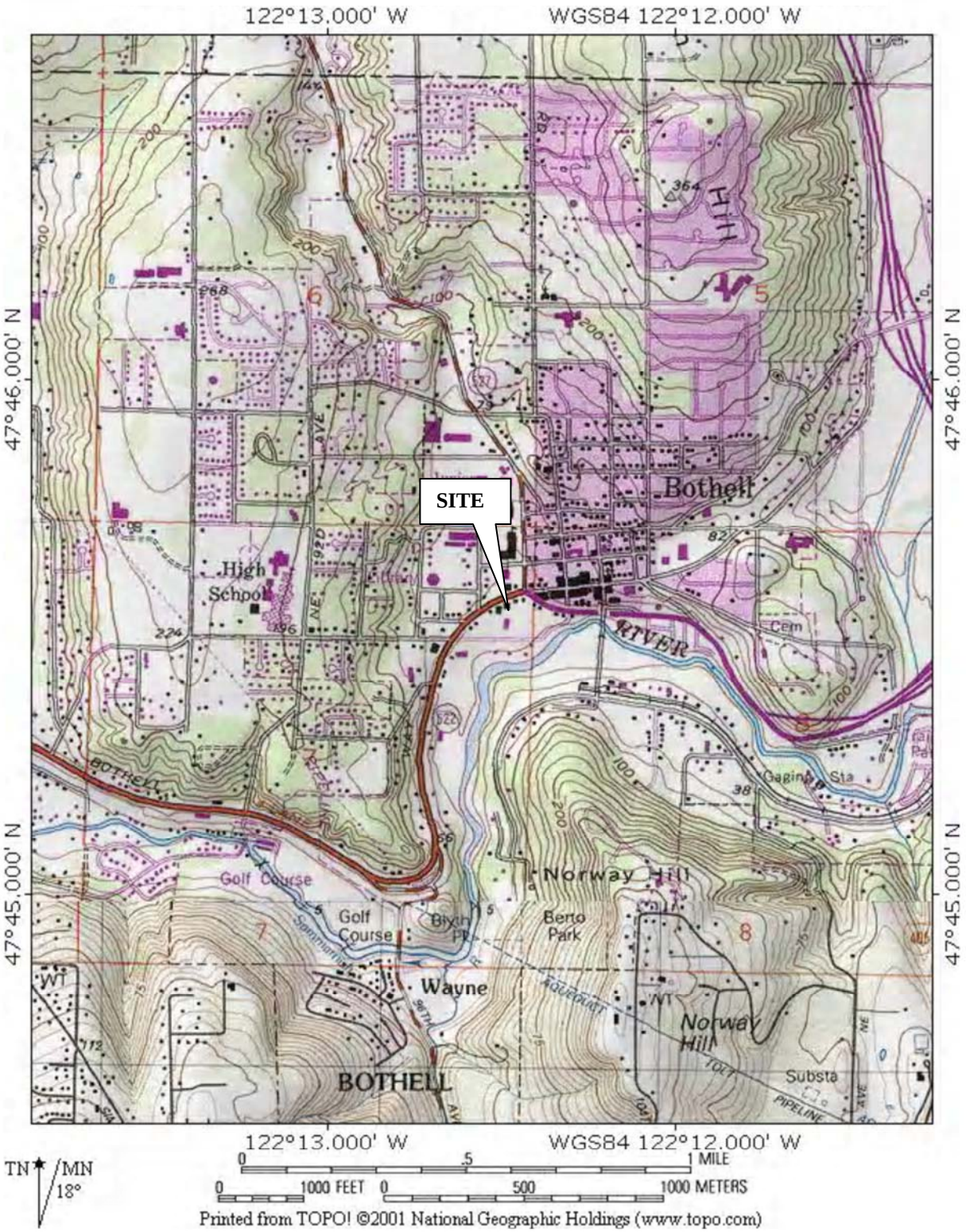
TABLE 2
SOIL CLEANUP ANALYTICAL RESULTS
BOTHELL FORMER HERTZ FACILITY
(all results in milligrams per kilogram (mg/kg))

		Confirmation Sample[1]																				
Sample location	Sample Depth ft bgs	Sidewall	Bottom	Diesel	Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Total Naphthalenes[2]	cPAHs TEC[3]	PCBs	Notes
H-TP-1-3	3			<29	<58	<6.5	<0.02	<0.065	<0.065	<0.065												
H-TP-1-8	8			**25000**	<610	<71	<0.14	<0.71	**2.1**	**9.4**												
H-TP-2-4	4			<27	<55	<5.5	<0.02	<0.055	<0.055	<0.055												
H-TP-2-10	10			<33	<66	<7.3	<0.02	<0.073	<0.073	<0.073												
H-TP-3-3	3	X		<29	**140**	<7	<0.02	<0.07	<0.07	<0.07												
H-TP-3-8	8		X	<32	<64	<7.4	<0.02	<0.074	<0.074	<0.074												
H-TP-4-3	3	X		<29	<58	<4.6	<0.02	<0.046	<0.046	<0.046												
H-TP-4-7	7		X	<31	<61	<6.5	<0.02	<0.065	<0.065	<0.065												
H-TP-5-4	4			<27	<54	<6.3	<0.02	<0.063	<0.063	<0.063												
H-TP-5-7	7			<32	<63	<6.4	<0.02	<0.064	<0.064	<0.064												
H-TP-6-3	3			**2700**	**11000**	**150**	<0.02	<0.054	**0.055**	**0.23**												
H-TP-6-6	6			**1600**	**7500**	**200**	<0.023	<0.12	<0.12	**0.26**												
H-TP-6-7	4			**70**	**420**	**10**	<0.02	<0.074	<0.074	<0.074												
H-TP-7-5	5			<28	<56	<5.7	<0.02	<0.057	<0.057	<0.057												
H-TP-7-7	7			<32	**110**	<7	<0.02	<0.07	<0.07	<0.07												
H-TP-8-5	5	X		<28	**120**	**6.2**	<0.02	<0.058	<0.058	<0.058												
H-TP-8-7	7		X	<30	<60	<6	<0.02	<0.06	<0.06	<0.06												
H-TP-9-4	4			<28	<56	<7.3	<0.02	<0.073	<0.073	<0.073	<11	**43**	<0.56	**27**	<5.6	<0.28	<11	<0.56				
H-TP-9-7	7			**92**	<60	<6.6	<0.02	<0.066	<0.066	<0.066	<12	**73**	<0.60	**42**	**7.6**	<0.3	<12	<0.60				
H-TP-10-3	3			<28	<56	<6.5	<0.02	<0.065	<0.065	<0.065	<11	**46**	<0.56	**31**	<5.6	<0.28	<11	<0.56				
H-TP-10-7	7			**1900**	<65	<16	<0.033	<0.16	**1**	**7.59**	<13	**53**	<0.65	**28**	<6.5	<0.33	<13	<0.65				
H-TP-11-4	4	X		<30	<60	<7.3	<0.02	<0.073	<0.073	<0.073	<12	**95**	<0.60	**29**	<6	<0.3	<12	<0.60				
H-TP-11-7	7		X	<32	<64	<6.4	<0.02	<0.064	<0.064	<0.064	<13	**56**	<0.63	**39**	<6.3	<0.32	<13	<0.63				
H-TP-12-3	3			<28	<57	<5.9	<0.02	<0.059	<0.059	<0.059	<11	**70**	<0.57	**30**	<5.7	<0.28	<11	<0.57				
H-TP-12-7	7			<30	<60	<6.9	<0.02	<0.069	<0.069	<0.069	<12	**40**	<0.60	**21**	<6	<0.3	<12	<0.60				
H-TP-13-3	3			<820	**2200**	**750**	<0.047	<0.24	**0.67**	**1.9**	<11	**44**	<0.56	**31**	**7.1**	<0.28	<11	<0.56				
H-TP-13-8	8			**6100**	**5400**	**1700**	<0.1	<0.52	**1.1**	**2.9**	<12	**58**	<0.60	**24**	**58**	<0.3	<12	<0.60				
H-TP-14-3	3			<28	<56	<5	<0.02	<0.05	<0.05	<0.05	<11	**41**	<0.56	**28**	<5.6	<0.28	<11	<0.56				
H-TP-14-8	8			<510	**1200**	**2100**	0.079	<0.11	**0.37**	**4.1**	<12	**41**	<0.59	**33**	**9.5**	<0.3	<12	<0.59				
H-TP-15-3	3			<620	**2300**	<5.5	<0.02	<0.055	**0.11**	**0.38**	<11	**45**	<0.55	**31**	24	<0.28	<11	<0.55				
H-TP-15-8	8			<110	**280**	**120**	<0.02	<0.051	**0.7**	**0.18**	<11	**42**	<0.56	**26**	<5.6	<0.28	<11	<0.56				
H-TP-16-3	3	X		<30	**190**	**57**	<0.02	<0.076	<0.076	**0.15**												
H-TP-16-7	7		X	<140	**290**	**72**	<0.02	<0.066	<0.066	<0.066												
H-TP-17-3	3	X		<31	**99**	<7.5	<0.02	<0.075	<0.075	<0.075												
H-TP-17-6	6		X	<31	<62	<7.3	<0.02	<0.073	<0.073	<0.073												
H-TP-18-3	3			<28	<56	<5.3	<0.02	<0.053	<0.053	<0.053												
H-TP-18-7	7			<1600	**2300**	**1900**	<0.058	<0.29	**0.95**	**5.7**												
H-TP-19-4	4			<130	**450**	<6.2	<0.02	<0.062	<0.062	<0.062												
H-TP-19-6	6			<55	**220**	<5.8	<0.02	<0.058	<0.058	<0.058												
H-TP-20-3	3			<27	<54	<5.5	<0.02	<0.055	<0.055	<0.055												
H-TP-20-6	6			<1700	**5800**	**18**	<0.028	**0.83**	<0.14	<0.14												
H-TP-21-2	2			<580	**2300**	**20**	<0.02	<0.061	<0.061	<0.061												
H-TP-21-7	7			<29	**110**	<5.4	<0.02	<0.054	<0.054	<0.054												
H-TP-22-8	8		X	<63	**300**	**12**	<0.020	<0.064	**0.27**	**1.39**												
H-TP-23-7	7			**5400**	**680**	<30	<0.060	<0.30	**0.65**	**0.72**												
H-TP-24-3	3	X		<55	**200**	<6.4	<0.02	<0.064	<0.064	<0.064												
H-TP-24-8	8		X	<29	<58	<5.1	<0.02	<0.051	<0.051	<0.051												
H-TP-25-2	2			<28	<56	<6.3	<0.02	<0.063	<0.063	<0.063												
H-TP-25-8	8			**5400**	**1700**	<16	<0.032	<0.16	**0.31**	0.42												
H-TP-26-4	4			<28	**150**	<6.0	<0.020	<0.060	<0.060	<0.060												
H-TP-26-9	9			**3600**	**1800**	<28	<0.056	<0.28	**0.53**	**0.72**												
H-TP-27-5	5	X		<30	<59	<5.7	<0.020	<0.057	<0.057	<0.057												
H-TP-27-9	9		X	<31	<62	<6.8	<0.020	<0.068	<0.068	<0.068												
H-TP-28-9	9		X	<29	<59	<5.1	<0.020	<0.051	<0.051	<0.051												
H-TP-29-6	6	X		<31	<62	<4.6	<0.020	<0.046	<0.046	<0.046												
H-PEX-1-6	6			**220**	**280**	**270**	**0.0013**	<0.0053	**0.015**	<0.0011	<12	**69**	<0.6	**35**	<6	<0.3	<12	<0.60	**0.181**	0.000	<0.060	EPH VPH Analyses
H-PEX-2-6	6			<400	**720**	**390**	<0.0014	<0.0068	<0.0014	**0.0021**	<11	**41**	<0.56	**27**	**18**	<0.28	<11	<0.56	**0.054**	0.000	<0.056	EPH VPH Analyses
H-PEX-3-4	4			**1800**	**7300**	**22**	<0.0011	<0.0055	<0.0011	**0.0015**	<12	**79**	<0.61	**26**	**130**	<0.3	<12	<0.61	**2.893**	**0.085**	<0.061	EPH VPH Analyses
H-PEX-4-8	8		X			<8.4	<0.020	<0.084	<0.084	<0.084	<14											
H-PEX-5-8	8		X			<31	<0.31	<0.31	<0.31	<0.31	<17											
H-PEX-6-4	4		X			<6.2	<0.020	<0.062	<0.062	<0.062	<12											
H-PEX-7-5	5	X				<7.9	<0.020	<0.079	<0.079	<0.079	<13											
H-PEX-8-6	6	X				<10	<0.021	<0.10	<0.10	<0.10	<11											
H-PEX-9-5	5		X	**820**	<110	<14	<0.027	<0.14	<0.14	<0.14												
H-PEX-10-7	7	X		**600**	**86**	<12	<0.023	<0.12	<0.12	<0.12												

TABLE 2
SOIL CLEANUP ANALYTICAL RESULTS
BOTHELL FORMER HERTZ FACILITY
(all results in milligrams per kilogram (mg/kg))

		Confirmation Sample[1]																				
Sample location	**Sample Depth ft bgs**	**Sidewall**	**Bottom**	**Diesel**	**Oil**	**Gasoline**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes**	**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Lead**	**Mercury**	**Selenium**	**Silver**	**Total Naphthalenes[2]**	**cPAHs TEC[3]**	**PCBs**	**Notes**
H-PEX-11-6	6			**1900**	**2700**	<13	<0.027	<0.13	<0.13	**0.38**	<11	**50**	<0.57	**23**	**37**	<0.29	<11	<0.57	**23.8**	**0.061**	<0.057	EPH VPH analyses of soil next to buried wood catch basin
H-PEX-12-12	12	X		<31	<61	<5.7	<0.020	<0.057	<0.057	<0.057												
H-PEX-13-14	14			<120	**700**	**15**	<0.029	<0.15	<0.15	<0.15												Removed
H-PEX-14-14	14		X	<91	**390**	<32	<0.32	<0.32	<0.32	<0.32												
H-PEX-15-10	10		X	<33	<65	<7.2	<0.020	<0.072	<0.072	<0.072												
H-PEX-16-14	14		X	<130	**980**	**30**	<0.053	<0.27	<0.27	**0.94**												
H-PEX-17-7	7	X		<31	<61	<7.2	<0.020	<0.072	<0.072	<0.072												
H-PEX-18-11	11		X	**300**	**320**	<6.9	<0.020	<0.069	<0.069	<0.069												
H-PEX-19-6	6			**320**	**740**	<7.0	<0.020	<0.070	<0.070	<0.070												Removed
H-PEX-20-6	6		X	<32	<64	<7.3	<0.020	<0.073	<0.073	<0.073												
H-PEX-21-16	16		X	<33	<65	<6.8	<0.020	<0.068	<0.068	<0.068												Over excavation of H-PEX-13-14
H-PEX-22-12	12		X	<30	<60	<6.3	<0.020	<0.063	<0.063	<0.063												
H-PEX-23-9	9			<310	**1600**	**12**	<0.020	<0.061	<0.061	<0.061												Removed
H-PEX-24-6	6	X		<27	**58**	<5.7	<0.020	<0.057	<0.057	<0.057	<11	**49**	<0.55	**25**	**28**	<0.27	<11	<0.55				Over excavation of H-PEX-19-6
H-PEX-25-6	6	X		**41**	**220**	<6.5	<0.020	<0.065	<0.065	<0.065	<11	**49**	<0.56	**23**	**22**	<0.28	<11	<0.56				
H-PEX-26-8	8	X		<30	**81**																	Over excavation of H-PEX-23-9
Stockpiles																						
H-SP-1				<28	<56	<5.5	<0.020	<0.055	<0.055	<0.055	<11	**37**	<0.56	**21**	**8.2**	<0.28	<11	<0.56	0.000	0.000		
H-SP-2				**55**	**250**	<7.2	<0.020	<0.072	<0.072	<0.072	<12	**48**	<0.61	**25**	**31**	<0.31	<12	<0.61	**0.710**	**0.081**		
H-SP-3				<28	**250**	<5.1	<0.020	<0.051	<0.051	<0.051	<11	**34**	<0.56	**17**	**19**	<0.28	<11	<0.56	**0.037**	**0.020**		
HZ-SP-101110-1				<29	<57						<11		<0.57	**31**	<5.7	<0.29						
HZ-SP-101110-2				<29	**100**						<12		<0.59	**30**	**13**	<0.29						
HZ-SP-101110-3				<33	**230**						<12		<0.58	**24**	**14**	<0.29						
HZ-SP-101110-4				<52	**320**						<12		<0.62	**30**	**91**	<0.31						
HZ-SP-101110-5				<31	**220**						<12		<0.62	**30**	**28**	<0.31						
MTCA Method A Cleanup Level[4]				2000		100/30[5]	0.03	7	6	9	20	NA	2	2000/19[6]	250	2	NA	NA	5	0.100	1	
MTCA Method B Cleanup Level[7]				2954 - 4035 (220 for kerosene)		3504	18	6,400	800	160,000	24	16,000	80	120,000	NA	24	400	400			0.5	
Background[8]				NA		NA	NA	NA	NA	NA	7	255	1	48	24	0.07	0.78	0.61	NA	NA	NA	

Notes:
< - Not detected at laboratory's reporting limit
Blank - Sample was not analyzed for this constituent
NA - Not applicable
Bold - Analyte Detected
Bold/Highlighted - Analyte detected above MTCA Method A soil cleanup level
- Sample in area that was subsequently excavated
1 - Confirmation that soil remaining in place meets MTCA cleanup levels or was left in place at the limits of excavation adjacent to SR 522
2 - Sum of Napthalene + 1-Methylnaphthalene + 2-Methylnaphthalene
3 - Toxic Equivalent Concentration of carcinogenic polynuclear aromatic hydrocarbons (cPAHs) per WAC 173-340-708(e)
4 - Washington Model Toxics Control Act Method A (Table 740-1) soil cleanup levels for unrestricted land use
5 - The MTCA Method A soil cleanup level is 100 mg/kg for gasoline mixtures without benzene and if the total of ethylbenzene, toluene, plus xylenes is less than 1% of the gasoline mixture. The soil cleanup level for all other gasoline mixtures is 30 mg/kg
6 - The MTCA Method A soil cleanup level for trivalent chromium is 2,000 mg/kg. Geochemical conditions on site would not cause oxidation to hexavalent chromium having a cleanup level of 19
7 - Method B TPH cleanup levels are site specific values calculated using MTCATPH1.1. Method B cleanup levels for metals are from Ecology's CLARC (Cleanup Level & Risk Calculations) database for non-carcinogens
8 - Background metals concentrations per *Natural Background Soil Metals Concentrations in Washington State* (Ecology, 1994) for the Puget Sound area



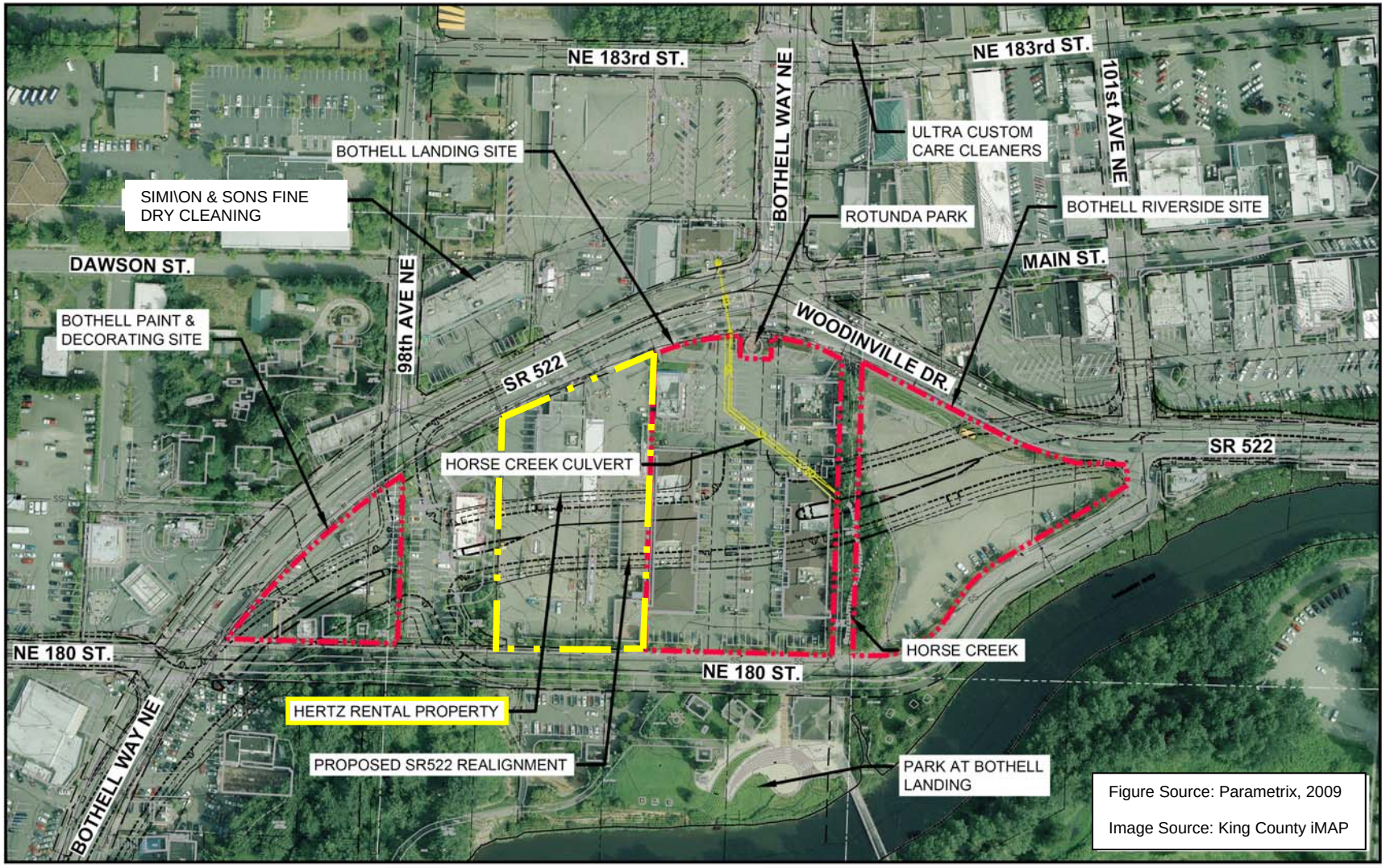
SITE VICINITY

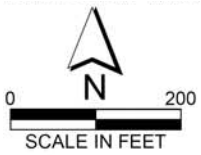
BOTHELL FORMER HERTZ FACILITY
SOIL CLEANUP
BOTHELL, WASHINGTON

FIGURE NO.
1

PROJECT NO.
2007-098-921

HWA GEOSCIENCES INC.





HWA GeoSciences Inc.

SITE LOCATION & ADJACENT PROPERTIES

BOTHELL FORMER HERTZ FACILITY
SOIL CLEANUP
BOTHELL, WASHINGTON

FIGURE NO.
2

PROJECT NO.
2007-098-921

BH-18
HZ-MW-10
HZ-MW-13
HZ-B7
HZ-MW-11
HZ-MW-12
HZ-B5
HZ-MW-4
HB-3
HZ-B6
WOODEN
CATCH BASIN
HYDRAULIC LIFTS
FORMER LUSTs
HZ-MW-8
BC-16
HB-2
PROPOSED SR 522
FORMER LUST
HZ-B2
HZ-B3
HZ-B9
HZ-MW-1
HB-1
MD-6
B-2
4.5'
8'
8'
8'
8'
TREES
CURE
CHECK

EXPLANATION OF SYMBOL

APPROXIMATE PROPERTY BOUNDARY

HZ-MW-12 MONITORING WELL LOCATIONS

HZ-B2 SOIL BORING LOCATIONS

0' 15' 30' 60'

SCALE: 1"=30'

BASE MAP PROVIDED BY PARAMETRIX

S:\2007 PROJECTS\2007-098-22 BOTHELL CROSSROADS\CAD\HWA 2007-098-21 T210.DWG <HERTZ PRIOR FIG 3> Plotted: 1/21/2011 10:30 AM

HWA GEOSCIENCES INC.

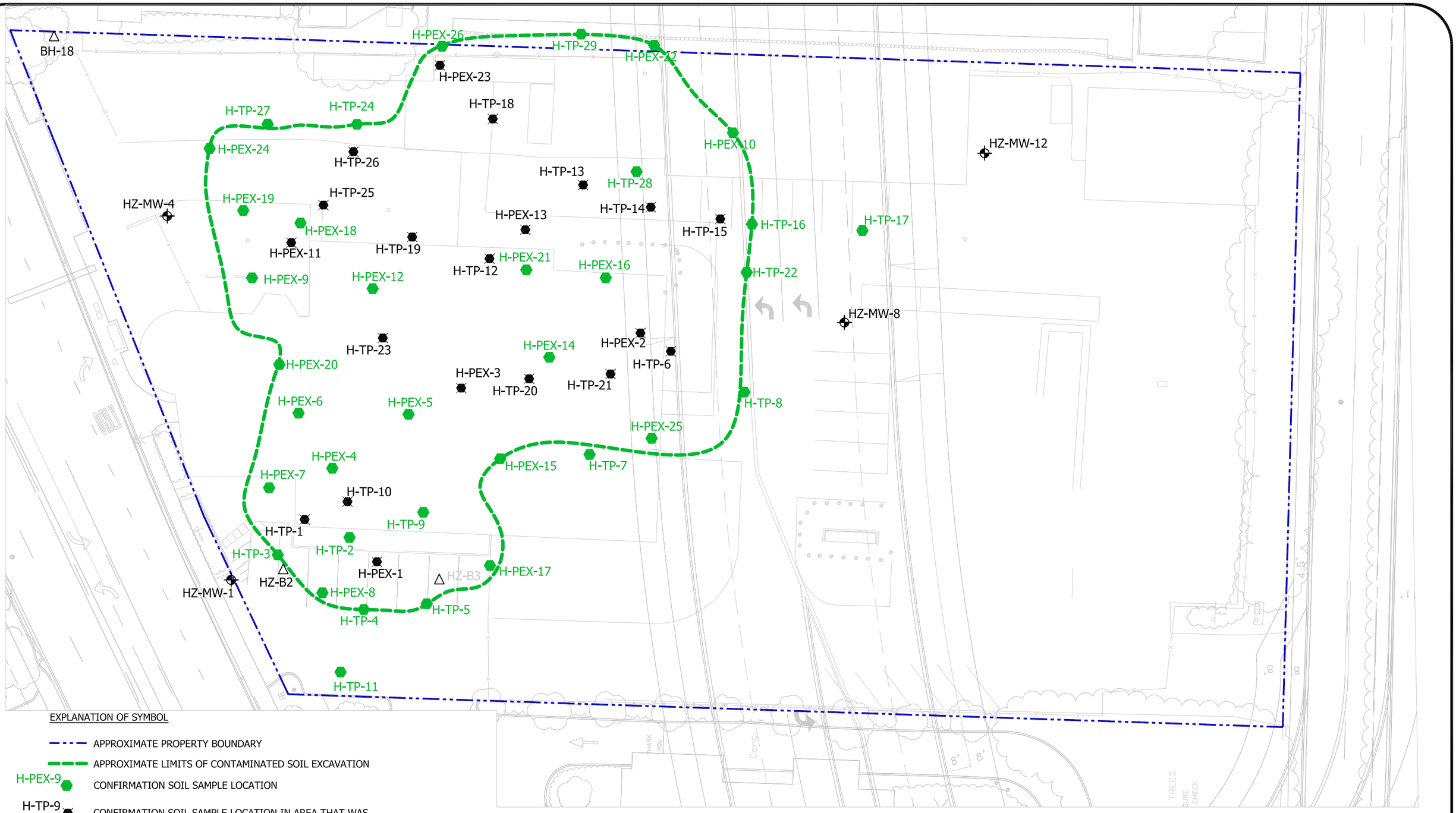
BOTHELL FORMER HERTZ FACILITY
SOIL CLEANUP
BOTHELL, WASHINGTON

SITE PLAN
PRIOR TO CLEANUP

DRAWN BY EFK
CHECK BY NN
DATE 12.22.10

FIGURE NO. 3

PROJECT NO. 2007-098 T921



EXPLANATION OF SYMBOL

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF CONTAMINATED SOIL EXCAVATION
- H-PEX-9 — CONFIRMATION SOIL SAMPLE LOCATION
- H-TP-9 — CONFIRMATION SOIL SAMPLE LOCATION IN AREA THAT WAS SUBSEQUENTLY EXCAVATED
- HZ-MW-12 / HZ-B2 — PRE-CLEANUP SOIL SAMPLE MEETING MTCA CLEANUP LEVELS

0' 15' 30' 60'
SCALE: 1"=30'

BASE MAP PROVIDED BY PARAMETRIX

S:\2007 PROJECTS\2007-098-22 BOTHELL CROSSROADS\CAD\HWA 2007-098-21 T210.DWG <HERTZ CLEANUP FIG 4> Plotted: 1/21/2011 10:35 AM

HWA GEOSCIENCES INC.

BOTHELL FORMER HERTZ FACILITY
SOIL CLEANUP
BOTHELL, WASHINGTON

EXTENT OF
SOIL CLEANUP

DRAWN BY EFK
CHECK BY NN
DATE 12.22.10

FIGURE NO. 4
PROJECT NO. 2007-098 T921

APPENDIX A

DETERMINATION OF RISK-BASED CLEANUP LEVELS FOR THE SITE

HWA GeoSciences Inc.
Geotechnical & Pavement Engineering • Hydrogeology • Geoenvironmental • Planning & Permitting • Inspection & Testing

November 4, 2010
HWA Project No. 2007 098-921

City of Bothell
9654 NE 182nd St.
Bothell, Washington 98021

Attention: Nduta Mbuthia, Project Engineer, Public Works Capital Projects

Subject: **CLEANUP LEVEL DETERMINATION**
Former Hertz Rentals Property
Interim Action Cleanup
Bothell, Washington

Dear Ms. Mbuthia:

This letter describes HWA GeoSciences Inc. (HWA's) determination of risk-based soil cleanup levels at the former Hertz Rentals property, per the Interim Action Work Plan dated May 7, 2010.

1.0 Introduction

The City of Bothell conducted an interim action cleanup at the former Hertz Rentals property (Hertz site) in August and September 2010, consisting of excavation and off site treatment/disposal of metals and petroleum contaminated soils.

In order to establish soil cleanup levels, selected soil samples were collected and analyzed for petroleum hydrocarbon fractionation (VPH/EPH) and other target compounds (BTEX, cPAHs, EDB, EDC, MTBE). The results of the VPH/EPH analyses were then input into Ecology's MTCATPH11.1 spreadsheet model to determine TPH cleanup levels that are protective of direct contact and ground water, per the Ecology approved Interim Action Work Plan. Information regarding the use of petroleum hydrocarbon fractionation data and Ecology's MTCAPH11.1 model to calculate the risk at a petroleum contaminated site is presented in *Workbook Tools for Calculating Soil and Ground Water Cleanup Levels under the Model Toxics Control Act Cleanup Regulation User's Guide* (Ecology Publication No. 01-09-073).

