***USTs N-1, 2, 3, 4, 25, and 26***
***Site-Specific Summary Report***
***Addendum***
***Port of Tacoma UST***
***Remediation Program***
***Tacoma, Washington***

***Prepared for***
***Port of Tacoma***

***April 5, 2012***
***17581-00***

HARTCROWSER

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# UST N-1, 2, 3, 4, 25, 26
# SITE-SPECIFIC SUMMARY REPORT ADDENDUM
# PORT OF TACOMA UST REMEDIATION PROGRAM
# TACOMA, WASHINGTON

## 1.0 INTRODUCTION

Hart Crowser has prepared this addendum to the Site-Specific Summary Report (SSR, Hart Crowser 2011) dated February 3, 2011, which was completed as part of the Port of Tacoma's (Port's) Underground Storage Tank (UST) Remediation Program. This addendum adds data collected in September and November 2011, and provides updated conclusions regarding the possible UST locations.

Refer to the documents listed in Section 6 (References) for details on previous investigations and additional site information. The Port's UST Remediation Program is focused on the northern end of the Blair-Hylebos Peninsula, north of East 11th Street, in Tacoma, Washington (Figure 1).

The overall goal of this investigation has been to test for the presence of contamination in soil and groundwater related to six 25,000-gallon USTs reportedly placed by the Navy in the 1940s to support a local steam plant. The six USTs in this cluster, USTs N-1, 2, 3, 4, 25, 26 (Figure 2), were reported to contain fuel oil.

The 2010 portion of this investigation was completed under a Site-Specific Sampling and Analysis Plan (SSAP) (Hart Crowser 2010b) that was supplemented by the Area-Wide Sampling and Analysis Plan (AWSAP) (Hart Crowser 2010a). An SSAP Addendum (Hart Crowser 2010c) was created for the 2011 portion of this investigation.

The test pit explorations, push probe borings, and groundwater monitoring wells are formally assigned the sample identification labels: HC-N12342526-TP-X, HC-N12342526-X, and HC-N12342526-X- GW, respectively. For the ease of reading, the "N12342626" portion of the sample identification has been removed on our figures and in the text of this report. The letters "TP" denote Test Pit samples, "MW" denotes groundwater monitoring well samples, and "Probe" denotes soil or groundwater collected from a push probe location.

## 2.0 PROJECT BACKGROUND

The 2010 push probe investigation concluded that petroleum-related contamination above Method A screening levels for industrial sites was observed in site soil and groundwater. Chlorinated volatile organic compounds were also identified but were attributed to the Occidental Chemical Corporation (OCC) contamination.

There are no records that indicate the subject tanks have been removed, and no records that indicate that the tanks have been used since the Washington State Underground Storage Tank Regulations (Chapter 173-360 WAC) were developed in 1989. If the tanks remain in-place, it is unlikely that they were closed to meet today's standards. Given the density of field sampling and the proximity of numerous utilities throughout the suspected location of the USTs, it is unlikely that the six subject tanks are present in the locations shown on the Navy drawings.

During this investigation one UST was encountered. However, the tank that was encountered is likely smaller than the subject tanks according to Navy records and based on field observations. The tank measured approximately 6.5 feet in diameter. In order for a cylindrical, 6.5-foot-diameter tank to have a 25,000 gallon capacity, it would have to be approximately 100 feet long. This UST remains in place.

Tables at the end of the text present pertinent soil and groundwater data from the site and immediate vicinity. For comparison purposes, analytical results from one soil and groundwater sample from a 2009 Hart Crowser Site Characterization Report (Hart Crowser 2009) conducted near the subject tanks are presented in Tables 1 and 2. Summary soil and groundwater data from the 2010 push probe investigation and this field work are presented in Tables 3 through 6.

As seen on Figure 2, the site is located within the areal extent of contamination from historical operations at the adjacent OCC property.

## 3.0 GEOLOGY AND HYDROGEOLOGY

Test pits and direct push probes indicate that soil conditions are similar to those described in the SSR.

On December 29, 2011, groundwater was encountered at approximately 8.5 to 9.5 feet bgs. Groundwater elevation data is provided in Table 6. Based on these data, groundwater appears to flow generally to project northeast toward Commencement Bay (Figure 4) with a gradient of 0.002 ft/ft.

## 4.0 SUMMARY OF 2011 INVESTIGATION ACTIVITIES

During the 2011 sampling event, four test pit explorations were completed around the perimeter of the presumed UST locations and one test pit was completed within the area of the suspected UST locations to determine if the tanks are present. Three groundwater monitoring wells were installed, developed, and sampled. Locations of test pit explorations and groundwater monitoring wells from the 2011 investigation are shown on Figure 3.

### *4.1 Test Pit Investigation*

Green Earthworks, Inc. of Tacoma, Washington, completed five test pit explorations, HC-TP-1 through HC-TP-5 on September 28 and 29, 2011. Before this subsurface investigation, we contacted One-Call to locate utilities in the public right-of-way and contracted with a private utility locating company to locate potential utilities on private property.

The test pits were located to aid in the delineation of the lateral extent of previously identified contamination and as a tool to evaluate whether any of the six USTs remained in place. The test pits were extended to approximately 9.5 feet below ground surface (bgs). The exploration locations are shown on Figure 3 and test pit logs are provided in Appendix A.

After the soil samples were collected, the test pit locations were backfilled with clean soil from an off-site source. Investigation-derived waste soil was stored in roll-off boxes on site, until laboratory tests established the waste designation; the soil was properly disposed at Waste Management in Oregon.

#### Soil Sampling

Hart Crowser collected soil samples from the test pits at 4-foot-depth intervals and field screened the samples using a sheen test. Field indications of petroleum contamination were observed in test pits HC-TP-4 and HC-TP-5. There were no indications of petroleum hydrocarbon-impacted soil in the three other test pits.

A total of six soil samples were collected, one from each test pit and an additional sample was collected from HC-TP-4-1 at approximately 2 feet bgs to evaluate fill material with abundant debris including brick, wire, pipe, and concrete. The material was encountered at 1 to 3 feet bgs only at this test pit location. Based on field observations, this sample was submitted for additional analyses for extended semivolatile organic compounds. The remaining soil samples were collected from the zone spanning the approximate groundwater table where the petroleum impacts were observed.

Soil samples were submitted to Onsite Environmental Inc. (OnSite) of Redmond, Washington, for chemical analysis of diesel- and oil-range petroleum hydrocarbons by NWTPH-Dx; gasoline-range petroleum hydrocarbons by NWTPH-Gx; volatiles by EPA Method 8260B; polycyclic aromatic hydrocarbons by EPA Method 8270D/SIM and total lead by EPA Method 6010B. One soil sample from HC-TP-4-1 was also analyzed for RCRA 8 metals by EPA Method 6010B and the full suite of semivolatile organic compounds by EPA Method 8270D/SIM.

## Soil Analytical Results

Chromium was detected in soil sample HC-TP-4-1 at 29 mg/kg, which is above the MTCA Method A industrial soil screening level for chromium VI (19 mg/kg) but well below the MTCA Method A industrial soil screening level for chromium III (2,000 mg/kg). Based on our understanding of the site, there is no indication that chromium VI was a constituent of concern at the site; therefore, the chromium III screening level is appropriate. All other metals were below the MTCA Method A screening levels for industrial properties.

The semivolatile organic compound analytical results from the soil sample collected at 2 feet bgs from pit location HC-TP-4-1 are presented in Table 5. No semivolatile organic compounds (SVOCs) were detected in this soil sample.

Polycyclic aromatic hydrocarbons (PAHs) were present in soil samples HC-TP-3-2, HC-4-2, and HC-5-2. Total carcinogenic PAHs (cPAHs) equivalents were calculated according to the procedures in WAC 173-340-708(8). The toxicity equivalency factor for HC-TP-3-2, HC-TP4-2, and HC-TP-5-2 for total cPAHs were calculated to be 0.075, 0.015, and 0.051 mg/kg, respectively, which are well below the MTCA Method A screening level for industrial properties for benzo(a)pyrene toxicity equivalency factor of 2 mg/kg.

All petroleum-range hydrocarbons and VOCs were below MTCA Method A screening levels for industrial properties or were below method detection limits.

Soil sample analytical results for the test pit samples are summarized in Tables 3 and 5 and shown on Figure 5. The results of the review of chemical data quality and laboratory reports are provided in Appendix B.

### *4.2 Groundwater Monitoring Well Investigation*

On October 6, 2011, ESN Northwest, Inc. of Olympia, Washington, completed four push probe borings (Probe HC-5 through Probe HC-8) to install 1-inch groundwater monitoring wells. Before this subsurface investigation, we contacted One-Call to locate utilities in the public right-of-way and contracted with a private utility locating company to locate potential utilities on private property.

A likely UST was encountered in soil boring Probe HC-5 approximately 1.5 feet bgs. The presumed tank was sounded, and measured approximately 6.5 feet in diameter. The tank was filled with what appeared to be a petroleum-like product. This soil probe was immediately abandoned and no well was completed. The tank was patched in the field using a steel drill bit of the same approximate circumference that made the hole, and was grouted using a quick-setting concrete patch. Because of the underground utilities and aboveground structures, an additional soil probe was not attempted in this area.

During drilling, Hart Crowser collected continuous soil samples from each of the three remaining soil probes at 4-foot-depth intervals, and field screened the samples using a PID and sheen test. There were no indications of contamination observed in any of the completed soil probes. Soil samples were not submitted to the laboratory for analysis.

Probe HC-6 through Probe HC-8 were completed as 1-inch groundwater monitoring wells. These wells are designated HC-MW-6 through HC-MW-8 on Figures 3 through 6 and sample analytical results are presented in Table 4. The three wells were installed to project north, south and east of the presumed locations of USTs N-1, 2, 3, 4, 25, and 26.

Each soil probe was extended to a depth of approximately 13 feet bgs and the wells were installed with 5-foot screens to approximately 13 feet bgs. The exploration locations are shown on Figure 3 through 6 and push probe logs are provided in Appendix A. The wells were developed on October 12, 2011, using a bailer and peristaltic pump.

Investigation-derived waste soil from the soil probes and water from well development was stored until laboratory tests established the waste designation; the soil and water were properly disposed of at Waste Management in Oregon.

On November 10, 2011, groundwater samples were collected from each of the three monitoring wells. Groundwater samples were submitted to OnSite for chemical analysis. Each groundwater sample was analyzed for diesel- and oil-range petroleum hydrocarbons by NWTPH-Dx; gasoline-range petroleum hydrocarbons by NWTPH-Gx; dissolved and total metals by EPA 200.8 and 7470, VOCs by EPA Method 8260B, and EDB by EPA Method 8011.

### Groundwater Analytical Results

Petroleum hydrocarbons were not detected in the three groundwater monitoring well samples submitted for analysis. The only constituents that exceeded screening levels were arsenic and vinyl chloride. All other concentrations were either below detection limits or below MTCA Method A groundwater screening levels as well as below screening values based on the groundwater to surface water pathway.

Groundwater sample results from HC-MW-7 indicated the presence of total and dissolved arsenic at concentrations of 7.5 and 6 ug/l, respectively. The MTCA Method A screening level for arsenic is 5 ug/l and the groundwater to surface water discharge protection value is 0.14 ug/L. Groundwater samples from wells HC-MW-6, HC-MW-7, and HC-MW-8 contained vinyl chloride at 19 ug/l, 200 ug/l, and 630 ug/l, respectively, exceeding both the MTCA Method A groundwater screening level of 0.2 ug/l and screening level established for protection of surface water of 2.4 ug/l. This UST location is within the OCC chlorinated solvent plume footprint, as noted earlier, and the vinyl chloride detections are likely attributed to historical operations at the OCC property.

Groundwater sample analytical results are summarized in Table 4 and shown on Figure 6. The results of the review of chemical data quality and laboratory reports are provided in Appendix B.

## *4.3 Soil and Groundwater Investigation 2010*

A summary of the results from the 2010 field investigation is provided below (complete data and sampling methodology is provided in Hart Crowser 2010). Four direct push probes were completed along the perimeter of the suspected tanks, one on each side of the estimated former UST locations (Probe HC-1 through Probe HC-4). Groundwater samples were collected from temporary

3-foot miniwells installed in each of the four shallow push probe explorations, Probe HC-1 through Probe HC-4. One sample from each location was submitted for chemical analysis of diesel-, oil-, gasoline-range petroleum hydrocarbons, and BETX.

## Soil Results

Five soil samples were collected and submitted for analysis (two samples from Probe HC-3). Petroleum hydrocarbon soil sample results from the direct push probe investigation were either not detected or were below applicable screening levels in four out of five samples except in soil from Probe HC-4. Results from Probe HC-4 were reported to contain diesel- and oil- range petroleum hydrocarbons at 22,000 mg/kg and 25,000 mg/kg, respectively, exceeding MTCA Method A Industrial screening levels of 2,000 mg/kg. BETX was also detected in the sample; however, the benzene concentration of 0.14 mg/kg was the only compound detected above its screening level (0.03 mg/kg).

The analytical results for the direct push probe soil samples collected in 2010 are summarized in Table 3.

## Groundwater Results

No evidence of petroleum-related contamination was observed during field screening of the purge water collected from the two shallow push probe explorations Probe HC-2 and Probe HC-3. Diesel-, oil-, gasoline-range petroleum hydrocarbons, and BETX were not detected above applicable analytical detection limits in these groundwater samples.

A slight to moderate sheen was observed during field screening of purge water from push probe exploration Probe HC-1. The groundwater sample from this exploration contained diesel- and oil-range petroleum hydrocarbons at 530 ug/L and 1800 ug/L respectively, exceeding the MTCA Method A groundwater screening level of 500 ug/L for both hydrocarbon ranges.

An oily product was observed during field screening of purge water from push probe exploration HC-4. Groundwater from this exploration contained benzene at 16 ug/L, above the MTCA Method A groundwater screening level of 5 ug/L but was below the screening value for protection of surface water (51 ug/L). Diesel- and oil-and gasoline range petroleum hydrocarbons were also detected at 1500 ug/L, 670 ug/L, and 950 ug/L, respectively, above applicable MTCA Method A screening levels. The Method A criteria for petroleum hydrocarbons are based on the protection of drinking water and are used as a screening level.

The analytical results for the direct push probe groundwater samples are summarized in Table 4.

## 5.0 SUMMARY AND RECOMMENDATIONS

Soil sample analytical data from one exploration location (Probe HC-4) contained petroleum-related hydrocarbon concentrations that exceed MTCA Method A industrial screening levels. Groundwater analytical results indicate the presence of VOCs that are likely related to historical operations at the OCC property in the three installed monitoring wells. Groundwater analytical results for two of the push probe samples contained constituents associated with petroleum that exceed screening levels developed for drinking water.

An abandoned, unregistered UST was discovered during the field investigation. Based on field observations, this tank contains petroleum product but is not large enough to be one of the six bunker fuel tanks shown on historical Navy drawings (i.e., not one of the N1, 2, 3, 4, 25 or 26 tanks). This UST is about 15 feet project west of Probe HC-4 where petroleum hydrocarbons above screening levels were identified. Despite being in close proximity, the field crew reported the material encountered in the soil appeared different than the oily product found in the tank.

Depending on its age and its usage, the discovered UST may not be regulated under current UST regulations. However, state and local regulators have the authority to require that unregulated USTs be closed per the regulations, if a current or potential threat to human health or the environment exists. The presence of petroleum in the tank will require the tank to be cleaned and emptied. The presence of petroleum in soil near the tank may prompt state or local UST regulators to require that the tank be closed under current UST regulations, unless a UST assessment can demonstrate that the discovered UST is not the source of the petroleum in soil at Probe HC-4. Alternatively, the Port may consider closing the UST per the regulations regardless of regulatory status.

If closure is undertaken, a UST site assessment should be conducted in accordance with Ecology regulations and Tacoma Pierce County Health Department guidance.

## 6.0 REFERENCES


Conestoga-Rovers & Associates (CRA) 2008. Preliminary Draft Site Characterization Report. Prepared for Occidental Chemical Corporation, March 2008.

Ecology 2007a. Model Toxics Control Act (MTCA) cleanup regulation, Chapter 173-340 WAC.

Ecology 2007b. Underground Storage Tank Regulations, Chapter 173-360 WAC.

Ecology 2008. State of Washington Administrative Code on Minimum Standards for Construction and Maintenance of Wells, Chapter 173-160 WAC.

GeoEngineers 2008. Final Dredge Material Characterization Report Blair-Hylebos Terminal Redevelopment Project, Port of Tacoma, Washington. Prepared for The US Army Corps of Engineers, Seattle District. November 24, 2008.

Hart Crowser 2009. Environmental Site Characterization Data Report, Proposed Terminal Development, Port of Tacoma, Washington. Prepared for Port of Tacoma. February 27, 2009.

Hart Crowser 2010a. Area-Wide Sampling and Analysis Plan. Port of Tacoma UST Remediation Program Sampling, Tacoma, Washington. Prepared for the Port of Tacoma. April 27, 2010.

Hart Crowser 2010b. UST N-1,2,3,4,25,26 Site-Specific Sampling and Analysis Plan. Port of Tacoma UST Remediation Program Sampling, Tacoma, Washington. Prepared for the Port of Tacoma. May 28, 2010.

Hart Crowser 2010c. UST N-1,2,3,4,25,26 Site-Specific Sampling and Analysis Plan. Port of Tacoma UST Remediation Program Sampling, Tacoma, Washington. Prepared for the Port of Tacoma. September 23, 2011.

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## Table 1 - Analytical Results for Nearby Soil Samples (Hart Crowser 2009)

| Sample ID<br>Sampling Date<br>Depth in Feet | MTCA<br>Method A<br>Industrial<br>Screening Level | HC08-EP107<br>10/01/08<br>2.5 to 4 |
|---|---|---|
| **Metals in mg/kg** | | |
| Arsenic | 20 | 5 U |
| Cadmium | 2 | 0.2 U |
| Chromium | | 12.1 |
| Copper | | 13.1 |
| Lead | 1,000 | 5 |
| Mercury | 2 | 0.05 U |
| Nickel | | 8 |
| Zinc | | 30 |
| **TPH in mg/kg** | | |
| Diesel-Range Hydrocarbons | 2,000 | 6.4 |
| Motor Oil-Range Hydrocarbons | 2,000 | 37 |
| Gasoline-Range Hydrocarbons | 100/30 [a] | 6.8 |
| **PCBs in ug/kg** | | |
| Aroclor 1016 | | 32 U |
| Aroclor 1221 | | 32 U |
| Aroclor 1232 | | 32 U |
| Aroclor 1242 | | 32 U |
| Aroclor 1248 | | 32 U |
| Aroclor 1254 | | 32 U |
| Aroclor 1260 | | 32 U |
| Total PCBs | 10,000 | 32 U |

Notes:
Blank entry indicates no applicable MTCA Method A Industrial criteria established or sample not analyzed for specific analyte.
U: Not detected at reporting limit indicated.
J: Estimated value.
**9** Bold, boxed entry indicates concentration exceeds MTCA screening criteria.
[a] 100 mg/kg when no benzene present, 30 mg/kg when benzene present.

## Table 2 - Analytical Results for Detected Constituents in Nearby Groundwater Samples (Hart Crowser 2009)

| Sample ID<br>Sampling Date<br>Screen Interval in Feet | MTCA Method A Industrial Screening Level | GW Values Protective of Surface Water (c) | HC08-EP107<br>10/01/08<br>10.75 to 11.75 |
|---|---|---|---|
| pH [(a)] | | | 6.81 |
| **TPH in mg/L** | | | |
| Diesel-Range Hydrocarbons | 0.5 | | 0.34 |
| Motor Oil-Range Hydrocarbons | 0.5 | | 0.5 U |
| Gasoline-Range Hydrocarbons | 0.8/1 [(b)] | | 0.25 U |
| **Metals in ug/L** | | | |
| Arsenic | 5 | 0.14 | *50 U* |
| Cadmium | 5 | 8.8 | 2 U |
| Chromium | 50 | 50 | 29 |
| Copper | | 2.4 | 30 |
| Lead | 15 | 8.1 | *20 U* |
| Mercury | 2 | 0.025 | 0.1 U |
| Nickel | | 4600 | 20 |
| Zinc | | 81 | 40 |
| **Volatiles in ug/L** | | | |
| 1,2-Dichlorobenzene | | | 0.3 |
| 4-Isopropyltoluene | | | 3.2 |
| Benzene | 5 | 51 | 0.3 |
| cis-1,2-Dichloroethene | | | 11 |
| o-Xylene | | | 0.2 |
| Tetrachloroethene | 5 | 3.3 | 0.3 |
| trans-1,2-Dichloroethene | | 1000 | 6.2 |
| Trichloroethene | 5 | 30 | 0.5 |
| Vinyl Chloride | 0.2 | 2.4 | **190** |

Notes:
U = Not detected at reporting limit indicated.
Bold, boxed entry indicates concentration exceeds MTCA Method A screening criteria.
Shaded entry indicates concentration exceeds surface water protection criteria.
Reporting limits that exceed screening criteria are in italics.
Blank indicates sample not analyzed for specific analyte or no criteria available.
(a) pH measured in the field at the time of sample collection.
(b) 0.8 mg/L when benzene present, 1 mg/L when no benzene present.
(c) Surface water screening levels were selected using the most conservative numbers based on protection of human health and the environment. Screening levels were derived from the National Toxics Rule (40 CFR 131); Section 304 of the Clean Water Act; Chapter 173-201A WAC, as presented in the CLARC database.