2.0 Method B Soil Cleanup Levels

MTCA Method B cleanup levels are the universal cleanup levels that typically employ a risk-based approach as outlined in WAC 173-340-708. Cleanup levels for a particular

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site are determined after evaluating appropriate exposure pathway endpoints (e.g., direct contact, drinking water, nonpotable ground water, surface water, soil, wildlife, etc.) based on site use, contaminant distribution, etc. The actual clean up *standard* is then based on the calculated cleanup levels, measured at the point of compliance.

HWA evaluated Hertz site soils with respect to Method B cleanup levels for TPH. Under MTCA, once the source of contamination is removed, risk-based Method B (residential exposure scenario) TPH cleanup levels can be established. Method B cleanup levels must be protective for all exposure pathways, including direct contact with soil, leaching to ground water, and volatilization to air. Per the work plan, exposure pathways evaluated include:

- Direct human contact
- Protection of ground water

The vapor/odor pathway was not evaluated at this site, per the Interim Action Work Plan due to the absence of buildings over affected areas. The ground water to surface water pathway was also not evaluated, as the site remedial investigation indicated contaminated ground water was not migrating off site towards the Sammamish River.

Soil and ground water pathways (listed above) are discussed in the following sections.

Calculation of Method B cleanup levels is based on petroleum hydrocarbon fractionation analytical methods, collectively referred to as method E-TPH, that include Ecology methods VPH/EPH for volatile and extractable petroleum hydrocarbon fractions, BTEX, gasoline additives (MTBE, EDB, and EDC), and polynuclear aromatic hydrocarbons (PAHs).

Compounds composed of carbon and hydrogen are divided into two classes: aromatic compounds, which contain benzene rings or similar rings of atoms, and aliphatic compounds, which do not contain aromatic rings. The VPH/EPH method uses a fractionation approach to evaluate complex petroleum mixtures typically found in petroleum fuels and lubricants. The VPH/EPH approach divides petroleum into 12 compound groups (7 aliphatic and 5 aromatic) based on equivalent carbon (EC) number, which relates to the boiling point of a hydrocarbon compound. Hydrocarbons in the same EC group are assumed to have similar chemical, physical, and toxicological properties for the purposes of establishing cleanup levels. Each compound group is treated as if it was an individual chemical. Risks posed by site soils are calculated for each compound group and then summed across compound groups. Predicted ground water concentrations caused by leaching from the current soil concentrations are also estimated for each compound group and then summed across compound groups to produce a total ground water concentration.

2.1 Direct Contact Pathway

In the MTCA Method B risk analysis, the human health risk level for individual carcinogens may not exceed one-in-a-million ($1x10^{-6}$). If more than one type of hazardous substance is present, the total excess carcinogenic risk level at the site may not exceed 1 in 100,000 ($1x10^{-5}$). Cleanup levels protective of direct contact with soil for individual noncarcinogenic compounds are calculated in terms of hazard quotient (HQ), and for two or more compounds having similar toxic response by a hazard index (HI) that is the sum of individual hazard quotients. A HQ or HI less than 1.0 indicates an acceptable noncarcinogenic risk under MTCA Method B. Adverse effects resulting from exposure to two or more hazardous or carcinogenic compounds are assumed to be additive.

HWA used Ecology's MTCATPH11.1 electronic spreadsheet model (available at http://www.ecy.wa.gov/programs/tcp/tools/toolmain.html) to calculate the Method B cleanup levels protective of direct contact with soil. Table 1 summarizes the calculated Method B cleanup levels protective of the direct contact pathway; Appendix A contains the MTCATPH11.1 spreadsheet summary printouts. Per Ecology guidance (Publication No. 01-09-073 cited above), concentrations of TPH compounds not detected at the laboratory's practical quantitation limit (PQL) were entered into MTCATPH11.1 as the laboratory's method detection limit (MDL) – a value typically 5 or more times less than the practical quantitation limit.

2.2 Protection of Ground Water

Protection of ground water was evaluated for two pathways:

- Leaching from soil to ground water
- Residual soil saturation (the TPH concentration in soil at which a non aqueous phase liquid (NAPL) will form)

2.2.1 Leaching from soil to ground water

Soil cleanup levels protective of ground water may be calculated by several methods:

- Partitioning models
- Leaching tests
- Alternative fate & transport models
- Empirical demonstration

The Method B analyses used to calculate risk-based soil cleanup levels at the Hertz site included evaluation of the soil-to-ground water pathway using Ecology's partitioning models (WAC 173-340-747) for two scenarios: potable ground water and the default MTCA Method A ground water cleanup level as the protective concentrations. Table 1

summarizes the calculated Method B soil cleanup levels protective of dircet contact and ground water; Appendix A contains the MTCATPH11.1 spreadsheet summary printouts.

Table 1
Summary of Method B Soil TPH Risk Calculations
Former Hertz Rentals Property

Release area	Former USTs	Former UST		Wooden storm drain catch basin
TPH Type	Gasoline and diesel	Kerosene		Diesel and lube oil range hydrocarbons
Sample	H-PEX-1-6	H-PEX-2-6	H-PEX-3-4	H-PEX-11-6
Calculated Method B TPH cleanup level for direct skin contact (mg/Kg)	3,504	4,035	2,505	2,954
Most stringent soil risk criterion for direct skin contact	Hazard Index	Hazard Index	cPAHs mixture	Hazard Index
Method B soil TPH concentration protective of ground water (mg/Kg)	13,263	220	100% NAPL[1]	100% NAPL
Most stringent soil risk criterion for protection of ground water	Total risk = 1E-5	Hazard Index Risk 1E-6	Hazard Index Total risk 1E-5 cPAHs mixture	Hazard Index Total risk 1E-5 cPAHs mixture
Method A soil cleanup levels (mg/Kg)	30[2] (G) 2000 (D) 2000 (O) 0.03 (Benzene) 7 (Toluene) 6 (Ethylbenzene) 9 (Xylenes)	2000 (D) 2000 (O) 0.03 (Benzene) 7 (Toluene) 6 (Ethylbenzene) 9 (Xylenes)		
Maximum value detected on site after cleanup[3]	30 (G) 820 (D) 980 (O) <0.31 (Benzene) <0.32 (Toluene) 0.27 (Ethylbenzene) 1.39 (Xylenes)			
Cleanup levels met?	Method A Yes Method B Yes TCs Yes[4]	Method A Yes Method B Yes TCs Yes	Method A Yes Method B Yes TCs Yes	Method A Yes Method B Yes TCs Yes

Notes:
1 - 100% NAPL means soil containing free product would not produce a TPH concentration ≥800 µg/L in ground water
2 - Cleanup level for gasoline mixtures with benzene
3 – Compliance Monitoring Plan did not specify analyses for PAHs, as these were not a contaminant of potential concern at the site
4 - TCs: Cleanup levels for all target compounds (PAHs, EDB, EDC, MTBE, benzene, naphthalenes) were met as indicated by laboratory analysis for the individual compounds

2.2.2. Residual soil saturation

Evaluation of residual saturation concentrations is also required. Residual saturation refers to the soil concentration at which a nonaqueous phase liquid (a.k.a., NAPL or "free product") may form on or in soil or ground water. Residual saturation may be evaluated under MTCA using default screening values or an empirical demonstration. Criteria for an empirical demonstration include:

- NAPL has not formed in soil or ground water at the site
- NAPL will not form in the future, i.e., sufficient time has elapsed for migration of hazardous substances from soil into ground water to occur and that the characteristics of the site (e.g., depth to ground water and infiltration) are representative of future site conditions.

Both of these criteria are met at the site, as no NAPL has been observed in soil or ground water, and the impacted soils have likely been in place for at least 10 years prior to removal from the site.

3.0 Discussion

It is possible to extrapolate the results of the risk calculation to estimate a Method B soil "cleanup level" for total TPH concentrations at the site based on the most stringent pathway. This requires the assumption that the hydrocarbon fractions in the soil sample represents the distribution of hydrocarbon fractions in all residual petroleum hydrocarbons at the site. In general, this assumption is valid for sites where the residual hydrocarbons derive from a single source, or single type of fuel, which appears to be the case at each of the three source areas at this site, based on analytical results. Using this assumption, HWA extrapolated the risk results to indicate an appropriate Method B soil cleanup level for each of the three known release areas at the site, as summarized in Table 1.

HWA evaluated the potential risk to human health and the environment based on TPH concentrations in soil. Based on the Method B evaluation, site confirmation soil samples met the Method B, residential exposure scenario TPH cleanup levels for direct contact (i.e., HI less than 1, individual compound carcinogen risk less than 1E-6, and total carcinogen risk less than 1E-5), and protection of ground water (leaching as predicted by partitioning models and empirical demonstration of residual saturation).

4.0 Summary

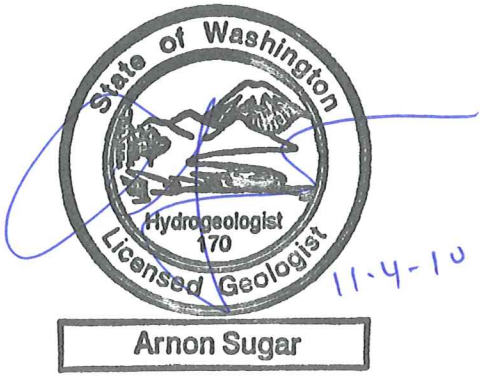
Confirmation soil samples met all applicable cleanup levels, including:

- Method A soil cleanup levels for TPH and all individual target compounds
- Method B soil cleanup levels for all individual target compounds
- Method B TPH soil cleanup levels protective of 1) direct contact, and 2) protection of ground water, calculated per Ecology's MTCATPH11.1.1 spreadsheet model based on the most stringent pathways

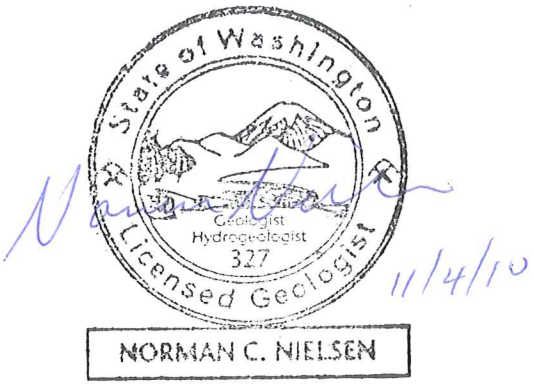
Residual soil at the site has been remediated to MTCA Method A or B cleanup levels, and therefore poses no risk to direct-contact exposure under a residential scenario, or to ground water by leaching.

We appreciate the opportunity to provide our services on this project. Please feel free to call us if you have any questions or need more information.

Sincerely,
HWA GEOSCIENCES INC.



Arnie Sugar, LG, LHG
President



Norm Nielsen, LG, LHG, PMP
Senior Hydrogeologist

APPENDIX A

MTCATPH11.1 METHOD B SPREADSHEET PRINTOUTS

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/19/10
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-1-6

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	5	0.51%
AL_EC >6-8	5	0.51%
AL_EC >8-10	40	4.11%
AL_EC >10-12	110	11.30%
AL_EC >12-16	140	14.38%
AL_EC >16-21	100	10.27%
AL_EC >21-34	300	30.82%
AR_EC >8-10	47	4.83%
AR_EC >10-12	40	4.11%
AR_EC >12-16	33	3.39%
AR_EC >16-21	52.9984	5.45%
AR_EC >21-34	99.9993	10.27%
Benzene	0.0013	0.00%
Toluene	0	0.00%
Ethylbenzene	0.015	0.00%
Total Xylenes	0.015	0.00%
Naphthalene	0.064	0.01%
1-Methyl Naphthalene	0.049	0.01%
2-Methyl Naphthalene	0.068	0.01%
n-Hexane	0.0603	0.01%
MTBE	0.000017	0.00%
Ethylene Dibromide (EDB)	0.0000266	0.00%
1,2 Dichloroethane (EDC)	0.0000428	0.00%
Benzo(a)anthracene	0.000338	0.00%
Benzo(b)fluoranthene	0.00039	0.00%
Benzo(k)fluoranthene	0.000308	0.00%
Benzo(a)pyrene	0.000261	0.00%
Chrysene	0.0003	0.00%
Dibenz(a,h)anthracene	0.000342	0.00%
Indeno(1,2,3-cd)pyrene	0.000373	0.00%
Sum	973.2726864	100.00%

Notes for Data Entry | Set Default Hydrogeology
Clear All Soil Concentration Data Entry Cells
Restore All Soil Concentration Data cleared previously

REMARK:
Hertz site pot hole sample
MTCA Method A cleanup level = 800 mg/Kg because benzene was detected in ground water in onsite monitoring wells

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	800	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/19/2010
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-1-6
Measured Soil TPH Concentration, mg/kg: **973.273**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	3,504	6.76E-09	2.78E-01	Pass
	Method C	49,041	1.48E-09	1.98E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protectior	13,263	5.26E-06	8.26E-01	Pass
	Target TPH GW Conc. @ 800 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**3,504.28**	**49,041.15**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	3.50E+03	2.43E-08	1.00E+00	YES	4.90E+04	7.44E-08	1.00E+00
Total Risk=1E-5	*NO*	1.44E+06	1.00E-05	4.11E+02	*NO*	6.59E+06	1.00E-05	1.34E+02
Risk of Benzene= 1E-6	*NO*	1.36E+07	9.44E-05	3.88E+03	NA			
Risk of cPAHs mixture= 1E-6	*NO*	2.30E+05	1.60E-06	6.56E+01				
EDB	*NO*	3.98E+05	2.76E-06	1.13E+02				
EDC	*NO*	2.31E+08	1.60E-03	6.59E+04				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**Total Risk = 1E-5**
Protective Ground Water Concentration, ug/L	**406.26**
Protective Soil Concentration, mg/kg	**13262.86**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	*NO*	4.10E+02	1.06E-05	9.24E-01	100% NAPL
Total Risk = 1E-5	YES	4.06E+02	1.00E-05	9.17E-01	1.33E+04
Total Risk = 1E-6	YES	1.68E+02	1.00E-06	4.36E-01	1.05E+02
Risk of cPAHs mixture= 1E-5	*NO*	4.10E+02	1.06E-05	9.24E-01	100% NAPL
Benzene MCL = 5 ug/L	*NO*	4.10E+02	1.06E-05	9.24E-01	100% NAPL
MTBE = 20 ug/L	*NO*	4.10E+02	1.06E-05	9.24E-01	100% NAPL

Note: 100% NAPL is 72000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 800 ug/L	4.10E+02	1.06E-05	9.24E-01	**100% NAPL**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/19/10
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-2-6

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	5	0.62%
AL_EC >6-8	5	0.62%
AL_EC >8-10	48	5.96%
AL_EC >10-12	180	22.36%
AL_EC >12-16	7	0.87%
AL_EC >16-21	80	9.94%
AL_EC >21-34	230	28.57%
AR_EC >8-10	110	13.66%
AR_EC >10-12	40	4.97%
AR_EC >12-16	11	1.37%
AR_EC >16-21	23.9913	2.98%
AR_EC >21-34	64.9993	8.07%
Benzene	0.0000159	0.00%
Toluene	0.000011	0.00%
Ethylbenzene	0.0000096	0.00%
Total Xylenes	0.000021	0.00%
Naphthalene	0.032	0.00%
1-Methyl Naphthalene	0.0088	0.00%
2-Methyl Naphthalene	0.013	0.00%
n-Hexane	0.0603	0.01%
MTBE	0.000017	0.00%
Ethylene Dibromide (EDB)	0.0000266	0.00%
1,2 Dichloroethane (EDC)	0.0000428	0.00%
Benzo(a)anthracene	0.000338	0.00%
Benzo(b)fluoranthene	0.00039	0.00%
Benzo(k)fluoranthene	0.000308	0.00%
Benzo(a)pyrene	0.000261	0.00%
Chrysene	0.0074	0.00%
Dibenz(a,h)anthracene	0.000342	0.00%
Indeno(1,2,3-cd)pyrene	0.000373	0.00%
Sum	805.1142439	100.00%

Notes for Data Entry | Set Default Hydrogeology
Clear All Soil Concentration Data Entry Cells
Restore All Soil Concentration Data cleared previously

REMARK:
Hertz site pot hole sample
MTCA Method A cleanup level = 800 mg/Kg because benzene was detected in ground water in onsite monitoring wells

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 800 ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/19/2010
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-2-6
Measured Soil TPH Concentration, mg/kg: **805.114**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	4,035	7.37E-09	2.00E-01	Pass
	Method C	67,575	1.64E-09	1.19E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protectior	220	5.35E-06	1.32E+00	Fail
	Target TPH GW Conc. @ 800 ug/L	2,618	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**4,034.80**	**67,574.75**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	4.03E+03	3.69E-08	1.00E+00	YES	6.76E+04	1.37E-07	1.00E+00
Total Risk=1E-5	*NO*	1.09E+06	1.00E-05	2.71E+02	*NO*	4.92E+06	1.00E-05	7.28E+01
Risk of Benzene= 1E-6	*NO*	9.20E+08	8.42E-03	2.28E+05	NA			
Risk of cPAHs mixture= 1E-6	*NO*	1.64E+05	1.50E-06	4.06E+01				
EDB	*NO*	3.29E+05	3.01E-06	8.15E+01				
EDC	*NO*	1.91E+08	1.75E-03	4.73E+04				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**HI=1**
Protective Ground Water Concentration, ug/L	**518.04**
Protective Soil Concentration, mg/kg	**220.29**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	5.18E+02	2.22E-06	1.00E+00	2.20E+02
Total Risk = 1E-5	*NO*	8.24E+02	1.00E-05	1.46E+00	7.32E+03
Total Risk = 1E-6	YES	3.17E+02	1.00E-06	6.48E-01	8.85E+01
Risk of cPAHs mixture= 1E-5	*NO*	8.36E+02	1.11E-05	1.48E+00	100% NAPL
Benzene MCL = 5 ug/L	*NO*	8.36E+02	1.11E-05	1.48E+00	100% NAPL
MTBE = 20 ug/L	*NO*	8.36E+02	1.11E-05	1.48E+00	100% NAPL

Note: 100% NAPL is 71000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 800 ug/L	8.00E+02	8.39E-06	1.43E+00	**2.62E+03**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/19/10
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-3-4

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	5	0.24%
AL_EC >6-8	5	0.24%
AL_EC >8-10	84	4.09%
AL_EC >10-12	66	3.21%
AL_EC >12-16	45	2.19%
AL_EC >16-21	120	5.84%
AL_EC >21-34	1400	68.09%
AR_EC >8-10	5	0.24%
AR_EC >10-12	7	0.34%
AR_EC >12-16	18	0.88%
AR_EC >16-21	47.8039	2.33%
AR_EC >21-34	249.9914	12.16%
Benzene	0.0000159	0.00%
Toluene	0.000011	0.00%
Ethylbenzene	0.0000096	0.00%
Total Xylenes	0.0015	0.00%
Naphthalene	0.093	0.00%
1-Methyl Naphthalene	1.2	0.06%
2-Methyl Naphthalene	1.6	0.08%
n-Hexane	0.0603	0.00%
MTBE	0.000017	0.00%
Ethylene Dibromide (EDB)	0.0000266	0.00%
1,2 Dichloroethane (EDC)	0.0000428	0.00%
Benzo(a)anthracene	0.035	0.00%
Benzo(b)fluoranthene	0.012	0.00%
Benzo(k)fluoranthene	0.0091	0.00%
Benzo(a)pyrene	0.078	0.00%
Chrysene	0.062	0.00%
Dibenz(a,h)anthracene	0.000342	0.00%
Indeno(1,2,3-cd)pyrene	0.0083	0.00%
Sum	2055.954923	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
Hertz site pot hole sample
MTCA Method A cleanup level = 800 mg/Kg because benzene was detected in ground water in onsite monitoring wells

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 800 ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/19/2010
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-3-4
Measured Soil TPH Concentration, mg/kg: **2,055.955**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,505	8.23E-07	2.67E-01	Pass
	Method C	100,673	2.04E-07	1.97E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protectior	100% NAPL	4.03E-06	1.60E-01	Pass
	Target TPH GW Conc. @ 800 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,504.80**	**100,673.17**
Most Stringent Criterion	**Risk of cPAHs mixture= 1E-6**	**Total Risk=1E-5**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	*NO*	7.70E+03	3.08E-06	1.00E+00	*NO*	1.05E+05	1.04E-05	1.00E+00
Total Risk=1E-5	*NO*	2.50E+04	1.00E-05	3.24E+00	YES	1.01E+05	1.00E-05	9.63E-01
Risk of Benzene= 1E-6	*NO*	2.35E+09	9.40E-01	3.05E+05	NA			
Risk of cPAHs mixture= 1E-6	YES	2.50E+03	1.00E-06	3.25E-01				
EDB	*NO*	8.40E+05	3.36E-04	1.09E+02				
EDC	*NO*	4.88E+08	1.95E-01	6.33E+04				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**NA**
Protective Ground Water Concentration, ug/L	**NA**
Protective Soil Concentration, mg/kg	**Soil-to-Ground Water is not a critical pathway!**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	5.95E+01	6.73E-06	1.72E-01	100% NAPL
Total Risk = 1E-5	YES	5.95E+01	6.73E-06	1.72E-01	100% NAPL
Total Risk = 1E-6	YES	3.14E+01	1.00E-06	1.08E-01	2.46E+02
Risk of cPAHs mixture= 1E-5	YES	5.95E+01	6.73E-06	1.72E-01	100% NAPL
Benzene MCL = 5 ug/L	YES	5.95E+01	6.73E-06	1.72E-01	100% NAPL
MTBE = 20 ug/L	YES	5.95E+01	6.73E-06	1.72E-01	100% NAPL

Note: 100% NAPL is 72000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 800 ug/L	5.95E+01	6.73E-06	1.72E-01	**100% NAPL**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/19/10
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-11-6

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	5	0.08%
AL_EC >6-8	9.3	0.15%
AL_EC >8-10	17	0.28%
AL_EC >10-12	290	4.81%
AL_EC >12-16	1100	18.24%
AL_EC >16-21	870	14.42%
AL_EC >21-34	1200	19.89%
AR_EC >8-10	65.3700	1.08%
AR_EC >10-12	61	1.01%
AR_EC >12-16	780	12.93%
AR_EC >16-21	799.6112	13.26%
AR_EC >21-34	809.9797	13.43%
Benzene	0.0000159	0.00%
Toluene	0.000011	0.00%
Ethylbenzene	0.25	0.00%
Total Xylenes	0.38	0.01%
Naphthalene	1.4	0.02%
1-Methyl Naphthalene	8.4	0.14%
2-Methyl Naphthalene	14	0.23%
n-Hexane	0.0603	0.00%
MTBE	0.000017	0.00%
Ethylene Dibromide (EDB)	0.0000266	0.00%
1,2 Dichloroethane (EDC)	0.0000428	0.00%
Benzo(a)anthracene	0.073	0.00%
Benzo(b)fluoranthene	0.055	0.00%
Benzo(k)fluoranthene	0.0078	0.00%
Benzo(a)pyrene	0.043	0.00%
Chrysene	0.21	0.00%
Dibenz(a,h)anthracene	0.000342	0.00%
Indeno(1,2,3-cd)pyrene	0.02	0.00%
Sum	6032.160455	100.00%

Notes for Data Entry | Set Default Hydrogeology
Clear All Soil Concentration Data Entry Cells
Restore All Soil Concentration Data cleared previously

REMARK:
Hertz site pot hole sample
MTCA Method A cleanup level = 800 mg/Kg because benzene was detected in ground water in onsite monitoring wells

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 800 ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/19/2010
Site Name: Bothell Crossroads, Hertz Site
Sample Name: H-PEX-11-6
Measured Soil TPH Concentration, mg/kg: **6,032.160**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,954	5.88E-07	2.04E+00	Fail
	Method C	37,194	1.46E-07	1.62E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	100% NAPL	1.45E-06	4.30E-01	Pass
	Target TPH GW Conc. @ 800 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,953.52**	**37,194.47**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.95E+03	2.88E-07	9.99E-01	YES	3.72E+04	8.99E-07	9.99E-01
Total Risk=1E-5	*NO*	1.03E+05	1.00E-05	3.47E+01	*NO*	4.14E+05	1.00E-05	1.11E+01
Risk of Benzene= 1E-6	*NO*	6.89E+09	6.72E-01	2.33E+06	NA			
Risk of cPAHs mixture= 1E-6	*NO*	1.03E+04	1.00E-06	3.48E+00				
EDB	*NO*	2.46E+06	2.40E-04	8.34E+02				
EDC	*NO*	1.43E+09	1.39E-01	4.84E+05				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**NA**
Protective Ground Water Concentration, ug/L	**NA**
Protective Soil Concentration, mg/kg	**Soil-to-Ground Water is not a critical pathway!**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	1.57E+02	1.67E-06	4.36E-01	100% NAPL
Total Risk = 1E-5	YES	1.57E+02	1.67E-06	4.36E-01	100% NAPL
Total Risk = 1E-6	YES	1.47E+02	1.00E-06	4.10E-01	1.49E+03
Risk of cPAHs mixture= 1E-5	YES	1.57E+02	1.67E-06	4.36E-01	100% NAPL
Benzene MCL = 5 ug/L	YES	1.57E+02	1.67E-06	4.36E-01	100% NAPL
MTBE = 20 ug/L	YES	1.57E+02	1.67E-06	4.36E-01	100% NAPL

Note: 100% NAPL is 77000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 800 ug/L	1.57E+02	1.67E-06	4.36E-01	**100% NAPL**

APPENDIX B

LABORATORY CERTIFICATES OF ANALYSIS

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

September 3, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1008-237

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on August 31, 2010.

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: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

Case Narrative

Samples were collected on August 30, 2010 and received by the laboratory on August 31, 2010. 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-G/BTEX Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The MTCA Method A clean-up level for Benzene in sample H-TP-1-8 is non-achievable due to the necessary dilution of the sample.

The chromatograms for samples H-TP-6-3 and H-TP-6-6 are similar to mineral spirits.

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: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-1-3**					
Laboratory ID:	08-237-01					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Client ID:	**H-TP-1-8**					
Laboratory ID:	08-237-02					
Diesel Fuel #1	**25000**	300	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	610	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**H-TP-2-10**					
Laboratory ID:	08-237-04					
Diesel Range Organics	**ND**	33	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	66	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				
Client ID:	**H-TP-2-4**					
Laboratory ID:	08-237-05					
Diesel Range Organics	**ND**	27	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	55	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**H-TP-3-3**					
Laboratory ID:	08-237-06					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil	**140**	59	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**H-TP-3-8**					
Laboratory ID:	08-237-07					
Diesel Range Organics	**ND**	32	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	64	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-4-3**					
Laboratory ID:	08-237-08					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**H-TP-4-7**					
Laboratory ID:	08-237-09					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**H-TP-5-4**					
Laboratory ID:	08-237-10					
Diesel Range Organics	**ND**	27	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	54	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**H-TP-5-7**					
Laboratory ID:	08-237-11					
Diesel Range Organics	**ND**	32	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	63	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Client ID:	**H-TP-6-3**					
Laboratory ID:	08-237-12					
Diesel Range Organics	**2700**	140	NWTPH-Dx	9-1-10	9-2-10	N
Lube Oil	**11000**	280	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				
Client ID:	**H-TP-6-6**					
Laboratory ID:	08-237-13					
Diesel Range Organics	**1600**	140	NWTPH-Dx	9-1-10	9-2-10	N
Lube Oil	**7500**	290	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-6-7**					
Laboratory ID:	08-237-14					
Diesel Range Organics	**70**	33	NWTPH-Dx	9-1-10	9-2-10	N
Lube Oil	**420**	65	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**H-TP-7-5**					
Laboratory ID:	08-237-15					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**H-TP-7-7**					
Laboratory ID:	08-237-16					
Diesel Range Organics	**ND**	32	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil	**110**	63	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**H-TP-8-5**					
Laboratory ID:	08-237-17					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil	**120**	56	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**H-TP-8-7**					
Laboratory ID:	08-237-18					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0901S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*125*	*50-150*				

Analyte	Result		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	08-237-05							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	
Lube Oil Range Organics	**ND**	**ND**				NA	NA	
Surrogate:								
o-Terphenyl			*109*	*101*	*50-150*			
Laboratory ID:	08-237-10							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	
Lube Oil Range Organics	**ND**	**ND**				NA	NA	
Surrogate:								
o-Terphenyl			*104*	*98*	*50-150*			

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-1-3**					
Laboratory ID:	08-237-01					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.5	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				
Client ID:	**H-TP-1-8**					
Laboratory ID:	08-237-02					
Benzene	**ND**	0.14	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.71	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**2.1**	0.71	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**6.4**	0.71	EPA 8021	9-1-10	9-1-10	
o-Xylene	**3.0**	0.71	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	71	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-2-10**					
Laboratory ID:	08-237-04					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-2-10	
Toluene	**ND**	0.073	EPA 8021	9-1-10	9-2-10	
Ethyl Benzene	**ND**	0.073	EPA 8021	9-1-10	9-2-10	
m,p-Xylene	**ND**	0.073	EPA 8021	9-1-10	9-2-10	
o-Xylene	**ND**	0.073	EPA 8021	9-1-10	9-2-10	
Gasoline	**ND**	7.3	NWTPH-Gx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-2-4**					
Laboratory ID:	08-237-05					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.055	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.055	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.055	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.055	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	5.5	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				
Client ID:	**H-TP-3-3**					
Laboratory ID:	08-237-06					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	7.0	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*55-127*				
Client ID:	**H-TP-3-8**					
Laboratory ID:	08-237-07					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	7.4	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-4-3**					
Laboratory ID:	08-237-08					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.046	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.046	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.046	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.046	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	4.6	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*109*	*55-127*				
Client ID:	**H-TP-4-7**					
Laboratory ID:	08-237-09					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.5	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*55-127*				
Client ID:	**H-TP-5-4**					
Laboratory ID:	08-237-10					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.063	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.063	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.063	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.063	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.3	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-5-7**					
Laboratory ID:	08-237-11					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.4	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				
Client ID:	**H-TP-6-3**					
Laboratory ID:	08-237-12					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.054	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**0.055**	0.054	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**0.23**	0.054	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.27	EPA 8021	9-1-10	9-1-10	U1
Gasoline	**150**	5.4	NWTPH-Gx	9-1-10	9-1-10	Z,O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				
Client ID:	**H-TP-6-6**					
Laboratory ID:	08-237-13					
Benzene	**ND**	0.023	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.12	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.12	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**0.26**	0.12	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.60	EPA 8021	9-1-10	9-1-10	U1
Gasoline	**200**	12	NWTPH-Gx	9-1-10	9-1-10	Z,O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-6-7**					
Laboratory ID:	08-237-14					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.074	EPA 8021	9-1-10	9-1-10	
Gasoline	**10**	7.4	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*106*	*55-127*				
Client ID:	**H-TP-7-5**					
Laboratory ID:	08-237-15					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.057	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.057	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.057	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.057	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	5.7	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*55-127*				
Client ID:	**H-TP-7-7**					
Laboratory ID:	08-237-16					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.070	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	7.0	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*109*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-8-5**					
Laboratory ID:	08-237-17					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.058	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.058	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.058	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.058	EPA 8021	9-1-10	9-1-10	
Gasoline	**6.2**	5.8	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-TP-8-7**					
Laboratory ID:	08-237-18					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.060	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.060	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.060	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.060	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.0	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0901S1					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*55-127*				
Laboratory ID:	MB0901S2					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-237-17										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**5.51**	**5.30**	NA	NA		NA		NA	4	30	
Surrogate:											
Fluorobenzene						*100*	*101*	*55-127*			
Laboratory ID:	08-237-18										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*98*	*97*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0901S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**1.03**	**1.04**	1.00	1.00		**103**	**104**	75-113	1	9	
Toluene	**0.989**	**1.01**	1.00	1.00		**99**	**101**	75-116	2	10	
Ethyl Benzene	**0.997**	**1.02**	1.00	1.00		**100**	**102**	82-117	2	10	
m,p-Xylene	**1.01**	**1.03**	1.00	1.00		**101**	**103**	81-122	2	10	
o-Xylene	**1.01**	**1.03**	1.00	1.00		**101**	**103**	83-118	2	10	
Surrogate:											
Fluorobenzene						*98*	*98*	*55-127*			

Date of Report: September 3, 2010
Samples Submitted: August 31, 2010
Laboratory Reference: 1008-237
Project: 2007-098

% MOISTURE

Date Analyzed: 9-1-10

Client ID	Lab ID	% Moisture
H-TP-1-3	08-237-01	14
H-TP-1-8	08-237-02	17
H-TP-2-10	08-237-04	24
H-TP-2-4	08-237-05	9
H-TP-3-3	08-237-06	15
H-TP-3-8	08-237-07	22
H-TP-4-3	08-237-08	14
H-TP-4-7	08-237-09	18
H-TP-5-4	08-237-10	8
H-TP-5-7	08-237-11	21
H-TP-6-3	08-237-12	9
H-TP-6-6	08-237-13	13
H-TP-6-7	08-237-14	23
H-TP-7-5	08-237-15	11
H-TP-7-7	08-237-16	21
H-TP-8-5	08-237-17	10
H-TP-8-7	08-237-18	16

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z - The sample chromatogram is similar to mineral spirits.

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

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

DATE: 8/30/10
PAGE: ____ of ____

PROJECT NAME: Bothell #: 2007-095
SITE CODE: Herter Rentals
SAMPLERS NAME: Atkins PHONE:
SAMPLERS SIGNATURE:
HWA CONTACT: PHONE:

08-237
48 Hr TAT

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: NWTPH-Dx	ANALYSIS REQUESTED: NWTPH-Gx/BTEX	ANALYSIS REQUESTED: % MOISTURE	REMARKS
H-TP-1-3	8/30/10	1100	S	1	2	/	/	X	
H-TP-1-8		1115		2		/	/		
H-TP-2-6		1120		3					
H-TP-2-10		1140		4		/	/	X	
H-TP-2-4		1130		5		/	/		
H-TP-3-3		1150		6		/	/		
H-TP-3-8		1200		7		/	/		
H-TP-4-3		1215		8		/	/		
H-TP-4-7		1230		9		/	/		
H-TP-5-2'		1245		10		/	/		
H-TP-5-7		1300		11		/	/		
H-TP-6-3		1330		12		/	/		
H-TP-6-6		1340		13		/	/		
H-TP-6-7		1350		14		/	/		
H-TP-7-5		1400		15		/	/		
H-TP-7-7		1410		16		/	/		
H-TP-8-5		1415		17		/	/		
H-TP-8-7		1430		18		/	/		

	PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by:						
Received by:	Michael Daugherty		Speedy	8-31-10	0830	
Relinquished by:		Michael Daugherty	Speedy OAE	8-31-10	0917	
Received by:	M. VOUN			8/31/10	0920	

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

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

September 3, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1009-011

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 1, 2010.

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: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

Case Narrative

Samples were collected on September 1 2010 and received by the laboratory on September 1, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The MTCA Method A clean-up level for Benzene in sample H-TP-10-7 is non-achievable due to the necessary dilution of the sample.

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: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-011-01					
Client ID:	**H-TP-9-4**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**43**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.56	6010B	9-2-10	9-2-10	
Chromium	**27**	0.56	6010B	9-2-10	9-2-10	
Lead	**ND**	5.6	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-1-10	9-1-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.56	6010B	9-2-10	9-2-10	
Lab ID:	09-011-02					
Client ID:	**H-TP-9-7**					
Arsenic	**ND**	12	6010B	9-2-10	9-2-10	
Barium	**73**	3.0	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.60	6010B	9-2-10	9-2-10	
Chromium	**42**	0.60	6010B	9-2-10	9-2-10	
Lead	**7.6**	6.0	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.30	7471A	9-1-10	9-1-10	
Selenium	**ND**	12	6010B	9-2-10	9-2-10	
Silver	**ND**	0.60	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-011-03					
Client ID:	**H-TP-10-3**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**46**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.56	6010B	9-2-10	9-2-10	
Chromium	**31**	0.56	6010B	9-2-10	9-2-10	
Lead	**ND**	5.6	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-1-10	9-1-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.56	6010B	9-2-10	9-2-10	
Lab ID:	09-011-04					
Client ID:	**H-TP-10-7**					
Arsenic	**ND**	13	6010B	9-2-10	9-2-10	
Barium	**53**	3.3	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.65	6010B	9-2-10	9-2-10	
Chromium	**28**	0.65	6010B	9-2-10	9-2-10	
Lead	**ND**	6.5	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.33	7471A	9-1-10	9-1-10	
Selenium	**ND**	13	6010B	9-2-10	9-2-10	
Silver	**ND**	0.65	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-011-05					
Client ID:	**H-TP-11-4**					
Arsenic	**ND**	12	6010B	9-2-10	9-2-10	
Barium	**95**	3.0	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.60	6010B	9-2-10	9-2-10	
Chromium	**29**	0.60	6010B	9-2-10	9-2-10	
Lead	**ND**	6.0	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.30	7471A	9-1-10	9-1-10	
Selenium	**ND**	12	6010B	9-2-10	9-2-10	
Silver	**ND**	0.60	6010B	9-2-10	9-2-10	
Lab ID:	09-011-06					
Client ID:	**H-TP-11-7**					
Arsenic	**ND**	13	6010B	9-2-10	9-2-10	
Barium	**56**	3.2	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.63	6010B	9-2-10	9-2-10	
Chromium	**39**	0.63	6010B	9-2-10	9-2-10	
Lead	**ND**	6.3	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.32	7471A	9-1-10	9-1-10	
Selenium	**ND**	13	6010B	9-2-10	9-2-10	
Silver	**ND**	0.63	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-011-07					
Client ID:	**H-TP-12-3**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**70**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.57	6010B	9-2-10	9-2-10	
Chromium	**30**	0.57	6010B	9-2-10	9-2-10	
Lead	**ND**	5.7	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-1-10	9-1-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.57	6010B	9-2-10	9-2-10	
Lab ID:	09-011-08					
Client ID:	**H-TP-12-7**					
Arsenic	**ND**	12	6010B	9-2-10	9-2-10	
Barium	**40**	3.0	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.60	6010B	9-2-10	9-2-10	
Chromium	**21**	0.60	6010B	9-2-10	9-2-10	
Lead	**ND**	6.0	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.30	7471A	9-1-10	9-1-10	
Selenium	**ND**	12	6010B	9-2-10	9-2-10	
Silver	**ND**	0.60	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-011-09					
Client ID:	**H-DUP-090110**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**67**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.57	6010B	9-2-10	9-2-10	
Chromium	**26**	0.57	6010B	9-2-10	9-2-10	
Lead	**ND**	5.7	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-1-10	9-1-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.57	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-1&2-10
Date Analyzed:	9-1&2-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0901S5&MB0902S1

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-1&2-10
Date Analyzed: 9-1&2-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-011-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**38.3**	**35.9**	6	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**23.9**	**24.4**	2	0.50	
Lead	**ND**	**ND**	NA	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 9-1&2-10
Date Analyzed: 9-1&2-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-011-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**88.5**	88	**91.3**	91	3	
Barium	100	**129**	91	**126**	88	3	
Cadmium	50	**44.5**	89	**44.4**	89	0	
Chromium	100	**113**	89	**112**	88	1	
Lead	250	**226**	90	**229**	92	1	
Mercury	0.50	**0.495**	99	**0.485**	97	2	
Selenium	100	**89.7**	90	**91.3**	91	2	
Silver	25	**20.7**	83	**21.6**	86	4	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-9-4**					
Laboratory ID:	09-011-01					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*125*	*50-150*				
Client ID:	**H-TP-9-7**					
Laboratory ID:	09-011-02					
Diesel Fuel #1	**92**	30	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**H-TP-10-3**					
Laboratory ID:	09-011-03					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				
Client ID:	**H-TP-10-7**					
Laboratory ID:	09-011-04					
Diesel Fuel #1	**1900**	33	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	65	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**H-TP-11-4**					
Laboratory ID:	09-011-05					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**H-TP-11-7**					
Laboratory ID:	09-011-06					
Diesel Range Organics	**ND**	32	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	64	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-12-3**					
Laboratory ID:	09-011-07					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**H-TP-12-7**					
Laboratory ID:	09-011-08					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**H-DUP-090110**					
Laboratory ID:	09-011-09					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-1-10	9-2-10	
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	9-1-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*123*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0901S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-1-10	9-1-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*132*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-011-03						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*113* *110*	*50-150*			

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-9-4**					
Laboratory ID:	09-011-01					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	7.3	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				
Client ID:	**H-TP-9-7**					
Laboratory ID:	09-011-02					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.066	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.066	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.066	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.066	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.6	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*55-127*				
Client ID:	**H-TP-10-3**					
Laboratory ID:	09-011-03					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.065	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.5	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-10-7**					
Laboratory ID:	09-011-04					
Benzene	**ND**	0.033	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.16	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**1.0**	0.16	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**7.3**	0.16	EPA 8021	9-1-10	9-1-10	
o-Xylene	**0.29**	0.16	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	16	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				
Client ID:	**H-TP-11-4**					
Laboratory ID:	09-011-05					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.073	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	7.3	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*108*	*55-127*				
Client ID:	**H-TP-11-7**					
Laboratory ID:	09-011-06					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.064	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.4	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-12-3**					
Laboratory ID:	09-011-07					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.059	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.059	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.059	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.059	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	5.9	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*55-127*				
Client ID:	**H-TP-12-7**					
Laboratory ID:	09-011-08					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.069	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.069	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.069	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.069	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.9	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*55-127*				
Client ID:	**H-DUP-090110**					
Laboratory ID:	09-011-09					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.061	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.061	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.061	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.061	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	6.1	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0901S3					
Benzene	**ND**	0.020	EPA 8021	9-1-10	9-1-10	
Toluene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
o-Xylene	**ND**	0.050	EPA 8021	9-1-10	9-1-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-1-10	9-1-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-011-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*103*	*100*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0901S2										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.981**	**1.02**	1.00	1.00		**98**	**102**	75-113	4	9	
Toluene	**1.00**	**1.06**	1.00	1.00		**100**	**106**	75-116	6	10	
Ethyl Benzene	**1.03**	**1.07**	1.00	1.00		**103**	**107**	82-117	4	10	
m,p-Xylene	**1.02**	**1.07**	1.00	1.00		**102**	**107**	81-122	5	10	
o-Xylene	**1.03**	**1.09**	1.00	1.00		**103**	**109**	83-118	6	10	
Surrogate:											
Fluorobenzene						*96*	*97*	*55-127*			

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-011
Project: 2007-098

% MOISTURE

Date Analyzed: 9-1-10

Client ID	Lab ID	% Moisture
H-TP-9-4	09-011-01	11
H-TP-9-7	09-011-02	17
H-TP-10-3	09-011-03	11
H-TP-10-7	09-011-04	23
H-TP-11-4	09-011-05	17
H-TP-11-7	09-011-06	21
H-TP-12-3	09-011-07	12
H-TP-12-7	09-011-08	16
H-DUP-090110	09-011-09	12

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

09-011
DATE: 9/1/10
PAGE: 1 of 1

PROJECT NAME: Bothell Crossroads #: 2007-098
SITE CODE:
SAMPLERS NAME: Pete Pearson PHONE:
SAMPLERS SIGNATURE:
HWA CONTACT: PHONE:

1 DAY TAT

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: RCRA - 8	TPH - Dx	TPH - Gx/BTEX	% moisture	REMARKS
H-TP-9-4	9/1/10	13:30	S	1	2	X	X	X	X	
H-TP-9-7		12:35		2	1	X	X	X	X	
H-TP-10-3		12:50		3		X	X	X	X	
H-TP-10-7		13:04		4		X	X	X	X	
H-TP-11-4		13:15		5		X	X	X	X	
H-TP-11-7		13:25		6		X	X	X	X	
H-TP-12-3		13:40		7		X	X	X	X	
H-TP-12-7	"	13:48	"	8	5	X	X	X	X	
H-DUP-090110	9/1/10	-	S	9	2	X	X	X	X	

PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by: Pete Pearson		HWA	9/1/10	14:00	
Received by: Michael Dougherty		Speedy	9-1-10	14:00	
Relinquished by: Michael Dougherty		Speedy	9-1-10	14:10	
Received by: Blair Goodrow		OC Site Tech	9/1/10	1418	

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

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

September 3, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1009-017

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 1, 2010.

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: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

Case Narrative

Samples were collected on September 1, 2010 and received by the laboratory on September 1, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The chromatograms for samples H-TP-13-3, H-TP-13-8, H-TP-14-8, H-TP-15-3 and H-TP-15-8 are similar to mineral spirits.

The MTCA Method A clean-up level for Benzene in samples H-TP-13-3 and H-TP-13-8 is non-achievable due to the necessary dilution of the sample.

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: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-13-3**					
Laboratory ID:	09-017-01					
Benzene	**ND**	0.047	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.24	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**0.67**	0.24	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**1.9**	0.24	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	1.2	EPA 8021	9-2-10	9-3-10	U1
Gasoline	**750**	24	NWTPH-Gx	9-2-10	9-3-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				
Client ID:	**H-TP-13-8**					
Laboratory ID:	09-017-02					
Benzene	**ND**	0.10	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.52	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**1.1**	0.52	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**2.9**	0.52	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	2.6	EPA 8021	9-2-10	9-3-10	U1
Gasoline	**1700**	52	NWTPH-Gx	9-2-10	9-3-10	Z,O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*55-127*				
Client ID:	**H-TP-14-3**					
Laboratory ID:	09-017-03					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-14-8**					
Laboratory ID:	09-017-04					
Benzene	**0.079**	0.022	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.11	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**0.37**	0.11	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**4.1**	1.1	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	1.1	EPA 8021	9-2-10	9-3-10	U1
Gasoline	**2100**	110	NWTPH-Gx	9-2-10	9-3-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				
Client ID:	**H-TP-15-3**					
Laboratory ID:	09-017-05					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.055	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**0.11**	0.055	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**0.38**	0.055	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.055	EPA 8021	9-2-10	9-2-10	U1
Gasoline	**210**	5.5	NWTPH-Gx	9-2-10	9-2-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-TP-15-8**					
Laboratory ID:	09-017-06					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.051	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**0.070**	0.051	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**0.18**	0.051	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.051	EPA 8021	9-2-10	9-2-10	
Gasoline	**120**	5.1	NWTPH-Gx	9-2-10	9-2-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0902S1					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-017-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*102*	*108*	*55-127*			
MATRIX SPIKES											
Laboratory ID:	08-202-03										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**1.10**	**1.11**	1.00	1.00	ND	**110**	**111**	80-120	1	10	
Toluene	**1.06**	**1.06**	1.00	1.00	ND	**106**	**106**	82-120	0	11	
Ethyl Benzene	**1.07**	**1.07**	1.00	1.00	ND	**107**	**107**	83-120	0	10	
m,p-Xylene	**1.09**	**1.08**	1.00	1.00	ND	**109**	**108**	82-120	1	10	
o-Xylene	**1.09**	**1.09**	1.00	1.00	ND	**109**	**109**	80-120	0	10	
Surrogate:											
Fluorobenzene						*102*	*100*	*55-127*			

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-13-3**					
Laboratory ID:	09-017-01					
Diesel Range Organics	**ND**	820	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**2200**	56	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*122*	*50-150*				
Client ID:	**H-TP-13-8**					
Laboratory ID:	09-017-02					
Diesel Range Organics	**6100**	150	NWTPH-Dx	9-2-10	9-3-10	
Lube Oil	**5400**	300	NWTPH-Dx	9-2-10	9-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				
Client ID:	**H-TP-14-3**					
Laboratory ID:	09-017-03					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				
Client ID:	**H-TP-14-8**					
Laboratory ID:	09-017-04					
Diesel Range Organics	**ND**	510	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**1200**	59	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*123*	*50-150*				
Client ID:	**H-TP-15-3**					
Laboratory ID:	09-017-05					
Diesel Range Organics	**ND**	620	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**2300**	280	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*131*	*50-150*				
Client ID:	**H-TP-15-8**					
Laboratory ID:	09-017-06					
Diesel Range Organics	**ND**	110	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**280**	56	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				

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Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0902S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*125*	*50-150*				

Analyte	Result		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-017-01							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	U1
Lube Oil	**1920**	**1510**				24	NA	
Surrogate:								
o-Terphenyl			*122*	*117*	*50-150*			

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-017-01					
Client ID:	**H-TP-13-3**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**44**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.56	6010B	9-2-10	9-2-10	
Chromium	**31**	0.56	6010B	9-2-10	9-2-10	
Lead	**7.1**	5.6	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-3-10	9-3-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.56	6010B	9-2-10	9-2-10	
Lab ID:	09-017-02					
Client ID:	**H-TP-13-8**					
Arsenic	**ND**	12	6010B	9-2-10	9-2-10	
Barium	**58**	3.0	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.60	6010B	9-2-10	9-2-10	
Chromium	**24**	0.60	6010B	9-2-10	9-2-10	
Lead	**58**	6.0	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.30	7471A	9-3-10	9-3-10	
Selenium	**ND**	12	6010B	9-2-10	9-2-10	
Silver	**ND**	0.60	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-017-03					
Client ID:	**H-TP-14-3**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**41**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.56	6010B	9-2-10	9-2-10	
Chromium	**28**	0.56	6010B	9-2-10	9-2-10	
Lead	**ND**	5.6	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-3-10	9-3-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.56	6010B	9-2-10	9-2-10	
Lab ID:	09-017-04					
Client ID:	**H-TP-14-8**					
Arsenic	**ND**	12	6010B	9-2-10	9-2-10	
Barium	**41**	3.0	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.59	6010B	9-2-10	9-2-10	
Chromium	**33**	0.59	6010B	9-2-10	9-2-10	
Lead	**9.5**	5.9	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.30	7471A	9-3-10	9-3-10	
Selenium	**ND**	12	6010B	9-2-10	9-2-10	
Silver	**ND**	0.59	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-017-05					
Client ID:	**H-TP-15-3**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**45**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.55	6010B	9-2-10	9-2-10	
Chromium	**31**	0.55	6010B	9-2-10	9-2-10	
Lead	**24**	5.5	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-3-10	9-3-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.55	6010B	9-2-10	9-2-10	
Lab ID:	09-017-06					
Client ID:	**H-TP-15-8**					
Arsenic	**ND**	11	6010B	9-2-10	9-2-10	
Barium	**42**	2.8	6010B	9-2-10	9-2-10	
Cadmium	**ND**	0.56	6010B	9-2-10	9-2-10	
Chromium	**26**	0.56	6010B	9-2-10	9-2-10	
Lead	**ND**	5.6	6010B	9-2-10	9-2-10	
Mercury	**ND**	0.28	7471A	9-3-10	9-3-10	
Selenium	**ND**	11	6010B	9-2-10	9-2-10	
Silver	**ND**	0.56	6010B	9-2-10	9-2-10	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL METALS
EPA 6010B
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-2-10
Date Analyzed:	9-2-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0902S1

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
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Project: 2007-098

TOTAL MERCURY
EPA 7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-3-10
Date Analyzed:	9-3-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0903S1

Analyte	Method	Result	PQL
Mercury	7471A	**ND**	0.25

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL METALS
EPA 6010B
DUPLICATE QUALITY CONTROL

Date Extracted: 9-2-10
Date Analyzed: 9-2-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-011-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**38.3**	**35.9**	6	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**23.9**	**24.4**	2	0.50	
Lead	**ND**	**ND**	NA	5.0	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL MERCURY
EPA 7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-3-10
Date Analyzed: 9-3-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-017-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL METALS
EPA 6010B
MS/MSD QUALITY CONTROL

Date Extracted: 9-2-10
Date Analyzed: 9-2-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-011-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**88.5**	88	**91.3**	91	3	
Barium	100	**129**	91	**126**	88	3	
Cadmium	50	**44.5**	89	**44.4**	89	0	
Chromium	100	**113**	89	**112**	88	1	
Lead	250	**226**	90	**229**	92	1	
Selenium	100	**89.7**	90	**91.3**	91	2	
Silver	25	**20.7**	83	**21.6**	86	4	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
Laboratory Reference: 1009-017
Project: 2007-098

TOTAL MERCURY
EPA 7471A
MS/MSD QUALITY CONTROL

Date Extracted: 9-3-10
Date Analyzed: 9-3-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-017-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.50	**0.539**	108	**0.544**	109	1	

Date of Report: September 3, 2010
Samples Submitted: September 1, 2010
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Project: 2007-098

% MOISTURE

Date Analyzed: 9-2-10

Client ID	Lab ID	% Moisture
H-TP-13-3	09-017-01	11
H-TP-13-8	09-017-02	16
H-TP-14-3	09-017-03	10
H-TP-14-8	09-017-04	15
H-TP-15-3	09-017-05	10
H-TP-15-8	09-017-06	11

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z - The sample chromatogram is similar to mineral spirits.

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

Chain of Custody

OnSite Environmental Inc.
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Phone: (425) 883-3881 • www.onsite-env.com

Page 1 of 1

Company: BWA
Project Number: 2002-098
Project Name: BOTHELL HEIGHTS
Project Manager: ATKINS
Sampled by: ATKINS

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ~~☐ 1 Day~~
- ☒ 2 Day
- ☐ 3 Day
- ☐ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 09-017

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	BH-TP-13-3	9/1/10	1410	S	2		✓	✓								✓			✓
2	BH-TP-13-8		1415				✓	✓								✓			
3	BH-TP-14-3		1430				✓	✓								✓			
4	BH-TP-14-8		1440				✓	✓								✓			
5	BH-TP-15-3		1450				✓	✓								✓			
6	BH-TP-15-8		1500				✓	✓								✓			

	Signature	Company	Date	Time
Relinquished by		BWA	9/1/10	1540
Received by		OSE	9/1/10	1540
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

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

September 3, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1009-023

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 2, 2010.

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: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

Case Narrative

Samples were collected on September 2, 2010 and received by the laboratory on September 2, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The chromatograms for samples H-TP-16-3, H-TP-16-7, H-TP-18-7 and H-TP-21-2 are similar to mineral spirits.

The MTCA Method A clean-up level for Benzene in sample H-TP-18-7 is non-achievable due to the necessary dilution of the sample.

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: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-16-3**					
Laboratory ID:	09-023-01					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil	**190**	59	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**H-TP-16-7**					
Laboratory ID:	09-023-02					
Diesel Range Organics	**ND**	140	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**290**	61	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**H-TP-17-3**					
Laboratory ID:	09-023-03					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil	**99**	62	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**H-TP-17-6**					
Laboratory ID:	09-023-04					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Client ID:	**H-TP-18-3**					
Laboratory ID:	09-023-05					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				
Client ID:	**H-TP-18-7**					
Laboratory ID:	09-023-06					
Diesel Range Organics	**ND**	1600	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**2300**	58	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-19-4**					
Laboratory ID:	09-023-07					
Diesel Range Organics	**ND**	130	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**450**	56	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**H-TP-19-6**					
Laboratory ID:	09-023-08					
Diesel Range Organics	**ND**	55	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**220**	57	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**H-TP-20-3**					
Laboratory ID:	09-023-09					
Diesel Range Organics	**ND**	27	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil Range Organics	**ND**	54	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**H-TP-20-6**					
Laboratory ID:	09-023-10					
Diesel Range Organics	**ND**	1700	NWTPH-Dx	9-2-10	9-3-10	U1
Lube Oil	**5800**	300	NWTPH-Dx	9-2-10	9-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*119*	*50-150*				
Client ID:	**H-TP-21-2**					
Laboratory ID:	09-023-11					
Diesel Range Organics	**ND**	580	NWTPH-Dx	9-2-10	9-2-10	U1
Lube Oil	**2300**	56	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*82*	*50-150*				
Client ID:	**H-TP-21-7**					
Laboratory ID:	09-023-12					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil	**110**	59	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*78*	*50-150*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0902S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-2-10	9-2-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Analyte	Result		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-023-01							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	
Lube Oil	**161**	**65.4**				84	NA	
Surrogate:								
o-Terphenyl			*97*	*81*	*50-150*			
Laboratory ID:	09-023-09							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	
Lube Oil Range Organics	**ND**	**ND**				NA	NA	
Surrogate:								
o-Terphenyl			*99*	*82*	*50-150*			

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-16-3**					
Laboratory ID:	09-023-01					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.076	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.076	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**0.15**	0.076	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.076	EPA 8021	9-2-10	9-2-10	
Gasoline	**57**	7.6	NWTPH-Gx	9-2-10	9-2-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*55-127*				
Client ID:	**H-TP-16-7**					
Laboratory ID:	09-023-02					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.066	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**ND**	0.066	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**ND**	0.066	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	0.066	EPA 8021	9-2-10	9-3-10	
Gasoline	**72**	6.6	NWTPH-Gx	9-2-10	9-3-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*55-127*				
Client ID:	**H-TP-17-3**					
Laboratory ID:	09-023-03					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.075	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.075	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.075	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.075	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	7.5	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-17-6**					
Laboratory ID:	09-023-04					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.073	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.073	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.073	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.073	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	7.3	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-18-3**					
Laboratory ID:	09-023-05					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.053	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.053	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.053	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.053	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.3	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-18-7**					
Laboratory ID:	09-023-06					
Benzene	**ND**	0.058	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.29	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**0.95**	0.29	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**5.7**	0.29	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	2.9	EPA 8021	9-2-10	9-3-10	U1
Gasoline	**1900**	29	NWTPH-Gx	9-2-10	9-3-10	Z
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-19-4**					
Laboratory ID:	09-023-07					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.062	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**ND**	0.062	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**ND**	0.062	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	0.062	EPA 8021	9-2-10	9-3-10	
Gasoline	**ND**	6.2	NWTPH-Gx	9-2-10	9-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				
Client ID:	**H-TP-19-6**					
Laboratory ID:	09-023-08					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-3-10	
Toluene	**ND**	0.058	EPA 8021	9-2-10	9-3-10	
Ethyl Benzene	**ND**	0.058	EPA 8021	9-2-10	9-3-10	
m,p-Xylene	**ND**	0.058	EPA 8021	9-2-10	9-3-10	
o-Xylene	**ND**	0.058	EPA 8021	9-2-10	9-3-10	
Gasoline	**ND**	5.8	NWTPH-Gx	9-2-10	9-3-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-TP-20-3**					
Laboratory ID:	09-023-09					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.055	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.055	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.055	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.055	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.5	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-20-6**					
Laboratory ID:	09-023-10					
Benzene	**ND**	0.028	EPA 8021	9-2-10	9-2-10	
Toluene	**0.83**	0.14	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.14	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.14	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.14	EPA 8021	9-2-10	9-2-10	
Gasoline	**18**	14	NWTPH-Gx	9-2-10	9-2-10	O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*55-127*				
Client ID:	**H-TP-21-2**					
Laboratory ID:	09-023-11					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.061	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.061	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.061	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.061	EPA 8021	9-2-10	9-2-10	
Gasoline	**20**	6.1	NWTPH-Gx	9-2-10	9-2-10	Z,O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				
Client ID:	**H-TP-21-7**					
Laboratory ID:	09-023-12					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.054	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.054	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.054	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.054	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.4	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0902S2					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*55-127*				
Laboratory ID:	MB0902S3					
Benzene	**ND**	0.020	EPA 8021	9-2-10	9-2-10	
Toluene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
o-Xylene	**ND**	0.050	EPA 8021	9-2-10	9-2-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-2-10	9-2-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-017-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*102*	*108*	*55-127*			
Laboratory ID:	09-023-09										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*103*	*99*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0902S2										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**1.01**	**1.06**	1.00	1.00		**101**	**106**	75-113	5	9	
Toluene	**1.02**	**1.06**	1.00	1.00		**102**	**106**	75-116	4	10	
Ethyl Benzene	**1.03**	**1.07**	1.00	1.00		**103**	**107**	82-117	4	10	
m,p-Xylene	**1.03**	**1.07**	1.00	1.00		**103**	**107**	81-122	4	10	
o-Xylene	**1.02**	**1.07**	1.00	1.00		**102**	**107**	83-118	5	10	
Surrogate:											
Fluorobenzene						*98*	*101*	*55-127*			

Date of Report: September 3, 2010
Samples Submitted: September 2, 2010
Laboratory Reference: 1009-023
Project: 2007-098

% MOISTURE

Date Analyzed: 9-2-10

Client ID	Lab ID	% Moisture
H-TP-16-3	09-023-01	16
H-TP-16-7	09-023-02	18
H-TP-17-3	09-023-03	19
H-TP-17-6	09-023-04	19
H-TP-18-3	09-023-05	11
H-TP-18-7	09-023-06	14
H-TP-19-4	09-023-07	10
H-TP-19-6	09-023-08	12
H-TP-20-3	09-023-09	7
H-TP-20-6	09-023-10	16
H-TP-21-2	09-023-11	10
H-TP-21-7	09-023-12	14

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z - The sample chromatogram is similar to mineral spirits.

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

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

DATE: 9/2/10
PAGE: 1 of 1

09-023

PROJECT NAME: Ballard Crossroads - Hertz #: 2007-049
SITE CODE:
SAMPLERS NAME: P. Pearson PHONE: 206 794 3113
SAMPLERS SIGNATURE:
HWA CONTACT: Vance Allons PHONE: 206 794 3124

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: NWTPH-Dx	NWTPH G-x /BTEX	PCBs	% MOISTURE	REMARKS
H-TP-16-3	9/2/10	8:15	S	1	3	X	X	X	X	
H-TP-16-7	"	8:25	"	2	"	"	"	"	"	
H-TP-17-3	"	9:10	"	3	"	"	"	"	"	
H-TP-17-6	"	9:20	"	4	"	"	"	"	"	
H-TP-18-3	"	9:25	"	5	"	"	"	"	"	
H-TP-18-7	"	9:30	"	6	"	"	"	"	"	
H-TP-19-4	"	10:05	"	7	"	"	"	"	"	
H-TP-19-6	"	10:20	"	8	"	"	"	"	"	
H-TP-20-3	"	10:40	"	9	"	"	"	"	"	
H-TP-20-6	"	10:50	"	10	"	"	"	"	"	
H-TP-21-2	"	11:00	"	11	"	"	"	"	"	
H-TP-21-7	"	11:15	"	12	"	"	"	"	"	

	PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by:	Vance Allons		HWA	9/2/10	1310	
Received by:	M. VOUND		OTE	9/2/10	1310	
Relinquished by:						
Received by:						

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

OnSite Environmental Inc.