# Table 3 - UST Program Analytical Results for Detected Constituents in Soil Samples, USTs N-1, 2, 3, 4, 25, and 26

| Sample Location<br>Sample ID<br>Sampling Date<br>Sample Depth in Feet | MTCA<br>Method A<br>Industrial<br>Screening Level | Probe HC-1<br>HC-N12342526-1-S3/4<br>9/24/2010<br>10 to 12 | Probe HC-2<br>HC-N12342526-2-S3<br>9/24/2010<br>8 to 10 | Probe HC-3<br>HC-N12342526-3-S1<br>9/24/2010<br>1 to 3 |
|---|---|---|---|---|
| **TPH in mg/kg** | | | | |
| Diesel Range Organics | 2000 | 31 U | 33 U | 46 |
| Lube Oil | 2000 | 62 U | 65 U | 98 |
| Gasoline Range Organics | 100/30 [a] | 6.1 U | 7.4 U | 5 U |
| **Metals in mg/kg** | | | | |
| Arsenic | 20 | | | |
| Barium | | | | |
| Cadmium | 2.0 | | | |
| Chromium | 19/2000 [b] | | | |
| Lead | 1000 | | | |
| Mercury | 2.0 | | | |
| Selenium | | | | |
| Silver | | | | |
| **BTEX in mg/kg** | | | | |
| Benzene | 0.03 | 0.02 U | 0.02 U | 0.02 U |
| Ethylbenzene | 6.0 | 0.061 U | 0.074 U | 0.05 U |
| m, p-Xylene | 9.0 | 0.061 U | 0.074 U | 0.05 U |
| o-Xylene | 9.0 | 0.061 U | 0.074 U | 0.05 U |
| Toluene | 7.0 | 0.061 U | 0.074 U | 0.05 U |
| **Volatiles in mg/kg** | | | | |
| Acetone | | | | |
| Carbon Disulfide | | | | |
| Cis-1,2-Dichloroethene | | | | |
| Tetrachloroethene | 0.05 | | | |
| **Semivolatiles (SIM) in mg/kg** | | | | |
| Acenaphthene | | | | |
| Anthracene | | | | |
| Benzo(ghi)perylene | | | | |
| Fluoranthene | | | | |
| Fluorene | | | | |
| Phenanthrene | | | | |
| Pyrene | | | | |
| **cPAHs in mg/kg** | | | | |
| Benz[a]anthracene | | | | |
| Benzo(a)pyrene | 2.0 | | | |
| Benzo(b)fluoranthene | | | | |
| Benzo(j,k)fluoranthene | | | | |
| Chrysene | | | | |
| Dibenzo(a,h)anthracene | | | | |
| Indeno(1,2,3-cd)pyrene | | | | |
| Total cPAHs B[a]P TEF [c] | 2.0 | | | |

## Table 3 - UST Program Analytical Results for Detected Constituents in Soil Samples, USTs N-1, 2, 3, 4, 25, and 26

| Sample Location<br>Sample ID<br>Sampling Date<br>Sample Depth in Feet | MTCA<br>Method A<br>Industrial<br>Screening Level | Probe HC-3<br>HC-N12342526-3-S4<br>9/24/2010<br>12 to 14 | Probe HC-4<br>HC-N12342526-4-S3<br>9/24/2010<br>10 to 12 | HC-TP-1<br>HC-N12342526-TP-1-2<br>9/29/2011<br>8.5 to 9.5 |
|---|---|---|---|---|
| **TPH in mg/kg** | | | | |
| Diesel Range Organics | 2000 | 30 U | **22000** | 34 U |
| Lube Oil | 2000 | 60 U | **25000** | 68 U |
| Gasoline Range Organics | 100/30 [a] | 6 U | 6.6 U | 7.5 U |
| **Metals in mg/kg** | | | | |
| Arsenic | 20 | | | |
| Barium | | | | |
| Cadmium | 2.0 | | | |
| Chromium | 19/2000 [b] | | | |
| Lead | 1000 | | | 6.8 U |
| Mercury | 2.0 | | | |
| Selenium | | | | |
| Silver | | | | |
| **BTEX in mg/kg** | | | | |
| Benzene | 0.03 | 0.02 U | **0.14** | 0.0013 U |
| Ethylbenzene | 6.0 | 0.06 U | 1.5 | 0.0013 U |
| m, p-Xylene | 9.0 | 0.06 U | 0.85 | 0.0026 U |
| o-Xylene | 9.0 | 0.06 U | 6.6 U | 0.0013 U |
| Toluene | 7.0 | 0.06 U | 0.089 | 0.0064 U |
| **Volatiles in mg/kg** | | | | |
| Acetone | | | | 0.0064 U |
| Carbon Disulfide | | | | 0.0023 |
| Cis-1,2-Dichloroethene | | | | 0.0013 U |
| Tetrachloroethene | 0.05 | | | 0.0013 U |
| **Semivolatiles (SIM) in mg/kg** | | | | |
| Acenaphthene | | | | 0.009 U |
| Anthracene | | | | 0.009 U |
| Benzo(ghi)perylene | | | | 0.009 U |
| Fluoranthene | | | | 0.009 U |
| Fluorene | | | | 0.009 U |
| Phenanthrene | | | | 0.009 U |
| Pyrene | | | | 0.009 U |
| **cPAHs in mg/kg** | | | | |
| Benz[a]anthracene | | | | 0.009 U |
| Benzo(a)pyrene | 2.0 | | | 0.009 U |
| Benzo(b)fluoranthene | | | | 0.009 U |
| Benzo(j,k)fluoranthene | | | | 0.009 U |
| Chrysene | | | | 0.009 U |
| Dibenzo(a,h)anthracene | | | | 0.009 U |
| Indeno(1,2,3-cd)pyrene | | | | 0.009 U |
| Total cPAHs B[a]P TEF [c] | 2.0 | | | ND |

## Table 3 - UST Program Analytical Results for Detected Constituents in Soil Samples, USTs N-1, 2, 3, 4, 25, and 26

| Sample Location<br>Sample ID<br>Sampling Date<br>Sample Depth in Feet | MTCA<br>Method A<br>Industrial<br>Screening Level | HC-TP-2<br>HC-N12342526-TP-2-2<br>9/29/2011<br>8.5 to 9.5 | HC-TP-3<br>HC-N12342526-TP-3-2<br>9/29/2011<br>8.5 to 9.5 | HC-TP-4<br>HC-N12342526-TP-4-1<br>9/28/2011<br>2 to 3 |
|---|---|---|---|---|
| **TPH in mg/kg** | | | | |
| Diesel Range Organics | 2000 | 35 U | 26 U | 27 U |
| Lube Oil | 2000 | 69 U | 160 | 54 U |
| Gasoline Range Organics | 100/30 [a] | 9 U | 5.7 U | 5.8 U |
| **Metals in mg/kg** | | | | |
| Arsenic | 20 | | | 11 U |
| Barium | | | | 43 |
| Cadmium | 2.0 | | | 0.54 U |
| Chromium | 19/2000 [b] | | | 29 |
| Lead | 1000 | 6.9 U | 16 | 5.4 U |
| Mercury | 2.0 | | | 0.27 U |
| Selenium | | | | 11 U |
| Silver | | | | 0.54 U |
| **BTEX in mg/kg** | | | | |
| Benzene | 0.03 | 0.0014 U | 0.0013 U | 0.0011 U |
| Ethylbenzene | 6.0 | 0.0014 U | 0.0013 U | 0.0011 U |
| m, p-Xylene | 9.0 | 0.0027 U | 0.0025 U | 0.0022 U |
| o-Xylene | 9.0 | 0.0014 U | 0.0013 U | 0.0011 U |
| Toluene | 7.0 | 0.0068 U | 0.0064 U | 0.0056 U |
| **Volatiles in mg/kg** | | | | |
| Acetone | | 0.0068 U | 0.0064 U | 0.0056 U |
| Carbon Disulfide | | 0.0014 U | 0.0013 U | 0.0011 U |
| Cis-1,2-Dichloroethene | | 0.0014 U | 0.0013 U | 0.0011 U |
| Tetrachloroethene | 0.05 | 0.0014 U | 0.0033 | 0.0011 U |
| **Semivolatiles (SIM) in mg/kg** | | | | |
| Acenaphthene | | 0.0092 U | 0.007 U | 0.0072 U |
| Anthracene | | 0.0092 U | 0.007 U | 0.0072 U |
| Benzo(ghi)perylene | | 0.0092 U | 0.053 | 0.0072 U |
| Fluoranthene | | 0.0092 U | 0.032 | 0.0072 U |
| Fluorene | | 0.0092 U | 0.007 U | 0.0072 U |
| Phenanthrene | | 0.0092 U | 0.011 | 0.0072 U |
| Pyrene | | 0.0092 U | 0.032 | 0.0072 U |
| **cPAHs in mg/kg** | | | | |
| Benz[a]anthracene | | 0.0092 U | 0.026 | 0.0072 U |
| Benzo(a)pyrene | 2.0 | 0.0092 U | 0.057 | 0.0072 U |
| Benzo(b)fluoranthene | | 0.0092 U | 0.052 | 0.0072 U |
| Benzo(j,k)fluoranthene | | 0.0092 U | 0.041 | 0.0072 U |
| Chrysene | | 0.0092 U | 0.031 | 0.0072 U |
| Dibenzo(a,h)anthracene | | 0.0092 U | 0.012 | 0.0072 U |
| Indeno(1,2,3-cd)pyrene | | 0.0092 U | 0.042 | 0.0072 U |
| Total cPAHs B[a]P TEF [c] | 2.0 | ND | 0.075 | ND |

## Table 3 - UST Program Analytical Results for Detected Constituents in Soil Samples, USTs N-1, 2, 3, 4, 25, and 26

| Sample Location | MTCA | HC-TP-4 | HC-TP-5 |
|---|---|---|---|
| Sample ID | Method A | HC-N12342526-TP-4-2 | HC-N12342526-TP-5-2 |
| Sampling Date | Screening | 9/28/2011 | 9/28/2011 |
| Sample Depth in Feet | Level | 8.5 to 9.5 | 8.5 to 9.5 |
| **TPH in mg/kg** | | | |
| Diesel Range Organics | 2000 | 30 U | 38 |
| Lube Oil | 2000 | 59 U | 100 |
| Gasoline Range Organics | 100/30 [a] | 6.6 U | 6.5 U |
| **Metals in mg/kg** | | | |
| Arsenic | 20 | | |
| Barium | | | |
| Cadmium | 2 | | |
| Chromium | 19/2000 [b] | | |
| Lead | 1000 | 5.9 U | 11 |
| Mercury | 2 | | |
| Selenium | | | |
| Silver | | | |
| **BTEX in mg/kg** | | | |
| Benzene | 0.03 | 0.0011 U | 0.0011 U |
| Ethylbenzene | 6 | 0.0011 U | 0.0011 U |
| m, p-Xylene | 9 | 0.0022 U | 0.0023 U |
| o-Xylene | 9 | 0.0011 U | 0.0011 U |
| Toluene | 7 | 0.0056 U | 0.0057 U |
| **Volatiles in mg/kg** | | | |
| Acetone | | 0.0056 U | 0.02 |
| Carbon Disulfide | | 0.0011 U | 0.0011 U |
| Cis-1,2-Dichloroethene | | 0.0011 U | 0.0035 |
| Tetrachloroethene | 0.05 | 0.0011 U | 0.0011 U |
| **Semivolatiles (SIM) in mg/kg** | | | |
| Acenaphthene | | 0.0079 U | 0.011 |
| Anthracene | | 0.0079 U | 0.018 |
| Benzo(ghi)perylene | | 0.015 | 0.027 |
| Fluoranthene | | 0.019 | 0.063 |
| Fluorene | | 0.0079 U | 0.0079 |
| Phenanthrene | | 0.015 | 0.034 |
| Pyrene | | 0.026 | 0.13 |
| **cPAHs in mg/kg** | | | |
| Benz[a]anthracene | | 0.012 | 0.043 |
| Benzo(a)pyrene | 2.0 | 0.012 | 0.039 |
| Benzo(b)fluoranthene | | 0.01 | 0.03 |
| Benzo(j,k)fluoranthene | | 0.008 | 0.024 |
| Chrysene | | 0.014 | 0.061 |
| Dibenzo(a,h)anthracene | | 0.0079 U | 0.0079 U |
| Indeno(1,2,3-cd)pyrene | | 0.0079 U | 0.017 |
| Total cPAHs B[a]P TEF [c] | 2.0 | 0.015 | 0.051 |

Notes:
U = Not detected at the reporting limit indicated.
a) 100 mg/kg when no benzene present, 30 mg/kg when benzene present.
Bold boxed entry indicates concentration exceeds MTCA Method A screening level for industrial land use.
Blank entry indicates no applicable MTCA criteria established or sample not analyzed for specific analyte.
b) 19 as Chromium VI/2000 as Chromium III.
c) Calculated total carcinogenic PAH equivalent for benzo(a)pyrene per procedures in WAC 173-340-708(8).

## Table 4 - UST Program Analytical Results for Detected Constituents in Groundwater Samples, USTs N-1, 2, 3, 4, 25, and 26



| Sample Location<br>Sample ID<br>Sampling Date<br>Screen Interval in Feet | MTCA Screening Level Method A [c] | GW Values Protective of Surface Water [a] | Probe HC-1<br>HC-N12342526-1 GW<br>9/24/2010<br>11 to 14 | Probe HC-2<br>HC-N12342526-2 GW<br>9/24/2010<br>9 to 12 | Probe HC-3<br>HC-N12342526-3 GW<br>9/24/2010<br>12 to 15 | Probe HC-4<br>HC-N12342526-4-GW<br>9/24/2010<br>10 to 13 |
|---|---|---|---|---|---|---|
| **TPH in ug/L** [v] | | | | | | |
| Diesel Range Organics | 500 | | **530** | 260 U | 260 U | **1500** |
| Lube Oil | 500 | | **1800** | 420 U | 420 U | **670** |
| Gasoline Range Organics | 800/1,000 [a] | | 100 U | 100 U | 100 U | **950** |
| **Dissolved Metals in ug/L** | | | | | | |
| Arsenic | 5 | 0.14 | | | | |
| Cadmium | 5 | 8.8 | | | | |
| Chromium | 50 | 50 | | | | |
| Lead | 15 | 8.1 | | | | |
| Mercury | 2 | 0.025 | | | | |
| **Total Metals in ug/L** | | | | | | |
| Arsenic | 5 | 0.14 | | | | |
| Cadmium | 5 | 8.8 | | | | |
| Chromium | 50 | 50 | | | | |
| Lead | 15 | 8.1 | | | | |
| Mercury | 2 | 0.025 | | | | |
| **BTEX in ug/L** | | | | | | |
| Benzene | 5 | 51 | 1 U | 1 U | 1 U | **16** |
| Ethylbenzene | 700 | 2100 | 1 U | 1 U | 1 U | 26 |
| m, p-Xylene | 1000 | | 1 U | 1 U | 1 U | 6.9 |
| o-Xylene | 1000 | | 1 U | 1 U | 1 U | 7.4 |
| Total Xylenes | 1000 | 15000 | 1 U | 1 U | 1 U | 14.3 |
| Toluene | 1000 | 15000 | 1 U | 1 U | 1 U | 1.5 |
| **Volatiles in ug/L** | | | | | | |
| Cis-1,2-Dichloroethene | | | | | | |
| Trans-1,2-Dichloroethene | | 10000 | | | | |
| Trichloroethene | 5 | 30 | | | | |
| Vinyl Chloride | 0.2 | 2.4 | | | | |

## Table 4 - UST Program Analytical Results for Detected Constituents in Groundwater Samples, USTs N-1, 2, 3, 4, 25, and 26

| Sample Location<br>Sample ID<br>Sampling Date<br>Screen Interval in Feet | MTCA Screening Level Method A [c] | GW Values Protective of Surface Water [d] | HC-MW-6<br>HC-N12342526-6<br>11/10/2011 | HC-MW-7<br>HC-N12342526-7<br>11/10/2011 | HC-MW-8<br>HC-N12342526-8<br>11/10/2011 |
|---|---|---|---|---|---|
| **TPH in ug/L [b]** | | | | | |
| Diesel Range Organics | 500 | | 260 U | 260 U | 260 U |
| Lube Oil | 500 | | 410 U | 410 U | 410 U |
| Gasoline Range Organics | 800/1,000 [a] | | 100 U | 100 U | 100 U |
| **Dissolved Metals in ug/L** | | | | | |
| Arsenic | 5 | 0.14 | *3 U* | **6** | *3 U* |
| Cadmium | 5 | 8.8 | 4 U | 4 U | 4 U |
| Chromium | 50 | 50 | 10 U | 10 U | 10 U |
| Lead | 15 | 8.1 | 1 U | 1 U | 1 U |
| Mercury | 2 | 0.025 | 0.5 U | 0.5 U | 0.5 U |
| **Total Metals in ug/L** | | | | | |
| Arsenic | 5 | 0.14 | *3.3 U* | **7.5** | 3.3 U |
| Cadmium | 5 | 8.8 | 4.4 U | 4.4 U | 4.4 U |
| Chromium | 50 | 50 | 11 U | 11 U | 11 U |
| Lead | 15 | 8.1 | 1.1 U | 1.1 U | 1.1 U |
| Mercury | 2 | 0.025 | *0.5 U* | *0.5 U* | *0.5 U* |
| **BTEX in ug/L** | | | | | |
| Benzene | 5 | 51 | 0.41 | 1 U | 4 U |
| Ethylbenzene | 700 | 2100 | 0.2 U | 1 U | 4 U |
| m, p-Xylene | 1000 | | | | |
| o-Xylene | 1000 | | | | |
| Total Xylenes | 1000 | 15000 | 0.4 U | 2 U | 8 U |
| Toluene | 1000 | 15000 | 1 U | 5 U | 20 U |
| **Volatiles in ug/L** | | | | | |
| Cis-1,2-Dichloroethene | | | 2.8 | 15 | 14 |
| Trans-1,2-Dichloroethene | | 10000 | 1.4 | 9.7 | 4 U |
| Trichloroethene | 5 | 30 | 0.3 | 3.3 | 4.7 |
| Vinyl Chloride | 0.2 | 2.4 | **19** | **200** | **630** |

U = Not detected at the reporting limit indicated.

a) 800 ug/L when benzene present, 1,000 ug/L when no benzene present.

Bold boxed entry indicates concentration exceeds MTCA Method A screening level.

Shaded entry indicates concentration exceeds surface water protection criteria.

Blank entry indicates no applicable criteria established or sample not analyzed for specific analyte.

Reporting limits that exceed screening criteria are in italics.

b) There are no screening levels for surface water criteria for TPH, so Method A values for protection of drinking water are provided as screening levels.

c) Method A values are based on protection of drinking water.

d) Surface water screening levels were selected using the most conservative numbers based on protection of human health and the environment. Screening levels were derived from the National Toxics rule (40 CFR 131); Section 304 of the Clean Water Act; Chapter 173-201A WAC, as presented in the CLARC database.

## Table 5 - Semivolatiles Analytical Results for Soil Sample in Test Pit 4



| Sample Locations | HC-TP-4 |
|---|---|
| Sample ID | HC-N12342526-TP-4-1 |
| Sampling Date | 9/28/2011 |
| | Extended SVOCs |
| **Semivolatiles in mg/kg** | |
| N-Nitrosodiphenylamine | 0.036 U |
| Pyridine | 0.36 U |
| Phenol | 0.036 U |
| Aniline | 0.036 U |
| Bis(2-Chloroethyl)ether | 0.036 U |
| 2-Chlorophenol | 0.036 U |
| 1,3-Dichlorobenzene | 0.036 U |
| 1,4-Dichlorobenzene | 0.036 U |
| Benzyl alcohol | 0.036 U |
| 1,2-Dichlorobenzene | 0.036 U |
| 2-Methylphenol (o-cresol) | 0.036 U |
| Bis(2-Chloroisopropyl)ether | 0.036 U |
| 3+4-Methylphenol(m,p-cresol) | 0.036 U |
| N-Nitroso-di-n-propylamine | 0.036 U |
| Hexachloroethane | 0.036 U |
| Nitrobenzene | 0.036 U |
| Isophorone | 0.036 U |
| 2-Nitrophenol | 0.036 U |
| 2,4-Dimethylphenol | 0.36 U |
| Bis(2-Chloroethoxy)methane | 0.036 U |
| 2-4-Dichlorophenol | 0.036 U |
| 1,2,4-Trichlorobenzene | 0.036 U |
| Naphthalene | 0.0072 U |
| 4-Chloroaniline | 0.036 U |
| Hexachlorobutadiene | 0.036 U |
| 4-Chloro-3-methylphenol | 0.036 U |
| 2-Methylnaphthalene | 0.0072 U |
| 1-Methylnaphthalene | 0.0072 U |
| Hexachlorocyclopentadiene | 0.036 U |
| 2,4,6-Trichlorophenol | 0.036 U |
| 2-3-Dichloroaniline | 0.036 U |
| 2,4,5-Trichlorophenol | 0.036 U |
| 2-Chloronaphthalene | 0.036 U |
| 2-Nitroaniline | 0.036 U |
| 1,4-Dinitrobenzene | 0.036 U |
| Dimethylphthalate | 0.036 U |
| 1,3-Dinitrobenzene | 0.036 U |
| 2,6-Dinitrotoluene | 0.036 U |
| 1,2-Dinitrobenzene | 0.036 U |
| Acenaphthylene | 0.0072 U |
| 3-Nitroaniline | 0.036 U |
| 2,4-Dinitrophenol | 0.18 U |
| Acenaphthene | 0.0072 U |
| 4-Nitrophenol | 0.036 U |

## Table 5 - Semivolatiles Analytical Results for Soil Sample in Test Pit 4



| Sample Locations | HC-TP-4 |
|---|---|
| Sample ID | HC-N12342526-TP-4-1 |
| Sampling Date | 9/28/2011 |
| | Extended SVOCs |
| 2,4-Dinitrotoluene | 0.036 U |
| Dibenzofuran | 0.036 U |
| 2,3,5,6-Tetrachlorophenol | 0.036 U |
| 2,3,4,6-Tetrachlorophenol | 0.036 U |
| Diethylphthalate | 0.18 U |
| 4-Chlorophenylphenylether | 0.036 U |
| 4-Nitroaniline | 0.036 U |
| Fluorene | 0.0072 U |
| 4,6-Dinitro-2-methylphenol | 0.18 U |
| N-Nitrosodiphenylamine | 0.036 U |
| 1,2-Diphenylhydrazine | 0.036 U |
| 4-Bromophenylphenylether | 0.036 U |
| Hexachlorobenzene | 0.036 U |
| Pentachlorophenol | 0.18 U |
| Phenanthrene | 0.0072 U |
| Anthracene | 0.0072 U |
| Carbazole | 0.036 U |
| Di-n-butylphthalate | 0.36 U |
| Fluoranthene | 0.0072 U |
| Benzidine | 0.36 U |
| Pyrene | 0.0072 U |
| Butylbenzylphthalate | 0.36 U |
| Bis-2-Ethylhexyladipate | 0.036 U |
| 3,3'-Dichlorobenzidine | 0.36 U |
| Bis(2-Ethylhexyl)phthalate | 0.18 U |
| Di-n-octylphthalate | 0.036 U |
| Benzo(ghi)perylene | 0.0072 U |
| **cPAHs in mg/kg** | |
| Benzo(a)anthracene | 0.0072 U |
| Benzo(a)pyrene | 0.0072 U |
| Benzo(b)fluoranthene | 0.0072 U |
| Benzo(j,k)fluoranthene | 0.0072 U |
| Chrysene | 0.0072 U |
| Dibenzo(a,h)anthracene | 0.0072 U |
| Indeno(1,2,3-cd)pyrene | 0.0072 U |

U = Not detected at the reporting limit indicated.

**Table 6 - UST N-1, 2, 3, 4, 25, 26 Groundwater Elevation**

| Groundwater Monitoring Well | Date Measured | Casing Elevation (ft) | Depth to Water (ft) | Groundwater Elevation (ft) |
|---|---|---|---|---|
| HC-MW-6 | 12/29/2011 | 17.19 | 8.33 | 8.86 |
| HC-MW-7 | 12/29/2011 | 18.31 | 9.34 | 8.97 |
| HC-MW-8 | 12/29/2011 | 18.06 | 8.91 | 9.15 |

Note:
Groundwater elevation measurements for these three wells were taken between 11:45 AM and 12:00 PM.
Vertical datum = MLLW

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***Source:*** Base map prepared from Microsoft Streets and Trips, 2005.