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

September 14, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1009-074

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 8, 2010.

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: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

Case Narrative

Samples were collected on September 8, 2010 and received by the laboratory on September 8, 2010. 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.

Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

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.

NWTPH Gx Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The chromatogram for sample H-PEX-2-6 is similar to mineral spirits with diesel fuel.

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.

PAHs EPA 8270D/SIM Analysis

Sample MS/MSD pair had several recoveries fall outside of control limits believed to be caused by sample matrix. The SB/SBD pair extracted with this batch had all parameters in control, no further action was deemed necessary.

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: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILE PETROLEUM HYDROCARBONS

Date Extracted: 9-9-10
Date Analyzed: 9-10-10

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-074-01
Client ID: **H-PEX-1-6**

VPH:	**Results**	**PQL**
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	5.9	5.0
Aliphatic C10-C12	97	5.0
Total Aliphatic:	100	
Aromatic C8-C10	47	5.0
Aromatic C10-C12	40	5.0
Aromatic C12-C13	15	5.0
Total Aromatic:	100	

Surrogate:	**Percent Recovery**	**Control Limits**
Fluorobenzene	81	60-126

Flags:

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILE PETROLEUM HYDROCARBONS

Date Extracted:	9-9-10
Date Analyzed:	9-10&13-10
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	09-074-02
Client ID:	**H-PEX-2-6**

VPH:	**Results**	**PQL**
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	48	5.0
Aliphatic C10-C12	180	5.0
Total Aliphatic:	230	
Aromatic C8-C10	110	5.0
Aromatic C10-C12	40	5.0
Aromatic C12-C13	11	5.0
Total Aromatic:	160	

Surrogate:	**Percent Recovery**	**Control Limits**
Fluorobenzene	78	60-126

Flags:

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILE PETROLEUM HYDROCARBONS

Date Extracted:	9-9-10
Date Analyzed:	9-10-10
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	09-074-03
Client ID:	**H-PEX-3-4**

VPH:	**Results**	**PQL**
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	ND	5.0
Aliphatic C10-C12	11	5.0
Total Aliphatic:	11	
Aromatic C8-C10	ND	5.0
Aromatic C10-C12	ND	5.0
Aromatic C12-C13	ND	5.0
Total Aromatic:	NA	

Surrogate:	**Percent Recovery**	**Control Limits**
Fluorobenzene	85	60-126

Flags:

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILE PETROLEUM HYDROCARBONS
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-9-10
Date Analyzed:	9-10-10
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0909S1

VPH:	**Results**	**PQL**
Aliphatic C5-C6	ND	5.0
Aliphatic C6-C8	ND	5.0
Aliphatic C8-C10	ND	5.0
Aliphatic C10-C12	ND	5.0
Total Aliphatic:	NA	
Aromatic C8-C10	ND	5.0
Aromatic C10-C12	ND	5.0
Aromatic C12-C13	ND	5.0
Total Aromatic:	NA	

Surrogate:	**Percent Recovery**	**Control Limits**
Fluorobenzene	99	60-126

Flags:

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	9-9-10
Date Analyzed:	9-9-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	09-074-01
Client ID:	**H-PEX-1-6**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0053
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0053
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.058		0.0053
Iodomethane	ND		0.0053
Carbon Disulfide	ND		0.0011
Methylene Chloride	ND		0.0053
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0053
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	0.017		0.0053
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
Benzene	0.0013		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
Methyl Isobutyl Ketone	ND		0.0053
Toluene	ND		0.0053
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
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Lab ID: 09-074-01
Client ID: H-PEX-1-6

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0053
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	0.015		0.0011
m,p-Xylene	0.015		0.0021
o-Xylene	ND		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	0.066		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	0.22		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	0.020		0.0011
tert-Butylbenzene	0.0088		0.0011
1,2,4-Trimethylbenzene	0.091		0.0011
sec-Butylbenzene	0.13		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	0.024		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	0.17		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0053
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0053
Naphthalene	0.16		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	66-128
Toluene-d8	103	68-126
4-Bromofluorobenzene	78	53-134

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	9-10-10
Date Analyzed:	9-10-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	09-074-02
Client ID:	**H-PEX-2-6**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0014
Chloromethane	ND		0.0068
Vinyl Chloride	ND		0.0014
Bromomethane	ND		0.0014
Chloroethane	ND		0.0068
Trichlorofluoromethane	ND		0.0014
1,1-Dichloroethene	ND		0.0014
Acetone	ND		0.0068
Iodomethane	ND		0.0068
Carbon Disulfide	ND		0.0014
Methylene Chloride	ND		0.0068
(trans) 1,2-Dichloroethene	ND		0.0014
Methyl t-Butyl Ether	ND		0.0014
1,1-Dichloroethane	ND		0.0014
Vinyl Acetate	ND		0.0068
2,2-Dichloropropane	ND		0.0014
(cis) 1,2-Dichloroethene	ND		0.0014
2-Butanone	ND		0.0068
Bromochloromethane	ND		0.0014
Chloroform	ND		0.0014
1,1,1-Trichloroethane	ND		0.0014
Carbon Tetrachloride	ND		0.0014
1,1-Dichloropropene	ND		0.0014
Benzene	ND		0.0014
1,2-Dichloroethane	ND		0.0014
Trichloroethene	ND		0.0014
1,2-Dichloropropane	ND		0.0014
Dibromomethane	ND		0.0014
Bromodichloromethane	ND		0.0014
2-Chloroethyl Vinyl Ether	ND		0.0068
(cis) 1,3-Dichloropropene	ND		0.0014
Methyl Isobutyl Ketone	ND		0.0068
Toluene	ND		0.0068
(trans) 1,3-Dichloropropene	ND		0.0014

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 09-074-02
Client ID: H-PEX-2-6

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0014
Tetrachloroethene	0.0054		0.0014
1,3-Dichloropropane	ND		0.0014
2-Hexanone	ND		0.0068
Dibromochloromethane	ND		0.0014
1,2-Dibromoethane	ND		0.0014
Chlorobenzene	ND		0.0014
1,1,1,2-Tetrachloroethane	ND		0.0014
Ethylbenzene	ND		0.0014
m,p-Xylene	ND		0.0027
o-Xylene	0.0021		0.0014
Styrene	ND		0.0014
Bromoform	ND		0.0014
Isopropylbenzene	ND		0.0014
Bromobenzene	ND		0.0014
1,1,2,2-Tetrachloroethane	ND		0.0014
1,2,3-Trichloropropane	ND		0.0014
n-Propylbenzene	0.0022		0.0014
2-Chlorotoluene	ND		0.0014
4-Chlorotoluene	ND		0.0014
1,3,5-Trimethylbenzene	0.010		0.0014
tert-Butylbenzene	ND		0.0014
1,2,4-Trimethylbenzene	0.023		0.0014
sec-Butylbenzene	0.0017		0.0014
1,3-Dichlorobenzene	ND		0.0014
p-Isopropyltoluene	0.0023		0.0014
1,4-Dichlorobenzene	ND		0.0014
1,2-Dichlorobenzene	ND		0.0014
n-Butylbenzene	0.0030		0.0014
1,2-Dibromo-3-chloropropane	ND		0.0068
1,2,4-Trichlorobenzene	ND		0.0014
Hexachlorobutadiene	ND		0.0068
Naphthalene	0.043		0.0014
1,2,3-Trichlorobenzene	ND		0.0014

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	66-128
Toluene-d8	108	68-126
4-Bromofluorobenzene	83	53-134

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	9-9-10
Date Analyzed:	9-9-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	09-074-03
Client ID:	**H-PEX-3-4**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0055
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0055
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.073		0.0055
Iodomethane	ND		0.0055
Carbon Disulfide	ND		0.0011
Methylene Chloride	ND		0.0055
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0055
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	0.016		0.0055
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
Benzene	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
Methyl Isobutyl Ketone	ND		0.0055
Toluene	ND		0.0055
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 09-074-03
Client ID: H-PEX-3-4

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0055
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	ND		0.0011
m,p-Xylene	ND		0.0022
o-Xylene	0.0015		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	0.0047		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	0.020		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	0.0065		0.0011
tert-Butylbenzene	0.0065		0.0011
1,2,4-Trimethylbenzene	0.040		0.0011
sec-Butylbenzene	0.029		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	0.0031		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	0.041		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0055
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0055
Naphthalene	0.0067		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	66-128
Toluene-d8	101	68-126
4-Bromofluorobenzene	76	53-134

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

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

Date Extracted: 9-9-10
Date Analyzed: 9-9-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0909S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0050
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0050
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
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
Benzene	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
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0050
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Lab ID: MB0909S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	66-128
Toluene-d8	95	68-126
4-Bromofluorobenzene	80	53-134

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

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

Date Extracted: 9-10-10
Date Analyzed: 9-10-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0910S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0050
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0050
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
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
Benzene	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
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0050
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

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

Lab ID: MB0910S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	66-128
Toluene-d8	101	68-126
4-Bromofluorobenzene	85	53-134

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 9-9-10
Date Analyzed: 9-9-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB0909S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0368	74	0.0366	73	70-130	
Benzene	0.0500	0.0406	81	0.0400	80	70-121	
Trichloroethene	0.0500	0.0414	83	0.0419	84	70-124	
Toluene	0.0500	0.0421	84	0.0426	85	70-123	
Chlorobenzene	0.0500	0.0439	88	0.0444	89	71-119	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	1	14	
Benzene	2	10	
Trichloroethene	1	12	
Toluene	1	12	
Chlorobenzene	1	9	

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 9-10-10
Date Analyzed: 9-10-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB0910S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0357	71	0.0376	75	70-130	
Benzene	0.0500	0.0378	76	0.0394	79	70-121	
Trichloroethene	0.0500	0.0414	83	0.0432	86	70-124	
Toluene	0.0500	0.0421	84	0.0428	86	70-123	
Chlorobenzene	0.0500	0.0430	86	0.0435	87	71-119	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	5	14	
Benzene	4	10	
Trichloroethene	4	12	
Toluene	2	12	
Chlorobenzene	1	9	

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-1-6**					
Laboratory ID:	09-074-01					
Naphthalene	**0.064**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
2-Methylnaphthalene	**0.068**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
1-Methylnaphthalene	**0.049**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthylene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Fluorene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Phenanthrene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Anthracene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Fluoranthene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Pyrene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]anthracene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Chrysene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[k]fluoranthene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[g,h,i]perylene	**ND**	0.0080	EPA 8270/SIM	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*76*	*45 - 101*				
Pyrene-d10	*82*	*52 - 118*				
Terphenyl-d14	*91*	*41 - 106*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-2-6**					
Laboratory ID:	09-074-02					
Naphthalene	**0.032**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
2-Methylnaphthalene	**0.013**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
1-Methylnaphthalene	**0.0088**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthylene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthene	**0.010**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Fluorene	**0.0091**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Phenanthrene	**0.031**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Anthracene	**0.012**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Fluoranthene	**0.017**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Pyrene	**0.020**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]anthracene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Chrysene	**0.0074**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[b]fluoranthene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[k]fluoranthene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]pyrene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Dibenz[a,h]anthracene	**ND**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[g,h,i]perylene	**0.010**	0.0074	EPA 8270/SIM	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*69*	*45 - 101*				
Pyrene-d10	*94*	*52 - 118*				
Terphenyl-d14	*77*	*41 - 106*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-3-4**					
Laboratory ID:	09-074-03					
Naphthalene	**0.093**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
2-Methylnaphthalene	**1.6**	0.040	EPA 8270/SIM	9-9-10	9-10-10	
1-Methylnaphthalene	**1.2**	0.040	EPA 8270/SIM	9-9-10	9-10-10	
Acenaphthylene	**0.028**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthene	**0.11**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Fluorene	**0.13**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Phenanthrene	**0.26**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Anthracene	**0.046**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Fluoranthene	**0.083**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Pyrene	**0.19**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]anthracene	**0.035**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Chrysene	**0.062**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[b]fluoranthene	**0.012**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[k]fluoranthene	**0.0091**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]pyrene	**0.078**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Indeno(1,2,3-c,d)pyrene	**0.0083**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[g,h,i]perylene	**0.031**	0.0081	EPA 8270/SIM	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*45 - 101*				
Pyrene-d10	*88*	*52 - 118*				
Terphenyl-d14	*76*	*41 - 106*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PAHs by EPA 8270D/SIM
(with silica gel clean-up)
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0909S2					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Fluorene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Anthracene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Pyrene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Chrysene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*76*	*45 - 101*				
Pyrene-d10	*79*	*52 - 118*				
Terphenyl-d14	*94*	*41 - 106*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PAHs by EPA 8270D/SIM
(with silica gel clean-up)
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-074-02										
	MS	MSD	MS	MSD		MS	MSD				
Naphthalene	**0.0886**	**0.108**	0.0833	0.0833	0.0284	72	96	31 - 115	20	19	L
Acenaphthylene	**0.0643**	**0.0658**	0.0833	0.0833	ND	77	79	40 - 134	2	22	
Acenaphthene	**0.0795**	**0.0822**	0.0833	0.0833	0.00902	85	88	48 - 118	3	17	
Fluorene	**0.0688**	**0.0642**	0.0833	0.0833	0.00814	73	67	54 - 122	7	16	
Phenanthrene	**0.0920**	**0.0961**	0.0833	0.0833	0.0274	78	82	46 - 123	4	19	
Anthracene	**0.0712**	**0.0623**	0.0833	0.0833	0.0107	73	62	53 - 123	13	27	
Fluoranthene	**0.0915**	**0.0786**	0.0833	0.0833	0.0154	91	76	47 - 132	15	26	
Pyrene	**0.0966**	**0.0893**	0.0833	0.0833	0.0177	95	86	41 - 137	8	25	
Benzo[a]anthracene	**0.0671**	**0.0612**	0.0833	0.0833	ND	81	73	43 - 132	9	26	
Chrysene	**0.0656**	**0.0640**	0.0833	0.0833	ND	79	77	46 - 126	2	24	
Benzo[b]fluoranthene	**0.0612**	**0.0525**	0.0833	0.0833	ND	73	63	44 - 134	15	24	
Benzo[k]fluoranthene	**0.0666**	**0.0476**	0.0833	0.0833	ND	80	57	45 - 132	33	20	L
Benzo[a]pyrene	**0.0700**	**0.0609**	0.0833	0.0833	ND	84	73	36 - 136	14	23	
Indeno(1,2,3-c,d)pyrene	**0.0844**	**0.0618**	0.0833	0.0833	ND	101	74	40 - 136	31	16	L
Dibenz[a,h]anthracene	**0.0865**	**0.0646**	0.0833	0.0833	ND	104	78	40 - 142	29	13	L
Benzo[g,h,i]perylene	**0.0809**	**0.0715**	0.0833	0.0833	0.00900	86	75	37 - 137	12	18	
Surrogate:											
2-Fluorobiphenyl						*76*	*81*	*45 - 101*			
Pyrene-d10						*88*	*85*	*52 - 118*			
Terphenyl-d14						*93*	*73*	*41 - 106*			

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PAHs by EPA 8270D/SIM
(with silica gel clean-up)
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0909S2									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.0755**	**0.0787**	0.0833	0.0833	91	94	33 - 105	4	30	
Acenaphthylene	**0.0801**	**0.0754**	0.0833	0.0833	96	91	51 - 110	6	22	
Acenaphthene	**0.0762**	**0.0785**	0.0833	0.0833	91	94	51 - 105	3	20	
Fluorene	**0.0695**	**0.0766**	0.0833	0.0833	83	92	61 - 107	10	17	
Phenanthrene	**0.0718**	**0.0742**	0.0833	0.0833	86	89	61 - 106	3	12	
Anthracene	**0.0691**	**0.0701**	0.0833	0.0833	83	84	59 - 106	1	12	
Fluoranthene	**0.0708**	**0.0709**	0.0833	0.0833	85	85	66 - 116	0	12	
Pyrene	**0.0787**	**0.0756**	0.0833	0.0833	94	91	67 - 118	4	14	
Benzo[a]anthracene	**0.0677**	**0.0710**	0.0833	0.0833	81	85	60 - 114	5	11	
Chrysene	**0.0623**	**0.0649**	0.0833	0.0833	75	78	64 - 112	4	12	
Benzo[b]fluoranthene	**0.0623**	**0.0660**	0.0833	0.0833	75	79	61 - 123	6	14	
Benzo[k]fluoranthene	**0.0641**	**0.0716**	0.0833	0.0833	77	86	50 - 124	11	17	
Benzo[a]pyrene	**0.0728**	**0.0731**	0.0833	0.0833	87	88	50 - 114	0	17	
Indeno(1,2,3-c,d)pyrene	**0.106**	**0.107**	0.0833	0.0833	127	128	56 - 130	1	16	
Dibenz[a,h]anthracene	**0.111**	**0.112**	0.0833	0.0833	133	134	57 - 134	1	16	
Benzo[g,h,i]perylene	**0.101**	**0.0982**	0.0833	0.0833	121	118	56 - 121	3	15	
Surrogate:										
2-Fluorobiphenyl					*88*	*83*	*45 - 101*			
Pyrene-d10					*83*	*78*	*52 - 118*			
Terphenyl-d14					*97*	*95*	*41 - 106*			

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-1-6**					
Laboratory ID:	09-074-01					
Gasoline	**270**	6.3	NWTPH-Gx	9-9-10	9-9-10	O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				
Client ID:	**H-PEX-2-6**					
Laboratory ID:	09-074-02					
Gasoline	**390**	5.8	NWTPH-Gx	9-9-10	9-9-10	Z,O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*55-127*				
Client ID:	**H-PEX-3-4**					
Laboratory ID:	09-074-03					
Gasoline	**22**	7.3	NWTPH-Gx	9-9-10	9-10-10	O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0909S1					
Gasoline	**ND**	5.0	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-088-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*100*	*97*	*55-127*			

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-1-6**					
Laboratory ID:	09-074-01					
Diesel Range Organics	**220**	30	NWTPH-Dx	9-9-10	9-10-10	N,M
Lube Oil	**280**	60	NWTPH-Dx	9-9-10	9-10-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				
Client ID:	**H-PEX-2-6**					
Laboratory ID:	09-074-02					
Diesel Range Organics	**ND**	400	NWTPH-Dx	9-9-10	9-9-10	U1
Lube Oil	**720**	56	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**H-PEX-3-4**					
Laboratory ID:	09-074-03					
Diesel Range Organics	**1800**	150	NWTPH-Dx	9-9-10	9-10-10	N,M
Lube Oil	**7300**	300	NWTPH-Dx	9-9-10	9-10-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0909S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-074-02						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	U1
Lube Oil	**641**	**624**			3	NA	
Surrogate:							
o-Terphenyl			*105* *104*	*50-150*			

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-074-01					
Client ID:	**H-PEX-1-6**					
Arsenic	**ND**	12	6010B	9-9-10	9-10-10	
Barium	**69**	3.0	6010B	9-9-10	9-10-10	
Cadmium	**ND**	0.60	6010B	9-9-10	9-10-10	
Chromium	**35**	0.60	6010B	9-9-10	9-10-10	
Lead	**ND**	6.0	6010B	9-9-10	9-10-10	
Mercury	**ND**	0.30	7471A	9-9-10	9-9-10	
Selenium	**ND**	12	6010B	9-9-10	9-10-10	
Silver	**ND**	0.60	6010B	9-9-10	9-10-10	
Lab ID:	09-074-02					
Client ID:	**H-PEX-2-6**					
Arsenic	**ND**	11	6010B	9-9-10	9-10-10	
Barium	**41**	2.8	6010B	9-9-10	9-10-10	
Cadmium	**ND**	0.56	6010B	9-9-10	9-10-10	
Chromium	**27**	0.56	6010B	9-9-10	9-10-10	
Lead	**18**	5.6	6010B	9-9-10	9-10-10	
Mercury	**ND**	0.28	7471A	9-9-10	9-9-10	
Selenium	**ND**	11	6010B	9-9-10	9-10-10	
Silver	**ND**	0.56	6010B	9-9-10	9-10-10	

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-074-03					
Client ID:	**H-PEX-3-4**					
Arsenic	**ND**	12	6010B	9-9-10	9-10-10	
Barium	**79**	3.0	6010B	9-9-10	9-10-10	
Cadmium	**ND**	0.61	6010B	9-9-10	9-10-10	
Chromium	**26**	0.61	6010B	9-9-10	9-10-10	
Lead	**130**	6.1	6010B	9-9-10	9-10-10	
Mercury	**ND**	0.30	7471A	9-9-10	9-9-10	
Selenium	**ND**	12	6010B	9-9-10	9-10-10	
Silver	**ND**	0.61	6010B	9-9-10	9-10-10	

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-9-10
Date Analyzed:	9-9&10-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0909S1&MB0909S2

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

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

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-074-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**36.5**	**38.4**	5	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**23.8**	**24.4**	3	0.50	
Lead	**16.5**	**11.4**	37	5.0	C
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

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

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-074-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**94.2**	94	**95.1**	95	1	
Barium	100	**134**	97	**133**	96	1	
Cadmium	50	**46.4**	93	**45.8**	92	1	
Chromium	100	**118**	94	**118**	95	0	
Lead	250	**231**	86	**235**	87	2	
Mercury	0.50	**0.504**	101	**0.502**	100	0	
Selenium	100	**95.2**	95	**95.2**	95	0	
Silver	25	**21.7**	87	**21.8**	87	0	

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-1-6**					
Laboratory ID:	09-074-01					
Aroclor 1016	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Aroclor 1221	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Aroclor 1232	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Aroclor 1242	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Aroclor 1248	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Aroclor 1254	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Aroclor 1260	**ND**	0.060	EPA 8082	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*71*	*46-122*				
Client ID:	**H-PEX-2-6**					
Laboratory ID:	09-074-02					
Aroclor 1016	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Aroclor 1221	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Aroclor 1232	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Aroclor 1242	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Aroclor 1248	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Aroclor 1254	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Aroclor 1260	**ND**	0.056	EPA 8082	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*70*	*46-122*				
Client ID:	**H-PEX-3-4**					
Laboratory ID:	09-074-03					
Aroclor 1016	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Aroclor 1221	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Aroclor 1232	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Aroclor 1242	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Aroclor 1248	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Aroclor 1254	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Aroclor 1260	**ND**	0.061	EPA 8082	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*67*	*46-122*				

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0909S1					
Aroclor 1016	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Aroclor 1221	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Aroclor 1232	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Aroclor 1242	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Aroclor 1248	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Aroclor 1254	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Aroclor 1260	**ND**	0.050	EPA 8082	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*73*	*46-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-074-02										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.432**	**0.403**	0.500	0.500	ND	**86**	**81**	36-121	7	15	
Surrogate:											
DCB						*75*	*70*	*46-122*			

Date of Report: September 14, 2010
Samples Submitted: September 8, 2010
Laboratory Reference: 1009-074
Project: 2007-098

% MOISTURE

Date Analyzed: 9-9-10

Client ID	Lab ID	% Moisture
H-PEX-1-6	09-074-01	17
H-PEX-2-6	09-074-02	10
H-PEX-3-4	09-074-03	17

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z - The sample chromatogram is similar to mineral spirits with diesel fuel.

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

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/13/2010
ALS JOB#: 1009078
DATE RECEIVED: 9/9/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-074 / Proj #2007-098
CLIENT SAMPLE ID: 9/8/2010 H-PEX-1-6
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	**40**	5.0	1	MG/KG	9/10/2010	EBS
>C10-C12 Aliphatics	NWEPH	**110**	5.0	1	MG/KG	9/10/2010	EBS
>C12-C16 Aliphatics	NWEPH	**140**	5.0	1	MG/KG	9/10/2010	EBS
>C16-C21 Aliphatics	NWEPH	**100**	5.0	1	MG/KG	9/10/2010	EBS
>C21-C34 Aliphatics	NWEPH	**300**	5.0	1	MG/KG	9/10/2010	EBS
>C8-C10 Aromatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C10-C12 Aromatics	NWEPH	**13**	5.0	1	MG/KG	9/10/2010	EBS
>C12-C16 Aromatics	NWEPH	**33**	5.0	1	MG/KG	9/10/2010	EBS
>C16-C21 Aromatics	NWEPH	**53**	5.0	1	MG/KG	9/10/2010	EBS
>C21-C34 Aromatics	NWEPH	**100**	5.0	1	MG/KG	9/10/2010	EBS
Total Aliphatics	NWEPH	**690**	10	1	MG/KG	9/10/2010	EBS
Total Aromatics	NWEPH	**200**	10	1	MG/KG	9/10/2010	EBS

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/13/2010
ALS JOB#: 1009078
DATE RECEIVED: 9/9/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-074 / Proj #2007-098
CLIENT SAMPLE ID: 9/8/2010 H-PEX-2-6
ALS SAMPLE #: -02

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C10-C12 Aliphatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C12-C16 Aliphatics	NWEPH	**7.0**	5.0	1	MG/KG	9/10/2010	EBS
>C16-C21 Aliphatics	NWEPH	**80**	5.0	1	MG/KG	9/10/2010	EBS
>C21-C34 Aliphatics	NWEPH	**230**	5.0	1	MG/KG	9/10/2010	EBS
>C8-C10 Aromatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C10-C12 Aromatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C12-C16 Aromatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C16-C21 Aromatics	NWEPH	**24**	5.0	1	MG/KG	9/10/2010	EBS
>C21-C34 Aromatics	NWEPH	**65**	5.0	1	MG/KG	9/10/2010	EBS
Total Aliphatics	NWEPH	**320**	10	1	MG/KG	9/10/2010	EBS
Total Aromatics	NWEPH	**97**	10	1	MG/KG	9/10/2010	EBS

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
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CERTIFICATE OF ANALYSIS

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14648 NE 95th Street
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WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-074 / Proj #2007-098
CLIENT SAMPLE ID: 9/8/2010 H-PEX-3-4
ALS SAMPLE #: -03

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	**84**	5.0	1	MG/KG	9/10/2010	EBS
>C10-C12 Aliphatics	NWEPH	**66**	5.0	1	MG/KG	9/10/2010	EBS
>C12-C16 Aliphatics	NWEPH	**45**	5.0	1	MG/KG	9/10/2010	EBS
>C16-C21 Aliphatics	NWEPH	**120**	5.0	1	MG/KG	9/10/2010	EBS
>C21-C34 Aliphatics	NWEPH	**1,400**	5.0	1	MG/KG	9/10/2010	EBS
>C8-C10 Aromatics	NWEPH	ND	5.0	1	MG/KG	9/10/2010	EBS
>C10-C12 Aromatics	NWEPH	**7.0**	5.0	1	MG/KG	9/10/2010	EBS
>C12-C16 Aromatics	NWEPH	**18**	5.0	1	MG/KG	9/10/2010	EBS
>C16-C21 Aromatics	NWEPH	**48**	5.0	1	MG/KG	9/10/2010	EBS
>C21-C34 Aromatics	NWEPH	**250**	5.0	1	MG/KG	9/10/2010	EBS
Total Aliphatics	NWEPH	**1,700**	10	1	MG/KG	9/10/2010	EBS
Total Aromatics	NWEPH	**330**	10	1	MG/KG	9/10/2010	EBS

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

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ALS Laboratory Group A Campbell Brothers Limited Company

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/13/2010
ALS JOB#: 1009078
DATE RECEIVED: 9/9/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-074 / Proj #2007-098

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1009078-01	NWEPH	C25	100%
1009078-01	NWEPH	p-Terphenyl	82%
1009078-02	NWEPH	C25	101%
1009078-02	NWEPH	p-Terphenyl	84%
1009078-03	NWEPH	C25	104%
1009078-03	NWEPH	p-Terphenyl	85%

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/13/2010
ALS JOB#: 1009078
DATE RECEIVED: 9/9/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-074 / Proj #2007-098

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MBLK-9102010	Soil	NWEPH	>C8-C10 Aliphatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C10-C12 Aliphatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C12-C16 Aliphatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C16-C21 Aliphatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C21-C34 Aliphatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C8-C10 Aromatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C10-C12 Aromatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C12-C16 Aromatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C16-C21 Aromatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	>C21-C34 Aromatics	ND(<5.0)	MG/KG
MBLK-9102010	Soil	NWEPH	Total Aliphatics	ND(<10)	MG/KG
MBLK-9102010	Soil	NWEPH	Total Aromatics	ND(<10)	MG/KG

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
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CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-074 / Proj #2007-098

QUALITY CONTROL RESULTS

BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS

QC BATCH ID	MATRIX	METHOD	ANALYTE	SPIKE AMOUNT	BLANK SPIKE RECOVERY	BLANK SPIKE DUPLICATE RECOVERY	RPD
R70469	Soil	NWEPH	>C8-C10 Aliphatics	100	78%	77%	1
R70469	Soil	NWEPH	>C10-C12 Aliphatics	100	83%	81%	2
R70469	Soil	NWEPH	>C12-C16 Aliphatics	100	87%	88%	1
R70469	Soil	NWEPH	>C16-C21 Aliphatics	100	93%	92%	1
R70469	Soil	NWEPH	>C21-C34 Aliphatics	100	82%	80%	2
R70469	Soil	NWEPH	>C8-C10 Aromatics	100	82%	79%	4
R70469	Soil	NWEPH	>C10-C12 Aromatics	100	84%	80%	5
R70469	Soil	NWEPH	>C12-C16 Aromatics	100	86%	83%	4
R70469	Soil	NWEPH	>C16-C21 Aromatics	100	90%	89%	1
R70469	Soil	NWEPH	>C21-C34 Aromatics	100	95%	92%	3

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

1009078

OnSite Environmental Inc.

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

[redacted]

Turnaround Request:

1 Day 2 Day (3 Day)

Standard

Other: _____

Laboratory Reference #: 09-074

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 2007-098

Project Name: _____

Date/Time: _____

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analysis
1	H-PEX-1-6	9/8/10		S	1	EPH
2	H-PEX-2-6	"		"	"	"
3	H-PEX-3-4	"		"	"	"

	Signature	Company	Date	Time
Relinquished by:	[signature]	OnSite Env.	9/9/10	1310
Received by:	S. UNION	SPEEDY	9/9	130
Relinquished by:				
Received by:	Shawn Rokkan	AS	9/9/10	3.40
Relinquished by:				
Received by:				

Comments/Special Instructions

RUSH
9/15

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

09-074 DATE: 9/8/10 PAGE: 1 of 1

PROJECT NAME: Bothell Cross roads Herit#: 2007-098
SITE CODE:
SAMPLERS NAME: Pete Pearson PHONE: 206 794-3113
SAMPLERS SIGNATURE:
HWA CONTACT: Vance Atkins PHONE: 425-774-0106

24-hour TAT

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	VPH / EPH	VOCs	SVOCs (PAHs)	TPH - Gx/Dx	TPH - Dx	RCRA-8	PCBs		%moisture						REMARKS
H-PEX-1-6	9/8/10	11:00	S	1	4	X	X	X	X	X	X	X		X						
H-PEX-2-6	"	11:15	"	2	1	X	X	X	X	X	X	X		X						
H-PEX-3-4	"	11:30	"	3	6	X	X	X	X	X	X	X		X						

PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by: Pete Pearson		HWA	9/8/10	3:45	
Received by: Vance	Speedy Van	Speedy	9/9/10	3:45	
Relinquished by:					
Received by:	Blair Goodrow	OTS Inc Eal	9/8/10	1608	

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

OnSite Environmental Inc.