0 4000 8000

Scale in Feet

N

UST Remediation Program
Tacoma, Washington

**Vicinity Map**

17581-00 Phase 21 3/12

HARTCROWSER

Figure
**1**

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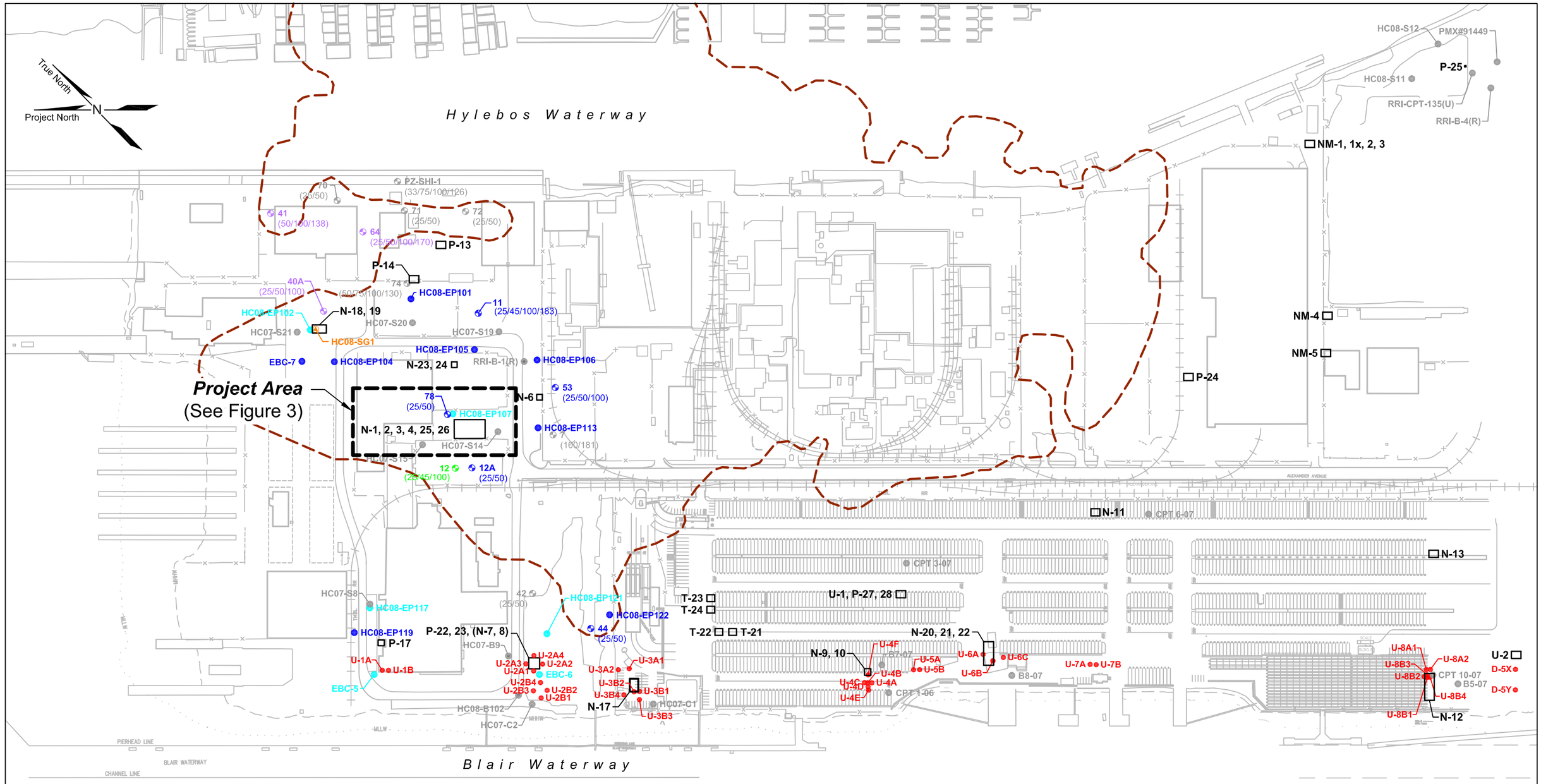


Well Location and Number

- 78 (25/50) — Hydraulic Monitoring Well, Installed Screen Depth in Feet (CRA 2008)
- 12 (25/45/100) — Hydraulic and Groundwater Monitoring Well, Installed Screen Depth in Feet (CRA 2008)
- 41 (25/50/100) — Groundwater Monitoring Well, Installed Screen Depth in Feet (CRA 2008)
- 71 (25/50) — Monitoring Well/Piezometer Cluster, Installed Screen Depth in Feet (CRA 2008)

Exploration Location and Number

- HC08-EP101 — Environmental Probe, Soil Samples Only (Hart Crowser 2009)
- HC08-EP117 — Environmental Probe with Groundwater and Soil Samples (Hart Crowser 2009)
- HC08-SG1 — Soil Gas Probe (Hart Crowser 2009)
- U-1A — Environmental Probe, Soil Samples Only (GeoEngineers 2008)
- B8-07 — Historical Exploration

- N-1, 2, 3, 4, 25, 26 — Estimated Former UST Location and Designation (See SSAP for data summary)
- Estimated Maximum Extent of the Occidental Chemical Corporation (OCC) Groundwater Plume (Port of Tacoma Provided)

0 300 600
Scale in Feet

Port of Tacoma
UST Remediation Program

**Area Map and Historical Exploration Locations**

17581-00 Phase 21 3/12

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Figure 2

JAB 03/29/12 1758100P21-001.dwg

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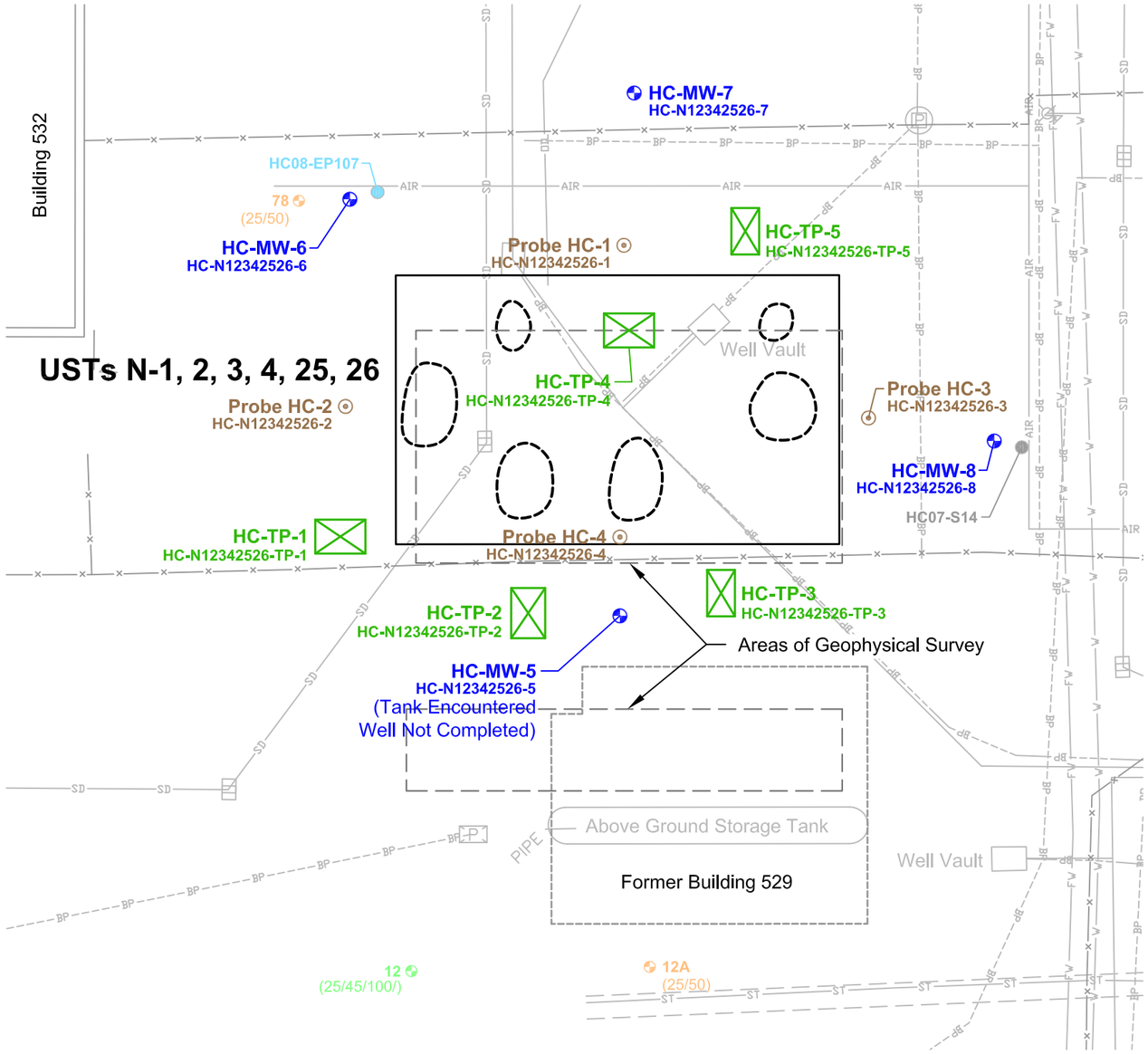


Exploration Location and Number

HC-TP-1 / HC-N12342526-TP-1 — 2011 Hart Crowser Test Pit Exploration

HC-MW-7 / HC-N12342526-7 — 2011 Hart Crowser Groundwater Monitoring Well (Installed with Push Probes)

Probe HC-1 / HC-N12342526-1 — 2010 Hart Crowser Direct-Push Probe Exploration

78 (25/50) — Hydraulic Monitoring Well, Installed Screen Depth in Feet (CRA 2008)

12 (25/45/100) — Hydraulic and Groundwater Monitoring Well, Installed Screen Depth in Feet (CRA 2008)

HC08-EP107 — Environmental Probe with Groundwater and Soil Samples (Hart Crowser 2009)

HC07-S14 — Historical Exploration

N-1, 2, 3, 4, 25, 26 — Possible UST Location and Designation based on Port of Tacoma and GeoEngineers provided information

Possible UST Location based on Geophysical Investigation

Utility Information

- Storm Drain
- Main Water Line
- Fire Water Line
- Below Ground Power and Electrical Line
- Air Line
- Oil Line
- Steam Line
- Utilidor

***Note:*** CAD drawings provided by the Port of Tacoma.

True North / Project North

0 30 60

Scale in Feet

Port of Tacoma
UST Remediation Program

**Site Plan USTs N-1, 2, 3, 4, 25, 26**

17581-00 Phase 21 3/12

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Figure 3

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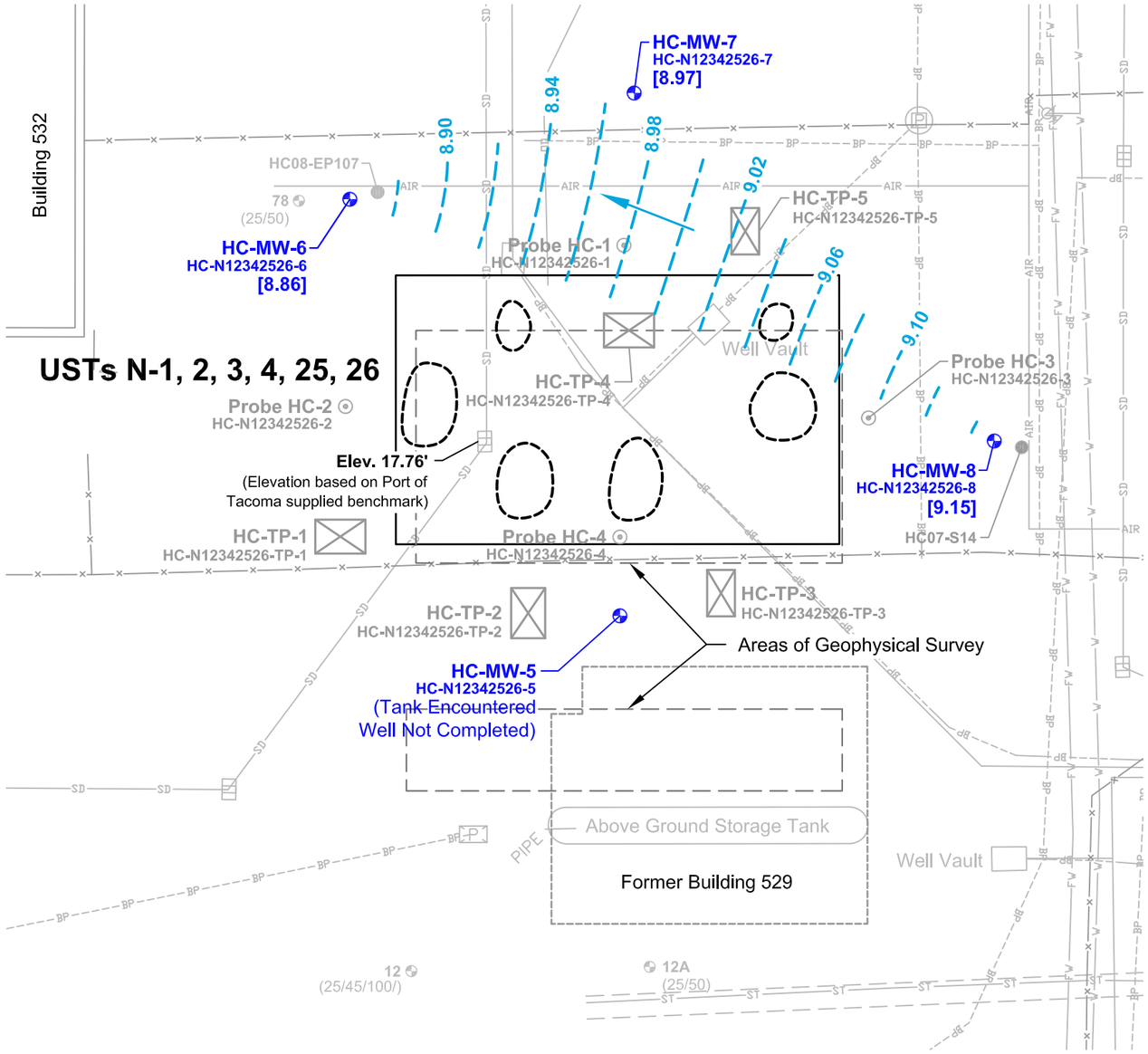


**Note:** CAD drawings provided by the Port of Tacoma.

Exploration Location and Number

- HC-TP-1 / HC-N12342526-TP-1 — 2011 Hart Crowser Test Pit Exploration
- HC-MW-7 / HC-N12342526-7 / [8.97] — 2011 Hart Crowser Groundwater Monitoring Well (Groundwater Elevation December 29, 2011, in Feet)
- Probe HC-1 / HC-N12342526-1 — 2010 Hart Crowser Direct-Push Probe Exploration
- 78 (25/50) — Hydraulic Monitoring Well, Installed Screen Depth in Feet (CRA 2008)
- 12 (25/45/100) — Hydraulic and Groundwater Monitoring Well, Installed Screen Depth in Feet (CRA 2008)
- HC08-EP107 — Environmental Probe with Groundwater and Soil Samples (Hart Crowser 2009)
- HC07-S14 — Historical Exploration
- N-1, 2, 3, 4, 25, 26 — Possible UST Location and Designation based on Port of Tacoma and GeoEngineers provided information
- Possible UST Location based on Geophysical Investigation
- Inferred Groundwater Flow Direction
- Inferred Groundwater Contour

Utility Information

- SD — Storm Drain
- W — Main Water Line
- FW — Fire Water Line
- BP — Below Ground Power and Electrical Line
- AIR — Air Line
- OIL — Oil Line
- ST — Steam Line
- Utilidor

True North / Project North

0 30 60

Scale in Feet

Port of Tacoma
UST Remediation Program

**December 2011 Groundwater Contour Map**

17581-00 Phase 21 3/12

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Figure 4

EAL 03/21/12 1758100P21-004.dwg

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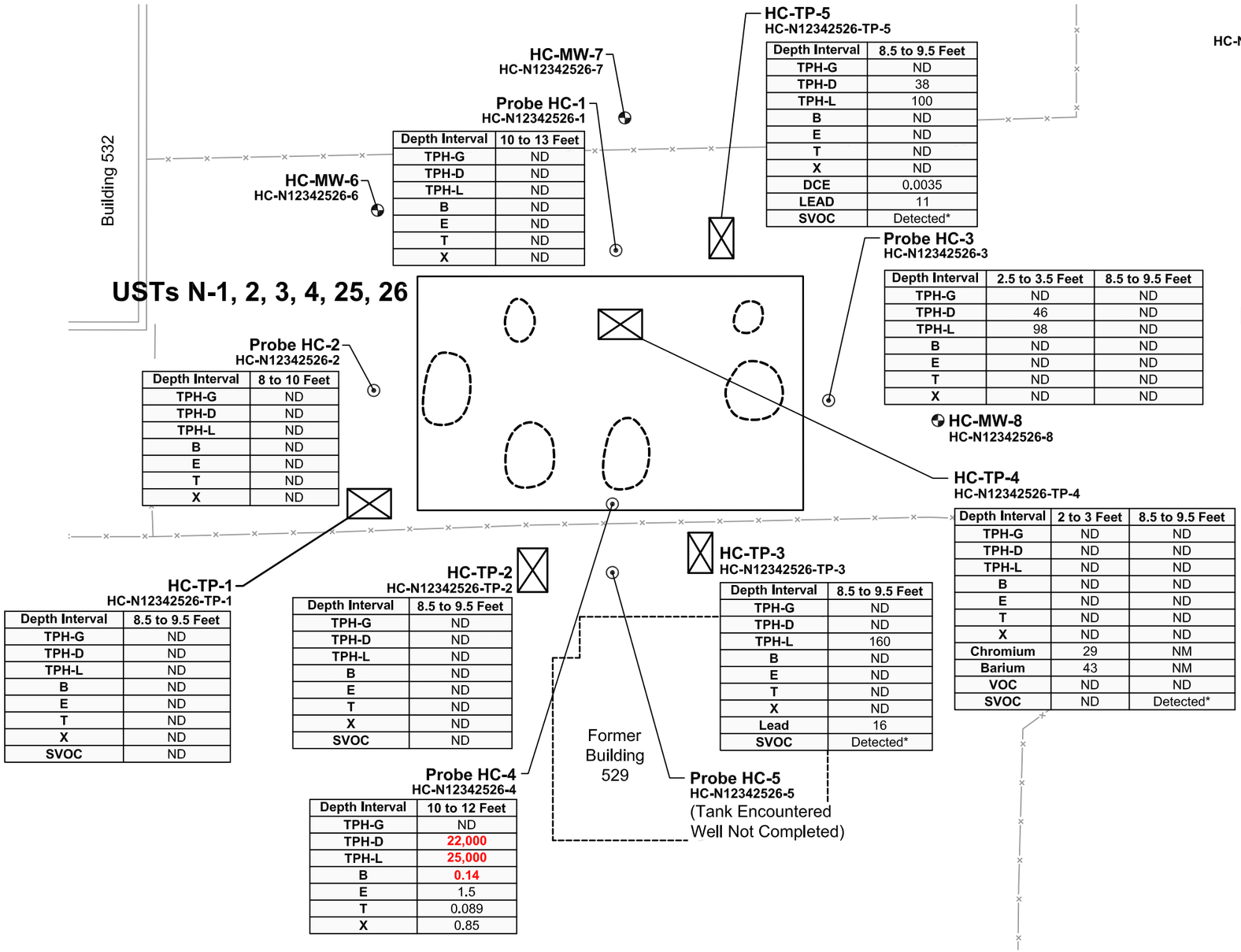


| Depth Interval | 10 to 13 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | ND |
| TPH-L | ND |
| B | ND |
| E | ND |
| T | ND |
| X | ND |

| Depth Interval | 8.5 to 9.5 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | 38 |
| TPH-L | 100 |
| B | ND |
| E | ND |
| T | ND |
| X | ND |
| DCE | 0.0035 |
| LEAD | 11 |
| SVOC | Detected* |

| Depth Interval | 2.5 to 3.5 Feet | 8.5 to 9.5 Feet |
|---|---|---|
| TPH-G | ND | ND |
| TPH-D | 46 | ND |
| TPH-L | 98 | ND |
| B | ND | ND |
| E | ND | ND |
| T | ND | ND |
| X | ND | ND |

| Depth Interval | 8 to 10 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | ND |
| TPH-L | ND |
| B | ND |
| E | ND |
| T | ND |
| X | ND |

| Depth Interval | 2 to 3 Feet | 8.5 to 9.5 Feet |
|---|---|---|
| TPH-G | ND | ND |
| TPH-D | ND | ND |
| TPH-L | ND | ND |
| B | ND | ND |
| E | ND | ND |
| T | ND | ND |
| X | ND | ND |
| Chromium | 29 | NM |
| Barium | 43 | NM |
| VOC | ND | ND |
| SVOC | ND | Detected* |

| Depth Interval | 8.5 to 9.5 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | ND |
| TPH-L | ND |
| B | ND |
| E | ND |
| T | ND |
| X | ND |
| SVOC | ND |

| Depth Interval | 8.5 to 9.5 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | ND |
| TPH-L | ND |
| B | ND |
| E | ND |
| T | ND |
| X | ND |
| SVOC | ND |

| Depth Interval | 8.5 to 9.5 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | ND |
| TPH-L | 160 |
| B | ND |
| E | ND |
| T | ND |
| X | ND |
| Lead | 16 |
| SVOC | Detected* |

| Depth Interval | 10 to 12 Feet |
|---|---|
| TPH-G | ND |
| TPH-D | **22,000** |
| TPH-L | **25,000** |
| B | **0.14** |
| E | 1.5 |
| T | 0.089 |
| X | 0.85 |

Exploration Location and Number

**HC-TP-1** HC-N12342526-TP-1 — 2011 Hart Crowser Test Pit Exploration

**HC-MW-7** HC-N12342526-7 — 2011 Hart Crowser Groundwater Monitoring Well

**Probe HC-1** HC-N12342526-1 — 2010 Hart Crowser Direct-Push Probe Exploration

N-1, 2, 3, 4, 25, 26 — Possible UST Location and Designation based on Port of Tacoma and GeoEngineers provided information