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

September 10, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1009-088

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 9, 2010.

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: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

Case Narrative

Samples were collected on September 9, 2010 and received by the laboratory on September 9, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The MTCA Method A clean-up level for Benzene in sample H-PEX-5-8 is not achievable due to the high moisture content of the sample.

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: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-6-4**					
Laboratory ID:	09-088-01					
Benzene	**ND**	0.020	EPA 8021	9-9-10	9-9-10	
Toluene	**ND**	0.062	EPA 8021	9-9-10	9-9-10	
Ethyl Benzene	**ND**	0.062	EPA 8021	9-9-10	9-9-10	
m,p-Xylene	**ND**	0.062	EPA 8021	9-9-10	9-9-10	
o-Xylene	**ND**	0.062	EPA 8021	9-9-10	9-9-10	
Gasoline	**ND**	6.2	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-PEX-5-8**					
Laboratory ID:	09-088-02					
Benzene	**ND**	0.063	EPA 8021	9-9-10	9-9-10	
Toluene	**ND**	0.31	EPA 8021	9-9-10	9-9-10	
Ethyl Benzene	**ND**	0.31	EPA 8021	9-9-10	9-9-10	
m,p-Xylene	**ND**	0.31	EPA 8021	9-9-10	9-9-10	
o-Xylene	**ND**	0.31	EPA 8021	9-9-10	9-9-10	
Gasoline	**ND**	31	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*55-127*				
Client ID:	**PEX-4-8**					
Laboratory ID:	09-088-03					
Benzene	**ND**	0.020	EPA 8021	9-9-10	9-9-10	
Toluene	**ND**	0.084	EPA 8021	9-9-10	9-9-10	
Ethyl Benzene	**ND**	0.084	EPA 8021	9-9-10	9-9-10	
m,p-Xylene	**ND**	0.084	EPA 8021	9-9-10	9-9-10	
o-Xylene	**ND**	0.084	EPA 8021	9-9-10	9-9-10	
Gasoline	**ND**	8.4	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*55-127*				

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-7-5**					
Laboratory ID:	09-088-04					
Benzene	**ND**	0.020	EPA 8021	9-9-10	9-9-10	
Toluene	**ND**	0.079	EPA 8021	9-9-10	9-9-10	
Ethyl Benzene	**ND**	0.079	EPA 8021	9-9-10	9-9-10	
m,p-Xylene	**ND**	0.079	EPA 8021	9-9-10	9-9-10	
o-Xylene	**ND**	0.079	EPA 8021	9-9-10	9-9-10	
Gasoline	**ND**	7.9	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				
Client ID:	**H-PEX-8-6**					
Laboratory ID:	09-088-05					
Benzene	**ND**	0.021	EPA 8021	9-9-10	9-9-10	
Toluene	**ND**	0.10	EPA 8021	9-9-10	9-9-10	
Ethyl Benzene	**ND**	0.10	EPA 8021	9-9-10	9-9-10	
m,p-Xylene	**0.11**	0.10	EPA 8021	9-9-10	9-9-10	
o-Xylene	**ND**	0.10	EPA 8021	9-9-10	9-9-10	
Gasoline	**ND**	10	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0909S1					
Benzene	**ND**	0.020	EPA 8021	9-9-10	9-9-10	
Toluene	**ND**	0.050	EPA 8021	9-9-10	9-9-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-9-10	9-9-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-9-10	9-9-10	
o-Xylene	**ND**	0.050	EPA 8021	9-9-10	9-9-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-088-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*100*	*97*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0909S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.927**	**0.987**	1.00	1.00		**93**	**99**	75-113	6	9	
Toluene	**0.926**	**0.985**	1.00	1.00		**93**	**99**	75-116	6	10	
Ethyl Benzene	**0.951**	**1.01**	1.00	1.00		**95**	**101**	82-117	6	10	
m,p-Xylene	**0.966**	**1.03**	1.00	1.00		**97**	**103**	81-122	6	10	
o-Xylene	**0.968**	**1.02**	1.00	1.00		**97**	**102**	83-118	5	10	
Surrogate:											
Fluorobenzene						*92*	*95*	*55-127*			

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-6-4**					
Laboratory ID:	09-088-01					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**H-PEX-5-8**					
Laboratory ID:	09-088-02					
Diesel Range Organics	**ND**	87	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil Range Organics	**210**	170	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*110*	*50-150*				
Client ID:	**H-PEX-4-8**					
Laboratory ID:	09-088-03					
Diesel Range Organics	**ND**	34	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil Range Organics	**ND**	68	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**H-PEX-7-5**					
Laboratory ID:	09-088-04					
Diesel Range Organics	**ND**	33	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil Range Organics	**ND**	66	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**H-PEX-8-6**					
Laboratory ID:	09-088-05					
Diesel Range Organics	**140**	28	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil	**70**	56	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0909S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-9-10	9-9-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-9-10	9-9-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*120*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-088-01						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*105* *97*	*50-150*			

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

TOTAL ARSENIC
EPA 6010B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-088-01					
Client ID:	**H-PEX-6-4**					
Arsenic	**ND**	12	6010B	9-9-10	9-10-10	
Lab ID:	09-088-02					
Client ID:	**H-PEX-5-8**					
Arsenic	**ND**	17	6010B	9-9-10	9-10-10	
Lab ID:	09-088-03					
Client ID:	**H-PEX-4-8**					
Arsenic	**ND**	14	6010B	9-9-10	9-10-10	
Lab ID:	09-088-04					
Client ID:	**H-PEX-7-5**					
Arsenic	**ND**	13	6010B	9-9-10	9-10-10	
Lab ID:	09-088-05					
Client ID:	**H-PEX-8-6**					
Arsenic	**ND**	11	6010B	9-9-10	9-10-10	

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

TOTAL ARSENIC
EPA 6010B
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-9-10
Date Analyzed:	9-10-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0909S2

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	5.0

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

TOTAL ARSENIC
EPA 6010B
DUPLICATE QUALITY CONTROL

Date Extracted: 9-9-10
Date Analyzed: 9-10-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-074-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

TOTAL ARSENIC
EPA 6010B
MS/MSD QUALITY CONTROL

Date Extracted: 9-9-10
Date Analyzed: 9-10-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-074-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**94.2**	94	**95.1**	95	1	

Date of Report: September 10, 2010
Samples Submitted: September 9, 2010
Laboratory Reference: 1009-088
Project: 2007-098

% MOISTURE

Date Analyzed: 9-9-10

Client ID	Lab ID	% Moisture
H-PEX-6-4	09-088-01	19
H-PEX-5-8	09-088-02	71
H-PEX-4-8	09-088-03	27
H-PEX-7-5	09-088-04	24
H-PEX-8-6	09-088-05	11

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

DATE: 9/9/10
PAGE: 1 of ____

09-088

PROJECT NAME: Bothell Crossroads #: 2007-098
SITE CODE: ____
SAMPLERS NAME: Pete Pearson PHONE: 206-794-3113
SAMPLERS SIGNATURE: ____
HWA CONTACT: Vance Atkens PHONE: 425-774-0106

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: NWTPH-G/BTEX	NWTPH-Dx	ARSENIC	% MOISTURE	REMARKS
H-PEX-6-4	9/9/10	12:00	Soil	1	4	X	X	X	X	24-Hour TAT
H-PEX-5-8	"	10:40	"	2	4	X	X	X	X	"
H-PEX-4-8	"	10:30	"	3	4	X	X	X	X	"
H-PEX-7-5	"	12:10	"	4	4	X	X	X	X	"
H-PEX-8-6	"	12:20	"	5	4	X	X	X	X	"

PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by: Pete Pearson			9/9/10	12:55	
Received by:	OSE	HWA OSE	9/9/10	1255	
Relinquished by:					
Received by:					

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

OnSite Environmental Inc.

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

September 13, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1009-095

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 10, 2010.

Please note that the data for NWTPH-G/BTEX analyses is *preliminary* pending QA/QC data.

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: September 13, 2010
Samples Submitted: September 10, 2010
Laboratory Reference: 1009-095
Project: 2007-098-921

Case Narrative

Samples were collected on September 10, 2010 and received by the laboratory on September 10, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The sample chromatogram for H-TP-22-8 is not similar to a typical gas.

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: September 13, 2010
Samples Submitted: September 10, 2010
Laboratory Reference: 1009-095
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-22-8**					
Laboratory ID:	09-095-01					
Diesel Range Organics	**ND**	63	NWTPH-Dx	9-10-10	9-10-10	U1
Lube Oil	**300**	58	NWTPH-Dx	9-10-10	9-10-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**H-TP-23-7**					
Laboratory ID:	09-095-02					
Diesel Fuel #2	**5400**	30	NWTPH-Dx	9-10-10	9-10-10	
Lube Oil	**680**	60	NWTPH-Dx	9-10-10	9-10-10	N1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Date of Report: September 13, 2010
Samples Submitted: September 10, 2010
Laboratory Reference: 1009-095
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0910S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-10-10	9-10-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-10-10	9-10-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-078-06						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*94* *101*	*50-150*			

Date of Report: September 13, 2010
Samples Submitted: September 10, 2010
Laboratory Reference: 1009-095
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-22-8**					
Laboratory ID:	09-095-01					
Benzene	**ND**	0.020	EPA 8021	9-10-10	9-13-10	
Toluene	**ND**	0.064	EPA 8021	9-10-10	9-13-10	
Ethyl Benzene	**0.27**	0.064	EPA 8021	9-10-10	9-13-10	
m,p-Xylene	**1.2**	0.064	EPA 8021	9-10-10	9-13-10	
o-Xylene	**0.19**	0.064	EPA 8021	9-10-10	9-13-10	
Gasoline	**12**	6.4	NWTPH-Gx	9-10-10	9-13-10	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-TP-23-7**					
Laboratory ID:	09-095-02					
Benzene	**ND**	0.060	EPA 8021	9-10-10	9-10-10	
Toluene	**ND**	0.30	EPA 8021	9-10-10	9-10-10	
Ethyl Benzene	**0.65**	0.30	EPA 8021	9-10-10	9-10-10	
m,p-Xylene	**0.72**	0.30	EPA 8021	9-10-10	9-10-10	
o-Xylene	**ND**	0.15	EPA 8021	9-10-10	9-10-10	U1
Gasoline	**ND**	30	NWTPH-Gx	9-10-10	9-10-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*55-127*				

Date of Report: September 13, 2010
Samples Submitted: September 10, 2010
Laboratory Reference: 1009-095
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0910S1					
Benzene	**ND**	0.020	EPA 8021	9-10-10	9-13-10	
Toluene	**ND**	0.050	EPA 8021	9-10-10	9-13-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-10-10	9-13-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-10-10	9-13-10	
o-Xylene	**ND**	0.050	EPA 8021	9-10-10	9-13-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-10-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*55-127*				

Date of Report: September 13, 2010
Samples Submitted: September 10, 2010
Laboratory Reference: 1009-095
Project: 2007-098-921

% MOISTURE

Date Analyzed: 9-10-10

Client ID	Lab ID	% Moisture
H-TP-22-8	09-095-01	14
H-TP-23-9	09-095-02	17

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical gas.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

DATE: 9/10/10
PAGE: 1 of 1

PROJECT NAME: Bothell Crossroads - Hertz #: 2007-048-921
SITE CODE:
SAMPLERS NAME: Pete Pearson PHONE: 206-794 3113
SAMPLERS SIGNATURE:
HWA CONTACT: Vance Atkins PHONE: 425 774 0106

09-095

24-hour TAT

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: NWTPH-Dx	ANALYSIS REQUESTED: NWTPH-Gx/BTEX	ANALYSIS REQUESTED: % MOISTURE	REMARKS
H-TP-22-8	9/10/10	10:25	S	1	4	X	X	X	
H-TP-23-9	9/10/10	12:20	S	2	4	X	X	X	

PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by: Pete Pearson			9/10/10	1310	
Received by: M. VAUN			9/10/10	1310	
Relinquished by:					
Received by:					

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

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

September 16, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1009-106

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 13, 2010.

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: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

Case Narrative

Samples were collected on September 13, 2010 and received by the laboratory on September 13, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The MTCA Method A clean-up level for Benzene for sample H-TP-25-8 is not achievable due to the necessary dilution of the sample.

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.

Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Some MTCA Method A cleanup levels are non-achievable due to the necessary dilution of the sample.

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.

Semivolatiles EPA 8270D/SIM Analysis

Sample MS/MSD pair had several recoveries fall outside of control limits believed to be caused by sample matrix. Due to the dilution of the sample MS/MSD two analytes were lost 1,4-Dichlorobenzene and 1,2,4-Trichlorobenzene. The SB/SBD pair extracted with this batch had all parameters in control, no further action was deemed necessary.

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.

Total Metals EPA 6010B/7471A Analysis

The duplicate RPD for chromium is outside control limits due to sample inhomogeniety. The sample was re-extracted and re-analyzed with similar results.

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: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-9-5**					
Laboratory ID:	09-106-02					
Diesel Fuel #2	**820**	30	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil Range Organics	**ND**	110	NWTPH-Dx	9-14-10	9-14-10	U1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**H-PEX-10-7**					
Laboratory ID:	09-106-03					
Diesel Fuel #2	**600**	29	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil	**86**	58	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**H-PEX-11-6**					
Laboratory ID:	09-106-04					
Diesel Fuel #2	**1900**	29	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil	**2700**	57	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**H-SP-1**					
Laboratory ID:	09-106-05					
Diesel Range Organics	**ND**	27	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil Range Organics	**ND**	55	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**H-SP-2**					
Laboratory ID:	09-106-06					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil	**78**	58	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**H-TP-24-3**					
Laboratory ID:	09-106-07					
Diesel Range Organics	**ND**	55	NWTPH-Dx	9-14-10	9-14-10	U1
Lube Oil	**200**	57	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-24-8**					
Laboratory ID:	09-106-08					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**H-TP-25-2**					
Laboratory ID:	09-106-09					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**H-TP-25-8**					
Laboratory ID:	09-106-10					
Diesel Fuel #2	**5400**	33	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil	**1700**	65	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*88*	*50-150*				
Client ID:	**H-DUP-091310**					
Laboratory ID:	09-106-11					
Diesel Fuel #2	**950**	29	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil Range Organics	**ND**	120	NWTPH-Dx	9-14-10	9-14-10	U1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0914S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-14-10	9-14-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-106-05						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*107* *99*	*50-150*			

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-9-5**					
Laboratory ID:	09-106-02					
Benzene	**ND**	0.027	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.14	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.14	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.14	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.14	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	14	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-PEX-10-7**					
Laboratory ID:	09-106-03					
Benzene	**ND**	0.023	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	12	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*105*	*55-127*				
Client ID:	**H-PEX-11-6**					
Laboratory ID:	09-106-04					
Benzene	**ND**	0.027	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.13	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**0.25**	0.13	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**0.38**	0.13	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.65	EPA 8021	9-13-10	9-13-10	U1
Gasoline	**ND**	13	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-SP-1**					
Laboratory ID:	09-106-05					
Benzene	**ND**	0.020	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.065	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.065	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.065	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.065	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	6.5	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-SP-2**					
Laboratory ID:	09-106-06					
Benzene	**ND**	0.020	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.061	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.061	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.061	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.061	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	6.1	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-TP-24-3**					
Laboratory ID:	09-106-07					
Benzene	**ND**	0.020	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.064	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.064	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.064	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.064	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	6.4	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-24-8**					
Laboratory ID:	09-106-08					
Benzene	**ND**	0.020	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.051	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.051	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.051	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.051	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	5.1	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-TP-25-2**					
Laboratory ID:	09-106-09					
Benzene	**ND**	0.020	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.063	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.063	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.063	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.063	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	6.3	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*55-127*				
Client ID:	**H-TP-25-8**					
Laboratory ID:	09-106-10					
Benzene	**ND**	0.032	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.16	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**0.31**	0.16	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**0.42**	0.16	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.80	EPA 8021	9-13-10	9-13-10	U1
Gasoline	**ND**	16	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-DUP-091310**					
Laboratory ID:	09-106-11					
Benzene	**ND**	0.025	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.12	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	12	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0913S1					
Benzene	**ND**	0.020	EPA 8021	9-13-10	9-13-10	
Toluene	**ND**	0.050	EPA 8021	9-13-10	9-13-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-13-10	9-13-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-13-10	9-13-10	
o-Xylene	**ND**	0.050	EPA 8021	9-13-10	9-13-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-13-10	9-13-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-106-07										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*98*	*98*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0913S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**1.01**	**0.985**	1.00	1.00		**101**	**99**	75-113	3	9	
Toluene	**0.983**	**0.961**	1.00	1.00		**98**	**96**	75-116	2	10	
Ethyl Benzene	**0.978**	**0.954**	1.00	1.00		**98**	**95**	82-117	2	10	
m,p-Xylene	**0.998**	**0.976**	1.00	1.00		**100**	**98**	81-122	2	10	
o-Xylene	**0.988**	**0.962**	1.00	1.00		**99**	**96**	83-118	3	10	
Surrogate:											
Fluorobenzene						*95*	*93*	*55-127*			

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-11-6**					
Laboratory ID:	09-106-04					
n-Nitrosodimethylamine	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Pyridine	**ND**	1.9	EPA 8270	9-13-10	9-14-10	
Phenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Aniline	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
bis(2-Chloroethyl)ether	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2-Chlorophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,3-Dichlorobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,4-Dichlorobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Benzyl alcohol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,2-Dichlorobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2-Methylphenol (o-Cresol)	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
bis(2-Chloroisopropyl)ether	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
n-Nitroso-di-n-propylamine	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Hexachloroethane	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Nitrobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Isophorone	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2-Nitrophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,4-Dimethylphenol	**ND**	4.8	EPA 8270	9-13-10	9-14-10	
bis(2-Chloroethoxy)methane	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,4-Dichlorophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,2,4-Trichlorobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Naphthalene	**1.4**	0.19	EPA 8270	9-13-10	9-14-10	
4-Chloroaniline	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Hexachlorobutadiene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
4-Chloro-3-methylphenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2-Methylnaphthalene	**14**	0.77	EPA 8270	9-13-10	9-14-10	
1-Methylnaphthalene	**8.4**	0.19	EPA 8270	9-13-10	9-14-10	
Hexachlorocyclopentadiene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,4,6-Trichlorophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,3-Dichloroaniline	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,4,5-Trichlorophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2-Chloronaphthalene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2-Nitroaniline	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,4-Dinitrobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Dimethylphthalate	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,3-Dinitrobenzene	**ND**	0.96	EPA 8270	9-13-10	9-14-10	
2,6-Dinitrotoluene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,2-Dinitrobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Acenaphthylene	**0.16**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
3-Nitroaniline	**ND**	0.19	EPA 8270	9-13-10	9-14-10	

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-11-6**					
Laboratory ID:	09-106-04					
2,4-Dinitrophenol	**ND**	0.96	EPA 8270	9-13-10	9-14-10	
Acenaphthene	**0.43**	0.19	EPA 8270	9-13-10	9-14-10	
4-Nitrophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,4-Dinitrotoluene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Dibenzofuran	**0.44**	0.19	EPA 8270	9-13-10	9-14-10	
2,3,5,6-Tetrachlorophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
2,3,4,6-Tetrachlorophenol	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Diethylphthalate	**ND**	0.96	EPA 8270	9-13-10	9-14-10	
4-Chlorophenyl-phenylether	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
4-Nitroaniline	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Fluorene	**0.96**	0.19	EPA 8270	9-13-10	9-14-10	
4,6-Dinitro-2-methylphenol	**ND**	0.96	EPA 8270	9-13-10	9-14-10	
n-Nitrosodiphenylamine	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
1,2-Diphenylhydrazine	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
4-Bromophenyl-phenylether	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Hexachlorobenzene	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Pentachlorophenol	**ND**	0.96	EPA 8270	9-13-10	9-14-10	
Phenanthrene	**1.8**	0.19	EPA 8270	9-13-10	9-14-10	
Anthracene	**0.20**	0.19	EPA 8270	9-13-10	9-14-10	
Carbazole	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Di-n-butylphthalate	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Fluoranthene	**0.093**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Benzidine	**ND**	1.9	EPA 8270	9-13-10	9-14-10	
Pyrene	**0.20**	0.19	EPA 8270	9-13-10	9-14-10	
Butylbenzylphthalate	**2.4**	0.19	EPA 8270	9-13-10	9-14-10	
bis-2-Ethylhexyladipate	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
3,3'-Dichlorobenzidine	**ND**	1.9	EPA 8270	9-13-10	9-14-10	
Benzo[a]anthracene	**0.073**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Chrysene	**0.21**	0.19	EPA 8270	9-13-10	9-14-10	
bis(2-Ethylhexyl)phthalate	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Di-n-octylphthalate	**ND**	0.19	EPA 8270	9-13-10	9-14-10	
Benzo[b]fluoranthene	**0.055**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Benzo[k]fluoranthene	**0.0078**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Benzo[a]pyrene	**0.043**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Indeno[1,2,3-cd]pyrene	**0.020**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Benzo[g,h,i]perylene	**0.039**	0.0077	EPA 8270/SIM	9-13-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*49*	*22 - 107*				
Phenol-d6	*69*	*28 - 116*				
Nitrobenzene-d5	*48*	*25 - 111*				
2-Fluorobiphenyl	*76*	*35 - 108*				
2,4,6-Tribromophenol	*71*	*42 - 118*				
Terphenyl-d14	*74*	*44 - 121*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

SEMIVOLATILES by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0913S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Pyridine	**ND**	0.33	EPA 8270	9-13-10	9-14-10	
Phenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Aniline	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2-Chlorophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Benzyl alcohol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Hexachloroethane	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Nitrobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Isophorone	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2-Nitrophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,4-Dimethylphenol	**ND**	0.83	EPA 8270	9-13-10	9-14-10	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Naphthalene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
4-Chloroaniline	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Hexachlorobutadiene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2-Chloronaphthalene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2-Nitroaniline	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Dimethylphthalate	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,3-Dinitrobenzene	**ND**	0.17	EPA 8270	9-13-10	9-14-10	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
3-Nitroaniline	**ND**	0.033	EPA 8270	9-13-10	9-14-10	

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

SEMIVOLATILES by EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0913S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270	9-13-10	9-14-10	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
4-Nitrophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Dibenzofuran	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Diethylphthalate	**ND**	0.17	EPA 8270	9-13-10	9-14-10	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
4-Nitroaniline	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Fluorene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270	9-13-10	9-14-10	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Hexachlorobenzene	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Pentachlorophenol	**ND**	0.17	EPA 8270	9-13-10	9-14-10	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Anthracene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Carbazole	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Di-n-butylphthalate	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Benzidine	**ND**	0.33	EPA 8270	9-13-10	9-14-10	
Pyrene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Butylbenzylphthalate	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
3,3'-Dichlorobenzidine	**ND**	0.33	EPA 8270	9-13-10	9-14-10	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Chrysene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Di-n-octylphthalate	**ND**	0.033	EPA 8270	9-13-10	9-14-10	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	9-13-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*52*	*22 - 107*				
Phenol-d6	*57*	*28 - 116*				
Nitrobenzene-d5	*51*	*25 - 111*				
2-Fluorobiphenyl	*57*	*35 - 108*				
2,4,6-Tribromophenol	*74*	*42 - 118*				
Terphenyl-d14	*73*	*44 - 121*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

SEMIVOLATILES by EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-106-01										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**1.25**	**0.982**	1.33	1.33	ND	94	74	31 - 111	24	27	
2-Chlorophenol	**1.23**	**0.895**	1.33	1.33	ND	92	67	36 - 106	32	32	
1,4-Dichlorobenzene	**ND**	**ND**	0.667	0.667	ND	0	0	25 - 96	NA	42	I,I,L
n-Nitroso-di-n-propylamine	**0.795**	**0.691**	0.667	0.667	ND	119	104	37 - 107	14	36	I
1,2,4-Trichlorobenzene	**ND**	**ND**	0.667	0.667	ND	0	0	29 - 101	NA	31	I,I,L
4-Chloro-3-methylphenol	**1.36**	**1.27**	1.33	1.33	ND	102	95	47 - 112	7	18	
Acenaphthene	**0.901**	**0.893**	0.667	0.667	ND	135	134	43 - 104	1	19	I,I
4-Nitrophenol	**1.53**	**1.74**	1.33	1.33	ND	115	131	24 - 133	13	18	
2,4-Dinitrotoluene	**1.24**	**0.757**	0.667	0.667	ND	186	113	42 -117	48	19	I,I,L
Pentachlorophenol	**0.860**	**0.865**	1.33	1.33	ND	65	65	25 - 135	0	20	
Pyrene	**0.802**	**0.639**	0.667	0.667	ND	120	96	29 - 129	31	29	L
Surrogate:											
2-Fluorophenol						*78*	*51*	*22 - 107*			
Phenol-d6						*93*	*70*	*28 - 116*			
Nitrobenzene-d5						*80*	*68*	*25 - 111*			
2-Fluorobiphenyl						*91*	*75*	*35 - 108*			
2,4,6-Tribromophenol						*86*	*80*	*42 - 118*			
Terphenyl-d14						*90*	*78*	*44 - 121*			

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

SEMIVOLATILES by EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0913S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**1.02**	**0.971**	1.33	1.33	77	73	28 - 112	5	31	
2-Chlorophenol	**1.04**	**1.00**	1.33	1.33	78	75	24 - 115	4	39	
1,4-Dichlorobenzene	**0.425**	**0.451**	0.667	0.667	64	68	16 - 108	6	36	
n-Nitroso-di-n-propylamine	**0.468**	**0.445**	0.667	0.667	70	67	24 - 111	5	31	
1,2,4-Trichlorobenzene	**0.427**	**0.437**	0.667	0.667	64	66	18 - 110	2	34	
4-Chloro-3-methylphenol	**1.10**	**1.10**	1.33	1.33	83	83	51 - 106	0	24	
Acenaphthene	**0.507**	**0.482**	0.667	0.667	76	72	45 - 99	5	24	
4-Nitrophenol	**1.23**	**1.30**	1.33	1.33	92	98	38 - 134	6	25	
2,4-Dinitrotoluene	**0.575**	**0.587**	0.667	0.667	86	88	51 - 114	2	25	
Pentachlorophenol	**1.30**	**1.38**	1.33	1.33	98	104	44 - 130	6	26	
Pyrene	**0.537**	**0.578**	0.667	0.667	81	87	58 - 110	7	22	
Surrogate:										
2-Fluorophenol					*70*	*70*	*22 - 107*			
Phenol-d6					*76*	*72*	*28 - 116*			
Nitrobenzene-d5					*71*	*70*	*25 - 111*			
2-Fluorobiphenyl					*69*	*66*	*35 - 108*			
2,4,6-Tribromophenol					*83*	*85*	*42 - 118*			
Terphenyl-d14					*80*	*85*	*44 - 121*			

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	9-13-10
Date Analyzed:	9-13-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	09-106-04
Client ID:	**H-PEX-11-6**

Compound	**Results**	**Flags**	**PQL**
Dichlorodifluoromethane	ND		0.062
Chloromethane	ND		0.31
Vinyl Chloride	ND		0.062
Bromomethane	ND		0.062
Chloroethane	ND		0.31
Trichlorofluoromethane	ND		0.062
1,1-Dichloroethene	ND		0.062
Acetone	ND		0.31
Iodomethane	ND		0.31
Carbon Disulfide	ND		0.062
Methylene Chloride	ND		0.31
(trans) 1,2-Dichloroethene	ND		0.062
Methyl t-Butyl Ether	ND		0.062
1,1-Dichloroethane	ND		0.062
Vinyl Acetate	ND		0.31
2,2-Dichloropropane	ND		0.062
(cis) 1,2-Dichloroethene	ND		0.062
2-Butanone	ND		0.31
Bromochloromethane	ND		0.062
Chloroform	ND		0.062
1,1,1-Trichloroethane	ND		0.062
Carbon Tetrachloride	ND		0.062
1,1-Dichloropropene	ND		0.062
Benzene	ND		0.062
1,2-Dichloroethane	ND		0.062
Trichloroethene	ND		0.062
1,2-Dichloropropane	ND		0.062
Dibromomethane	ND		0.062
Bromodichloromethane	ND		0.062
2-Chloroethyl Vinyl Ether	ND		0.31
(cis) 1,3-Dichloropropene	ND		0.062
Methyl Isobutyl Ketone	ND		0.31
Toluene	ND		0.31
(trans) 1,3-Dichloropropene	ND		0.062

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 09-106-04
Client ID: H-PEX-11-6

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.062
Tetrachloroethene	ND		0.062
1,3-Dichloropropane	ND		0.062
2-Hexanone	ND		0.31
Dibromochloromethane	ND		0.062
1,2-Dibromoethane	ND		0.062
Chlorobenzene	ND		0.062
1,1,1,2-Tetrachloroethane	ND		0.062
Ethylbenzene	ND		0.062
m,p-Xylene	ND		0.12
o-Xylene	ND		0.062
Styrene	ND		0.062
Bromoform	ND		0.062
Isopropylbenzene	0.19		0.062
Bromobenzene	ND		0.062
1,1,2,2-Tetrachloroethane	ND		0.062
1,2,3-Trichloropropane	ND		0.062
n-Propylbenzene	0.39		0.062
2-Chlorotoluene	ND		0.062
4-Chlorotoluene	ND		0.062
1,3,5-Trimethylbenzene	ND		0.062
tert-Butylbenzene	ND		0.062
1,2,4-Trimethylbenzene	0.37		0.062
sec-Butylbenzene	0.34		0.062
1,3-Dichlorobenzene	ND		0.062
p-Isopropyltoluene	0.095		0.062
1,4-Dichlorobenzene	ND		0.062
1,2-Dichlorobenzene	ND		0.062
n-Butylbenzene	0.55		0.062
1,2-Dibromo-3-chloropropane	ND		0.31
1,2,4-Trichlorobenzene	ND		0.062
Hexachlorobutadiene	ND		0.31
Naphthalene	0.39		0.062
1,2,3-Trichlorobenzene	ND		0.062

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	79	66-128
Toluene-d8	104	68-126
4-Bromofluorobenzene	85	53-134

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

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

Date Extracted: 9-13-10
Date Analyzed: 9-13-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0913S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0050
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0050
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
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
Benzene	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
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0050
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

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

Lab ID: MB0913S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	66-128
Toluene-d8	101	68-126
4-Bromofluorobenzene	88	53-134

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 9-13-10
Date Analyzed: 9-13-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-106-04

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	1.02/0.969	1.01	99	0.920	95	70-130	
Benzene	ND	1.02/0.969	0.941	92	0.870	90	70-130	
Trichloroethene	ND	1.02/0.969	1.04	102	0.975	101	70-130	
Toluene	ND	1.02/0.969	1.01	99	0.946	98	70-126	
Chlorobenzene	ND	1.02/0.969	1.01	99	0.982	101	70-130	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	4	14	
Benzene	2	14	
Trichloroethene	1	18	
Toluene	1	20	
Chlorobenzene	2	15	

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-106-04					
Client ID:	**H-PEX-11-6**					
Arsenic	**ND**	11	6010B	9-13-10	9-13-10	
Barium	**50**	2.9	6010B	9-13-10	9-13-10	
Cadmium	**ND**	0.57	6010B	9-13-10	9-13-10	
Chromium	**23**	0.57	6010B	9-13-10	9-13-10	
Lead	**37**	5.7	6010B	9-13-10	9-13-10	
Mercury	**ND**	0.29	7471A	9-13-10	9-13-10	
Selenium	**ND**	11	6010B	9-13-10	9-13-10	
Silver	**ND**	0.57	6010B	9-13-10	9-13-10	

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-13-10
Date Analyzed:	9-13-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0913S1&MB0913S3

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-13-10
Date Analyzed: 9-13-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-091-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**13.9**	**16.7**	18	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**6.40**	**7.95**	22	0.50	K
Lead	**18.8**	**22.2**	17	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 9-13-10
Date Analyzed: 9-13-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-091-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**97.9**	98	**97.4**	97	0	
Barium	100	**108**	94	**110**	96	2	
Cadmium	50	**42.6**	85	**43.0**	86	1	
Chromium	100	**95.1**	89	**97.5**	91	3	
Lead	250	**235**	86	**241**	89	3	
Mercury	0.50	**0.508**	102	**0.509**	102	0	
Selenium	100	**92.7**	93	**91.7**	92	1	
Silver	25	**22.2**	89	**22.3**	89	0	

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

PCBs by EPA 8082

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-11-6**					
Laboratory ID:	09-106-04					
Aroclor 1016	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Aroclor 1221	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Aroclor 1232	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Aroclor 1242	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Aroclor 1248	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Aroclor 1254	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Aroclor 1260	**ND**	0.057	EPA 8082	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*88*	*46-122*				

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

PCBs by EPA 8082
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0914S1					
Aroclor 1016	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Aroclor 1221	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Aroclor 1232	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Aroclor 1242	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Aroclor 1248	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Aroclor 1254	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Aroclor 1260	**ND**	0.050	EPA 8082	9-14-10	9-14-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*102*	*46-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-106-04										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.474**	**0.523**	0.500	0.500	ND	**95**	**105**	36-121	10	15	
Surrogate:											
DCB						*86*	*92*	*46-122*			

Date of Report: September 16, 2010
Samples Submitted: September 13, 2010
Laboratory Reference: 1009-106
Project: 2007-098-921

% MOISTURE

Date Analyzed: 9-13-10

Client ID	Lab ID	% Moisture
H-PEX-9-5	09-106-02	17
H-PEX-10-7	09-106-03	13
H-PEX-11-6	09-106-04	13
H-SP-1	09-106-05	9
H-SP-2	09-106-06	13
H-TP-24-3	09-106-07	12
H-TP-24-8	09-106-08	14
H-TP-25-2	09-106-09	11
H-TP-25-8	09-106-10	23
H-DUP-091310	09-106-11	15

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/16/2010
ALS JOB#: 1009094
DATE RECEIVED: 9/14/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-106 / Proj #2007-098-921
CLIENT SAMPLE ID: 9/13/2010 H-PEX-11-6
ALS SAMPLE #: -01

DATA RESULTS

ANALYTE	METHOD	RESULTS*	REPORTING LIMITS	DILUTION FACTOR	UNITS**	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	ND	5.0	1	MG/KG	9/15/2010	DLC
>C6-C8 Aliphatics	NWVPH	**9.3**	5.0	1	MG/KG	9/15/2010	DLC
>C8-C10 Aliphatics	NWVPH	**17**	5.0	1	MG/KG	9/15/2010	DLC
>C8-C10 Aromatics	NWVPH	**66**	5.0	1	MG/KG	9/15/2010	DLC
Total Aliphatics	NWVPH	**29**	5.0	1	MG/KG	9/15/2010	DLC
Total Aromatics	NWVPH	**66**	5.0	1	MG/KG	9/15/2010	DLC
Hexane	NWVPH	ND	0.20	1	MG/KG	9/15/2010	DLC
>C10-C12 Aliphatics	NWEPH	**290**	5.0	1	MG/KG	9/15/2010	GAP
>C12-C16 Aliphatics	NWEPH	**1,100**	5.0	1	MG/KG	9/15/2010	GAP
>C16-C21 Aliphatics	NWEPH	**870**	5.0	1	MG/KG	9/15/2010	GAP
>C21-C34 Aliphatics	NWEPH	**1,200**	5.0	1	MG/KG	9/15/2010	GAP
>C10-C12 Aromatics	NWEPH	**61**	5.0	1	MG/KG	9/15/2010	GAP
>C12-C16 Aromatics	NWEPH	**780**	5.0	1	MG/KG	9/15/2010	GAP
>C16-C21 Aromatics	NWEPH	**800**	5.0	1	MG/KG	9/15/2010	GAP
>C21-C34 Aromatics	NWEPH	**810**	5.0	1	MG/KG	9/15/2010	GAP
Total Aliphatics	NWEPH	**3,500**	10	1	MG/KG	9/15/2010	GAP
Total Aromatics	NWEPH	**2,500**	10	1	MG/KG	9/15/2010	GAP

* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMT.
** UNITS FOR ALL NON-LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS.

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/16/2010
ALS JOB#: 1009094
DATE RECEIVED: 9/14/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-106 / Proj #2007-098-921

QUALITY CONTROL RESULTS

SURROGATE RECOVERY

ALS SAMPLE ID	METHOD	SUR ID	% RECV
1009094-01	NWVPH	TFT - Aliphatic	75%
1009094-01	NWVPH	TFT - Aromatic	76%
1009094-01	NWVPH	TFT - Hexane	84%
1009094-01	NWEPH	C25	71%
1009094-01	NWEPH	p-Terphenyl	78%

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company
Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/16/2010
ALS JOB#: 1009094
DATE RECEIVED: 9/14/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-106 / Proj #2007-098-921

QUALITY CONTROL RESULTS

BLANK RESULTS

QC SAMPLE ID	MATRIX	METHOD	ANALYTE	RESULT	UNITS
MBLK-9152010	Soil	NWVPH	C5-C6 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWVPH	>C6-C8 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWVPH	>C8-C10 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWVPH	>C8-C10 Aromatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWVPH	Total Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWVPH	Total Aromatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWVPH	Hexane	ND(<0.20)	MG/KG
MBLK-9152010	Soil	NWEPH	>C10-C12 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C12-C16 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C16-C21 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C21-C34 Aliphatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C10-C12 Aromatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C12-C16 Aromatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C16-C21 Aromatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	>C21-C34 Aromatics	ND(<5.0)	MG/KG
MBLK-9152010	Soil	NWEPH	Total Aliphatics	ND(<10)	MG/KG
MBLK-9152010	Soil	NWEPH	Total Aromatics	ND(<10)	MG/KG

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

CERTIFICATE OF ANALYSIS

CLIENT: OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052

DATE: 9/16/2010
ALS JOB#: 1009094
DATE RECEIVED: 9/14/2010
WDOE ACCREDITATION #: C1336

CLIENT CONTACT: Dave Baumeister
CLIENT PROJECT ID: Lab Ref #09-106 / Proj #2007-098-921

QUALITY CONTROL RESULTS

BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS

QC BATCH ID	MATRIX	METHOD	ANALYTE	SPIKE AMOUNT	BLANK SPIKE RECOVERY	BLANK SPIKE DUPLICATE RECOVERY	RPD
R70527	Soil	NWVPH	C5-C6 Aliphatics	100	88%	93%	6
R70527	Soil	NWVPH	>C6-C8 Aliphatics	100	101%	107%	6
R70527	Soil	NWVPH	>C8-C10 Aliphatics	100	100%	107%	7
R70527	Soil	NWVPH	>C8-C10 Aromatics	100	97%	106%	9
R70527	Soil	NWVPH	Hexane	100	89%	95%	7
R70528	Soil	NWEPH	>C10-C12 Aliphatics	100	83%	81%	2
R70528	Soil	NWEPH	>C12-C16 Aliphatics	100	87%	88%	1
R70528	Soil	NWEPH	>C16-C21 Aliphatics	100	93%	92%	1
R70528	Soil	NWEPH	>C21-C34 Aliphatics	100	82%	80%	2
R70528	Soil	NWEPH	>C10-C12 Aromatics	100	84%	80%	5
R70528	Soil	NWEPH	>C12-C16 Aromatics	100	86%	83%	4
R70528	Soil	NWEPH	>C16-C21 Aromatics	100	90%	89%	1
R70528	Soil	NWEPH	>C21-C34 Aromatics	100	95%	92%	3

APPROVED BY:

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

1009094

OnSite Environmental Inc.

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

Subcontract Laboratory: ALS

Contact Person:

Address:

Phone Number:

Date/Time:

Turnaround Request: AB

1 Day | 2 Day | 3 Day | Standard

Other:

Laboratory Reference #: 09-106

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 2007-098-921

Project Name:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analysis
1	H-PEX-11-6	9/13/10	1120	S	2	VPH/EPH

CLIENT QA/QC

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by:		OAC	9/14/10	1015	EIM
Received by:		Speedy	9/14/10	1015	
Relinquished by:		Speedy	9/14/10	1111	
Received by:		ALS	9/14/10	11:15 am	
Relinquished by:					
Received by:					

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

DATE: 9/13/10
PAGE: 1 of 1

PROJECT NAME: Bothell Crossroads Media #: 7007-093-921
SITE CODE:
SAMPLERS NAME: D. Pearson PHONE: 206 794-3113
SAMPLERS SIGNATURE:
HWA CONTACT: V. Allen PHONE: 425 774 0106

09-106
24-hour TAT ASAP DB

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	NWTPH-Dx	NWTPH G/BTEX	VPH/EPH	SVOCs	VOCs	RCRA 8	PCBs	HOLD	% MOISTURE	REMARKS
WCB-water-1	9/13/10	11:25	W	1	3	X	X		X	X	X	X	X		
H-PEX-9-5		9:30	S	2	4	X	X							X	
H-PEX-10-7		11:00		3	4	X	X								
H-PEX-11-6		11:20		4	8	X	X	X	X	X	X	X			
H-SP-1		11:30		5	4	X	X								
H-SP-2		11:40		6	4	X	X								
H-TP-24-3		11:45		7	4	X	X								
H-TP-24-8		11:50		8	4	X	X								
H-TP-25-2		12:20		9	4	X	X								
H-TP-25-8		12:25		10	4	X	X								
H-DUP-091310		—		11	4	X	X								

	PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by:	Dirk Pearson		HWA	9/13/10	13:22	
Received by:	Vann	Vann	Speedy	9/13/10	13:22	
Relinquished by:	Vann		Speedy	9/13/10	13:45	
Received by:	M. VOUN		OTE	9/13/10	1345	

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

OnSite Environmental Inc.

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

September 16, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1009-119

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 14, 2010.

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: September 16, 2010
Samples Submitted: September 14, 2010
Laboratory Reference: 1009-119
Project: 2007-098-921

Case Narrative

Samples were collected on September 14, 2010 and received by the laboratory on September 14, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The MTCA Method A clean-up level for Benzene is not achievable for sample H-TP-26-9 due to the necessary dilution of the sample.

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: September 16, 2010
Samples Submitted: September 14, 2010
Laboratory Reference: 1009-119
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-26-4**					
Laboratory ID:	09-119-01					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-15-10	9-15-10	
Lube Oil	**150**	56	NWTPH-Dx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				
Client ID:	**H-TP-26-9**					
Laboratory ID:	09-119-02					
Diesel Fuel #2	**3600**	29	NWTPH-Dx	9-15-10	9-15-10	
Lube Oil	**1800**	58	NWTPH-Dx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**H-TP-27-5**					
Laboratory ID:	09-119-03					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-15-10	9-15-10	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*110*	*50-150*				
Client ID:	**H-TP-27-9**					
Laboratory ID:	09-119-04					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-15-10	9-15-10	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

Date of Report: September 16, 2010
Samples Submitted: September 14, 2010
Laboratory Reference: 1009-119
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0915S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-15-10	9-15-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-119-01						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil	**134**	**80.9**			49	NA	
Surrogate:							
o-Terphenyl			*115* *98*	*50-150*			

Date of Report: September 16, 2010
Samples Submitted: September 14, 2010
Laboratory Reference: 1009-119
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-26-4**					
Laboratory ID:	09-119-01					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.060	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.060	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.060	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.060	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	6.0	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-26-9**					
Laboratory ID:	09-119-02					
Benzene	**ND**	0.056	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.28	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**0.53**	0.28	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**0.72**	0.28	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.28	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	28	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-27-5**					
Laboratory ID:	09-119-03					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	5.7	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-27-9**					
Laboratory ID:	09-119-04					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.068	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.068	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.068	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.068	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	6.8	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 14, 2010
Laboratory Reference: 1009-119
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0915S1					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-119-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*97*	*94*	*55-127*			

SPIKE BLANKS										
Laboratory ID:	SB0915S1									
	SB	SBD	SB	SBD		SB	SBD			
Benzene	**0.974**	**0.994**	1.00	1.00		**97**	**99**	75-113	2	9
Toluene	**0.961**	**0.981**	1.00	1.00		**96**	**98**	75-116	2	10
Ethyl Benzene	**0.976**	**1.00**	1.00	1.00		**98**	**100**	82-117	2	10
m,p-Xylene	**0.990**	**1.01**	1.00	1.00		**99**	**101**	81-122	2	10
o-Xylene	**0.989**	**1.01**	1.00	1.00		**99**	**101**	83-118	2	10
Surrogate:										
Fluorobenzene						*95*	*96*	*55-127*		

Date of Report: September 16, 2010
Samples Submitted: September 14, 2010
Laboratory Reference: 1009-119
Project: 2007-098-921

% MOISTURE

Date Analyzed: 9-14-10

Client ID	Lab ID	% Moisture
H-TP-26-4	09-119-01	11
H-TP-26-9	09-119-02	14
H-TP-27-5	09-119-03	15
H-TP-27-9	09-119-04	20

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

HWA GeoSciences Inc.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

DATE: 9/14/10
PAGE: 1 of 1

PROJECT NAME: Bothell Crossroads #: 2007-098-021
SITE CODE:
SAMPLERS NAME: R. Pearson PHONE: 206-744-3113
SAMPLERS SIGNATURE:
HWA CONTACT: Vance Atkins PHONE: 425 774 0106

09-119

24HR TAT

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: NWTPH-Dx	NWTPH-Gx/BTEX	% Moisture	REMARKS
H-TP-26-4	9/14/10	1400	S	1	4	X	X	X	
H-TP-26-9	"	1405	"	2	"	X	X		
H-TP-27-5	"	1430	"	3	"	X	X		
H-TP-27-9	"	1440	"	4	"	X	X		

	PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by:	Pete Pearson		HWA GeoSciences	9/14/10	1520	
Received by:	M. Young			9/14/10	1520	
Relinquished by:						
Received by:						

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

OnSite Environmental Inc.

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

September 16, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1009-140

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 15, 2010.

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: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

Case Narrative

Samples were collected on September 15, 2010 and received by the laboratory on September 15, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

The MTCA Method A clean-up level for Benzene is not achievable for samples H-PEX-14-14 and H-PEX-16-14 due to the high moisture content of these 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: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-12-12**					
Laboratory ID:	09-140-01					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	5.7	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				
Client ID:	**H-PEX-13-14**					
Laboratory ID:	09-140-02					
Benzene	**ND**	0.029	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.15	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.15	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.15	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.15	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	15	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*117*	*55-127*				
Client ID:	**H-PEX-14-14**					
Laboratory ID:	09-140-03					
Benzene	**ND**	0.064	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.32	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.32	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.32	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.32	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	32	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-15-10**					
Laboratory ID:	09-140-04					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	7.2	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				
Client ID:	**H-PEX-16-14**					
Laboratory ID:	09-140-05					
Benzene	**ND**	0.053	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.27	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.27	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**0.94**	0.27	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.27	EPA 8021	9-15-10	9-15-10	
Gasoline	**30**	27	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*55-127*				
Client ID:	**H-DUP-091510**					
Laboratory ID:	09-140-06					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.057	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	5.7	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-17-7**					
Laboratory ID:	09-140-07					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.072	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	7.2	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0915S2					
Benzene	**ND**	0.020	EPA 8021	9-15-10	9-15-10	
Toluene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
o-Xylene	**ND**	0.050	EPA 8021	9-15-10	9-15-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-15-10	9-15-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-140-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*98*	*99*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0915S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.974**	**0.994**	1.00	1.00		**97**	**99**	75-113	2	9	
Toluene	**0.961**	**0.981**	1.00	1.00		**96**	**98**	75-116	2	10	
Ethyl Benzene	**0.976**	**1.00**	1.00	1.00		**98**	**100**	82-117	2	10	
m,p-Xylene	**0.990**	**1.01**	1.00	1.00		**99**	**101**	81-122	2	10	
o-Xylene	**0.989**	**1.01**	1.00	1.00		**99**	**101**	83-118	2	10	
Surrogate:											
Fluorobenzene						*95*	*96*	*55-127*			

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-12-12**					
Laboratory ID:	09-140-01					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**H-PEX-13-14**					
Laboratory ID:	09-140-02					
Diesel Range Organics	**ND**	120	NWTPH-Dx	9-16-10	9-16-10	U1
Lube Oil	**700**	100	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**H-PEX-14-14**					
Laboratory ID:	09-140-03					
Diesel Range Organics	**ND**	91	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil	**390**	180	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**H-PEX-15-10**					
Laboratory ID:	09-140-04					
Diesel Range Organics	**ND**	33	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	65	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				
Client ID:	**H-PEX-16-14**					
Laboratory ID:	09-140-05					
Diesel Range Organics	**ND**	130	NWTPH-Dx	9-16-10	9-16-10	U1
Lube Oil	**980**	150	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-DUP-091510**					
Laboratory ID:	09-140-06					
Diesel Range Organics	**ND**	28	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**H-PEX-17-7**					
Laboratory ID:	09-140-07					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0916S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-140-07						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*97* *99*	*50-150*			

Date of Report: September 16, 2010
Samples Submitted: September 15, 2010
Laboratory Reference: 1009-140
Project: 2007-098-921

% MOISTURE

Date Analyzed: 9-15-10

Client ID	Lab ID	% Moisture
H-PEX-12-12	09-140-01	18
H-PEX-13-14	09-140-02	50
H-PEX-14-14	09-140-03	72
H-PEX-15-10	09-140-04	23
H-PEX-16-14	09-140-05	67
DUP-091510	09-140-06	11
H-PEX-17-7	09-140-07	18

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

Chain of Custody

Page _____ of _____

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: HWA
Project Number: 2007-098-921
Project Name: Bothell – Hertz
Project Manager: Atkins
Sampled by: Atkins

Turnaround Request (in working days)

(Check One)

☐ Same Day ☒ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (7 working days)
(TPH analysis 5 working days)
☐ _____ (other)

Laboratory Number: 09-140

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	H-Pex-12-12	9/15/10	1145		2		/	/											X
2	H-Pex-13-14		1150				/	/											X
3	H-Pex-14-14		1155				/	/											X
4	H-Pex-15-10		1200				/	/											X
5	H-Pex-16-14		1300				/	/											X
6	H-Dup-091510		1205				/	/											X
7	H-Pex-17-7		1330				/	/											X

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by		HWA	9/15/10	1420	
Received by		OnSite Env	9/15/10	1420	
Relinquished by					
Received by					
Relinquished by					
Received by					

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

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

September 17, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1009-154

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 16, 2010.

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: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

Case Narrative

Samples were received by the laboratory on September 16, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

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: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-18-11**					
Laboratory ID:	09-154-01					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-17-10	
Toluene	**ND**	0.069	EPA 8021	9-16-10	9-17-10	
Ethyl Benzene	**ND**	0.069	EPA 8021	9-16-10	9-17-10	
m,p-Xylene	**ND**	0.069	EPA 8021	9-16-10	9-17-10	
o-Xylene	**ND**	0.069	EPA 8021	9-16-10	9-17-10	
Gasoline	**ND**	6.9	NWTPH-Gx	9-16-10	9-17-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*55-127*				
Client ID:	**H-PEX-19-6**					
Laboratory ID:	09-154-02					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-17-10	
Toluene	**ND**	0.070	EPA 8021	9-16-10	9-17-10	
Ethyl Benzene	**ND**	0.070	EPA 8021	9-16-10	9-17-10	
m,p-Xylene	**ND**	0.070	EPA 8021	9-16-10	9-17-10	
o-Xylene	**ND**	0.070	EPA 8021	9-16-10	9-17-10	
Gasoline	**ND**	7.0	NWTPH-Gx	9-16-10	9-17-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*55-127*				
Client ID:	**H-PEX-20-6**					
Laboratory ID:	09-154-03					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-16-10	
Toluene	**ND**	0.073	EPA 8021	9-16-10	9-16-10	
Ethyl Benzene	**ND**	0.073	EPA 8021	9-16-10	9-16-10	
m,p-Xylene	**ND**	0.073	EPA 8021	9-16-10	9-16-10	
o-Xylene	**ND**	0.073	EPA 8021	9-16-10	9-16-10	
Gasoline	**ND**	7.3	NWTPH-Gx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*108*	*55-127*				

Date of Report: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-TP-28-9**					
Laboratory ID:	09-154-04					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-16-10	
Toluene	**ND**	0.051	EPA 8021	9-16-10	9-16-10	
Ethyl Benzene	**ND**	0.051	EPA 8021	9-16-10	9-16-10	
m,p-Xylene	**ND**	0.051	EPA 8021	9-16-10	9-16-10	
o-Xylene	**ND**	0.051	EPA 8021	9-16-10	9-16-10	
Gasoline	**ND**	5.1	NWTPH-Gx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*55-127*				
Client ID:	**H-TP-29-6**					
Laboratory ID:	09-154-05					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-16-10	
Toluene	**ND**	0.046	EPA 8021	9-16-10	9-16-10	
Ethyl Benzene	**ND**	0.046	EPA 8021	9-16-10	9-16-10	
m,p-Xylene	**ND**	0.046	EPA 8021	9-16-10	9-16-10	
o-Xylene	**ND**	0.046	EPA 8021	9-16-10	9-16-10	
Gasoline	**ND**	4.6	NWTPH-Gx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*55-127*				
Client ID:	**H-Dup-091610**					
Laboratory ID:	09-154-06					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-16-10	
Toluene	**ND**	0.049	EPA 8021	9-16-10	9-16-10	
Ethyl Benzene	**ND**	0.049	EPA 8021	9-16-10	9-16-10	
m,p-Xylene	**ND**	0.049	EPA 8021	9-16-10	9-16-10	
o-Xylene	**ND**	0.049	EPA 8021	9-16-10	9-16-10	
Gasoline	**ND**	4.9	NWTPH-Gx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*55-127*				

Date of Report: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0916S2					
Benzene	**ND**	0.020	EPA 8021	9-16-10	9-16-10	
Toluene	**ND**	0.050	EPA 8021	9-16-10	9-16-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-16-10	9-16-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-16-10	9-16-10	
o-Xylene	**ND**	0.050	EPA 8021	9-16-10	9-16-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-154-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*107*	*107*	*55-127*			

MATRIX SPIKES											
Laboratory ID:	09-094-42										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**0.973**	**0.993**	1.00	1.00	ND	**97**	**99**	80-120	2	10	
Toluene	**0.982**	**1.00**	1.00	1.00	ND	**98**	**100**	82-120	2	11	
Ethyl Benzene	**1.02**	**1.04**	1.00	1.00	ND	**102**	**104**	83-120	2	10	
m,p-Xylene	**1.03**	**1.05**	1.00	1.00	ND	**103**	**105**	82-120	2	10	
o-Xylene	**1.02**	**1.05**	1.00	1.00	ND	**102**	**105**	80-120	3	10	
Surrogate:											
Fluorobenzene						*97*	*98*	*55-127*			

Date of Report: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-18-11**					
Laboratory ID:	09-154-01					
Diesel Fuel #2	**300**	31	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil	**320**	62	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**H-PEX-19-6**					
Laboratory ID:	09-154-02					
Diesel Fuel #2	**320**	29	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil	**740**	59	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				
Client ID:	**H-PEX-20-6**					
Laboratory ID:	09-154-03					
Diesel Range Organics	**ND**	32	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	64	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**H-TP-28-9**					
Laboratory ID:	09-154-04					
Diesel Range Organics	**ND**	29	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				
Client ID:	**H-TP-29-6**					
Laboratory ID:	09-154-05					
Diesel Range Organics	**ND**	31	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**H-Dup-091610**					
Laboratory ID:	09-154-06					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Date of Report: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0916S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-16-10	9-16-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-16-10	9-16-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-146-03						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*84* *86*	*50-150*			

Date of Report: September 17, 2010
Samples Submitted: September 16, 2010
Laboratory Reference: 1009-154
Project: 2007-098-921

% MOISTURE

Date Analyzed: 9-16-10

Client ID	Lab ID	% Moisture
H-PEX-18-11	09-154-01	20
H-PEX-19-6	09-154-02	15
H-PEX-20-6	09-154-03	21
H-TP-28-9	09-154-04	15
H-TP-29-6	09-154-05	19
H-Dup-091610	09-154-06	16

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: HWA
Project Number: 2003-098-921
Project Name: BOTHELL - HERR
Project Manager: ATKINS
Sampled by: ATKINS

Turnaround Request (in working days)

(Check One)

☐ Same Day ☑ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (7 working days)
(TPH analysis 5 working days)
☐ _____ (other)

Laboratory Number: 09-154

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	H-PEA-18-11		1140				/	/											X
2	H-PEA-19-6		1145				/	/											X
3	H-PEA-20-6		1245				/	/											X
4	H-JP-28-9		1330				/	/											X
5	H-JP-29-6		1405				/	/											X
6	H-DUP-091610		1500				/	/											X

	Signature	Company	Date	Time
Relinquished by		HWA	9/16/10	1530
Received by		OnSite Env	9/16/10	1530
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☐

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OnSite Environmental Inc.

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

September 21, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-821
Laboratory Reference No. 1009-169

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 17, 2010.

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: September 21, 2010
Samples Submitted: September 17, 2010
Laboratory Reference: 1009-169
Project: 2007-098-821

Case Narrative

Samples were collected on September 17, 2010 and received by the laboratory on September 17, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

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: September 21, 2010
Samples Submitted: September 17, 2010
Laboratory Reference: 1009-169
Project: 2007-098-821

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-21-16**					
Laboratory ID:	09-169-01					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.068	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.068	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.068	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.068	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	6.8	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*55-127*				
Client ID:	**H-PEX-22-12**					
Laboratory ID:	09-169-02					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.063	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.063	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.063	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.063	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	6.3	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*55-127*				
Client ID:	**H-PEX-23-9**					
Laboratory ID:	09-169-03					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.061	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.061	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.061	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.061	EPA 8021	9-20-10	9-20-10	
Gasoline	**12**	6.1	NWTPH-Gx	9-20-10	9-20-10	O
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*55-127*				

Date of Report: September 21, 2010
Samples Submitted: September 17, 2010
Laboratory Reference: 1009-169
Project: 2007-098-821

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0920S1					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-169-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**10.1**	**9.26**	NA	NA		NA		NA	9	30	
Surrogate:											
Fluorobenzene						*103*	*99*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0920S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.936**	**0.958**	1.00	1.00		**94**	**96**	75-113	2	9	
Toluene	**0.973**	**0.993**	1.00	1.00		**97**	**99**	75-116	2	10	
Ethyl Benzene	**1.01**	**1.03**	1.00	1.00		**101**	**103**	82-117	2	10	
m,p-Xylene	**1.03**	**1.05**	1.00	1.00		**103**	**105**	81-122	2	10	
o-Xylene	**1.02**	**1.04**	1.00	1.00		**102**	**104**	83-118	2	10	
Surrogate:											
Fluorobenzene						*96*	*98*	*55-127*			

Date of Report: September 21, 2010
Samples Submitted: September 17, 2010
Laboratory Reference: 1009-169
Project: 2007-098-821

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-21-16**					
Laboratory ID:	09-169-01					
Diesel Range Organics	**ND**	33	NWTPH-Dx	9-18-10	9-19-10	
Lube Oil Range Organics	**ND**	65	NWTPH-Dx	9-18-10	9-19-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**H-PEX-22-12**					
Laboratory ID:	09-169-02					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-18-10	9-19-10	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	9-18-10	9-19-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**H-PEX-23-9**					
Laboratory ID:	09-169-03					
Diesel Range Organics	**ND**	310	NWTPH-Dx	9-18-10	9-19-10	U1
Lube Oil	**1600**	59	NWTPH-Dx	9-18-10	9-19-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				

Date of Report: September 21, 2010
Samples Submitted: September 17, 2010
Laboratory Reference: 1009-169
Project: 2007-098-821

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0918S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-18-10	9-19-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-18-10	9-19-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-169-02						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*108* *111*	*50-150*			

Date of Report: September 21, 2010
Samples Submitted: September 17, 2010
Laboratory Reference: 1009-169
Project: 2007-098-821

% MOISTURE

Date Analyzed: 9-18-10

Client ID	Lab ID	% Moisture
H-PEX-21-16	09-169-01	24
H-PEX-22-12	09-169-02	16
H-PEX-23-9	09-169-03	15

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: HWA
Project Number: 2007-098-921
Project Name: BOEING HUNTER
Project Manager: ATKINS
Sampled by: ATKINS

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☒ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☐ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 09-169

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	H-PEX21-16	9/17/10	930	SOIL	2		✓	✓											X
2	H-PEX12-12	"	1330	"	2		✓	✓											↓
3	H-PEX23-9	"	1240	"	2		✓	✓											

	Signature	Company	Date	Time
Relinquished by		HWA	9/17/10	1650
Received by			9/17/10	1850
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

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OnSite Environmental Inc.

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

September 22, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1009-192

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 20, 2010.