Possible UST Location based on Geophysical Investigation

| TPH-G | ND |
|---|---|

Sampled Value in mg/kg

Constituent Name

TPH-G = Gasoline

TPH-D = Diesel

TPH-L = Lube Oil

B = Benzene

E = Ethylbenzene

T = Toluene

X = Xylene

DCE = CIS 1,2,-Dichloroethene

VOC = Volatile Organic Compounds

SVOC = Semi-volatile Organic Compounds

ND = Not Detected

NM = Not Measured

**0.14** = Bold value exceeds Method A Industrial Screening Levels

* SVOCs were detected. See Table 3 for concentrations

***Note:*** CAD drawings provided by the Port of Tacoma.

True North / Project North

0 30 60

Scale in Feet

Port of Tacoma
UST Remediation Program

**2010 and 2011 Soil Sample Data**

17581-00 Phase 21 3/12

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Figure **5**

EAL 03/21/12 1758100P21-005.dwg

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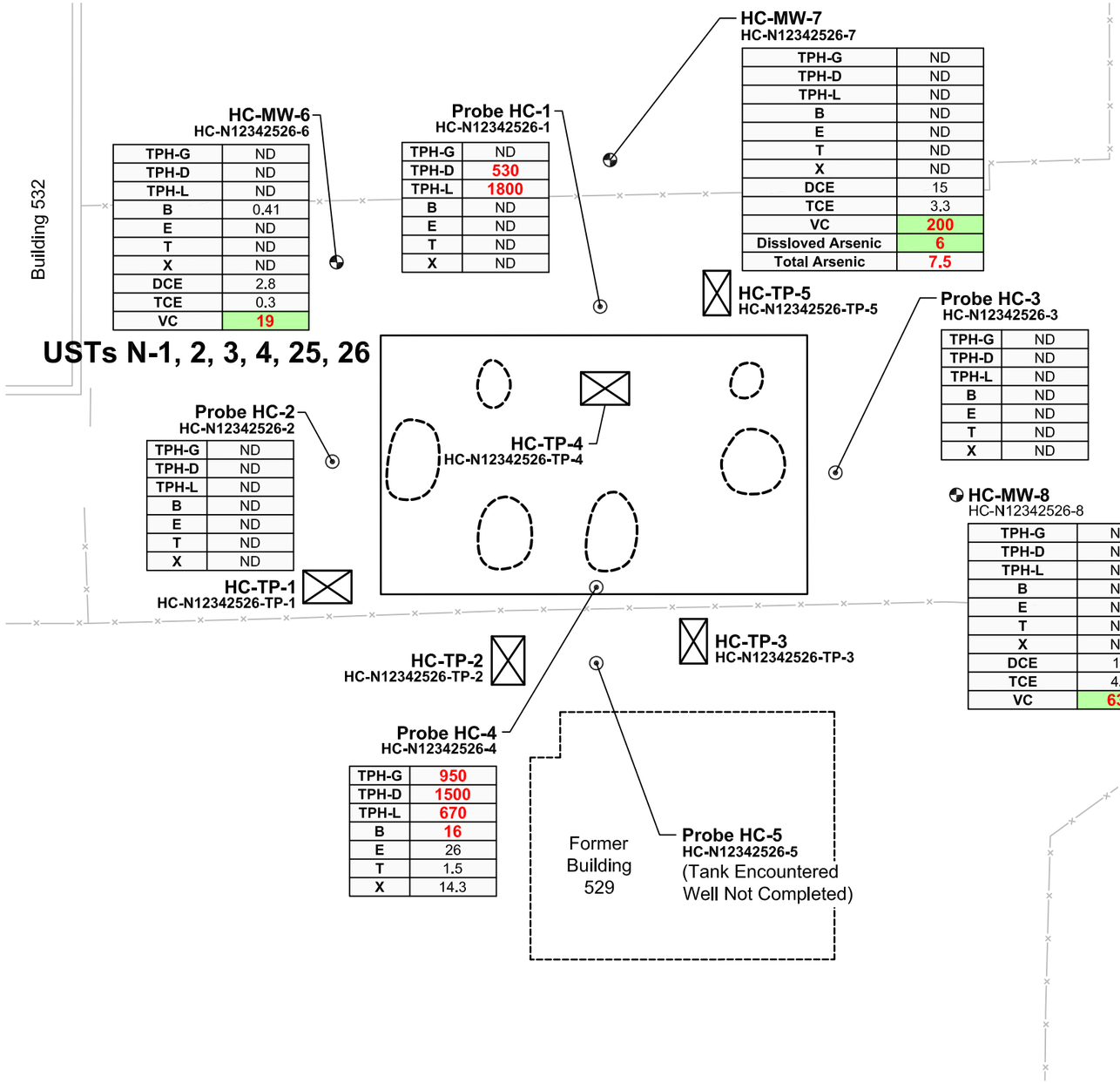



Exploration Location and Number

**HC-N12342526-TP-1** 2011 Hart Crowser Test Pit Exploration

**HC-N12342526-7** 2011 Hart Crowser Groundwater Monitoring Well

**HC-N12342526-1** 2010 Hart Crowser Direct-Push Probe Exploration Groundwater Grab Sample

**N-1, 2, 3, 4, 25, 26** Possible UST Location and Designation based on Port of Tacoma and GeoEngineers provided information

Possible UST Location based on Geophysical Investigation

| G | ND |
|---|---|

Sampled Value in ug/L

Constituent Name

TPH-G = Gasoline

TPH-D = Diesel

TPH-L = Lube Oil

B = Benzene

E = Ethylbenzene

T = Toluene

X = Xylene

DCE = CIS 1,2,-Dichloroethene

TCE = Trichloroethene

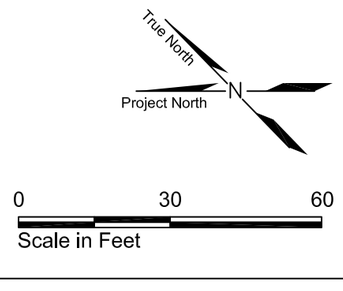
VC = Vinyl Chloride

ND = Not Detected

**0.67** = Bold value exceeds Method A Screening Levels

= Shaded denotes value exceed screening criteria based on protection of surface water

***Note:*** CAD drawings provided by the Port of Tacoma.




Port of Tacoma
UST Remediation Program

**2010 to 2011 Groundwater Sample Data**

17581-00 Phase 21 3/12

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Figure **6**

EAL 03/29/12 1758100P21-006.dwg

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# APPENDIX A
# TEST PIT AND GROUNDWATER MONITORING WELL EXPLORATION LOGS

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# *Key to Exploration Logs*

## Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

### Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits and probes is estimated based on visual observation and is presented parenthetically on the logs.

| SAND or GRAVEL Density | Standard Penetration Resistance (N) in Blows/Foot | SILT or CLAY Consistency | Standard Penetration Resistance (N) in Blows/Foot | Approximate Shear Strength in TSF |
|---|---|---|---|---|
| Very loose | 0 to 4 | Very soft | 0 to 2 | <0.125 |
| Loose | 4 to 10 | Soft | 2 to 4 | 0.125 to 0.25 |
| Medium dense | 10 to 30 | Medium stiff | 4 to 8 | 0.25 to 0.5 |
| Dense | 30 to 50 | Stiff | 8 to 15 | 0.5 to 1.0 |
| Very dense | >50 | Very stiff | 15 to 30 | 1.0 to 2.0 |
| | | Hard | >30 | >2.0 |

### Sampling Test Symbols

- 1.5" I.D. Split Spoon
- Grab (Jar)
- 3.0" I.D. Split Spoon
- Shelby Tube (Pushed)
- Bag
- Cuttings
- Core Run

### Moisture

| | |
|---|---|
| Dry | Little perceptible moisture |
| Damp | Some perceptible moisture, likely below optimum |
| Moist | Likely near optimum moisture content |
| Wet | Much perceptible moisture, likely above optimum |

### Minor Constituents

| Minor Constituents | Estimated Percentage |
|---|---|
| Trace | <5 |
| Slightly (clayey, silty, etc.) | 5 - 12 |
| Clayey, silty, sandy, gravelly | 12 - 30 |
| Very (clayey, silty, etc.) | 30 - 50 |

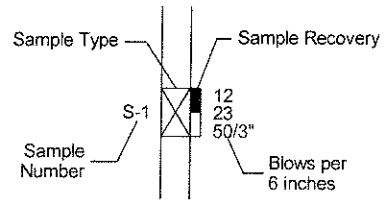
### Laboratory Test Symbols

| | |
|---|---|
| GS | Grain Size Classification |
| CN | Consolidation |
| UU | Unconsolidated Undrained Triaxial |
| CU | Consolidated Undrained Triaxial |
| CD | Consolidated Drained Triaxial |
| QU | Unconfined Compression |
| DS | Direct Shear |
| K | Permeability |
| PP | Pocket Penetrometer<br>Approximate Compressive Strength in TSF |
| TV | Torvane<br>Approximate Shear Strength in TSF |
| CBR | California Bearing Ratio |
| MD | Moisture Density Relationship |
| AL | Atterberg Limits |
| | Water Content in Percent<br>Liquid Limit<br>Natural<br>Plastic Limit |
| PID | Photoionization Detector Reading |
| CA | Chemical Analysis |
| DT | In Situ Density in PCF |
| OT | Tests by Others |

### Groundwater Indicators

- Groundwater Level on Date or (ATD) At Time of Drilling
- Groundwater Seepage (Test Pits)

### Sample Key




## SOIL CLASSIFICATION CHART

| MAJOR DIVISIONS | | | SYMBOLS GRAPH | SYMBOLS LETTER | TYPICAL DESCRIPTIONS |
|---|---|---|---|---|---|
| COARSE GRAINED SOILS | GRAVEL AND GRAVELLY SOILS | CLEAN GRAVELS (LITTLE OR NO FINES) | | GW | WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | | | GP | POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES |
| | | GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES) | | GM | SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES |
| | | | | GC | CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES |
| MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE | SAND AND SANDY SOILS | CLEAN SANDS (LITTLE OR NO FINES) | | SW | WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES |
| | | | | SP | POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES |
| | MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE | SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES) | | SM | SILTY SANDS, SAND - SILT MIXTURES |
| | | | | SC | CLAYEY SANDS, SAND - CLAY MIXTURES |
| FINE GRAINED SOILS | SILTS AND CLAYS | LIQUID LIMIT LESS THAN 50 | | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY |
| | | | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE | SILTS AND CLAYS | LIQUID LIMIT GREATER THAN 50 | | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS |
| | | | | CH | INORGANIC CLAYS OF HIGH PLASTICITY |
| | | | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| HIGHLY ORGANIC SOILS | | | | PT | PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS |

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

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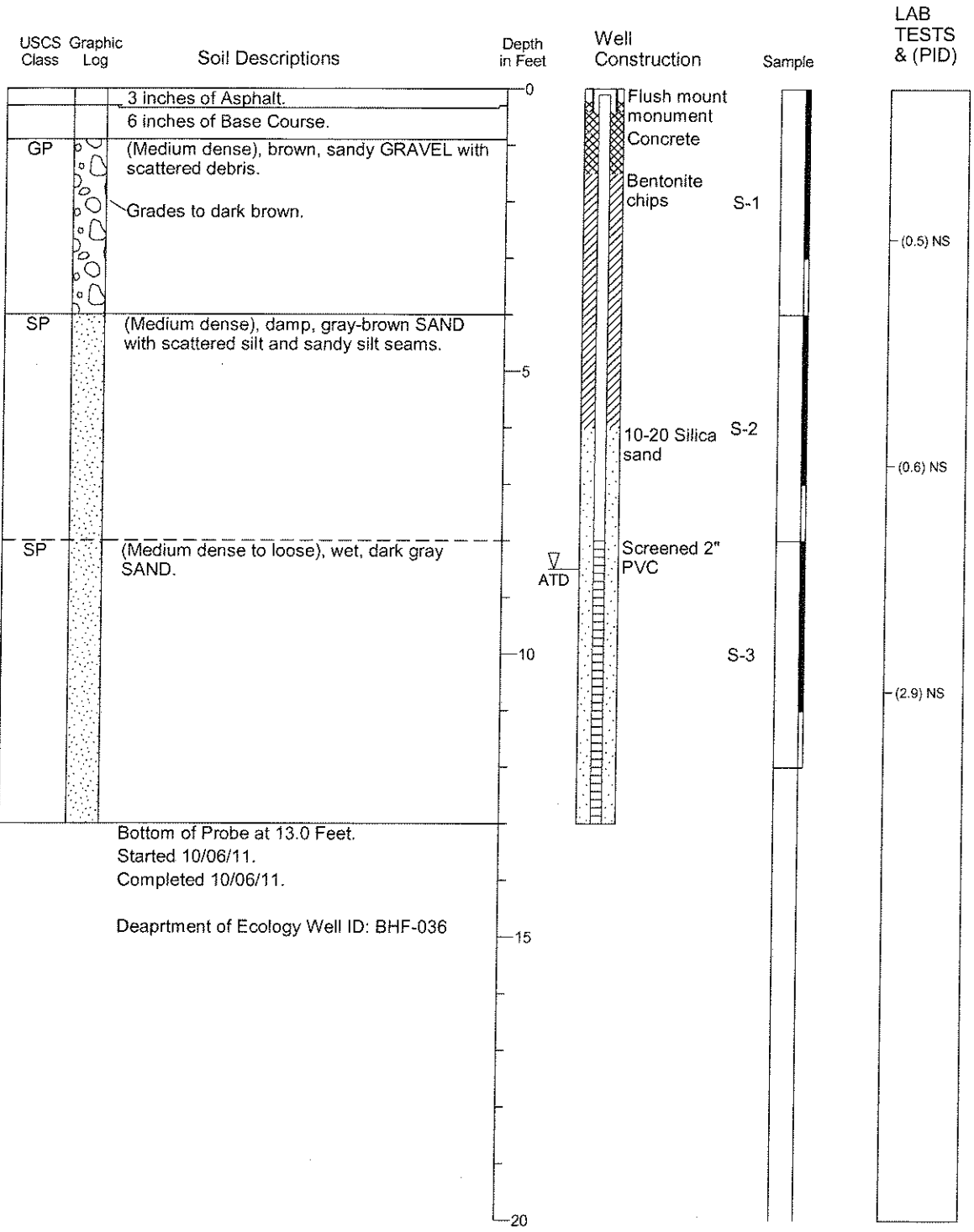
Figure A-1

# *Push Probe Log HC-N12342526-6*

Location: N 47.2804526 E -122.4085753
Approximate Ground Surface Elevation: Feet
Horizontal Datum: WGS 1984
Vertical Datum: MLLW
Top of Well Casing Elevation: 17.19 Feet

Drill Equipment: Push Probe
Sample Type: Acetate Liner
Hole Diameter: 2 inches
Logged By: P. Cordell Reviewed By: C. Rust




PUSH PROBE LOG-ENV 1758100-21-PP-OCT-11.GPJ HC_CORP.GDT 1/5/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. NS = No Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

HARTCROWSER

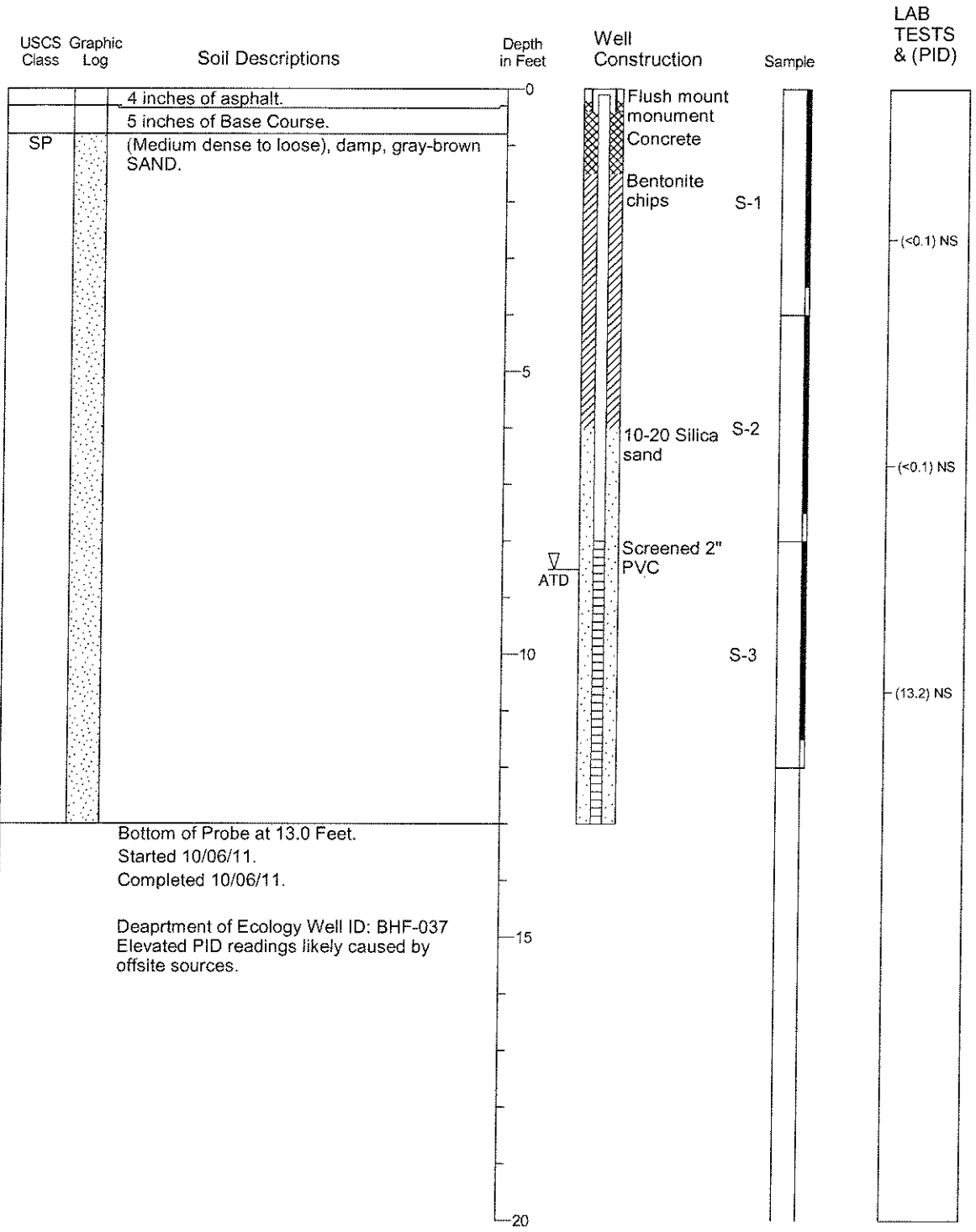
*17581-00* *10/11*

*Figure A-2*

# *Push Probe Log HC-N12342526-7*

Location: N 47.2803827 E -122.408327
Approximate Ground Surface Elevation: Feet
Horizontal Datum: WGS 1984
Vertical Datum: MLLW
Top of Well Casing Elevation: 18.31 Feet

Drill Equipment: Push Probe
Sample Type: Acetate Liner
Hole Diameter: 2 inches
Logged By: P. Cordell Reviewed By: C. Rust




PUSH PROBE LOG-ENV 1758100-21-PP-OCT-11.GPJ HC_CORP.GDT 1/5/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. NS = No Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

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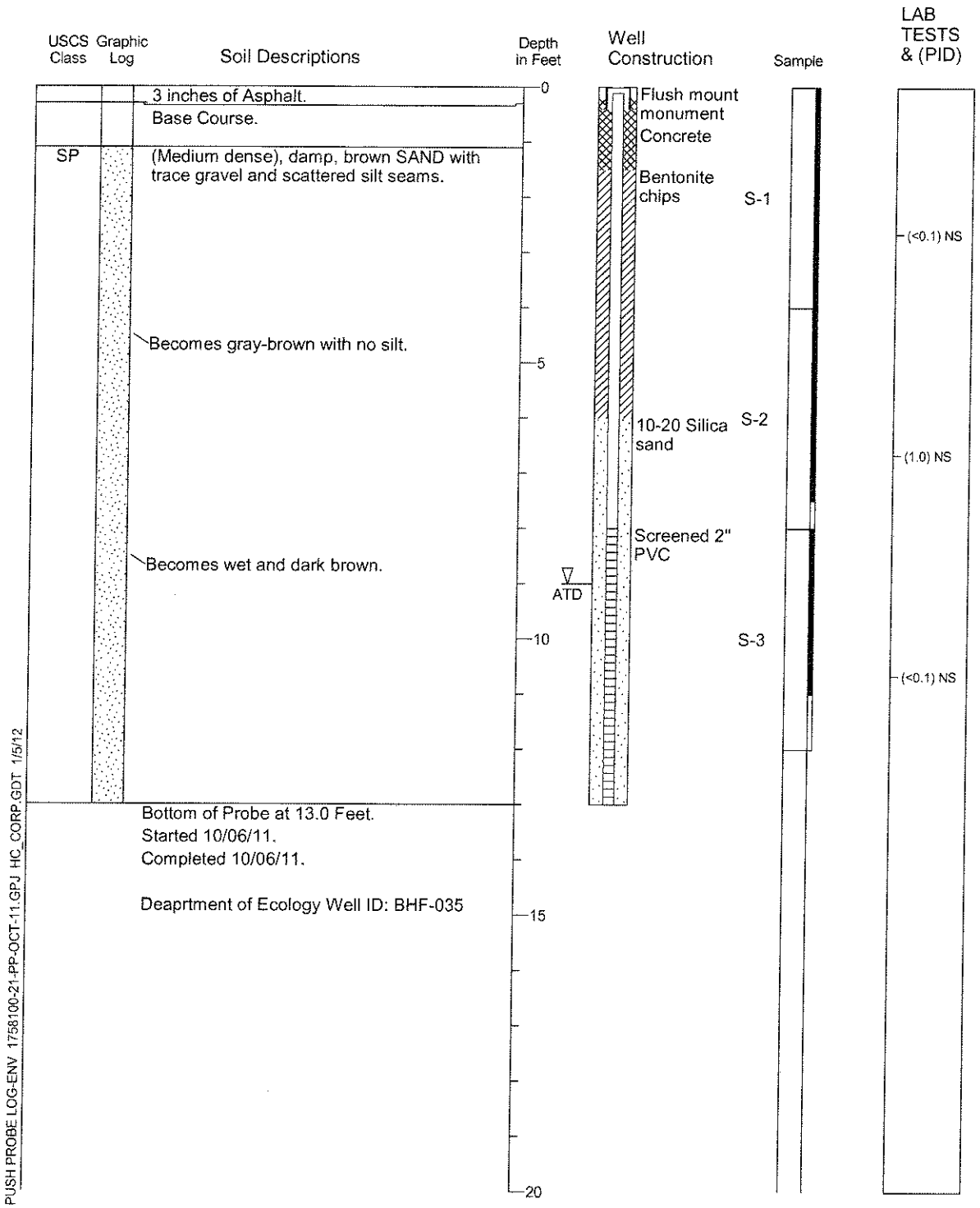
*17581-00* *10/11*

***Figure A-3***

# Push Probe Log HC-N12342526-8

Location: N 47.2800841 E -122.4083042
Approximate Ground Surface Elevation: Feet
Horizontal Datum: WGS 1984
Vertical Datum: MLLW
Top of Well Casing Elevation: 18.06 Feet

Drill Equipment: Push Probe
Sample Type: Acetate Liner
Hole Diameter: 2 inches
Logged By: P. Cordell Reviewed By: C. Rust




PUSH PROBE LOG-ENV 1758100-21-PP-OCT-11.GPJ HC_CORP.GDT 1/5/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
5. NS = No Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

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Figure A-4

# Test Pit Log HC-N12342526-TP-1

Location: N 47.280328 E -122.408731
Approximate Ground Surface Elevation: 17.5 Feet
Logged By: C. Rust Reviewed By: P. Cordell

Horizontal Datum: WGS 1984
Vertical Datum: MLLW

| USCS Class | Graphic Log | Soil Descriptions | Depth in Feet | Sample | Water Content in Percent | PID | LAB TESTS |
|---|---|---|---|---|---|---|---|
| GP | | Asphalt. | 0 | | | | |
| SW | | Dry, brown, slightly silty, sandy GRAVEL. (FILL) | | | | | |
| | | Dry to moist, brown, slightly silty, fine SAND with trace shell hash. (No debris) | | | | | |
| | | 2.5 feet concrete footing on east side wall. | | HC-N12342526-TP-1-1 | | | |
| | | | 5 | | | | |
| SW | | Wet, gray, slightly silty, fine SAND with no sheen or odor and silt lenses. | | HC-N12342526-TP-1-2 | | | CA |
| | | Bottom of Test Pit at 9.5 Feet. | 10 | | | | |
| | | Started 09/29/11. | | | | | |
| | | Completed 09/29/11. | | | | | |
| | | No field indications of petroleum related impacts. | 15 | | | | |

# Test Pit Log HC-N12342526-TP-2

Location: N 47.280178 E -122.408704
Approximate Ground Surface Elevation: 17.5 Feet
Logged By: C. Rust Reviewed By: P. Cordell

Horizontal Datum: WGS 1984
Vertical Datum: MLLW

| USCS Class | Graphic Log | Soil Descriptions | Depth in Feet | Sample | Water Content in Percent | PID | LAB TESTS |
|---|---|---|---|---|---|---|---|
| GP | | 3 inches of Asphalt over dry, brown, slightly silty, sandy GRAVEL. (FILL) | 0 | | | | |
| SW | | Dry to moist, brown, slightly silty, fine SAND with shell hash. | | | | | |
| | | 1-inch, old metal pipe at 3 feet on wet sidewall. | | HC-N12342526-TP-2-1 | | | |
| | | | 5 | | | | |
| | | Wet, gray, slightly silty to silty, fine SAND with shell hash. | | HC-N12342526-TP-2-2 | | | CA |
| | | Bottom of Test Pit at 9.5 Feet. | 10 | | | | |
| | | Started 09/29/11. | | | | | |
| | | Completed 09/29/11. | | | | | |
| | | No field indications of petroleum related impacts. | 15 | | | | |

NEW TEST PIT LOG 1758100-21-TP.GPJ HC_CORP.GDT 1/5/12

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Figure A-5

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater conditions, if indicated, are at time of excavation. Conditions may vary with time.

# Test Pit Log HC-N12342526-TP-3

Location: N 47.280118 E -122.408528
Approximate Ground Surface Elevation: 17.5 Feet
Logged By: C. Rust Reviewed By: P. Cordell

Horizontal Datum: WGS 1984
Vertical Datum: MLLW

| USCS Class | Graphic Log | Soil Descriptions | Depth in Feet | Sample | Water Content in Percent | PID | LAB TESTS |
|---|---|---|---|---|---|---|---|
| GP | | Asphalt | 0 | | | | |
| SP | | Dry, brown, slightly silty, sandy GRAVEL. (FILL) | | | | | |
| SP | | Dry to moist, tan-brown, slightly fine SAND. (FILL) | | | | | |
| | | Moist, dark brown, slightly silty, fine SAND with debris, brick, rebar. (FILL) | | HC-N12342526-TP-3-1 | | | |
| SW | | Moist to wet, gray to brown, slightly silty, fine SAND with trace gravel. | 5 | | | | |
| | | 4-inch steel pipe (probably old sewer) on west sidewall at 4.5 feet at bottom of fill layers. | | | | | |
| | | | | HC-N12342526-TP-3-2 ATD | | | CA |
| | | Bottom of Test Pit at 9.5 Feet. | 10 | | | | |
| | | Started 09/29/11. | | | | | |
| | | Completed 09/29/11. | | | | | |
| | | No field indications of petroleum related impacts. | 15 | | | | |

# Test Pit Log HC-N12342526-TP-4

Location: N 47.280295 E -122.408437
Approximate Ground Surface Elevation: 17.5 Feet
Logged By: C. Rust Reviewed By: P. Cordell

Horizontal Datum: WGS 1984
Vertical Datum: MLLW

| USCS Class | Graphic Log | Soil Descriptions | Depth in Feet | Sample | Water Content in Percent | PID | LAB TESTS |
|---|---|---|---|---|---|---|---|
| GP | | Asphalt. | 0 | | | | |
| SW | | Dry, brown, slightly silty, sandy GRAVEL. (FILL) | | | | | |
| | | Dry to moist, brown, slightly silty, fine SAND with trace gravel, debris, brick, wire, pipe, concrete. | | HC-N12342526-TP-4-1 | | | CA |
| SW | | Moist, brown, slightly silty, fine SAND. | 5 | | | | |
| | | 1-inch, loose pipe (no odor), concrete pad on east sidewall. | | | | | |
| | | | | HC-N12342526-TP-4-2 ATD | | | CA |
| SW | | Wet, gray, slightly silty, fine SAND with slight field indications of petroleum related impacts. | 10 | | | | |
| | | Bottom of Test Pit at 9.5 Feet. | | | | | |
| | | Started 09/28/11. | | | | | |
| | | Completed 09/28/11. | | | | | |
| | | Field indications of petroleum related impacts from 9.0 to 9.5 feet. | 15 | | | | |

NEW TEST PIT LOG 1758100-21-TP.GPJ HC_CORP.GDT 1/6/12

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17581-00 9/11

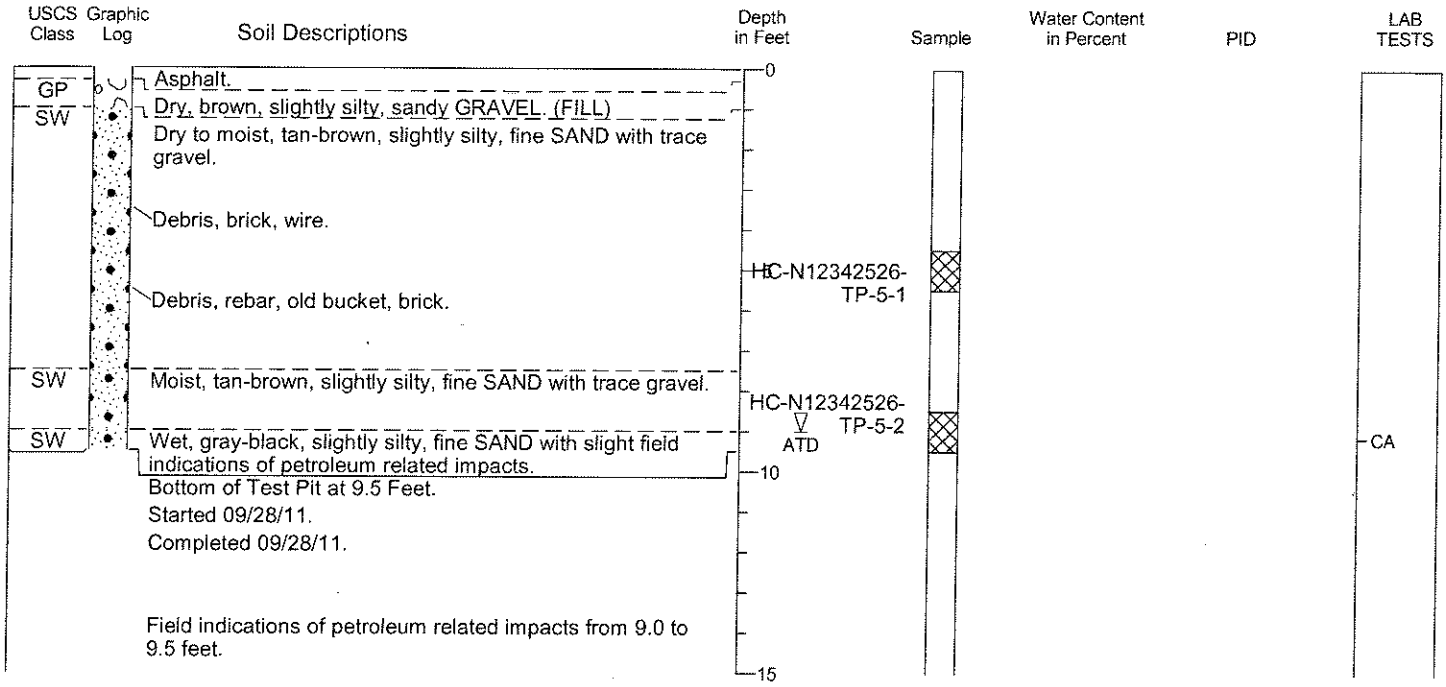
Figure A-6

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater conditions, if indicated, are at time of excavation. Conditions may vary with time.

# Test Pit Log HC-N12342526-TP-5

Location: N 47.280279 E -122.408327
Approximate Ground Surface Elevation: 17.5 Feet
Logged By: C. Rust Reviewed By: P. Cordell

Horizontal Datum: WGS 1984
Vertical Datum: MLLW




NEW TEST PIT LOG 1758100-21-TP.GPJ HC_CORP.GDT 1/6/12

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater conditions, if indicated, are at time of excavation. Conditions may vary with time.

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17581-00 9/11

Figure A-7

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# APPENDIX B
# CHEMICAL DATA QUALITY REVIEW AND LABORATORY REPORTS

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# APPENDIX B
# CHEMICAL DATA QUALITY REVIEW AND LABORATORY REPORTS FOR 2011 INVESTIGATION

## *Chemical Data Quality Review for USTs N-1, 2, 3, 4, 5, 25, and 26*

Based on field conditions observed when test pits were excavated, it was determined that the only petroleum-related impacts were observed at the zone spanning the groundwater elevation. Six soil samples were collected from test pits, one from each test pit and an additional sample collected from HC-TP-4 from 2 to 3 feet bgs on September 28 and 29, 2011. Three groundwater samples were collected on November 10, 2011. The samples were submitted to OnSite Environmental Inc., of Redmond, Washington, for chemical analysis. The sample results were reported as Laboratory Reference Nos. 1109-198, 1109-213, and 1111-082.

Six of the soil samples were analyzed for one or more of the following:

- Gasoline-range organics by Washington State Department of Ecology (Ecology) method NWTPH-Gx;
- Diesel and lube oil-range organics by Ecology method NWTPH-Dx with Acid/Silica Gel Cleanup;
- Volatile organic compounds (VOCs) by EPA Method 8260B;
- Total metals (lead, arsenic, barium, cadmium, chromium, selenium, and silver) by EPA Method 6010B;
- Total mercury by EPA Method 7471A;
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270D-SIM; and
- Semivolatile organic compounds (SVOCs) by EPA Method 8270D.

The water samples were analyzed for the following:

- Gasoline-range organics by Washington State Department of Ecology (Ecology) method NWTPH-Gx;
- Diesel and lube oil-range organics by Ecology method NWTPH-Dx with Acid/Silica Gel Cleanup;

- Volatile organic compounds (VOCs) by EPA Method 8260B;
- Total metals (arsenic, cadmium, chromium, and lead) by EPA Method 200.8;
- Total mercury by EPA Method 7470A;
- Dissolved metals (arsenic, cadmium, chromium, and lead) by EPA Method 300.8;
- Dissolved mercury by EPA Method 7470A; and
- Ethylene dibromide (EDB) by EPA Method 8011.

Quality assurance/quality control (QA/QC) reviews of laboratory procedures were performed on an ongoing basis by the laboratory. Hart Crowser performed the data review, using laboratory quality control results summary sheets, to ensure they met data quality objectives for the project. The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Surrogate recoveries;
- Laboratory control sample (LCS) recoveries (when provided);
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory duplicate relative percent differences (RPDs); and
- Reporting limits (RL).

The data were determined to be acceptable for use without qualification. Full laboratory results are presented at the end of this report. Results of the data review follows.

## *Soil*

### Gasoline by NWTPH-Gx

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within laboratory control limits. Laboratory duplicate RPDs were not applicable as the sample and duplicate were non-detect.

### Diesel and Lube Oil by NWTPH-Dx

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within

method control limits. Laboratory duplicate RPDs were within control limits or not applicable when the sample and duplicate were non-detect.

### VOCs by EPA 8260B

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate and LCS recoveries were within laboratory control limits.

### Total Metals by EPA 6010B

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. MS recoveries were within method control limits.

Laboratory duplicate RPDs were within method control limits with the following exception:

- The laboratory duplicate RPD for lead exceeded the method control limits. As the sample and duplicate results were less than five times the reporting limits, sample results were not qualified.

### Total Mercury by EPA 7471A

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. MS recoveries were within method control limits. Laboratory duplicate RPDs were not applicable as the sample and duplicate were non-detect.

### PAHs by EPA 8270D-SIM

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate and LCS recoveries were within laboratory control limits.

### SVOCs by EPA 8270D

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate and MS recoveries were within laboratory control limits.

### Percent Moisture

The required holding times were met.

## *Water*

### Gasoline by NWTPH-Gx

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within laboratory control limits. Laboratory duplicate RPDs were not applicable as the sample and duplicate were non-detect.

### Diesel and Lube Oil by NWTPH-Dx

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate recoveries were within method control limits. Laboratory duplicate RPDs were not applicable as the sample and duplicate were non-detect.

### VOCs by EPA 8260B

The required holding times were met. No method blank contamination was detected. Surrogate and LCS recoveries were within laboratory control limits.

Samples HC-N12342526-8 and HC-N12342526-7 were analyzed at dilutions due to high levels of target analytes. Reporting limits were elevated due to sample dilutions.

### Total Metals by EPA 200.8

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. MS recoveries were within method control limits. The laboratory duplicate RPD fell within method control limits or was not applicable when the sample and duplicate were non-detect.

### Total Mercury by EPA 7470A

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. MS recoveries were within method control limits. Laboratory duplicate RPDs were not applicable as the sample and duplicate were non-detect.

## Dissolved Metals by EPA 200.8

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. MS recoveries were within method control limits. The laboratory duplicate RPD fell within method control limits or was not applicable when the sample and duplicate were non-detect.

## Dissolved Mercury by EPA 7470A

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. MS recoveries were within method control limits. Laboratory duplicate RPDs were not applicable as the sample and duplicate were non-detect.

## EDB by EPA 8011

The required holding times were met. Reporting limits were acceptable. No method blank contamination was detected. Surrogate and LCS recoveries were within laboratory control limits.

L:\Jobs\1758100\Phase 21 N-1,2,3,4,25,26\Summary Report\Addendum\Final\UST N-12342526 Summary Report Addendum.doc

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# LABORATORY REPORTS

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for double-sided printing.

OnSite Environmental Inc.

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

October 13, 2011

Ross Stainsby
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109-3056

Re: Analytical Data for Project 17581-00 21
Laboratory Reference No. 1109-198

Dear Ross:

Enclosed are the analytical results and associated quality control data for samples submitted on September 29, 2011.

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 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**Case Narrative**

Samples were collected on September 28, 2011 and received by the laboratory on September 29, 2011. 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 and 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.

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**NWTPH-Gx**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-1** | | | | | |
| Laboratory ID: | 09-198-01 | | | | | |
| Gasoline | **ND** | 5.8 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *104* | *68-124* | | | | |
| **Client ID:** | **HC-N12342526-TP-4-2** | | | | | |
| Laboratory ID: | 09-198-02 | | | | | |
| Gasoline | **ND** | 6.6 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *92* | *68-124* | | | | |
| **Client ID:** | **HC-N12342526-TP-5-2** | | | | | |
| Laboratory ID: | 09-198-04 | | | | | |
| Gasoline | **ND** | 6.5 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *99* | *68-124* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**NWTPH-Gx**
**QUALITY CONTROL**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB1003S2 | | | | | |
| Gasoline | **ND** | 5.0 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *103* | *68-124* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | | |
| Laboratory ID: | 09-212-04 | | | | | | | | | | |
| | ORIG | DUP | | | | | | | | | |
| Gasoline | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *95* | *97* | *68-124* | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**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:** | **HC-N12342526-TP-4-1** | | | | | |
| Laboratory ID: | 09-198-01 | | | | | |
| Diesel Range Organics | **ND** | 27 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil Range Organics | **ND** | 54 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *109* | *50-150* | | | | |
| **Client ID:** | **HC-N12342526-TP-4-2** | | | | | |
| Laboratory ID: | 09-198-02 | | | | | |
| Diesel Range Organics | **ND** | 30 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil Range Organics | **ND** | 59 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *104* | *50-150* | | | | |
| **Client ID:** | **HC-N12342526-TP-5-2** | | | | | |
| Laboratory ID: | 09-198-04 | | | | | |
| Diesel Range Organics | **38** | 30 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil | **100** | 59 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *98* | *50-150* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**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: | MB1006S3 | | | | | |
| Diesel Range Organics | **ND** | 25 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil Range Organics | **ND** | 50 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *99* | *50-150* | | | | |

| Analyte | Result | | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | |
| Laboratory ID: | 09-198-01 | | | | | | | |
| | ORIG | DUP | | | | | | |
| Diesel Range Organics | **ND** | **ND** | | | | NA | NA | |
| Lube Oil Range Organics | **ND** | **ND** | | | | NA | NA | |
| *Surrogate:* | | | | | | | | |
| *o-Terphenyl* | | | *109* | *113* | *50-150* | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 1 of 2

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-1** | | | | | |
| Laboratory ID: | 09-198-01 | | | | | |
| Dichlorodifluoromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-1** | | | | | |
| Laboratory ID: | 09-198-01 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0022 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *74* | *63-127* | | | | |
| *Toluene-d8* | *91* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *96* | *55-121* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 1 of 2

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-2** | | | | | |
| Laboratory ID: | 09-198-02 | | | | | |
| Dichlorodifluoromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-2** | | | | | |
| Laboratory ID: | 09-198-02 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0022 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0056 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *76* | *63-127* | | | | |
| *Toluene-d8* | *93* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *96* | *55-121* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 1 of 2

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-5-2** | | | | | |
| Laboratory ID: | 09-198-04 | | | | | |
| Dichlorodifluoromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | 0.020 | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | 0.0035 | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-5-2** | | | | | |
| Laboratory ID: | 09-198-04 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0023 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0057 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0011 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *72* | *63-127* | | | | |
| *Toluene-d8* | *85* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *94* | *55-121* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

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

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1004S1 | | | | | |
| Dichlorodifluoromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

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

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1004S1 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0020 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *74* | *63-127* | | | | |
| *Toluene-d8* | *87* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *97* | *55-121* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**VOLATILES by EPA 8260B**
**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: | SB1004S1 | | | | | | | | | |
| | SB | SBD | SB | SBD | SB | SBD | | | | |
| 1,1-Dichloroethene | **0.0482** | **0.0548** | 0.0500 | 0.0500 | 96 | 110 | 70-130 | 13 | 19 | |
| Benzene | **0.0416** | **0.0426** | 0.0500 | 0.0500 | 83 | 85 | 70-125 | 2 | 15 | |
| Trichloroethene | **0.0453** | **0.0472** | 0.0500 | 0.0500 | 91 | 94 | 70-122 | 4 | 14 | |
| Toluene | **0.0458** | **0.0439** | 0.0500 | 0.0500 | 92 | 88 | 73-120 | 4 | 16 | |
| Chlorobenzene | **0.0521** | **0.0490** | 0.0500 | 0.0500 | 104 | 98 | 74-109 | 6 | 12 | |
| *Surrogate:* | | | | | | | | | | |
| *Dibromofluoromethane* | | | | | *69* | *79* | *63-127* | | | |
| *Toluene-d8* | | | | | *80* | *81* | *65-129* | | | |
| *4-Bromofluorobenzene* | | | | | *90* | *87* | *55-121* | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | EPA Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Lab ID: | 09-198-02 | | | | | |
| **Client ID:** | **HC-N12342526-TP-4-2** | | | | | |
| Lead | **ND** | 5.9 | 6010B | 10-6-11 | 10-6-11 | |
| Lab ID: | 09-198-04 | | | | | |
| **Client ID:** | **HC-N12342526-TP-5-2** | | | | | |
| Lead | **11** | 5.9 | 6010B | 10-6-11 | 10-6-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 10-6-11 |
| Date Analyzed: | 10-6-11 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | MB1006S2 |

| Analyte | Method | Result | PQL |
|---|---|---|---|
| Lead | 6010B | **ND** | 5.0 |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 10-6-11
Date Analyzed: 10-6-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-213-06

| Analyte | Sample Result | Duplicate Result | RPD | PQL | Flags |
|---|---|---|---|---|---|
| Lead | **15.3** | **19.1** | 22 | 5.0 | C |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**
**MS/MSD QUALITY CONTROL**

Date Extracted: 10-6-11
Date Analyzed: 10-6-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-213-06

| Analyte | Spike Level | MS | Percent Recovery | MSD | Percent Recovery | RPD | Flags |
|---|---|---|---|---|---|---|---|
| Lead | 250 | **270** | 102 | **277** | 105 | 3 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**SEMIVOLATILES by EPA 8270D/SIM**
page 1 of 2

Matrix: Soil
Units: mg/Kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-1** | | | | | |
| Laboratory ID: | 09-198-01 | | | | | |
| n-Nitrosodimethylamine | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Pyridine | **ND** | 0.36 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Phenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Aniline | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| bis(2-Chloroethyl)ether | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2-Chlorophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,3-Dichlorobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,4-Dichlorobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Benzyl alcohol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,2-Dichlorobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2-Methylphenol (o-Cresol) | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| bis(2-Chloroisopropyl)ether | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| (3+4)-Methylphenol (m,p-Cresol) | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| n-Nitroso-di-n-propylamine | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Hexachloroethane | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Nitrobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Isophorone | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2-Nitrophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,4-Dimethylphenol | **ND** | 0.36 | EPA 8270 | 10-5-11 | 10-6-11 | |
| bis(2-Chloroethoxy)methane | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,4-Dichlorophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,2,4-Trichlorobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Naphthalene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 4-Chloroaniline | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Hexachlorobutadiene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 4-Chloro-3-methylphenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2-Methylnaphthalene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 1-Methylnaphthalene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Hexachlorocyclopentadiene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,4,6-Trichlorophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,3-Dichloroaniline | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,4,5-Trichlorophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2-Chloronaphthalene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2-Nitroaniline | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,4-Dinitrobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Dimethylphthalate | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,3-Dinitrobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,6-Dinitrotoluene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,2-Dinitrobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Acenaphthylene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 3-Nitroaniline | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**SEMIVOLATILES by EPA 8270D/SIM**
page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-4-1** | | | | | |
| Laboratory ID: | 09-198-01 | | | | | |
| 2,4-Dinitrophenol | **ND** | 0.18 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Acenaphthene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 4-Nitrophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,4-Dinitrotoluene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Dibenzofuran | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,3,5,6-Tetrachlorophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 2,3,4,6-Tetrachlorophenol | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Diethylphthalate | **ND** | 0.18 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 4-Chlorophenyl-phenylether | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 4-Nitroaniline | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Fluorene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 4,6-Dinitro-2-methylphenol | **ND** | 0.18 | EPA 8270 | 10-5-11 | 10-6-11 | |
| n-Nitrosodiphenylamine | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 1,2-Diphenylhydrazine | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 4-Bromophenyl-phenylether | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Hexachlorobenzene | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Pentachlorophenol | **ND** | 0.18 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Phenanthrene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Anthracene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Carbazole | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Di-n-butylphthalate | **ND** | 0.36 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Fluoranthene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzidine | **ND** | 0.36 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Pyrene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Butylbenzylphthalate | **ND** | 0.36 | EPA 8270 | 10-5-11 | 10-6-11 | |
| bis-2-Ethylhexyladipate | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| 3,3'-Dichlorobenzidine | **ND** | 0.36 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Benzo[a]anthracene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Chrysene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| bis(2-Ethylhexyl)phthalate | **ND** | 0.18 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Di-n-octylphthalate | **ND** | 0.036 | EPA 8270 | 10-5-11 | 10-6-11 | |
| Benzo[b]fluoranthene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo(j,k)fluoranthene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]pyrene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Indeno[1,2,3-cd]pyrene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[g,h,i]perylene | **ND** | 0.0072 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorophenol* | *75* | *30 - 97* | | | | |
| *Phenol-d6* | *81* | *40 - 104* | | | | |
| *Nitrobenzene-d5* | *79* | *35 - 102* | | | | |
| *2-Fluorobiphenyl* | *76* | *44 - 97* | | | | |
| *2,4,6-Tribromophenol* | *79* | *41 - 110* | | | | |
| *Terphenyl-d14* | *84* | *53 - 107* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**SEMIVOLATILES by EPA 8270D/SIM**
**METHOD BLANK QUALITY CONTROL**
page 1 of 2