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: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

Case Narrative

Samples were collected on September 20, 2010 and received by the laboratory on September 20, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

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: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-24-6**					
Laboratory ID:	09-192-01					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.057	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.057	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.057	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.057	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	5.7	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*55-127*				
Client ID:	**H-PEX-25-6**					
Laboratory ID:	09-192-02					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.065	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.065	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.065	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.065	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	6.5	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				
Client ID:	**H-DUP-0920**					
Laboratory ID:	09-192-03					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.066	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.066	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.066	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.066	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	6.6	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0920S1					
Benzene	**ND**	0.020	EPA 8021	9-20-10	9-20-10	
Toluene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
m,p-Xylene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
o-Xylene	**ND**	0.050	EPA 8021	9-20-10	9-20-10	
Gasoline	**ND**	5.0	NWTPH-Gx	9-20-10	9-20-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-169-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**10.1**	**9.26**	NA	NA		NA		NA	9	30	
Surrogate:											
Fluorobenzene						*103*	*99*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB0920S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.936**	**0.958**	1.00	1.00		**94**	**96**	75-113	2	9	
Toluene	**0.973**	**0.993**	1.00	1.00		**97**	**99**	75-116	2	10	
Ethyl Benzene	**1.01**	**1.03**	1.00	1.00		**101**	**103**	82-117	2	10	
m,p-Xylene	**1.03**	**1.05**	1.00	1.00		**103**	**105**	81-122	2	10	
o-Xylene	**1.02**	**1.04**	1.00	1.00		**102**	**104**	83-118	2	10	
Surrogate:											
Fluorobenzene						*96*	*98*	*55-127*			

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-24-6**					
Laboratory ID:	09-192-01					
Diesel Range Organics	**ND**	27	NWTPH-Dx	9-21-10	9-21-10	
Lube Oil	**58**	55	NWTPH-Dx	9-21-10	9-21-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**H-PEX-25-6**					
Laboratory ID:	09-192-02					
Diesel Range Organics	**41**	28	NWTPH-Dx	9-21-10	9-21-10	
Lube Oil	**220**	56	NWTPH-Dx	9-21-10	9-21-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**H-DUP-0920**					
Laboratory ID:	09-192-03					
Diesel Range Organics	**ND**	34	NWTPH-Dx	9-21-10	9-21-10	U1
Lube Oil	**270**	57	NWTPH-Dx	9-21-10	9-21-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0921S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-21-10	9-21-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-21-10	9-21-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*122*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	09-192-03						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	U1
Lube Oil	**240**	**225**			6	NA	
Surrogate:							
o-Terphenyl			*97* *102*	*50-150*			

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-192-01					
Client ID:	**H-PEX-24-6**					
Arsenic	**ND**	11	6010B	9-21-10	9-21-10	
Barium	**49**	2.7	6010B	9-21-10	9-21-10	
Cadmium	**ND**	0.55	6010B	9-21-10	9-21-10	
Chromium	**25**	0.55	6010B	9-21-10	9-21-10	
Lead	**28**	5.5	6010B	9-21-10	9-21-10	
Mercury	**ND**	0.27	7471A	9-21-10	9-21-10	
Selenium	**ND**	11	6010B	9-21-10	9-21-10	
Silver	**ND**	0.55	6010B	9-21-10	9-21-10	
Lab ID:	09-192-02					
Client ID:	**H-PEX-25-6**					
Arsenic	**ND**	11	6010B	9-21-10	9-21-10	
Barium	**49**	2.8	6010B	9-21-10	9-21-10	
Cadmium	**ND**	0.56	6010B	9-21-10	9-21-10	
Chromium	**23**	0.56	6010B	9-21-10	9-21-10	
Lead	**22**	5.6	6010B	9-21-10	9-21-10	
Mercury	**ND**	0.28	7471A	9-21-10	9-21-10	
Selenium	**ND**	11	6010B	9-21-10	9-21-10	
Silver	**ND**	0.56	6010B	9-21-10	9-21-10	

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	09-192-03					
Client ID:	**H-DUP-0920**					
Arsenic	**ND**	11	6010B	9-21-10	9-21-10	
Barium	**51**	2.8	6010B	9-21-10	9-21-10	
Cadmium	**ND**	0.57	6010B	9-21-10	9-21-10	
Chromium	**29**	0.57	6010B	9-21-10	9-21-10	
Lead	**21**	5.7	6010B	9-21-10	9-21-10	
Mercury	**ND**	0.28	7471A	9-21-10	9-21-10	
Selenium	**ND**	11	6010B	9-21-10	9-21-10	
Silver	**ND**	0.57	6010B	9-21-10	9-21-10	

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-21-10
Date Analyzed:	9-21-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0921S1&MB0921S4

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-21-10
Date Analyzed: 9-21-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-192-03

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**45.1**	**43.3**	4	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**26.0**	**21.5**	19	0.50	
Lead	**18.3**	**17.0**	7	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 9-21-10
Date Analyzed: 9-21-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-192-03

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**96.6**	97	**98.9**	99	2	
Barium	100	**142**	97	**148**	103	4	
Cadmium	50	**46.1**	92	**47.9**	96	4	
Chromium	100	**114**	88	**117**	91	3	
Lead	250	**255**	95	**259**	96	2	
Mercury	0.50	**0.379**	76	**0.416**	83	9	
Selenium	100	**97.7**	98	**99.4**	99	2	
Silver	25	**22.6**	90	**23.3**	93	3	

Date of Report: September 22, 2010
Samples Submitted: September 20, 2010
Laboratory Reference: 1009-192
Project: 2007-098-921

% MOISTURE

Date Analyzed: 9-20-10

Client ID	Lab ID	% Moisture
H-PEX-24-6	09-192-01	9
H-PEX-25-6	09-192-02	10
H-DUP-0920	09-192-03	12

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: HWA
Project Number: 2007-098-921
Project Name: Bothell Crossroads
Project Manager: Vance Atkins
Sampled by: Pete Peterson

Turnaround Request (in working days)

(Check One)

☐ Same Day ☒ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days)
(TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 09-192

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total BCRA MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	H-PEX-24-6	9/20/10	13:30	S			X		X									X			X
2	H-PEX-25-6	"	14:00	"			X		X									X			X
3	H-DUP-0920	"	—	"			X		X									X			X

	Signature	Company	Date	Time
Relinquished		HWA	9/20/10	1330
Received		OnSite Env	9/20/10	1530
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

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

September 23, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098
Laboratory Reference No. 1009-226

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on September 22, 2010.

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: September 23, 2010
Samples Submitted: September 22, 2010
Laboratory Reference: 1009-226
Project: 2007-098

Case Narrative

Samples were collected on September 22, 2010 and received by the laboratory on September 22, 2010. 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.

Date of Report: September 23, 2010
Samples Submitted: September 22, 2010
Laboratory Reference: 1009-226
Project: 2007-098

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-PEX-26-8**					
Laboratory ID:	09-226-01					
Diesel Range Organics	**ND**	30	NWTPH-Dx	9-23-10	9-23-10	
Lube Oil	**81**	60	NWTPH-Dx	9-23-10	9-23-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				

Date of Report: September 23, 2010
Samples Submitted: September 22, 2010
Laboratory Reference: 1009-226
Project: 2007-098

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0923S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	9-23-10	9-23-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	9-23-10	9-23-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				

Analyte	Result		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-226-01							
	ORIG	DUP						
Diesel Range Organics	**ND**	**ND**				NA	NA	
Lube Oil	**67.9**	**64.2**				6	NA	
Surrogate:								
o-Terphenyl			*109*	*101*	*50-150*			

Date of Report: September 23, 2010
Samples Submitted: September 22, 2010
Laboratory Reference: 1009-226
Project: 2007-098

% MOISTURE

Date Analyzed: 9-22-10

Client ID	Lab ID	% Moisture
H-PEX-26-8	09-226-01	16

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

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

October 7, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1010-034

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on October 5, 2010.

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: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

Case Narrative

Samples were collected on October 5, 2010 and received by the laboratory on October 5, 2010. 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

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

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: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-SP-1**					
Laboratory ID:	10-034-01					
Diesel Range Organics	**ND**	28	NWTPH-Dx	10-6-10	10-6-10	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**H-SP-2**					
Laboratory ID:	10-034-02					
Diesel Range Organics	**55**	31	NWTPH-Dx	10-6-10	10-6-10	
Lube Oil	**250**	61	NWTPH-Dx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**H-SP-3**					
Laboratory ID:	10-034-03					
Diesel Range Organics	**ND**	28	NWTPH-Dx	10-6-10	10-6-10	
Lube Oil	**250**	56	NWTPH-Dx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1006S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	10-6-10	10-6-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	10-033-03						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil Range Organics	**ND**	**ND**			NA	NA	
Surrogate:							
o-Terphenyl			*93* *106*	*50-150*			

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-SP-1**					
Laboratory ID:	10-034-01					
Benzene	**ND**	0.020	EPA 8021	10-6-10	10-6-10	
Toluene	**ND**	0.055	EPA 8021	10-6-10	10-6-10	
Ethyl Benzene	**ND**	0.055	EPA 8021	10-6-10	10-6-10	
m,p-Xylene	**ND**	0.055	EPA 8021	10-6-10	10-6-10	
o-Xylene	**ND**	0.055	EPA 8021	10-6-10	10-6-10	
Gasoline	**ND**	5.5	NWTPH-Gx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*55-127*				
Client ID:	**H-SP-2**					
Laboratory ID:	10-034-02					
Benzene	**ND**	0.020	EPA 8021	10-6-10	10-6-10	
Toluene	**ND**	0.072	EPA 8021	10-6-10	10-6-10	
Ethyl Benzene	**ND**	0.072	EPA 8021	10-6-10	10-6-10	
m,p-Xylene	**ND**	0.072	EPA 8021	10-6-10	10-6-10	
o-Xylene	**ND**	0.072	EPA 8021	10-6-10	10-6-10	
Gasoline	**ND**	7.2	NWTPH-Gx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*55-127*				
Client ID:	**H-SP-3**					
Laboratory ID:	10-034-03					
Benzene	**ND**	0.020	EPA 8021	10-6-10	10-6-10	
Toluene	**ND**	0.051	EPA 8021	10-6-10	10-6-10	
Ethyl Benzene	**ND**	0.051	EPA 8021	10-6-10	10-6-10	
m,p-Xylene	**ND**	0.051	EPA 8021	10-6-10	10-6-10	
o-Xylene	**ND**	0.051	EPA 8021	10-6-10	10-6-10	
Gasoline	**ND**	5.1	NWTPH-Gx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*55-127*				

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1006S1					
Benzene	**ND**	0.020	EPA 8021	10-6-10	10-6-10	
Toluene	**ND**	0.050	EPA 8021	10-6-10	10-6-10	
Ethyl Benzene	**ND**	0.050	EPA 8021	10-6-10	10-6-10	
m,p-Xylene	**ND**	0.050	EPA 8021	10-6-10	10-6-10	
o-Xylene	**ND**	0.050	EPA 8021	10-6-10	10-6-10	
Gasoline	**ND**	5.0	NWTPH-Gx	10-6-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*55-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-033-03										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*88*	*91*	*55-127*			
SPIKE BLANKS											
Laboratory ID:	SB1006S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.945**	**0.969**	1.00	1.00		**95**	**97**	75-113	3	9	
Toluene	**0.932**	**0.971**	1.00	1.00		**93**	**97**	75-116	4	10	
Ethyl Benzene	**0.946**	**0.972**	1.00	1.00		**95**	**97**	82-117	3	10	
m,p-Xylene	**0.953**	**0.979**	1.00	1.00		**95**	**98**	81-122	3	10	
o-Xylene	**0.955**	**0.973**	1.00	1.00		**96**	**97**	83-118	2	10	
Surrogate:											
Fluorobenzene						*91*	*92*	*55-127*			

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-SP-1**					
Laboratory ID:	10-034-01					
Naphthalene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
2-Methylnaphthalene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
1-Methylnaphthalene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthylene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthene	**0.045**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Fluorene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Phenanthrene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Anthracene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Fluoranthene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Pyrene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]anthracene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Chrysene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[b]fluoranthene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[k]fluoranthene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]pyrene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Dibenz[a,h]anthracene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[g,h,i]perylene	**ND**	0.0075	EPA 8270/SIM	10-5-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*92*	*45 - 101*				
Pyrene-d10	*101*	*52 - 118*				
Terphenyl-d14	*97*	*41 - 106*				

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-SP-2**					
Laboratory ID:	10-034-02					
Naphthalene	**0.33**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
2-Methylnaphthalene	**0.13**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
1-Methylnaphthalene	**0.25**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthylene	**0.010**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthene	**0.75**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Fluorene	**0.66**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Phenanthrene	**1.5**	0.041	EPA 8270/SIM	10-5-10	10-6-10	
Anthracene	**0.22**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Fluoranthene	**0.95**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Pyrene	**0.56**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]anthracene	**0.16**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Chrysene	**0.16**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[b]fluoranthene	**0.052**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[k]fluoranthene	**0.043**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]pyrene	**0.051**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Indeno(1,2,3-c,d)pyrene	**0.020**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Dibenz[a,h]anthracene	**0.0083**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[g,h,i]perylene	**0.023**	0.0082	EPA 8270/SIM	10-5-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*90*	*45 - 101*				
Pyrene-d10	*95*	*52 - 118*				
Terphenyl-d14	*95*	*41 - 106*				

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

PAHs by EPA 8270D/SIM
(with silica gel clean-up)

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**H-SP-3**					
Laboratory ID:	10-034-03					
Naphthalene	**0.0081**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
2-Methylnaphthalene	**ND**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
1-Methylnaphthalene	**0.029**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthylene	**ND**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthene	**0.29**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Fluorene	**0.17**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Phenanthrene	**0.18**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Anthracene	**0.015**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Fluoranthene	**0.094**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Pyrene	**0.057**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]anthracene	**0.020**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Chrysene	**0.029**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[b]fluoranthene	**0.014**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[k]fluoranthene	**0.0091**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]pyrene	**0.014**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Indeno(1,2,3-c,d)pyrene	**0.011**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Dibenz[a,h]anthracene	**ND**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[g,h,i]perylene	**0.018**	0.0074	EPA 8270/SIM	10-5-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*90*	*45 - 101*				
Pyrene-d10	*95*	*52 - 118*				
Terphenyl-d14	*100*	*41 - 106*				

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

PAHs by EPA 8270D/SIM
(with silica gel clean-up)
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1005S1					
Naphthalene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthylene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Acenaphthene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Fluorene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Phenanthrene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Anthracene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Fluoranthene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Pyrene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Chrysene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[k]fluoranthene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270/SIM	10-5-10	10-6-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*45 - 101*				
Pyrene-d10	*91*	*52 - 118*				
Terphenyl-d14	*100*	*41 - 106*				

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

PAHs by EPA 8270D/SIM
(with silica gel clean-up)
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-023-05										
	MS	MSD	MS	MSD		MS	MSD				
Naphthalene	**0.0572**	**0.0627**	0.0833	0.0833	ND	69	75	31 - 115	9	19	
Acenaphthylene	**0.0665**	**0.0743**	0.0833	0.0833	ND	80	89	40 - 134	11	22	
Acenaphthene	**0.0680**	**0.0737**	0.0833	0.0833	ND	82	88	48 - 118	8	17	
Fluorene	**0.0690**	**0.0751**	0.0833	0.0833	ND	83	90	54 - 122	8	16	
Phenanthrene	**0.0685**	**0.0727**	0.0833	0.0833	ND	82	87	46 - 123	6	19	
Anthracene	**0.0674**	**0.0733**	0.0833	0.0833	ND	81	88	53 - 123	8	27	
Fluoranthene	**0.0708**	**0.0789**	0.0833	0.0833	ND	85	95	47 - 132	11	26	
Pyrene	**0.0710**	**0.0773**	0.0833	0.0833	ND	85	93	41 - 137	8	25	
Benzo[a]anthracene	**0.0775**	**0.0819**	0.0833	0.0833	ND	93	98	43 - 132	6	26	
Chrysene	**0.0733**	**0.0772**	0.0833	0.0833	ND	88	93	46 - 126	5	24	
Benzo[b]fluoranthene	**0.0649**	**0.0695**	0.0833	0.0833	ND	78	83	44 - 134	7	24	
Benzo[k]fluoranthene	**0.0646**	**0.0713**	0.0833	0.0833	ND	78	86	45 - 132	10	20	
Benzo[a]pyrene	**0.0702**	**0.0765**	0.0833	0.0833	ND	84	92	36 - 136	9	23	
Indeno(1,2,3-c,d)pyrene	**0.0866**	**0.0880**	0.0833	0.0833	ND	104	106	40 - 136	2	16	
Dibenz[a,h]anthracene	**0.0866**	**0.0875**	0.0833	0.0833	ND	104	105	40 - 142	1	13	
Benzo[g,h,i]perylene	**0.0773**	**0.0782**	0.0833	0.0833	ND	93	94	37 - 137	1	18	
Surrogate:											
2-Fluorobiphenyl						*76*	*82*	*45 - 101*			
Pyrene-d10						*86*	*94*	*52 - 118*			
Terphenyl-d14						*87*	*89*	*41 - 106*			

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-034-01					
Client ID:	**H-SP-1**					
Arsenic	**ND**	11	6010B	10-5-10	10-5-10	
Barium	**37**	2.8	6010B	10-5-10	10-5-10	
Cadmium	**ND**	0.56	6010B	10-5-10	10-5-10	
Chromium	**21**	0.56	6010B	10-5-10	10-5-10	
Lead	**8.2**	5.6	6010B	10-5-10	10-5-10	
Mercury	**ND**	0.28	7471A	10-6-10	10-6-10	
Selenium	**ND**	11	6010B	10-5-10	10-5-10	
Silver	**ND**	0.56	6010B	10-5-10	10-5-10	
Lab ID:	10-034-02					
Client ID:	**H-SP-2**					
Arsenic	**ND**	12	6010B	10-5-10	10-5-10	
Barium	**48**	3.1	6010B	10-5-10	10-5-10	
Cadmium	**ND**	0.61	6010B	10-5-10	10-5-10	
Chromium	**25**	0.61	6010B	10-5-10	10-5-10	
Lead	**31**	6.1	6010B	10-5-10	10-5-10	
Mercury	**ND**	0.31	7471A	10-6-10	10-6-10	
Selenium	**ND**	12	6010B	10-5-10	10-5-10	
Silver	**ND**	0.61	6010B	10-5-10	10-5-10	

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-034-03					
Client ID:	**H-SP-3**					
Arsenic	**ND**	11	6010B	10-5-10	10-5-10	
Barium	**34**	2.8	6010B	10-5-10	10-5-10	
Cadmium	**ND**	0.56	6010B	10-5-10	10-5-10	
Chromium	**17**	0.56	6010B	10-5-10	10-5-10	
Lead	**19**	5.6	6010B	10-5-10	10-5-10	
Mercury	**ND**	0.28	7471A	10-6-10	10-6-10	
Selenium	**ND**	11	6010B	10-5-10	10-5-10	
Silver	**ND**	0.56	6010B	10-5-10	10-5-10	

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 6010B
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-5-10
Date Analyzed:	10-5-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1005S2

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-6-10
Date Analyzed:	10-6-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1006S1

Analyte	Method	Result	PQL
Mercury	7471A	**ND**	0.25

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 6010B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-5-10
Date Analyzed: 10-5-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-013-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**28.5**	**26.6**	7	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**26.4**	**25.8**	2	0.50	
Lead	**ND**	**ND**	NA	5.0	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 10-6-10
Date Analyzed: 10-6-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-013-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 6010B
MS/MSD QUALITY CONTROL

Date Extracted: 10-5-10
Date Analyzed: 10-5-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-013-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**95.3**	95	**99.1**	99	4	
Barium	100	**114**	86	**124**	95	8	
Cadmium	50	**43.3**	87	**45.4**	91	5	
Chromium	100	**118**	91	**124**	98	5	
Lead	250	**213**	85	**225**	90	5	
Selenium	100	**91.0**	91	**96.5**	96	6	
Silver	25	**21.4**	85	**22.3**	89	4	

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

TOTAL METALS
EPA 7471A
MS/MSD QUALITY CONTROL

Date Extracted: 10-6-10
Date Analyzed: 10-6-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-013-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.50	**0.511**	102	**0.504**	101	1	

Date of Report: October 7, 2010
Samples Submitted: October 5, 2010
Laboratory Reference: 1010-034
Project: 2007-098-921

% MOISTURE

Date Analyzed: 10-5-10

Client ID	Lab ID	% Moisture
H-SP-1	10-034-01	11
H-SP-2	10-034-02	18
H-SP-3	10-034-03	10

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

HWA GEOSCIENCES INC.
19730 64th Ave. W., Suite 200, Lynnwood, WA 98036 (425) 774-0106

Chain of Custody and Laboratory Analysis Request

10-034

DATE: 10/5/10

PAGE: ____ of ____

PROJECT NAME: Bothell #: 2003-098-721

SITE CODE: HWA

SAMPLERS NAME: Atkins PHONE: ____

SAMPLERS SIGNATURE: [signature]

HWA CONTACT: Atkins PHONE: ____

24-hour TAT

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	ANALYSIS REQUESTED: Nwtph-Dx	Nwtph-G/BTEX	Nwtph-HCID	Metals-Pb		%Moisture	REMARKS
HT-SP-1	10/5/10	1100	Soil	1	3	/	/	/	/		X	
HT-SP-2	"	1105	"	2	3	/	/	/	/		X	
HT-SP-3	"	1110	"	3	3	/	/	/	/		X	

PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by: Nate Fenton	[signature]	HWA	10/5/10	15:30	
Received by: Blair Goodrow	[signature]	Onsite Env.	10/5/10	15:30	
Relinquished by:					
Received by:					

DISTRIBUTION: WHITE - Return to HWA; YELLOW - Retain by Lab; PINK - Retain by Sampler

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

October 12, 2010

Vance Atkins
HWA GeoSciences, Inc.
21312 30th Drive SE, Suite 110
Bothell, WA 98021

Re: Analytical Data for Project 2007-098-921
Laboratory Reference No. 1010-095

Dear Vance:

Enclosed are the analytical results and associated quality control data for samples submitted on October 11, 2010.

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: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

Case Narrative

Samples were collected on October 11, 2010 and received by the laboratory on October 11, 2010. 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.

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

NWTPH-Dx
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-SP-101110-1**					
Laboratory ID:	10-095-01					
Diesel Range Organics	**ND**	29	NWTPH-Dx	10-11-10	10-11-10	
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	10-11-10	10-11-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**HZ-SP-101110-2**					
Laboratory ID:	10-095-02					
Diesel Range Organics	**ND**	29	NWTPH-Dx	10-11-10	10-11-10	
Lube Oil	**100**	59	NWTPH-Dx	10-11-10	10-11-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**HZ-SP-101110-3**					
Laboratory ID:	10-095-03					
Diesel Range Organics	**ND**	33	NWTPH-Dx	10-11-10	10-11-10	U1
Lube Oil	**230**	58	NWTPH-Dx	10-11-10	10-11-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**HZ-SP-101110-4**					
Laboratory ID:	10-095-04					
Diesel Range Organics	**ND**	52	NWTPH-Dx	10-11-10	10-11-10	U1
Lube Oil	**320**	62	NWTPH-Dx	10-11-10	10-11-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**HZ-SP-101110-5**					
Laboratory ID:	10-095-05					
Diesel Range Organics	**ND**	31	NWTPH-Dx	10-11-10	10-11-10	
Lube Oil	**220**	62	NWTPH-Dx	10-11-10	10-11-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*118*	*50-150*				

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

NWTPH-Dx
QUALITY CONTROL
(with acid/silica gel clean-up)

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	10-11-10	10-11-10	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	10-11-10	10-11-10	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*128*	*50-150*				

Analyte	Result		Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							
Laboratory ID:	10-095-02						
	ORIG	DUP					
Diesel Range Organics	**ND**	**ND**			NA	NA	
Lube Oil	**85.2**	**68.6**			22	NA	
Surrogate:							
o-Terphenyl			*106* *106*	*50-150*			

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-095-01					
Client ID:	**HZ-SP-101110-1**					
Arsenic	**ND**	11	6010B	10-11-10	10-11-10	
Cadmium	**ND**	0.57	6010B	10-11-10	10-11-10	
Chromium	**31**	0.57	6010B	10-11-10	10-11-10	
Lead	**ND**	5.7	6010B	10-11-10	10-11-10	
Mercury	**ND**	0.29	7471A	10-11-10	10-11-10	
Lab ID:	10-095-02					
Client ID:	**HZ-SP-101110-2**					
Arsenic	**ND**	12	6010B	10-11-10	10-11-10	
Cadmium	**ND**	0.59	6010B	10-11-10	10-11-10	
Chromium	**30**	0.59	6010B	10-11-10	10-11-10	
Lead	**13**	5.9	6010B	10-11-10	10-11-10	
Mercury	**ND**	0.29	7471A	10-11-10	10-11-10	
Lab ID:	10-095-03					
Client ID:	**HZ-SP-101110-3**					
Arsenic	**ND**	12	6010B	10-11-10	10-11-10	
Cadmium	**ND**	0.58	6010B	10-11-10	10-11-10	
Chromium	**24**	0.58	6010B	10-11-10	10-11-10	
Lead	**14**	5.8	6010B	10-11-10	10-11-10	
Mercury	**ND**	0.29	7471A	10-11-10	10-11-10	

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-095-04					
Client ID:	**HZ-SP-101110-4**					
Arsenic	**ND**	12	6010B	10-11-10	10-11-10	
Cadmium	**ND**	0.62	6010B	10-11-10	10-11-10	
Chromium	**30**	0.62	6010B	10-11-10	10-11-10	
Lead	**91**	6.2	6010B	10-11-10	10-11-10	
Mercury	**ND**	0.31	7471A	10-11-10	10-11-10	
Lab ID:	10-095-05					
Client ID:	**HZ-SP-101110-5**					
Arsenic	**ND**	12	6010B	10-11-10	10-11-10	
Cadmium	**ND**	0.62	6010B	10-11-10	10-11-10	
Chromium	**30**	0.62	6010B	10-11-10	10-11-10	
Lead	**28**	6.2	6010B	10-11-10	10-11-10	
Mercury	**ND**	0.31	7471A	10-11-10	10-11-10	

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-11-10
Date Analyzed:	10-11-10
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1011S1&MB1011S2

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 10-11-10
Date Analyzed: 10-11-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-077-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**9.15**	**9.05**	1	0.50	
Lead	**9.45**	**8.45**	11	5.0	
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 10-11-10
Date Analyzed: 10-11-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-077-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**97.8**	98	**99.6**	100	2	
Cadmium	50	**45.2**	90	**45.7**	91	1	
Chromium	100	**108**	99	**108**	99	0	
Lead	250	**228**	87	**230**	88	1	
Mercury	0.50	**0.522**	104	**0.506**	101	3	

Date of Report: October 12, 2010
Samples Submitted: October 11, 2010
Laboratory Reference: 1010-095
Project: 2007-098-921

% MOISTURE

Date Analyzed: 10-11-10

Client ID	Lab ID	% Moisture
HZ-SP-101110-1	10-095-01	13
HZ-SP-101110-2	10-095-02	15
HZ-SP-101110-3	10-095-03	13
HZ-SP-101110-4	10-095-04	19
HZ-SP-101110-5	10-095-05	19

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

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

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

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

Chain of Custody

Page _____ of _____

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: HWA
Project Number: 2007-098-~~320~~ 03 921
Project Name: BOTHELL - HERTZ
Project Manager: ATKINS
Sampled by: ATKINS

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☒ 2 Day
- ☐ 3 Day
- ☐ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 10-095

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D / SIM	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total ~~RCRA~~ Metals (8) MTCA	TCLP Metals	HEM by 1664	% Moisture
1	HZ-SP-101110-1	10/11/10	1250	S	2			✓								✓			X
2	HZ-SP-101110-2	↓	1255	↓	↓			✓								✓			↓
3	HZ-SP-101110-3		1300					✓								✓			
4	HZ-SP-101110-4		1305					✓								✓			
5	HZ-SP-101110-5		1310					✓								✓			

	Signature	Company	Date	Time
Relinquished by		HWA	10/11/10	1350
Received by			10/11/10	1350
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

APPENDIX C

DATA QUALITY ASSESSMENT

INTRODUCTION

This appendix presents a data quality assessment for the Bothell Former Hertz Facility site independent action soil cleanup. Quality is the degree to which a set of inherent characteristics fulfills project requirements. Quality assurance (QA) is the processes of auditing the project's quality requirements and the results from quality control measurements to ensure appropriate quality standards are used. Quality control (QC) is the process of monitoring and recording results of executing the project quality activities to assess performance and to recommend necessary changes (PMI, 2008).

The principal ingredients that make up suitable data quality or "good data" are (Flory, 2000):

1. **Clearly stated measurement purposes:** Must include the chemical compounds to be analyzed; the sample matrices to be submitted; the intended use of the data, and the associated detection limits, accuracy, and precision required.
2. **Data management:** Refers to sample tracking (chain-of-custody) and associated activities that guarantee the laboratory results are associated with the correct sample.
3. **Sampling:** Includes a technically valid sampling plan that is correctly implemented to properly collect, identify, preserve, store and prepare samples for analysis.
4. **Analytical method:** Must have sufficient selectivity, detection limits, accuracy and precision to be technically valid.
5. **Quality control samples:** Must include sufficient quality control samples to support the necessary statements of accuracy, precision, and detection limits. These include blanks (field, trip, laboratory, reagent), duplicate measurements, matrix spikes, laboratory control samples, and performance evaluation samples.
6. **Quality control limits:** Includes clearly stated acceptable limits for quality control samples such as allowable blank contamination; precision of duplicate samples; and accuracy of matrix spikes, performance evaluation samples and laboratory control samples. Calibration frequency and linearity may also be included.
7. **Documentation:** Must be comprehensive enough to allow a third party evaluator to independently verify the suitability of the sample data.

The process of verifying the suitability of the data is termed data quality assessment. Data quality assessment is a determination of the suitability of the data for the intended use. It includes the four major tasks of (a) data management, (b) data validation, (c) data qualification/review (flagging), and (d) the determination of suitability. Data management includes determining the completeness of the data documentation. Environmental data validation primarily entails checking to see if the quality control

requirements of the method have been met. Data qualification is the application of flags to the data that reflect the failures found during validation. The final determination of suitability must consider the technical validity of the data as well as the data qualifiers and be consistent with the intended use of the analytical data (Flory, 2000).

There were two components to the data quality program for the Bothell Former Hertz Facility site cleanup: field and laboratory. Both components followed Washington Department of Ecology guidance (Ecology, 2004). Also, the *Interim Action Work Plan* (HWA, 2010) specified the sample collection procedures and analysis, and defined the data quality objectives (DQOs) and criteria for the independent action cleanup.

FIELD QC METHODS

Assessment of field QC methods and data revealed no deviations from the *Interim Action Work Plan* (HWA, 2010). Field QC included proper documentation of field activities in a field log book and daily field reports that provided a daily record of significant events, observations, deviations from the sampling plan and measurements collected during the field activities. Field personnel followed standard QC procedures to collect and transport samples including collection of duplicate samples, decontamination of reusable sampling equipment between samples, labeling samples, and following chain of custody procedures to transport samples to the laboratory. Field personnel photographically documented significant events and observations during the independent action cleanup.

LABORATORY QC METHODS

OnSite Environmental Inc. of Redmond, Washington performed nearly all sample analyses. OnSite Environmental is accredited by the Washington Department of Ecology (Accreditation #C591-10) for all analyses performed for the independent action cleanup except for NWEPH analysis. Therefore, OnSite Environmental subcontracted NWEPH and some NWVPH analyses to ALS Environmental in Everett, Washington. ALS Environmental is accredited by the Department of Ecology for NWEPH and NWVPH analyses (Ecology Accreditation # C1336).

Specific laboratory QC consisted of the following (OnSite Environmental, 2008; Ecology, 2004):

- **Sample Batching.** A batch consisted of up to twenty samples in addition to any quality control samples that were required. Samples in a batch may have been collected at different sites by different clients of OnSite Environmental. The samples were extracted, digested, and prepared for analysis within a twelve-hour window. If more than twenty samples were to be extracted, a second batch of quality control samples was generated.

- **Method Blanks.** Method blanks were used to ensure that the extraction and analysis procedures did not contribute contamination to the analysis. Method blanks were prepared and analyzed in the laboratory to document the response of the measurement system to a sample containing effectively none of the analyte of interest. A positive blank response can be due to a variety of factors related to the procedure, equipment, or reagents. Unusually high blank responses indicate laboratory contamination. The method blank response becomes very important when the analyte concentration is near the detection limit.
- **Spike Blanks.** A spike blank is a laboratory QC sample prepared by adding a known amount of the target analyte(s) to a laboratory blank sample. This is a measure of the accuracy of the test procedure. If an analyte for any spike blank was outside of quality control criteria, then that particular analyte was evaluated and actions were taken to bring the analysis into control.
- **Duplicate Samples.** Duplicate samples were used to ensure that sample results could be reproduced in a precise manner.
- **Surrogates.** Surrogate compounds are compounds similar to the analytes of interest that were added to the sample at a known concentration in order to track the accuracy of the sample extraction and analysis. Some methods for organics analyses specify that all samples, including QC samples, be spiked with surrogate compounds at the start of the procedure. Because surrogate compounds are not expected to be present in the samples, they give analytical responses that can be distinguished from those of the analytes of interest. Surrogate percent recoveries (defined below) provided an estimate of accuracy for the entire analytical procedure. The standard deviations of surrogate results provided an estimate of analytical precision, while the mean percent recoveries indicated whether or not the sample results were biased.
- **Spiked Blank Duplicates.** These were a second laboratory spiked blank laboratory QC sample. The difference in the laboratory's recovery of the spiked blank and spiked blank duplicate was a measure of analytical precision, and was reported as relative percent difference (RPD) as defined below.
- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples.** Matrix spike samples were used to ensure the analytes of interest could be accurately recovered from the sample matrix. The matrix spike duplicate was also used to ensure the analytes could be repeatedly recovered in an accurate and precise manner.

Analytical Accuracy and Precision

Routine laboratory QC analyses provided information about accuracy and precision. The types of quality control samples differed depending on the method specifications. Analytical accuracy was assessed through the surrogate, spike blank, and matrix spike analysis as specified by the analytical method. Accuracy was expressed as percent recovery:

Percent Recovery (%R) = $100*(X_s/C_t)$

Where X_s was the observed concentration of the analyte, and C_t was the true concentration of the analyte. The acceptable range for accuracy was determined by the method or by control charting of actual laboratory samples. A control chart is a graphical representation of the precision of QC results showing whether the measurement system is in statistical control. The laboratory analyst was responsible for verifying that the surrogate, spike blank and MS/MSD percent recoveries meet the quality control limits.

Analytical precision was assessed through analysis of the sample duplicates or matrix spike duplicates as specified by the analytical method. Precision was expressed as relative percent difference:

Relative Percent Difference (RPD) = $100*(X_1-X_2)/((X_1+X_2)/2)$

Where: X_1 was the concentration in the first duplicate sample and X_2 was the concentration in the second duplicate sample. The acceptable range for precision was determined by the method or by control charting of actual laboratory samples. The analyst was responsible for verifying that the duplicate or MS/MSD recoveries meet the quality control limits.

Practical Quantitation Limits and Method Detection Limits

OnSite Environmental reported all analytical results for the independent action cleanup as practical quantitation limits (PQLs). PQLs are the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. OnSite Environmental's routine PQLs for all independent action analyses were lower than regulatory cleanup levels thus ensuring confirmation of successful cleanup. OnSite Environmental conducts studies annually for all accredited test methods to determine its PQLs.

Method detection limits (MDLs) are the lowest concentration that can be detected by an instrument with correction for the effects of sample matrix and method-specific parameters such as sample preparation. OnSite Environmental conducts studies annually for all accredited test methods to determine its method detection limits. MDLs are defined at 40 CFR Part 136 as three times the standard deviation of replicate spiked analyses. An analytical PQL is generally 5-10 times the MDL. MDLs are only a measure of the ability of the test procedure to generate a positive response and have nothing to do with the accuracy of that response (Quality Assurance Associates, 2010).

DATA VERIFICATION

Ninety four soil samples were analyzed for this independent action cleanup. The analyses performed included:

- NWTPH-Gx - Gasoline range petroleum hydrocarbons using Ecology Method NWTPH-Gx
- NWTPH-Dx - Diesel and oil range petroleum hydrocarbons using Ecology Method NWTPH-Dx
- BTEX - Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021
- RCRA 8 Metals - Arsenic, barium, cadmium, chromium, lead, selenium, silver using EPA Method 6010B and 6020; and mercury using EPA Method 7471A
- PAHs - Polynuclear aromatic hydrocarbons by EPA Method 8270D/SIM
- VPH/EPH - Ecology methods VPH and EPH for volatile and extractable petroleum hydrocarbon fractions
- PCBs - Polychlorinated biphenyls by EPA Method 8082

Analytical data are summarized in Table 2 of the cleanup report. Verification of the data included checking holding times, checking that the laboratory performed the analyses requested on the chain of custody form, and that the laboratory's QC results were within established control limits. Table C-1 below summarizes the data verification results. Holding times, surrogate percent recoveries, method blank analytical results, lab duplicate RPDs, matrix spike/matrix spike duplicate percent recoveries and RPDs, and spiked blank/spiked blank duplicate percent recoveries and RPDs were all within control limits with the following exceptions:

- Twenty nine soil sample analyses had elevated PQLs due to interferences present in the sample matrix, high moisture content, or necessary dilution of the sample. Of these 29 soil samples, 17 soil samples had PQLs that were less than their respective Method A soil cleanup levels. Twelve samples had a PQL for benzene greater than the MTCA Method A soil cleanup level of 0.03 mg/kg. The PQLs for compounds other than benzene in these 12 samples were less than their respective Method A cleanup level. Nine of the 12 samples with a benzene PQL greater than 0.03 mg/kg represented soils that were subsequently excavated and removed from the site during the cleanup. Three of the 12 samples with an elevated benzene PQL were independent action cleanup confirmation samples in which a high moisture content in the sample caused the elevated PQL:

H-PEX-5-8	benzene <0.31 mg/kg
H-PEX-14-4	benzene <0.32 mg/kg
H-PEX-16-14	benzene <0.053 mg/kg

It is HWA's opinion that the slightly elevated benzene PQLs for these three confirmation samples does not compromise the conclusion that the site was successfully cleaned up because benzene was not detected at concentrations greater than 0.03 mg/kg in any soil samples collected during the pre-cleanup site investigations or in any of the other 36 confirmation soil samples collected during the independent action cleanup; i.e., benzene is not a chemical of potential concern at the site.

- **Samples H-PEX-1-6, H-PEX-2-6, and H-PEX-3-4.** For the Method 6010B analysis (metals) the lab's duplicate QC sample RPD for lead was outside control limits (a 'C' Flag) due to high result variability when the analyte concentrations were less than five times the PQL. The duplicate QC sample for this batch had a very low lead concentration. Poor duplicate RPDs for any analytes at low concentrations (i.e., near the PQL) are not uncommon, and are not considered a major QC issue. The areas represented by these 3 samples were subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Sample H-PEX-11-6.** The spiked compound recovery was outside of the control limits for several PAHs in the 8270D MS/MSD QC analysis (an 'I' Flag). This QC issue arose because the QC sample for the batch had elevated concentrations of these PAHs; the QC sample was from the site of another client of OnSite Environmental. For all other PAHs the MS/MSD percent recoveries were within control limits for these samples, as were the method blank and spike blank/spike blank duplicate QC checks. The area represented by this sample was subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Sample H-PEX-11-6.** The lab's duplicate QC sample RPD for chromium was outside control limits due to sample inhomogeneity (a 'K' Flag); the sample was re-extracted and re-analyzed with similar results. The duplicate QC sample for this batch was from the site of another client of OnSite Environmental and had a fairly low chromium concentration. Poor duplicate RPDs for any analytes at low concentrations (i.e., near the PQL) are not uncommon, and are not considered a major QC issue. The area represented by this sample was subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Samples H-PEX-1-6, H-PEX-2-6, H-PEX-3-4, and H-PEX-11-6.** The RPD for the 8270D MS/MSD QC analysis was outside of the control limits for several PAHs (an 'L' Flag). This QC issue arose because the QC sample for the batch had elevated concentrations of these PAHs; the QC sample was from the site of

another client of OnSite Environmental. For all other PAHs the MS/MSD percent recoveries were within control limits for these samples, as were the method blank and spike blank/spike blank duplicate QC checks. The areas represented by these 4 samples were subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Samples H-PEX-1-6 and H-PEX-3-4.** Hydrocarbons in the gasoline range impacted the diesel range result (an 'M' Flag). This QC issue arose due to gasoline and diesel's overlapping hydrocarbon ranges, and resulted in the reported concentration of the less dominant product (diesel) being slightly higher than may actually be the case. The areas represented by these 2 samples were subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Samples H-TP-6-3, H-TP-6-6, H-TP-6-7, H-PEX-1-6, and H-PEX-3-4.** Hydrocarbons in the lube oil range impacted the diesel range result (an 'N' Flag). This QC issue arose due to diesel and lube oil's overlapping hydrocarbon ranges, and resulted in the reported concentration of the less dominant product (diesel) being slightly higher than may actually be the case. The areas represented by these 5 samples were subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Sample H-TP-23-7.** Hydrocarbons in the diesel range impacted the lube oil range result (an 'N1' Flag). This QC issue arose due to diesel and lube oil's overlapping hydrocarbon ranges, and resulted in the reported concentration of the less dominant product (lube oil) being slightly higher than may actually be the case. The area represented by sample H-TP-23-7 was subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Samples H-TP-6-3, H-TP-6-6, H-TP-13-8, H-TP-20-6, H-TP-21-2, H-PEX-1-6, H-PEX-2-6, H-PEX-3-4, and H-PEX-23-9.** Hydrocarbons indicative of heavier fuels were present in the sample and impacted the gasoline result (an 'O' Flag). This QC issue arose due to gasoline and diesel's overlapping hydrocarbon ranges, and resulted in the reported concentration of the less dominant product (gasoline) being slightly higher than may actually be the case. The areas represented by these 9 samples were subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Sample H-TP-1-8**. Surrogate recovery data for the QC check of the analysis was not available due to the necessary dilution of the sample (an 'S' Flag). The area

represented by this sample was subsequently excavated. Consequently, this QC issue did not compromise the conclusion that the site was successfully cleaned up.

- **Sample H-TP-22-8.** The sample chromatogram for the NWTPH-Gx analysis was not similar to a typical gas (a 'T' Flag). The flag for this confirmation sample was advisory and not an indication of a QC issue that may have compromised the conclusion that the site was successfully cleaned up.

- **Samples H-TP-6-3, H-TP-6-6, H-TP-13-3, H-TP-13-8, H-TP-14-8, H-TP-15-3, H-TP-15-8, H-TP-16-3, H-TP-16-7, H-TP-18-7, H-TP-21-2, and H-PEX-2-6.** The chromatogram for the NWTPH-Gx analysis was similar to mineral spirits (a 'Z' Flag). The flag for these samples was advisory and not an indication of a QC issue that may have compromised the conclusion that the site was successfully cleaned up.

EVALUATION OF FIELD DUPLICATE SAMPLE RESULTS

Field duplicate samples were collected at an approximate frequency of one duplicate per 17.8 soil samples – a frequency slightly more than the ratio of one duplicate per 20 samples specified in the *Interim Action Work Plan* (HWA, 2010). The *Interim Action Work Plan* did not specify quality criteria for field duplicate samples; HWA thus used the following U.S. Army Corps of Engineers criteria (Grant, Jenkins, and Mudambi, 1996) to evaluate the field duplicate analytical results:

Analytical Result	Criteria	Conclusion
Both results less than PQL	PQLs differ by more than ±25%	Disagreement
One result greater than PQL and one result less than PQL	>5x difference >10x difference	Disagreement Major disagreement
Both results greater than PQL	RPD >30% RPD >65%	Disagreement Major disagreement

Table C-2 summarizes the analytical results of the field duplicate samples. As can be seen, field duplicate sample analytical results were all within the quality criteria listed above.

PROJECT DOCUMENTATION AND DATA MANAGEMENT

Field personnel used bound waterproof field notebooks to record significant events and observations during the independent action cleanup. Entries were made in waterproof ink or pencil, signed, and dated. Field personnel also completed daily field reports and

forwarded copies of the field report to City of Bothell representatives. All field logs, figures, and records are retained in project files at HWA's office.

Digital photographs taken of field activities and significant events are stored on HWA's computer system with the following information noted:

- Date, time, and location of photograph taken
- Description of photograph taken
- Reasons photograph was taken
- Viewing direction

Original laboratory certificates containing analytical results and laboratory QC data are documented in Appendix B of this report. An electronic copy of each laboratory certificate is stored on HWA's computer network server as PDF files in the project folder. In addition, OnSite Environmental's Electronic Data Deliverables (EDD) packages for all analytical results are stored on HWA's computer network server as Microsoft Excel spreadsheets in the project folder. HWA routinely backs up its network servers.

SUMMARY

- Field QC procedures were followed.
- The voluminous field and laboratory data generated during the independent action cleanup are technically complete, accessible, and efficiently handled.
- All samples collected during the independent action cleanup were analyzed within holding times. Appropriate standard analytical methods were used. The few quality control issues noted above did not compromise the analytical accuracy or precision of the data.
- All reported data should be considered valid as qualified and acceptable for further use.

REFERENCES

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Table C-1
Analytical Quality Control Summary

Sample ID	Matrix	OnSite Environmental Lab ID	Sample Date	On COC Form?	Requested Analyses[1]	Lab Prepared Sample Within Holding Time	Surrogate Recovery Within Control Limits	Method Blank Within Control Limits	Lab Duplicate Within Control Limits	Matrix Spike / Matrix Spike Duplicate Within Control Limits	Spiked Blank / Spiked Blank Duplicate Within Control Limits	Notes
H-TP-1-3	Soil	1008-237-01	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-1-8	Soil	1008-237-02	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	See Notes	√	√	√	√	BTEX PQLs raised due to necessary dilution of sample S Flag - Surrogate recovery data not available due to the necessary dilution of the sample
H-TP-2-6	Soil	1008-237-03	8/30/10	√								Sample put on hold at HWA GeoSciences' request
H-TP-2-10	Soil	1008-237-04	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-2-4	Soil	1008-237-05	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-3-3	Soil	1008-237-06	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-3-8	Soil	1008-237-07	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-4-3	Soil	1008-237-08	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-4-7	Soil	1008-237-09	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-5-4	Soil	1008-237-10	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-5-7	Soil	1008-237-11	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-6-3	Soil	1008-237-12	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	N Flag for NWTPH-Dx analysis - Hydrocarbons in the lube oil range are impacting the diesel range result O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for diesel and o-xylene analyses - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-6-6	Soil	1008-237-13	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	N Flag for NWTPH-Dx analysis - Hydrocarbons in the lube oil range are impacting the diesel range result O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for diesel and o-xylene analyses - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-6-7	Soil	1008-237-14	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	N Flag for NWTPH-Dx analysis - Hydrocarbons in the lube oil range are impacting the diesel range result
H-TP-7-5	Soil	1008-237-15	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-7-7	Soil	1008-237-16	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-8-5	Soil	1008-237-17	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-8-7	Soil	1008-237-18	8/30/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-9-4	Soil	1009-011-01	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-9-7	Soil	1009-011-02	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-10-3	Soil	1009-011-03	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-10-7	Soil	1009-011-04	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-11-4	Soil	1009-011-05	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-11-7	Soil	1009-011-06	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-12-3	Soil	1009-011-07	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	

Table C-1
Analytical Quality Control Summary

Sample ID	Matrix	OnSite Environmental Lab ID	Sample Date	On COC Form?	Requested Analyses[1]	Lab Prepared Sample Within Holding Time	Surrogate Recovery Within Control Limits	Method Blank Within Control Limits	Lab Duplicate Within Control Limits	Matrix Spike / Matrix Spike Duplicate Within Control Limits	Spiked Blank / Spiked Blank Duplicate Within Control Limits	Notes
H-TP-12-7	Soil	1009-011-08	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-DUP-090110	Soil	1009-011-09	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	Duplicate of sample H-TP-12-3
H-TP-13-3	Soil	1009-017-01	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	U1 Flag for NWTPH-Dx and o-xylene analyses - The PQL is elevated due to interferences present i the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-13-8	Soil	1009-017-02	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for NWTPH-Dx and o-xylene analyses - The PQL is elevated due to interferences present i the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-14-3	Soil	1009-017-03	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-TP-14-8	Soil	1009-017-04	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	U1 Flag for diesel and o-xylene analyses - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-15-3	Soil	1009-017-05	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	U1 Flag for diesel and o-xylene analyses - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-15-8	Soil	1009-017-06	9/1/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	See Notes	√	√	U1 Flag for diesel (including QC duplicate) and o-xylene analyses - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-16-3	Soil	1009-023-01	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-16-7	Soil	1009-023-02	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-17-3	Soil	1009-023-03	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-17-6	Soil	1009-023-04	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-18-3	Soil	1009-023-05	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-18-7	Soil	1009-023-06	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel and o-xylene analyses - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-19-4	Soil	1009-023-07	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-TP-19-6	Soil	1009-023-08	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-TP-20-3	Soil	1009-023-09	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-20-6	Soil	1009-023-10	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-TP-21-2	Soil	1009-023-11	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits
H-TP-21-7	Soil	1009-023-12	9/2/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	

Table C-1
Analytical Quality Control Summary

Sample ID	Matrix	OnSite Environmental Lab ID	Sample Date	On COC Form?	Requested Analyses[1]	Lab Prepared Sample Within Holding Time	Surrogate Recovery Within Control Limits	Method Blank Within Control Limits	Lab Duplicate Within Control Limits	Matrix Spike / Matrix Spike Duplicate Within Control Limits	Spiked Blank / Spiked Blank Duplicate Within Control Limits	Notes
H-PEX-1-6	Soil	1009-074-01	9/8/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs NWVPH/NWEPH PCBs	√	√	√	See Notes	See Notes	√	C Flag for 6010B analysis (metals) - The lab duplicate RPD for lead was outside control limits due to high result variability when analyte concentrations are within five times the quantitation limits L Flag for several PAHs in 8270D MS/MSD QC analysis - The RPD was outside of the control limits M Flag for diesel analysis - Hydrocarbons in the gasoline range impacted the diesel range result N Flag for diesel analysis - Hydrocarbons in the lube oil range impacted the diesel range result O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for lab duplicate diesel QC analysis - The PQL is elevated due to interferences present in the sample NWEPH analyses were performed by ALS Environmental labs on sample split prepared by OnSite Environmental Inc.
H-PEX-2-6	Soil	1009-074-02	9/8/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs NWVPH/NWEPH PCBs	√	√	√	See Notes	See Notes	√	C Flag for 6010B analysis (metals) - The lab duplicate RPD for lead was outside control limits due to high result variability when analyte concentrations are within five times the quantitation limits L Flag for several PAHs in 8270D MS/MSD QC analysis - The RPD was outside of the control limits O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for diesel (including lab duplicate QC) analysis - The PQL is elevated due to interferences present in the sample Z Flag for NWTPH-Gx analysis - Chromatogram is similar to mineral spirits with diesel fuel NWEPH analyses were performed by ALS Environmental labs on sample split prepared by OnSite Environmental Inc.
H-PEX-3-4	Soil	1009-074-03	9/8/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs NWVPH/NWEPH PCBs	√	√	√	See Notes	See Notes	√	C Flag for 6010B analysis (metals) - The lab duplicate RPD for lead was outside control limits due to high result variability when analyte concentrations are within five times the quantitation limits L Flag for several PAHs in 8270D MS/MSD QC analysis - The RPD was outside of the control limits M Flag for diesel analysis - Hydrocarbons in the gasoline range impacted the diesel range result N Flag for diesel analysis - Hydrocarbons in the lube oil range impacted the diesel range result O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for lab duplicate diesel QC analysis - The PQL is elevated due to interferences present in the sample NWEPH analyses were performed by ALS Environmental labs on sample split prepared by OnSite Environmental Inc.
H-PEX-6-4	Soil	1009-088-01	9/9/10	√	NWTPH-Gx/BTEX NWTPH-Dx Arsenic	√	√	√	√	√	√	
H-PEX-5-8	Soil	1009-088-02	9/9/10	√	NWTPH-Gx/BTEX NWTPH-Dx Arsenic	√	√	√	√	√	√	
H-PEX-4-8	Soil	1009-088-03	9/9/10	√	NWTPH-Gx/BTEX NWTPH-Dx Arsenic	√	√	√	√	√	√	
H-PEX-7-5	Soil	1009-088-04	9/9/10	√	NWTPH-Gx/BTEX NWTPH-Dx Arsenic	√	√	√	√	√	√	
H-PEX-8-6	Soil	1009-088-05	9/9/10	√	NWTPH-Gx/BTEX NWTPH-Dx Arsenic	√	√	√	√	√	√	

Table C-1
Analytical Quality Control Summary

Sample ID	Matrix	OnSite Environmental Lab ID	Sample Date	On COC Form?	Requested Analyses[1]	Lab Prepared Sample Within Holding Time	Surrogate Recovery Within Control Limits	Method Blank Within Control Limits	Lab Duplicate Within Control Limits	Matrix Spike / Matrix Spike Duplicate Within Control Limits	Spiked Blank / Spiked Blank Duplicate Within Control Limits	Notes
H-TP-22-8	Soil	1009-095-01	9/10/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	T Flag for NWTPH-Gx analysis - The sample chromatogram is not similar to a typical gas U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-TP-23-7	Soil	1009-095-02	9/10/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	N1 Flag for NWTPH-Dx and o-xylene analyses - Hydrocarbons in the diesel range are impacting the lube oil range result U1 Flag for o-xylene analysis - The PQL is elevated due to interferences present in the sample
WCB-Water-1	Water	1009-106-01	9/13/10	√								Sample put on hold at HWA GeoSciences' request
H-PEX-9-5	Soil	1009-106-02	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for lube oil analysis - The PQL is elevated due to interferences present in the sample
H-PEX-10-7	Soil	1009-106-03	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-11-6	Soil	1009-106-04	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs NWVPH/NWEPH PCBs	√	√	√	√	See Notes	√	I Flag for several PAHs in 8270D MS/MSD QC analysis - Compound recovery was outside of the control limits L Flag for several PAHs in 8270D MS/MSD QC analysis - The RPD was outside of the control limits K Flag for chromium in duplicate QC analysis - Sample duplicate RPD was outside control limits due to sample inhomogeneity; the sample was re-extracted and re-analyzed with similar results U1 Flag for o-xylene analysis - The PQL is elevated due to interferences present in the sample NWVPH/NWEPH analyses were performed by ALS Environmental labs on sample split prepared by OnSite Environmental Inc.
H-TP-24-3	Soil	1009-106-07	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-TP-24-8	Soil	1009-106-08	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-25-2	Soil	1009-106-09	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-25-8	Soil	1009-106-10	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for o-xylene analysis - The PQL is elevated due to interferences present in the sample
H-DUP-091310	Soil	1009-106-11	9/13/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	Duplicate of sample H-PEX-9-5 U1 Flag for lube oil analysis - The PQL is elevated due to interferences present in the sample
H-TP-26-4	Soil	1009-119-01	9/14/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-26-9	Soil	1009-119-02	9/14/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-27-5	Soil	1009-119-03	9/14/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-27-9	Soil	1009-119-04	9/14/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-12-12	Soil	1009-140-01	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-13-14	Soil	1009-140-02	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-PEX-14-14	Soil	1009-140-03	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-15-10	Soil	1009-140-04	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-16-14	Soil	1009-140-05	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-DUP-091510	Soil	1009-140-06	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	Duplicate of sample H-PEX-12-12
H-PEX-17-7	Soil	1009-140-07	9/15/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-18-11	Soil	1009-154-01	9/16/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-19-6	Soil	1009-154-02	9/16/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-20-6	Soil	1009-154-03	9/16/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-28-9	Soil	1009-154-04	9/16/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-TP-29-6	Soil	1009-154-05	9/16/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-DUP-091610	Soil	1009-154-06	9/16/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	Duplicate of sample H-TP-28-9

Table C-1
Analytical Quality Control Summary

Sample ID	Matrix	OnSite Environmental Lab ID	Sample Date	On COC Form?	Requested Analyses[1]	Lab Prepared Sample Within Holding Time	Surrogate Recovery Within Control Limits	Method Blank Within Control Limits	Lab Duplicate Within Control Limits	Matrix Spike / Matrix Spike Duplicate Within Control Limits	Spiked Blank / Spiked Blank Duplicate Within Control Limits	Notes
H-PEX-21-16	Soil	1009-169-01	9/17/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-22-12	Soil	1009-169-01	9/17/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	
H-PEX-23-9	Soil	1009-169-01	9/17/10	√	NWTPH-Gx/BTEX NWTPH-Dx	√	√	√	√	√	√	O Flag for NWTPH-Gx analysis - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
H-PEX-24-6	Soil	1009-192-01	9/20/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-PEX-25-6	Soil	1009-192-02	9/20/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
H-DUP-0920	Soil	1009-192-03	9/20/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals	√	√	√	√	See Notes	√	Duplicate of sample H-PEX-25-6 U1 Flag for diesel (including duplicate QC) analysis - The PQL is elevated due to interferences present in the sample
H-PEX-26-8	Soil	1009-226-01	9/22/10	√	NWTPH-Dx	√	√	√	√	√	√	
H-SP-1	Soil	1010-034-01	10/5/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs	√	√	√	√	√	√	
H-SP-2	Soil	1010-034-02	10/5/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs	√	√	√	√	√	√	
H-SP-3	Soil	1010-034-03	10/5/10	√	NWTPH-Gx/BTEX NWTPH-Dx RCRA 8 Metals PAHs	√	√	√	√	√	√	
HZ-SP-101110-1	Soil	1010-095-01	10/11/10	√	NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
HZ-SP-101110-2	Soil	1010-095-02	10/11/10	√	NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	
HZ-SP-101110-3	Soil	1010-095-03	10/11/10	√	NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
HZ-SP-101110-4	Soil	1010-095-04	10/11/10	√	NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	U1 Flag for diesel analysis - The PQL is elevated due to interferences present in the sample
HZ-SP-101110-5	Soil	1010-095-05	10/11/10	√	NWTPH-Dx RCRA 8 Metals	√	√	√	√	√	√	

Footnotes:
√ - Indicates that QA/QC criteria were met for all analyses performed on sample
Blank cell (except for notes) indicates that the QC check was not applicable for the specified analyses
1 - Analyses Performed:
NWTPH-Gx - Gasoline range petroleum hydrocarbons using Ecology Method NWTPH-Gx
NWTPH-Dx - Diesel and oil range petroleum hydrocarbons using Ecology Method NWTPH-Dx
BTEX - Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021
RCRA 8 Metals - Arsenic, barium, cadmium, chromium, lead, selenium, silver using EPA Method 6010B and 6020; and mercury using EPA Method 7471A
PAHs - Polynuclear aromatic hydrocarbons by EPA Method 8270D/SIM
NWVPH/NWEPH - Ecology methods VPH and EPH for volatile and extractable petroleum hydrocarbon fractions
PCBs - Polychlorinated biphenyls by EPA Method 8082

Table C-2
Evaluation of Field Duplicate Sample Results

Sample Location	Diesel	Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Notes
H-TP-28-9	<29	<59	<5.1	<0.020	<0.051	<0.051	<0.051									
HZ-DUP-091610	<30	<59	<4.9	<0.020	<0.049	<0.049	<0.049									
Ratio of Non-detects[1]	1.0	1.0	1.0	1.0	1.0	1.0	1.0									
RPDs[2] for Detects																
H-PEX-9-5	820	<110	<14	<0.027	<0.14	<0.14	<0.14									
H-DUP-091310	950	<120	<12	<0.025	<0.12	<0.12	<0.12									
Ratio of Non-detects		0.9	1.2	1.1	1.2	1.2	1.2									
RPDs for Detects	-14.7%															
H-PEX-12-12	<31	<61	<5.7	<0.020	<0.057	<0.057	<0.057									
H-DUP-091510	<28	<56	<5.7	<0.020	<0.057	<0.057	<0.057									
Ratio of Non-detects	1.1	1.1	1.0	1.0	1.0	1.0	1.0									
RPDs for Detects																
H-TP-12-3	<28	<57	<5.9	<0.020	<0.059	<0.059	<0.059	<11	70	<0.57	30	<5.7	<0.28	<11	<0.57	
H-DUP-090110	<28	<57	<6.1	<0.020	<0.061	<0.061	<0.061	<11	67	<0.57	26	<5.7	<0.28	<11	<0.57	
Ratio of Non-detects	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0		1.0	1.0	1.0	1.0	
RPDs for Detects									4.4%		14.3%					
H-PEX-25-6	41	220	<6.5	<0.020	<0.065	<0.065	<0.065	<11	49	<0.56	23	22	<0.28	<11	<0.56	
H-DUP-0920	<34	270	<6.6	<0.020	<0.066	<0.066	<0.066	<11	51	<0.57	29	21	<0.28	<11	<0.57	
Ratio of Non-detects	1.2		1.0	1.0	1.0	1.0	1.0	1.0		1.0			1.0	1.0	1.0	
RPDs for Detects		-20.4%							-4.0%		-23.1%	4.7%				

Notes:

1 - Ratio of one PQL to another PQL or the ratio of a PQL to a reported analytical concentration

2 - RPD = Relative Percent Difference = $100*(X_1-X_2) / ((X_1+X_2)/2)$

Where: X_1 is the concentration in the first sample and X_2 is the concentration in the duplicate sample.

Indicates disagreement in analytical results for duplicate samples

Indicates major disagreement in analytical results for duplicate samples

APPENDIX D

PHOTOGRAPHS OF SOIL CLEANUP ACTION

Photo 1 – Removing building foundations on September 2, 2010 (looking to west).

Photo 2 – Peat layer and water table exposed in southern extent of excavation (looking to south) on September 17, 2010.

Photo 3 – Peat layer and water table exposed in northern extent of excavation (looking to north) on September 17, 2010.

Photo 4 – Old hydraulic lift exposed on September 7, 2010.

Photo 5 – Removing the hydraulic lift on September 7, 2010 (looking north).

Photo 6 – Old wooden catch basin exposed on September 13, 2010 (looking west).

Photo 7 – Pumping water and oil out of old wooden catch basin on September 14, 2010.

APPENDIX E

CEMEX USA RELEASE OF LIABILITY/ CERTIFICATE OF DISPOSAL

Release of Liability/Certificate of Disposal

Hos Bros Construction Inc. and their client ; are released from liability for all petroleum contaminated soil originating from:

Bothell Crossroads Phase II
Hertz Parcel
Bothell WA. 98011

and transported to:

CEMEX Soil Remediation Facility
6300 Glenwood Ave.
Everett WA 98203

From 09/092010 through 10/11/2010

A total of 11182.41 tons of petroleum-contaminated soil were transported to the above facility. The material was disposed of in the following manner:

Thermal Desorption/Landfill for Reclamation

Disposal of the contaminated soil was performed in accordance with all applicable federal, state, and local laws and regulations.

Signed: Date: November 29th, 2010

Larry W. Baker
CEMEX USA.
Operations Manager
Soil Remediation Division