Matrix: Soil
Units: mg/Kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1005S2 | | | | | |
| n-Nitrosodimethylamine | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Pyridine | **ND** | 0.33 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Phenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Aniline | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| bis(2-Chloroethyl)ether | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2-Chlorophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,3-Dichlorobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,4-Dichlorobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Benzyl alcohol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,2-Dichlorobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2-Methylphenol (o-Cresol) | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| bis(2-Chloroisopropyl)ether | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| (3+4)-Methylphenol (m,p-Cresol) | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| n-Nitroso-di-n-propylamine | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Hexachloroethane | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Nitrobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Isophorone | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2-Nitrophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,4-Dimethylphenol | **ND** | 0.33 | EPA 8270 | 10-5-11 | 10-5-11 | |
| bis(2-Chloroethoxy)methane | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,4-Dichlorophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,2,4-Trichlorobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Naphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 4-Chloroaniline | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Hexachlorobutadiene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 4-Chloro-3-methylphenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2-Methylnaphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 1-Methylnaphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Hexachlorocyclopentadiene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,4,6-Trichlorophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,3-Dichloroaniline | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,4,5-Trichlorophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2-Chloronaphthalene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2-Nitroaniline | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,4-Dinitrobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Dimethylphthalate | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,3-Dinitrobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,6-Dinitrotoluene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,2-Dinitrobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Acenaphthylene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 3-Nitroaniline | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**SEMIVOLATILES by EPA 8270D/SIM**
**METHOD BLANK QUALITY CONTROL**
page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1005S2 | | | | | |
| 2,4-Dinitrophenol | **ND** | 0.17 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Acenaphthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 4-Nitrophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,4-Dinitrotoluene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Dibenzofuran | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,3,5,6-Tetrachlorophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 2,3,4,6-Tetrachlorophenol | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Diethylphthalate | **ND** | 0.17 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 4-Chlorophenyl-phenylether | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 4-Nitroaniline | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Fluorene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 4,6-Dinitro-2-methylphenol | **ND** | 0.17 | EPA 8270 | 10-5-11 | 10-5-11 | |
| n-Nitrosodiphenylamine | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 1,2-Diphenylhydrazine | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 4-Bromophenyl-phenylether | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Hexachlorobenzene | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Pentachlorophenol | **ND** | 0.17 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Phenanthrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Carbazole | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Di-n-butylphthalate | **ND** | 0.33 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzidine | **ND** | 0.33 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Butylbenzylphthalate | **ND** | 0.33 | EPA 8270 | 10-5-11 | 10-5-11 | |
| bis-2-Ethylhexyladipate | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| 3,3'-Dichlorobenzidine | **ND** | 0.33 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Benzo[a]anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Chrysene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| bis(2-Ethylhexyl)phthalate | **ND** | 0.17 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Di-n-octylphthalate | **ND** | 0.033 | EPA 8270 | 10-5-11 | 10-5-11 | |
| Benzo[b]fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo(j,k)fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Indeno[1,2,3-cd]pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[g,h,i]perylene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorophenol* | *56* | *30 - 97* | | | | |
| *Phenol-d6* | *63* | *40 - 104* | | | | |
| *Nitrobenzene-d5* | *61* | *35 - 102* | | | | |
| *2-Fluorobiphenyl* | *56* | *44 - 97* | | | | |
| *2,4,6-Tribromophenol* | *57* | *41 - 110* | | | | |
| *Terphenyl-d14* | *76* | *53 - 107* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**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: | 10-003-04 | | | | | | | | | | |
| | MS | MSD | MS | MSD | | MS | MSD | | | | |
| Phenol | **0.862** | **0.922** | 1.33 | 1.33 | ND | 65 | 69 | 41 - 106 | 7 | 29 | |
| 2-Chlorophenol | **0.890** | **0.989** | 1.33 | 1.33 | ND | 67 | 74 | 43 - 104 | 11 | 36 | |
| 1,4-Dichlorobenzene | **0.381** | **0.437** | 0.667 | 0.667 | ND | 57 | 66 | 25 - 94 | 14 | 40 | |
| n-Nitroso-di-n-propylamine | **0.487** | **0.512** | 0.667 | 0.667 | ND | 73 | 77 | 40 - 100 | 5 | 34 | |
| 1,2,4-Trichlorobenzene | **0.386** | **0.420** | 0.667 | 0.667 | ND | 58 | 63 | 39 - 86 | 8 | 34 | |
| 4-Chloro-3-methylphenol | **1.10** | **1.08** | 1.33 | 1.33 | ND | 83 | 81 | 60 - 102 | 2 | 25 | |
| Acenaphthene | **0.533** | **0.537** | 0.667 | 0.667 | ND | 80 | 81 | 54 - 94 | 1 | 23 | |
| 4-Nitrophenol | **1.18** | **1.18** | 1.33 | 1.33 | ND | 89 | 89 | 30 - 133 | 0 | 25 | |
| 2,4-Dinitrotoluene | **0.568** | **0.578** | 0.667 | 0.667 | ND | 85 | 87 | 46 - 107 | 2 | 26 | |
| Pentachlorophenol | **1.16** | **1.04** | 1.33 | 1.33 | ND | 87 | 78 | 54 - 111 | 11 | 29 | |
| Pyrene | **0.616** | **0.611** | 0.667 | 0.667 | 0.150 | 70 | 69 | 54 - 108 | 1 | 21 | |
| *Surrogate:* | | | | | | | | | | | |
| *2-Fluorophenol* | | | | | | *56* | *63* | *30 - 97* | | | |
| *Phenol-d6* | | | | | | *64* | *67* | *40 - 104* | | | |
| *Nitrobenzene-d5* | | | | | | *62* | *69* | *35 - 102* | | | |
| *2-Fluorobiphenyl* | | | | | | *71* | *70* | *44 - 97* | | | |
| *2,4,6-Tribromophenol* | | | | | | *74* | *72* | *41 - 110* | | | |
| *Terphenyl-d14* | | | | | | *78* | *77* | *53 - 107* | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 6010B/7471A**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | EPA Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Lab ID: | 09-198-01 | | | | | |
| **Client ID:** | **HC-N12342526-TP-4-1** | | | | | |
| Arsenic | **ND** | 11 | 6010B | 10-7-11 | 10-11-11 | |
| Barium | **43** | 2.7 | 6010B | 10-7-11 | 10-11-11 | |
| Cadmium | **ND** | 0.54 | 6010B | 10-7-11 | 10-11-11 | |
| Chromium | **29** | 0.54 | 6010B | 10-7-11 | 10-11-11 | |
| Lead | **ND** | 5.4 | 6010B | 10-7-11 | 10-11-11 | |
| Mercury | **ND** | 0.27 | 7471A | 10-5-11 | 10-5-11 | |
| Selenium | **ND** | 11 | 6010B | 10-7-11 | 10-11-11 | |
| Silver | **ND** | 0.54 | 6010B | 10-7-11 | 10-11-11 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 6010B**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 10-7-11 |
| Date Analyzed: | 10-11-11 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | MB1007S1 |

| 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 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 7471A**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 10-5-11 |
| Date Analyzed: | 10-5-11 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | MB1005S2 |

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

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 6010B**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 10-7-11
Date Analyzed: 10-11-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-198-01

| Analyte | Sample Result | Duplicate Result | RPD | PQL | Flags |
|---|---|---|---|---|---|
| Arsenic | **ND** | **ND** | NA | 10 | |
| Barium | **39.7** | **43.8** | 10 | 2.5 | |
| Cadmium | **ND** | **ND** | NA | 0.50 | |
| Chromium | **27.0** | **25.1** | 7 | 0.50 | |
| Lead | **ND** | **ND** | NA | 5.0 | |
| Selenium | **ND** | **ND** | NA | 10 | |
| Silver | **ND** | **ND** | NA | 0.50 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 7471A**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 10-5-11
Date Analyzed: 10-5-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-003-04

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

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 6010B**
**MS/MSD QUALITY CONTROL**

Date Extracted: 10-7-11
Date Analyzed: 10-11-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-198-01

| Analyte | Spike Level | MS | Percent Recovery | MSD | Percent Recovery | RPD | Flags |
|---|---|---|---|---|---|---|---|
| Arsenic | 100 | **95.1** | 95 | **94.1** | 94 | 1 | |
| Barium | 100 | **143** | 104 | **138** | 98 | 4 | |
| Cadmium | 50.0 | **49.0** | 98 | **48.4** | 97 | 1 | |
| Chromium | 100 | **119** | 92 | **114** | 87 | 4 | |
| Lead | 250 | **247** | 99 | **244** | 97 | 1 | |
| Selenium | 100 | **92.9** | 93 | **91.2** | 91 | 2 | |
| Silver | 25.0 | **21.9** | 88 | **21.4** | 86 | 2 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**TOTAL METALS**
**EPA 7471A**
**MS/MSD QUALITY CONTROL**

Date Extracted: 10-5-11
Date Analyzed: 10-5-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-003-04

| Analyte | Spike Level | MS | Percent Recovery | MSD | Percent Recovery | RPD | Flags |
|---|---|---|---|---|---|---|---|
| Mercury | 0.500 | **0.430** | 86 | **0.442** | 88 | 3 | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**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:** | **HC-N12342526-TP-4-2** | | | | | |
| Laboratory ID: | 09-198-02 | | | | | |
| Naphthalene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 2-Methylnaphthalene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 1-Methylnaphthalene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Acenaphthylene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Acenaphthene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Fluorene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Phenanthrene | **0.015** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Anthracene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Fluoranthene | **0.019** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Pyrene | **0.026** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]anthracene | **0.012** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Chrysene | **0.014** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[b]fluoranthene | **0.010** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo(j,k)fluoranthene | **0.0080** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]pyrene | **0.012** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Indeno(1,2,3-c,d)pyrene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[g,h,i]perylene | **0.015** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *86* | *43 - 109* | | | | |
| *Pyrene-d10* | *97* | *38 - 128* | | | | |
| *Terphenyl-d14* | *90* | *33 - 119* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**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:** | **HC-N12342526-TP-5-2** | | | | | |
| Laboratory ID: | 09-198-04 | | | | | |
| Naphthalene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 2-Methylnaphthalene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 1-Methylnaphthalene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Acenaphthylene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Acenaphthene | **0.011** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Fluorene | **0.0079** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Phenanthrene | **0.034** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Anthracene | **0.018** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Fluoranthene | **0.063** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Pyrene | **0.13** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]anthracene | **0.043** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Chrysene | **0.061** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[b]fluoranthene | **0.030** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo(j,k)fluoranthene | **0.024** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]pyrene | **0.039** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Indeno(1,2,3-c,d)pyrene | **0.017** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[g,h,i]perylene | **0.027** | 0.0079 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *100* | *43 - 109* | | | | |
| *Pyrene-d10* | *98* | *38 - 128* | | | | |
| *Terphenyl-d14* | *92* | *33 - 119* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

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

Matrix: Soil
Units: mg/Kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1005S1 | | | | | |
| Naphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| 2-Methylnaphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| 1-Methylnaphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Acenaphthylene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Acenaphthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Fluorene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Phenanthrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[a]anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Chrysene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[b]fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo(j,k)fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[a]pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Indeno(1,2,3-c,d)pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[g,h,i]perylene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *65* | *43 - 109* | | | | |
| *Pyrene-d10* | *83* | *38 - 128* | | | | |
| *Terphenyl-d14* | *90* | *33 - 119* | | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

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

Matrix: Soil
Units: mg/Kg

| Analyte | Result | | Spike Level | | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPIKE BLANKS** | | | | | | | | | | |
| Laboratory ID: | SB1005S1 | | | | | | | | | |
| | SB | SBD | SB | SBD | SB | SBD | | | | |
| Naphthalene | **0.0648** | **0.0647** | 0.0833 | 0.0833 | 78 | 78 | 43 - 108 | 0 | 27 | |
| Acenaphthylene | **0.0732** | **0.0744** | 0.0833 | 0.0833 | 88 | 89 | 52 - 120 | 2 | 21 | |
| Acenaphthene | **0.0731** | **0.0743** | 0.0833 | 0.0833 | 88 | 89 | 59 - 113 | 2 | 17 | |
| Fluorene | **0.0739** | **0.0768** | 0.0833 | 0.0833 | 89 | 92 | 64 - 117 | 4 | 14 | |
| Phenanthrene | **0.0759** | **0.0795** | 0.0833 | 0.0833 | 91 | 95 | 67 - 112 | 5 | 12 | |
| Anthracene | **0.0696** | **0.0739** | 0.0833 | 0.0833 | 84 | 89 | 59 - 110 | 6 | 16 | |
| Fluoranthene | **0.0854** | **0.0883** | 0.0833 | 0.0833 | 103 | 106 | 68 - 120 | 3 | 15 | |
| Pyrene | **0.0830** | **0.0857** | 0.0833 | 0.0833 | 100 | 103 | 66 - 121 | 3 | 17 | |
| Benzo[a]anthracene | **0.0741** | **0.0762** | 0.0833 | 0.0833 | 89 | 91 | 63 - 114 | 3 | 12 | |
| Chrysene | **0.0794** | **0.0812** | 0.0833 | 0.0833 | 95 | 97 | 67 - 118 | 2 | 12 | |
| Benzo[b]fluoranthene | **0.0793** | **0.0829** | 0.0833 | 0.0833 | 95 | 100 | 58 - 125 | 4 | 20 | |
| Benzo(j,k)fluoranthene | **0.0782** | **0.0830** | 0.0833 | 0.0833 | 94 | 100 | 42 - 134 | 6 | 26 | |
| Benzo[a]pyrene | **0.0611** | **0.0671** | 0.0833 | 0.0833 | 73 | 81 | 55 - 111 | 9 | 19 | |
| Indeno(1,2,3-c,d)pyrene | **0.0759** | **0.0781** | 0.0833 | 0.0833 | 91 | 94 | 60 - 125 | 3 | 20 | |
| Dibenz[a,h]anthracene | **0.0774** | **0.0792** | 0.0833 | 0.0833 | 93 | 95 | 62 - 125 | 2 | 19 | |
| Benzo[g,h,i]perylene | **0.0768** | **0.0803** | 0.0833 | 0.0833 | 92 | 96 | 61 - 124 | 4 | 19 | |
| *Surrogate:* | | | | | | | | | | |
| *2-Fluorobiphenyl* | | | | | *89* | *91* | *43 - 109* | | | |
| *Pyrene-d10* | | | | | *97* | *100* | *38 - 128* | | | |
| *Terphenyl-d14* | | | | | *98* | *99* | *33 - 119* | | | |

Date of Report: October 13, 2011
Samples Submitted: September 29, 2011
Laboratory Reference: 1109-198
Project: 17581-00 21

**% MOISTURE**

Date Analyzed: 10-3-11

| Client ID | Lab ID | % Moisture |
|---|---|---|
| HC-N12342526-TP-4-1 | 09-198-01 | 7 |
| HC-N12342526-TP-4-2 | 09-198-02 | 16 |
| HC-N12342526-TP-5-2 | 09-198-04 | 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

# Sample Custody Record

1 OF 1

Samples Shipped to: ONSITE

HARTCROWSER

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699
Phone: 206-324-9530 FAX: 206-328-5581

JOB 17581-00 21 LAB NUMBER 09-198

PROJECT NAME PoT UST Program - N-1,2,3,4,25,26

HART CROWSER CONTACT C. Rust / R. Stansby

SAMPLED BY:

| LAB NO. | SAMPLE ID | DESCRIPTION | DATE | TIME | MATRIX | NWTPH-Gx | NWTPH-Dx | BETX | VOCs | Lead | SVOCs 8270 (comp as) | PCBs 8270 | PAHs 8270 | % moisture | NO. OF CONTAINERS | OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HC-N1234526-TP4-1 | | 9/28/11 | 1555 | SOIL | X | X | | X | X | X | X | | X | 5 | |
| 2 | HC-N1234526-TP4-2 | | | 1600 | | X | X | | X | X | | | X | X | 5 | |
| 3 | HC-N1234526-TP5-1 | | | 1435 | | | | | | | | | | | 5 | |
| 4 | HC-N1234526-TP5-2 | | ↓ | 1440 | ↓ | X | X | | X | X | | | X | X | 5 | |

| RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|
| SIGNATURE | 9/29/11 | SIGNATURE | 9.29.11 |
| PRINT NAME Colleen Rust | TIME 655 | PRINT NAME D McKalson | TIME 6:55A |
| COMPANY HC | | COMPANY OSE | |
| RELINQUISHED BY | DATE | RECEIVED BY | DATE |
| SIGNATURE | | SIGNATURE | |
| PRINT NAME | TIME | PRINT NAME | TIME |
| COMPANY | | COMPANY | |

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:

HOLD SAMPLES

X Added 9/30/11 BG STA

O Added 10/31/11 DB STA

20 TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION

CUSTODY SEALS: ☐YES ☐NO ☐N/A

GOOD CONDITION ☐YES ☐NO

TEMPERATURE _____

SHIPMENT METHOD: ☐HAND ☐COURIER ☐OVERNIGHT

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. _____ for Other Contract Requirements

TURNAROUND TIME:

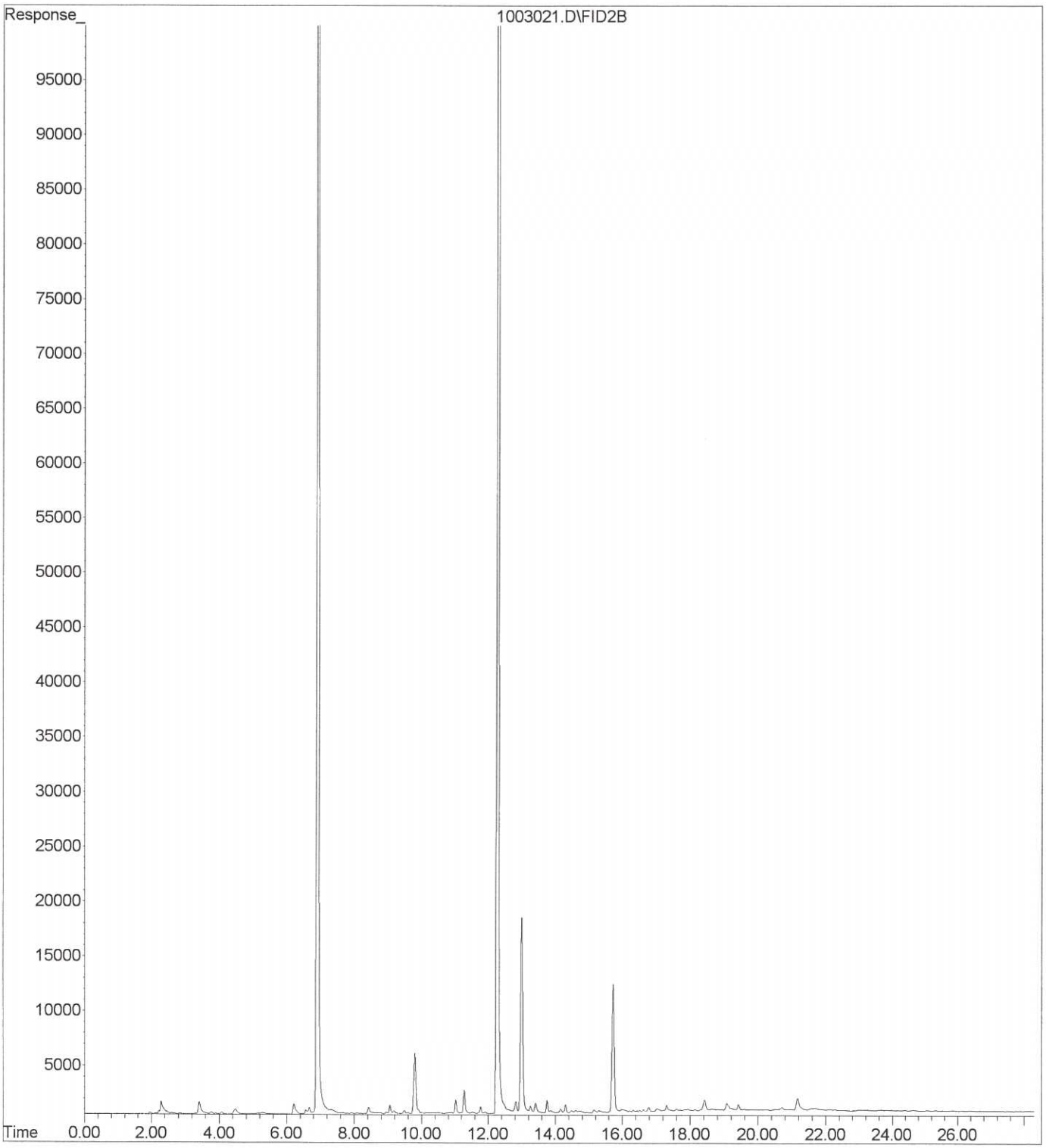
☐ 24 HOURS ☐ 1 WEEK

☐ 48 HOURS ☒ STANDARD

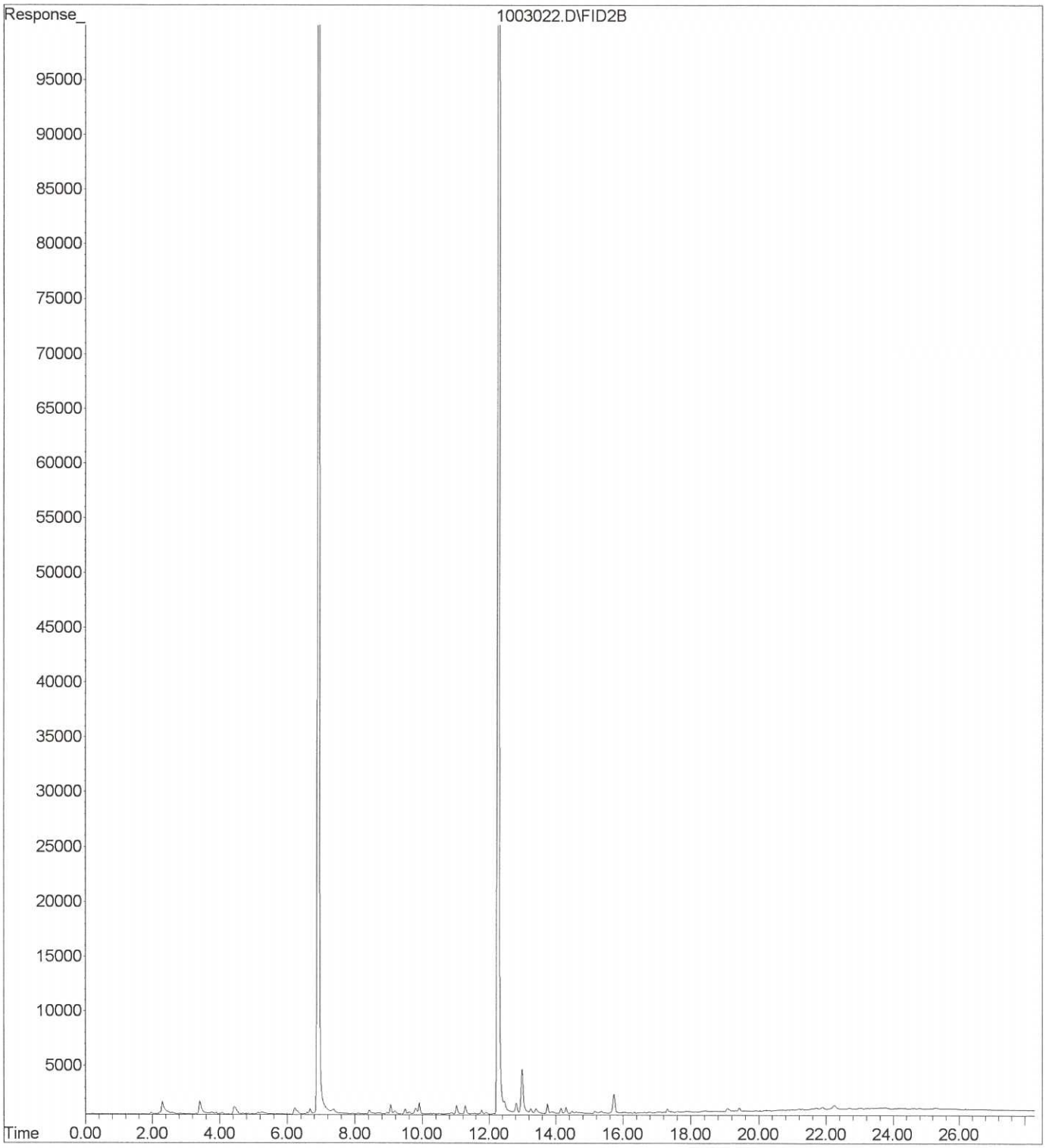
☐ 72 HOURS OTHER _____

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

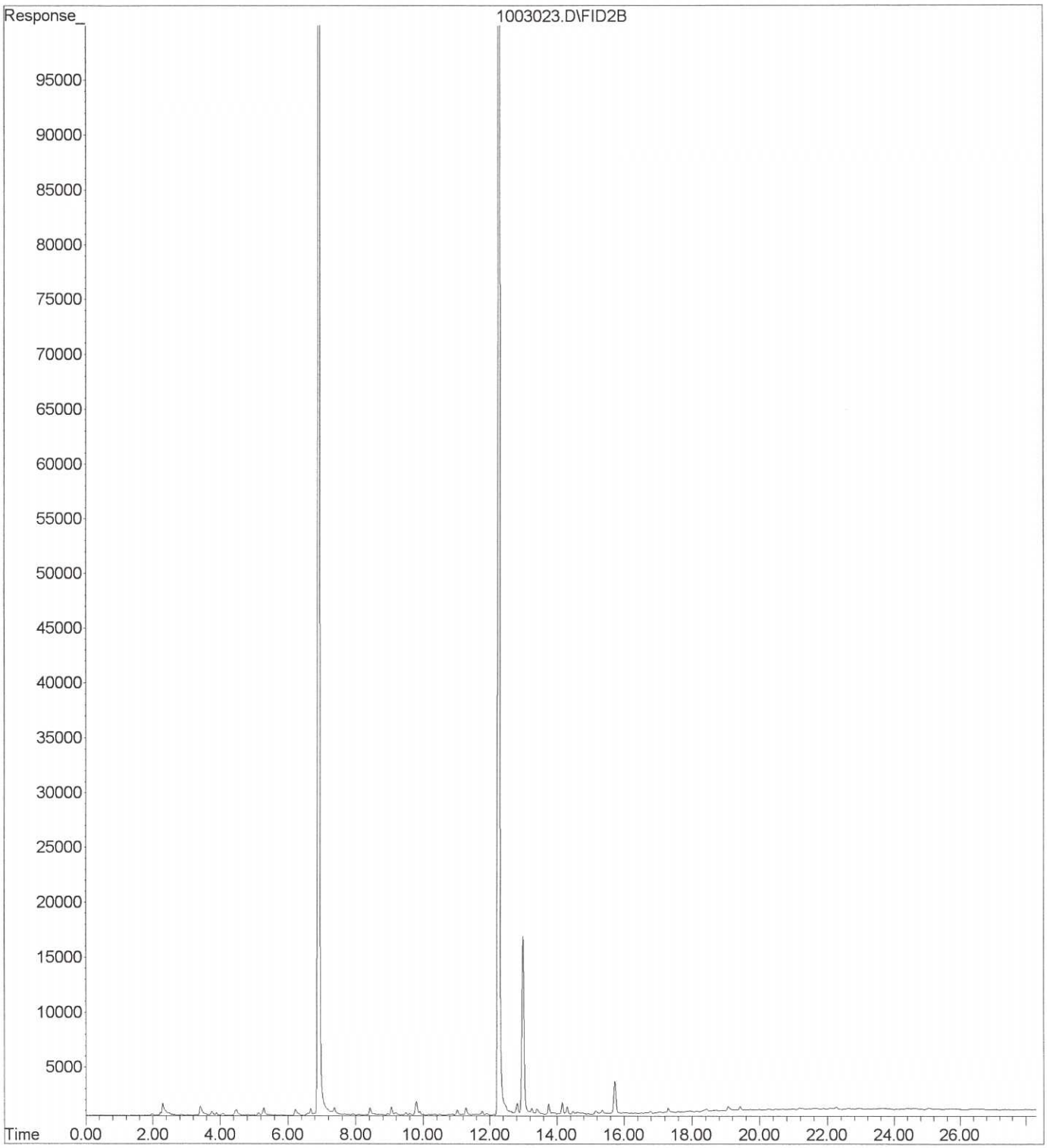
File : X:\BTEX\DARYL\DATA\D111003\1003021.D
Operator :
Acquired : 4 Oct 2011 1:31 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-198-01s
Misc Info : V2-26-24
Vial Number: 21



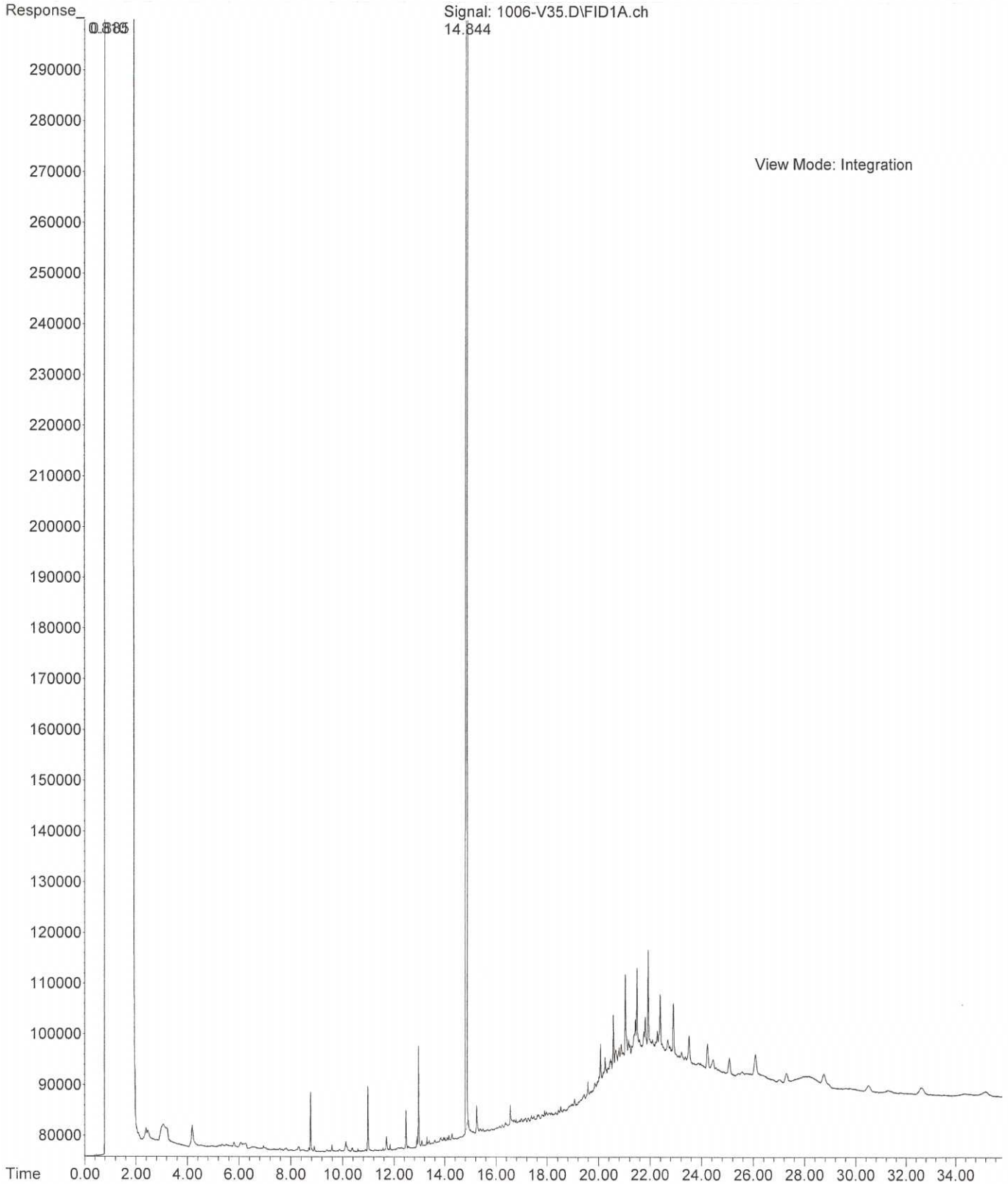
File : X:\BTEX\DARYL\DATA\D111003\1003022.D
Operator :
Acquired : 4 Oct 2011 2:04 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-198-02s
Misc Info : V2-26-24
Vial Number: 22



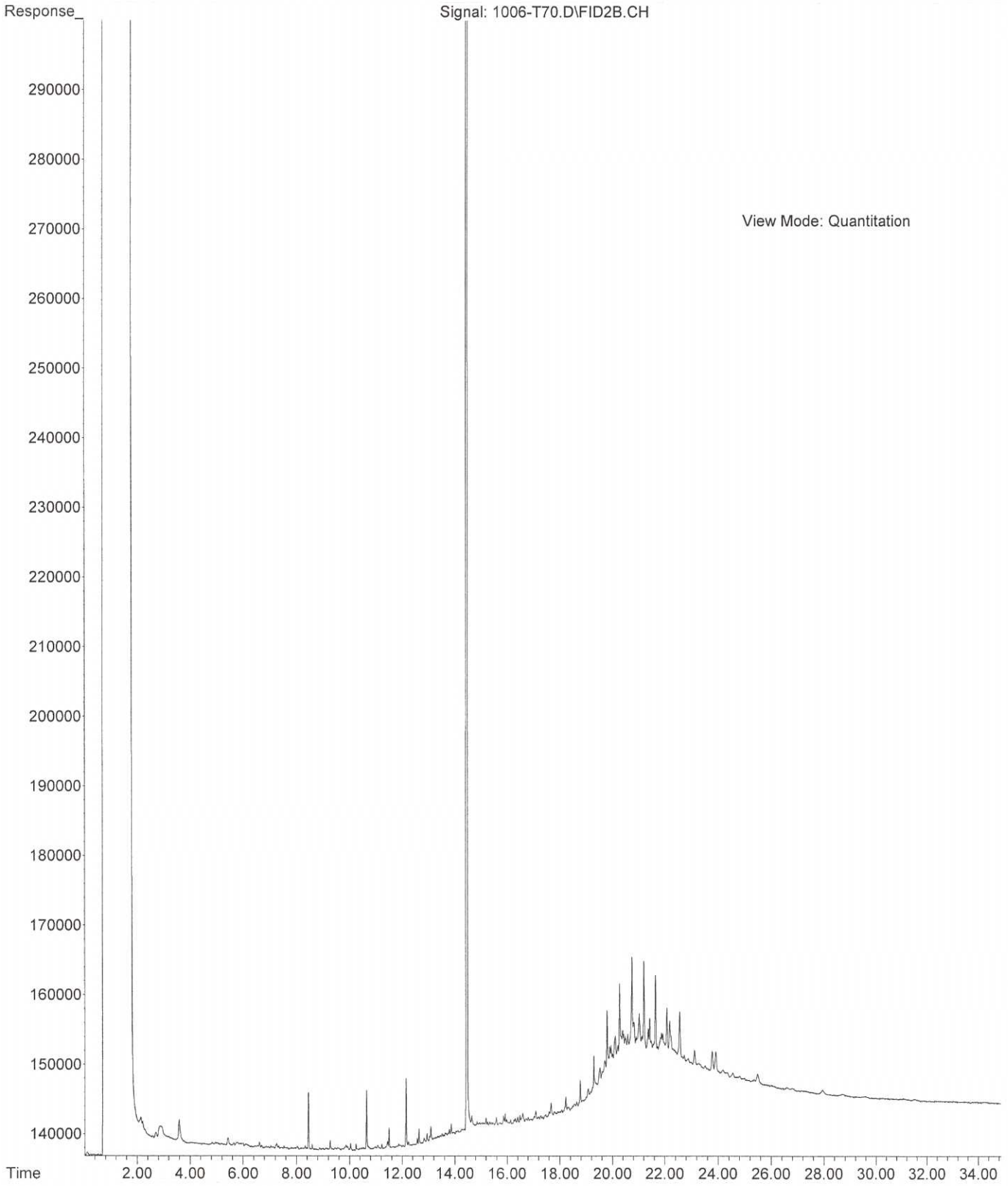
File : X:\BTEX\DARYL\DATA\D111003\1003023.D
Operator :
Acquired : 4 Oct 2011 2:38 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-198-04s
Misc Info : V2-26-24
Vial Number: 23



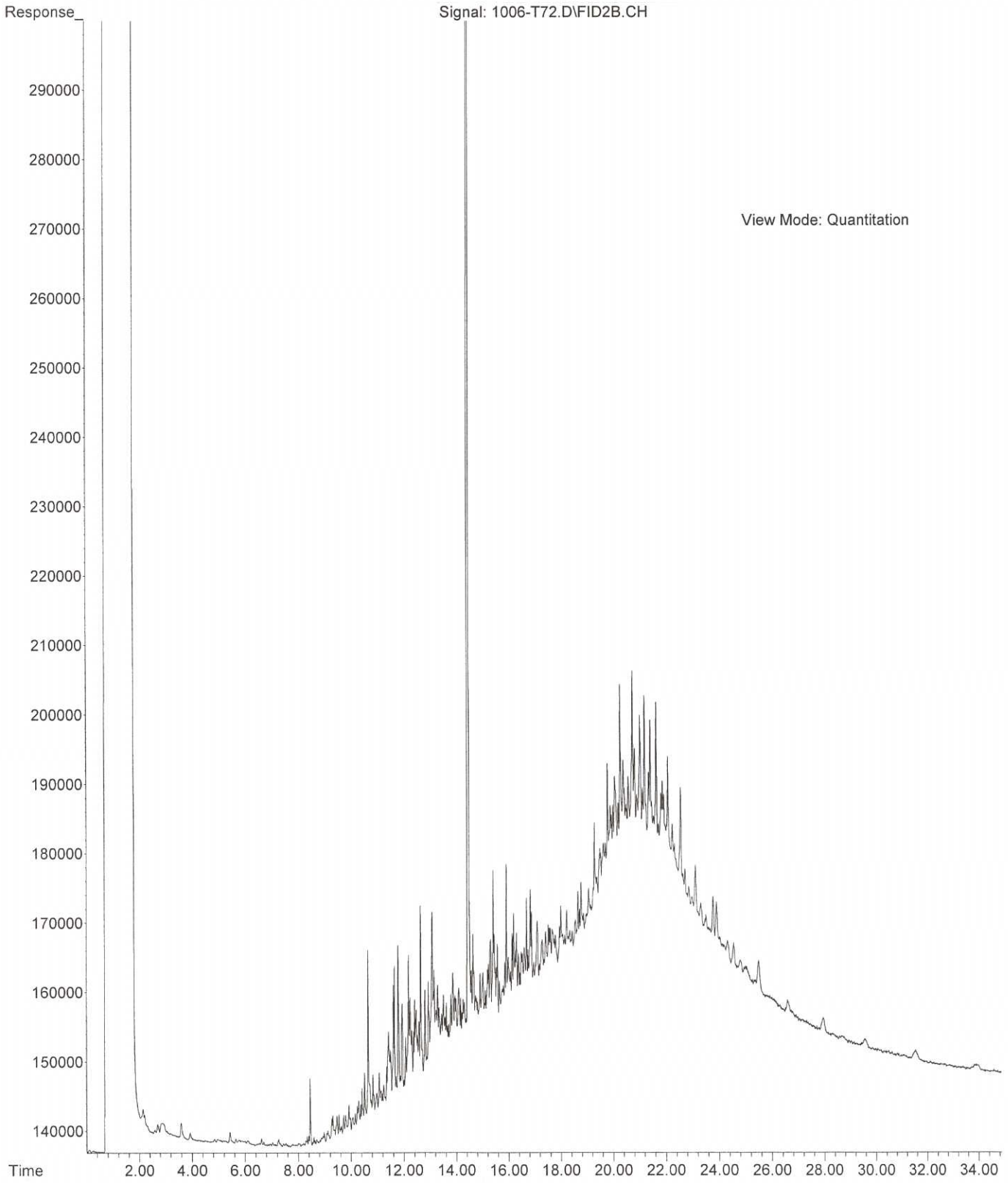
File : C:\msdchem\2\DATA\V111006\1006-V35.D
Operator :
Acquired : 7 Oct 2011 8:45 using AcqMethod V110914F.M
Instrument : VIGO
Sample Name: 09-198-01
Misc Info :
Vial Number: 35



File :C:\msdchem\1\DATA\T111006.SEC\1006-T70.D
Operator : ZT
Acquired : 07 Oct 2011 2:49 using AcqMethod T110816F.M
Instrument : Teri
Sample Name: 09-198-02
Misc Info :
Vial Number: 70



File : C:\msdchem\1\DATA\T111006.SEC\1006-T72.D
Operator : ZT
Acquired : 07 Oct 2011 4:14 using AcqMethod T110816F.M
Instrument : Teri
Sample Name: 09-198-04
Misc Info :
Vial Number: 72



OnSite Environmental Inc.

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

October 11, 2011

Ross Stainsby
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109-3056

Re: Analytical Data for Project 17581-00 21
Laboratory Reference No. 1109-213

Dear Ross:

Enclosed are the analytical results and associated quality control data for samples submitted on September 30, 2011.

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 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**Case Narrative**

Samples were collected on September 29, 2011 and received by the laboratory on September 30, 2011. 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 and 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.

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**NWTPH-Gx**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-1-2** | | | | | |
| Laboratory ID: | 09-213-02 | | | | | |
| Gasoline | **ND** | 7.5 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *106* | *68-124* | | | | |
| **Client ID:** | **HC-N12342526-TP-2-2** | | | | | |
| Laboratory ID: | 09-213-04 | | | | | |
| Gasoline | **ND** | 9.0 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *102* | *68-124* | | | | |
| **Client ID:** | **HC-N12342526-TP-3-2** | | | | | |
| Laboratory ID: | 09-213-06 | | | | | |
| Gasoline | **ND** | 5.7 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *100* | *68-124* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**NWTPH-Gx**
**QUALITY CONTROL**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB1003S2 | | | | | |
| Gasoline | **ND** | 5.0 | NWTPH-Gx | 10-3-11 | 10-3-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *103* | *68-124* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | | |
| Laboratory ID: | 09-212-04 | | | | | | | | | | |
| | ORIG | DUP | | | | | | | | | |
| Gasoline | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *95* | *97* | *68-124* | | | |

Date of Report: October 11, 2011
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Project: 17581-00 21

**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:** | **HC-N12342526-TP-1-2** | | | | | |
| Laboratory ID: | 09-213-02 | | | | | |
| Diesel Range Organics | **ND** | 34 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil Range Organics | **ND** | 68 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *93* | *50-150* | | | | |
| **Client ID:** | **HC-N12342526-TP-2-2** | | | | | |
| Laboratory ID: | 09-213-04 | | | | | |
| Diesel Range Organics | **ND** | 35 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil Range Organics | **ND** | 69 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *99* | *50-150* | | | | |
| **Client ID:** | **HC-N12342526-TP-3-2** | | | | | |
| Laboratory ID: | 09-213-06 | | | | | |
| Diesel Range Organics | **ND** | 26 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil | **160** | 53 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *115* | *50-150* | | | | |

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Project: 17581-00 21

**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: | MB1006S3 | | | | | |
| Diesel Range Organics | **ND** | 25 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| Lube Oil Range Organics | **ND** | 50 | NWTPH-Dx | 10-6-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *99* | *50-150* | | | | |

| Analyte | Result | | Percent Recovery | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | |
| Laboratory ID: | 09-213-06 | | | | | | |
| | ORIG | DUP | | | | | |
| Diesel Range Organics | **ND** | **ND** | | | NA | NA | |
| Lube Oil | **153** | **123** | | | 22 | NA | |
| *Surrogate:* | | | | | | | |
| *o-Terphenyl* | | | *115* *110* | *50-150* | | | |

Date of Report: October 11, 2011
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Laboratory Reference: 1109-213
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 1 of 2

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-1-2** | | | | | |
| Laboratory ID: | 09-213-02 | | | | | |
| Dichlorodifluoromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | 0.0023 | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**VOLATILES by EPA 8260B**
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| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-1-2** | | | | | |
| Laboratory ID: | 09-213-02 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0026 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *71* | *63-127* | | | | |
| *Toluene-d8* | *89* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *98* | *55-121* | | | | |

Date of Report: October 11, 2011
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Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 1 of 2

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-2-2** | | | | | |
| Laboratory ID: | 09-213-04 | | | | | |
| Dichlorodifluoromethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |

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Project: 17581-00 21

**VOLATILES by EPA 8260B**
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| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-2-2** | | | | | |
| Laboratory ID: | 09-213-04 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0027 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0068 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0014 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *75* | *63-127* | | | | |
| *Toluene-d8* | *89* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *97* | *55-121* | | | | |

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**VOLATILES by EPA 8260B**
page 1 of 2

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-3-2** | | | | | |
| Laboratory ID: | 09-213-06 | | | | | |
| Dichlorodifluoromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**VOLATILES by EPA 8260B**
page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-TP-3-2** | | | | | |
| Laboratory ID: | 09-213-06 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | 0.0033 | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0025 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0064 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0013 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *75* | *63-127* | | | | |
| *Toluene-d8* | *96* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *97* | *55-121* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

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

Matrix: Soil
Units: mg/kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1004S1 | | | | | |
| Dichlorodifluoromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloromethane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Chloride | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromomethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroethane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichlorofluoromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Acetone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Iodomethane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Disulfide | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methylene Chloride | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl t-Butyl Ether | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Vinyl Acetate | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2,2-Dichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Butanone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromochloromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chloroform | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1-Trichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Carbon Tetrachloride | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1-Dichloropropene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Benzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Trichloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromomethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromodichloromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Methyl Isobutyl Ketone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Toluene | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
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Project: 17581-00 21

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

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1004S1 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Tetrachloroethene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Hexanone | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Dibromochloromethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromoethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Chlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Ethylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| m,p-Xylene | ND | 0.0020 | EPA 8260 | 10-4-11 | 10-4-11 | |
| o-Xylene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Styrene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromoform | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Isopropylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Bromobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichloropropane | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Propylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 2-Chlorotoluene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 4-Chlorotoluene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| tert-Butylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| sec-Butylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,3-Dichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| p-Isopropyltoluene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,4-Dichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| n-Butylbenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Hexachlorobutadiene | ND | 0.0050 | EPA 8260 | 10-4-11 | 10-4-11 | |
| Naphthalene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.0010 | EPA 8260 | 10-4-11 | 10-4-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *74* | *63-127* | | | | |
| *Toluene-d8* | *87* | *65-129* | | | | |
| *4-Bromofluorobenzene* | *97* | *55-121* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**VOLATILES by EPA 8260B**
**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: | SB1004S1 | | | | | | | | | |
| | SB | SBD | SB | SBD | SB | SBD | | | | |
| 1,1-Dichloroethene | **0.0482** | **0.0548** | 0.0500 | 0.0500 | 96 | 110 | 70-130 | 13 | 19 | |
| Benzene | **0.0416** | **0.0426** | 0.0500 | 0.0500 | 83 | 85 | 70-125 | 2 | 15 | |
| Trichloroethene | **0.0453** | **0.0472** | 0.0500 | 0.0500 | 91 | 94 | 70-122 | 4 | 14 | |
| Toluene | **0.0458** | **0.0439** | 0.0500 | 0.0500 | 92 | 88 | 73-120 | 4 | 16 | |
| Chlorobenzene | **0.0521** | **0.0490** | 0.0500 | 0.0500 | 104 | 98 | 74-109 | 6 | 12 | |
| *Surrogate:* | | | | | | | | | | |
| *Dibromofluoromethane* | | | | | *69* | *79* | *63-127* | | | |
| *Toluene-d8* | | | | | *80* | *81* | *65-129* | | | |
| *4-Bromofluorobenzene* | | | | | *90* | *87* | *55-121* | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**

Matrix: Soil
Units: mg/kg (ppm)

| Analyte | Result | PQL | EPA Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Lab ID: | 09-213-02 | | | | | |
| **Client ID:** | **HC-N12342526-TP-1-2** | | | | | |
| Lead | **ND** | 6.8 | 6010B | 10-6-11 | 10-6-11 | |
| Lab ID: | 09-213-04 | | | | | |
| **Client ID:** | **HC-N12342526-TP-2-2** | | | | | |
| Lead | **ND** | 6.9 | 6010B | 10-6-11 | 10-6-11 | |
| Lab ID: | 09-213-06 | | | | | |
| **Client ID:** | **HC-N12342526-TP-3-2** | | | | | |
| Lead | **16** | 5.3 | 6010B | 10-6-11 | 10-6-11 | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 10-6-11 |
| Date Analyzed: | 10-6-11 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | MB1006S2 |

| Analyte | Method | Result | PQL |
|---|---|---|---|
| Lead | 6010B | **ND** | 5.0 |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 10-6-11
Date Analyzed: 10-6-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-213-06

| Analyte | Sample Result | Duplicate Result | RPD | PQL | Flags |
|---|---|---|---|---|---|
| Lead | **15.3** | **19.1** | 22 | 5.0 | C |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**TOTAL LEAD**
**EPA 6010B**
**MS/MSD QUALITY CONTROL**

Date Extracted: 10-6-11
Date Analyzed: 10-6-11

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-213-06

| Analyte | Spike Level | MS | Percent Recovery | MSD | Percent Recovery | RPD | Flags |
|---|---|---|---|---|---|---|---|
| Lead | 250 | **270** | 102 | **277** | 105 | 3 | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**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:** | **HC-N12342526-TP-1-2** | | | | | |
| Laboratory ID: | 09-213-02 | | | | | |
| Naphthalene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 2-Methylnaphthalene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| 1-Methylnaphthalene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Acenaphthylene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Acenaphthene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Fluorene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Phenanthrene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Anthracene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Fluoranthene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Pyrene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]anthracene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Chrysene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[b]fluoranthene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo(j,k)fluoranthene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[a]pyrene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Indeno(1,2,3-c,d)pyrene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| Benzo[g,h,i]perylene | **ND** | 0.0090 | EPA 8270/SIM | 10-5-11 | 10-6-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *80* | *43 - 109* | | | | |
| *Pyrene-d10* | *97* | *38 - 128* | | | | |
| *Terphenyl-d14* | *93* | *33 - 119* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**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:** | **HC-N12342526-TP-2-2** | | | | | |
| Laboratory ID: | 09-213-04 | | | | | |
| Naphthalene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| 2-Methylnaphthalene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| 1-Methylnaphthalene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Acenaphthylene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Acenaphthene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Fluorene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Phenanthrene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Anthracene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Fluoranthene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Pyrene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[a]anthracene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Chrysene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[b]fluoranthene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo(j,k)fluoranthene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[a]pyrene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Indeno(1,2,3-c,d)pyrene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[g,h,i]perylene | **ND** | 0.0092 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *70* | *43 - 109* | | | | |
| *Pyrene-d10* | *84* | *38 - 128* | | | | |
| *Terphenyl-d14* | *83* | *33 - 119* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**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:** | **HC-N12342526-TP-3-2** | | | | | |
| Laboratory ID: | 09-213-06 | | | | | |
| Naphthalene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| 2-Methylnaphthalene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| 1-Methylnaphthalene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Acenaphthylene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Acenaphthene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Fluorene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Phenanthrene | **0.011** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Anthracene | **ND** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Fluoranthene | **0.032** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Pyrene | **0.032** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[a]anthracene | **0.026** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Chrysene | **0.031** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[b]fluoranthene | **0.052** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo(j,k)fluoranthene | **0.041** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[a]pyrene | **0.057** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Indeno(1,2,3-c,d)pyrene | **0.042** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Dibenz[a,h]anthracene | **0.012** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| Benzo[g,h,i]perylene | **0.053** | 0.0070 | EPA 8270/SIM | 10-5-11 | 10-8-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *76* | *43 - 109* | | | | |
| *Pyrene-d10* | *91* | *38 - 128* | | | | |
| *Terphenyl-d14* | *87* | *33 - 119* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

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

Matrix: Soil
Units: mg/Kg

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1005S1 | | | | | |
| Naphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| 2-Methylnaphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| 1-Methylnaphthalene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Acenaphthylene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Acenaphthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Fluorene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Phenanthrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[a]anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Chrysene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[b]fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo(j,k)fluoranthene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[a]pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Indeno(1,2,3-c,d)pyrene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Dibenz[a,h]anthracene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| Benzo[g,h,i]perylene | **ND** | 0.0067 | EPA 8270/SIM | 10-5-11 | 10-5-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *2-Fluorobiphenyl* | *65* | *43 - 109* | | | | |
| *Pyrene-d10* | *83* | *38 - 128* | | | | |
| *Terphenyl-d14* | *90* | *33 - 119* | | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

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

Matrix: Soil
Units: mg/Kg

| Analyte | Result | | Spike Level | | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPIKE BLANKS** | | | | | | | | | | |
| Laboratory ID: | SB1005S1 | | | | | | | | | |
| | SB | SBD | SB | SBD | SB | SBD | | | | |
| Naphthalene | **0.0648** | **0.0647** | 0.0833 | 0.0833 | 78 | 78 | 43 - 108 | 0 | 27 | |
| Acenaphthylene | **0.0732** | **0.0744** | 0.0833 | 0.0833 | 88 | 89 | 52 - 120 | 2 | 21 | |
| Acenaphthene | **0.0731** | **0.0743** | 0.0833 | 0.0833 | 88 | 89 | 59 - 113 | 2 | 17 | |
| Fluorene | **0.0739** | **0.0768** | 0.0833 | 0.0833 | 89 | 92 | 64 - 117 | 4 | 14 | |
| Phenanthrene | **0.0759** | **0.0795** | 0.0833 | 0.0833 | 91 | 95 | 67 - 112 | 5 | 12 | |
| Anthracene | **0.0696** | **0.0739** | 0.0833 | 0.0833 | 84 | 89 | 59 - 110 | 6 | 16 | |
| Fluoranthene | **0.0854** | **0.0883** | 0.0833 | 0.0833 | 103 | 106 | 68 - 120 | 3 | 15 | |
| Pyrene | **0.0830** | **0.0857** | 0.0833 | 0.0833 | 100 | 103 | 66 - 121 | 3 | 17 | |
| Benzo[a]anthracene | **0.0741** | **0.0762** | 0.0833 | 0.0833 | 89 | 91 | 63 - 114 | 3 | 12 | |
| Chrysene | **0.0794** | **0.0812** | 0.0833 | 0.0833 | 95 | 97 | 67 - 118 | 2 | 12 | |
| Benzo[b]fluoranthene | **0.0793** | **0.0829** | 0.0833 | 0.0833 | 95 | 100 | 58 - 125 | 4 | 20 | |
| Benzo(j,k)fluoranthene | **0.0782** | **0.0830** | 0.0833 | 0.0833 | 94 | 100 | 42 - 134 | 6 | 26 | |
| Benzo[a]pyrene | **0.0611** | **0.0671** | 0.0833 | 0.0833 | 73 | 81 | 55 - 111 | 9 | 19 | |
| Indeno(1,2,3-c,d)pyrene | **0.0759** | **0.0781** | 0.0833 | 0.0833 | 91 | 94 | 60 - 125 | 3 | 20 | |
| Dibenz[a,h]anthracene | **0.0774** | **0.0792** | 0.0833 | 0.0833 | 93 | 95 | 62 - 125 | 2 | 19 | |
| Benzo[g,h,i]perylene | **0.0768** | **0.0803** | 0.0833 | 0.0833 | 92 | 96 | 61 - 124 | 4 | 19 | |
| *Surrogate:* | | | | | | | | | | |
| *2-Fluorobiphenyl* | | | | | *89* | *91* | *43 - 109* | | | |
| *Pyrene-d10* | | | | | *97* | *100* | *38 - 128* | | | |
| *Terphenyl-d14* | | | | | *98* | *99* | *33 - 119* | | | |

Date of Report: October 11, 2011
Samples Submitted: September 30, 2011
Laboratory Reference: 1109-213
Project: 17581-00 21

**% MOISTURE**

Date Analyzed: 10-3-11

| Client ID | Lab ID | % Moisture |
|---|---|---|
| HC-N12342526-TP-1-2 | 09-213-02 | 26 |
| HC-N12342526-TP-2-2 | 09-213-04 | 28 |
| HC-N12342526-TP-3-2 | 09-213-06 | 5 |

OnSite Environmental Inc.

**Data Qualifiers and Abbreviations**

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

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

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

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

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

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

# Sample Custody Record

1 OF 1

09-213

HARTCROWSER

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699
Phone: 206-324-9530 FAX: 206-328-5581

Samples Shipped to: ONSITE

JOB 17581-00 21 LAB NUMBER

PROJECT NAME PoT UST Program N-1,2,3,4,25,26

HART CROWSER CONTACT C. Rust / R. Stainsby

SAMPLED BY: CFR

| LAB NO. | SAMPLE ID | DESCRIPTION | DATE | TIME | MATRIX | NWTPH-Gx | NWTPH-Dx | BETX | VOCs | Lead | PAHs 8270 | % Moisture | NO. OF CONTAINERS | OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HC-N12342526-TP-1-1 | | 9/29/11 | 855 | Soil | | | | | | | | 5 | |
| 2 | HC-N12342526-TP-1-2 | | | 900 | | X | X | | X | X | X | X | 5 | |
| 3 | HC-N12342526-TP-2-1 | | | 1025 | | | | | | | | | 5 | |
| 4 | HC-N12342526-TP-2-2 | | | 1030 | | X | X | | X | X | X | X | 5 | |
| 5 | HC-N12342526-TP-3-1 | | | 1135 | | | | | | | | | 5 | |
| 6 | HC-N12342526-TP-3-2 | | | 1140 | | X | X | | X | X | X | X | 5 | |

| RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|
| SIGNATURE | 9/30/11 | SIGNATURE | 9/30/11 |
| PRINT NAME Colleen Rust | TIME 839 | PRINT NAME Onsite Env | TIME 839 |
| COMPANY HC | | COMPANY | |

| RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|
| SIGNATURE | | SIGNATURE | |
| PRINT NAME | TIME | PRINT NAME | TIME |
| COMPANY | | COMPANY | |

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:

Hold Samples

X Added 9/30/11 JBC JTA

30 TOTAL NUMBER OF CONTAINERS

SAMPLE RECEIPT INFORMATION
CUSTODY SEALS: ☐YES ☐NO ☐N/A
GOOD CONDITION ☐YES ☐NO
TEMPERATURE
SHIPMENT METHOD: ☐HAND ☐COURIER ☐OVERNIGHT

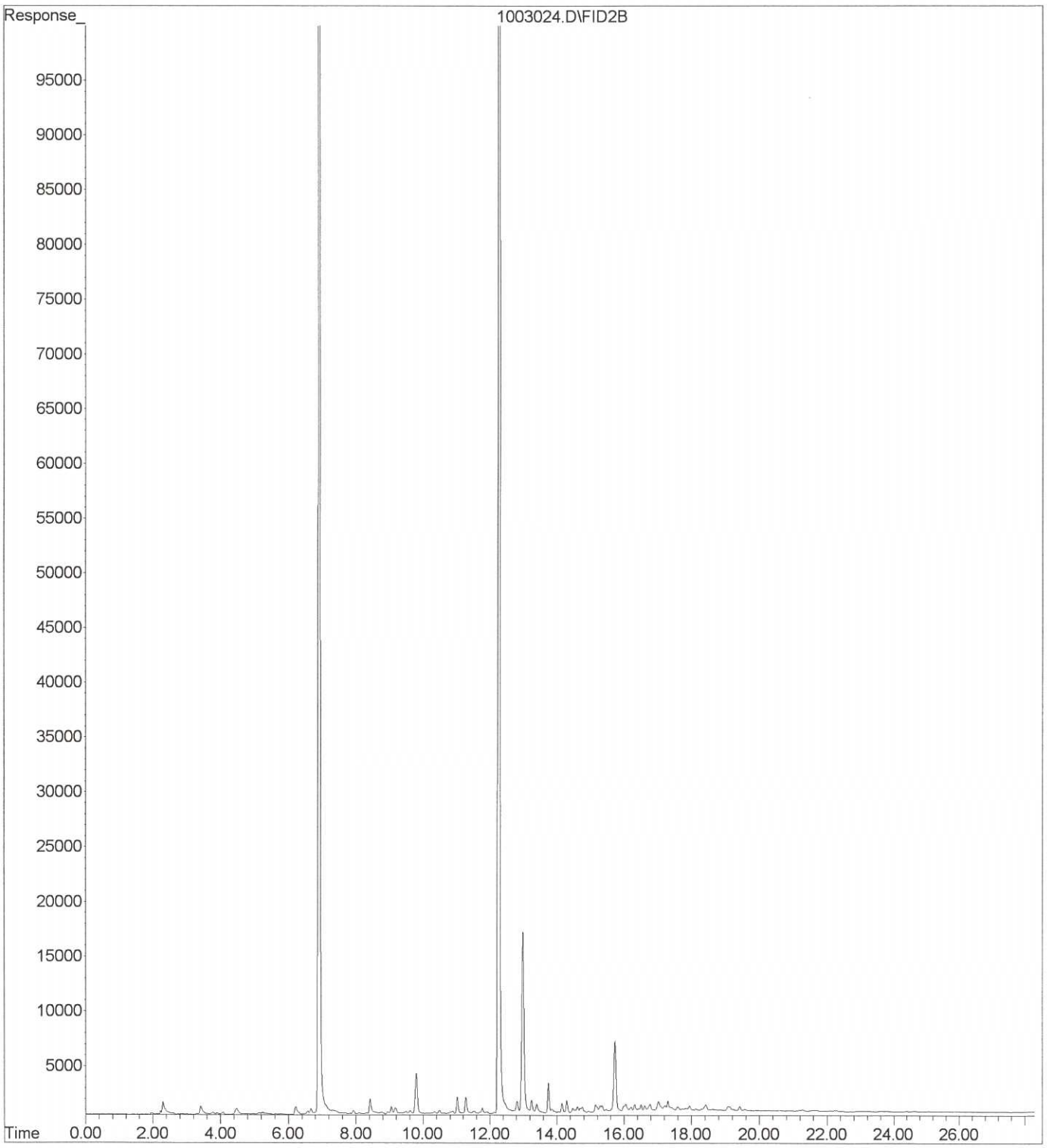
COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. for Other Contract Requirements

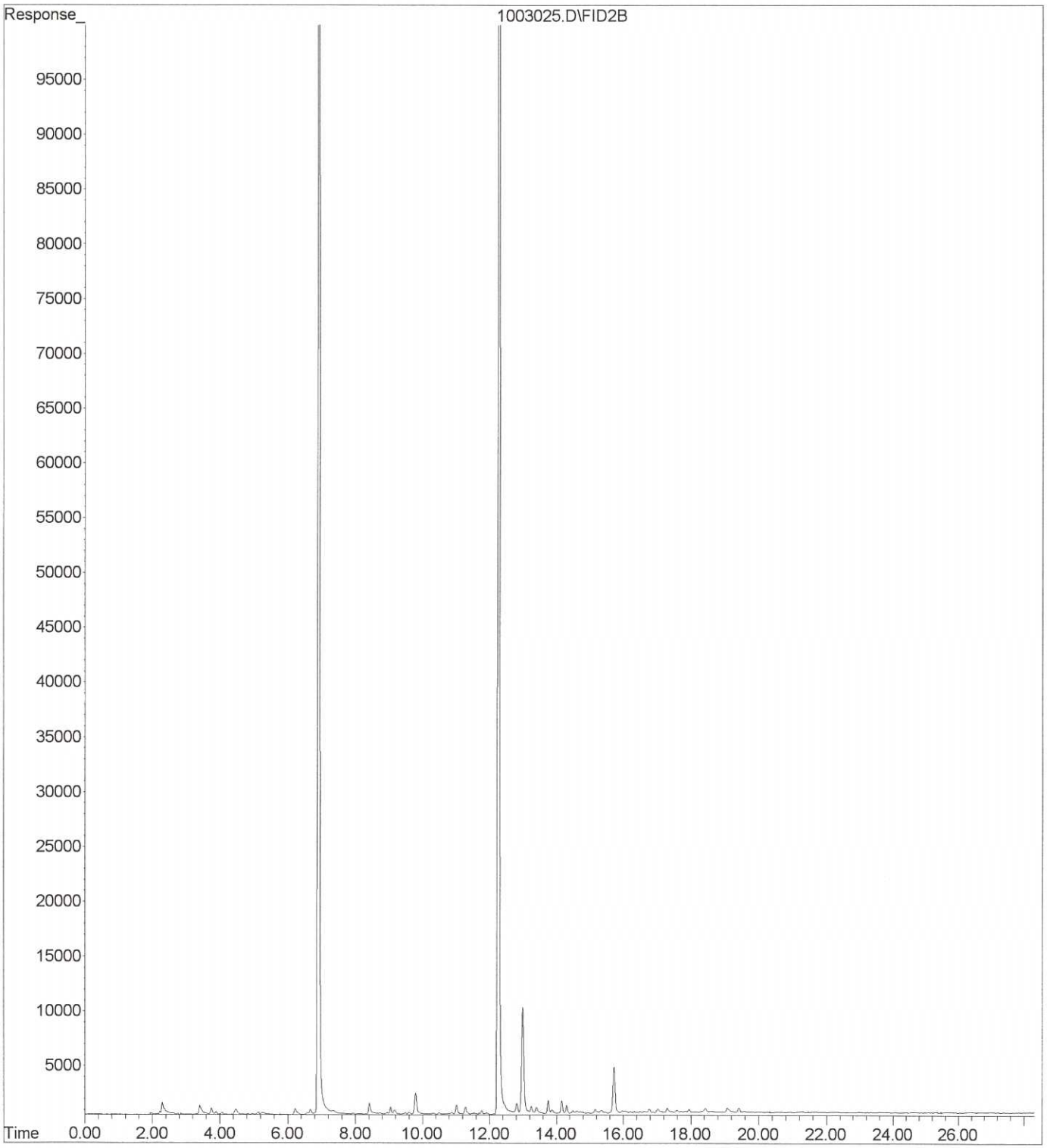
TURNAROUND TIME:
☐ 24 HOURS ☐ 1 WEEK
☐ 48 HOURS ☒ STANDARD
☐ 72 HOURS OTHER

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

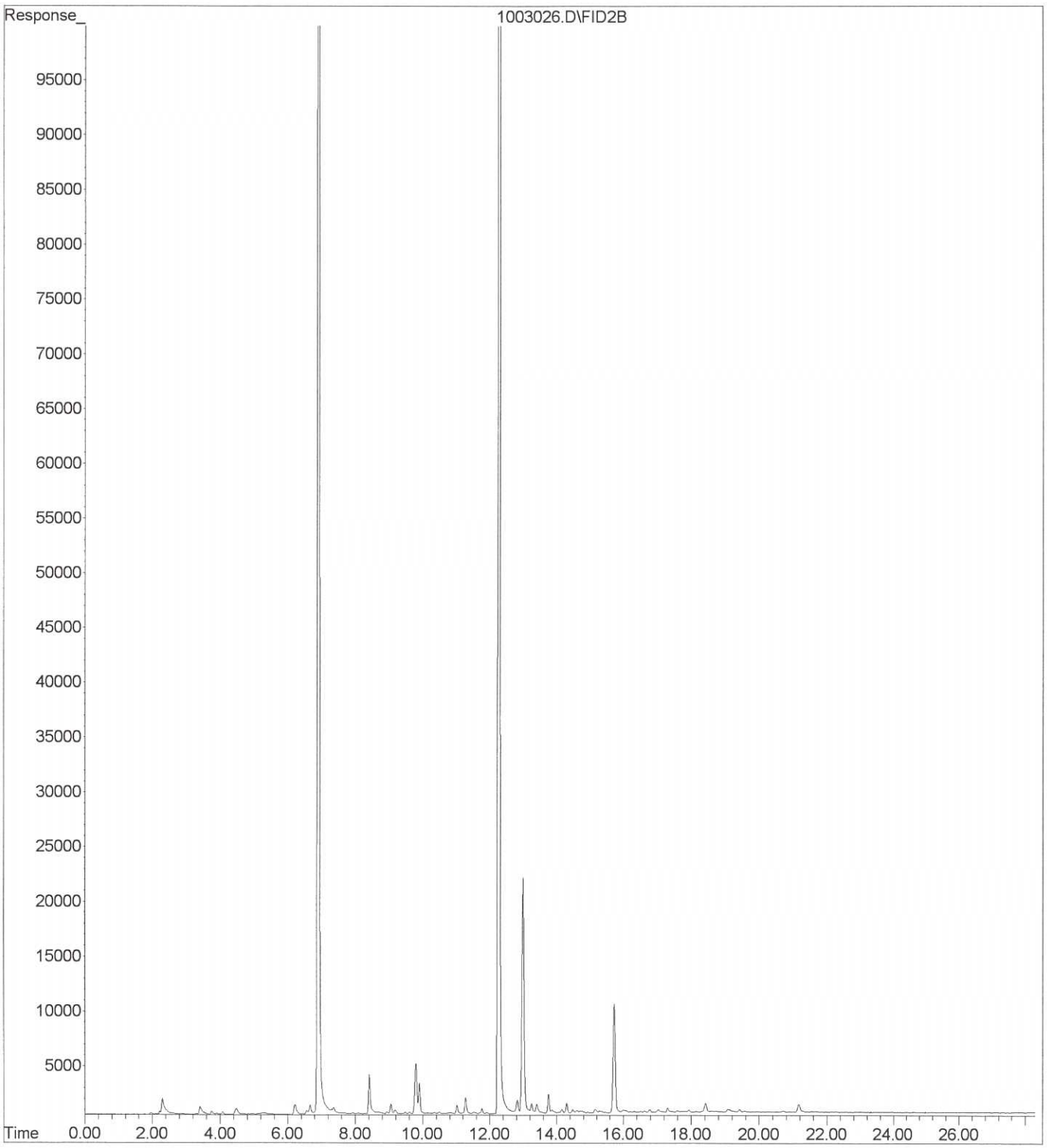
File : X:\BTEX\DARYL\DATA\D111003\1003024.D
Operator :
Acquired : 4 Oct 2011 3:11 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-213-02s
Misc Info : V2-26-24
Vial Number: 24



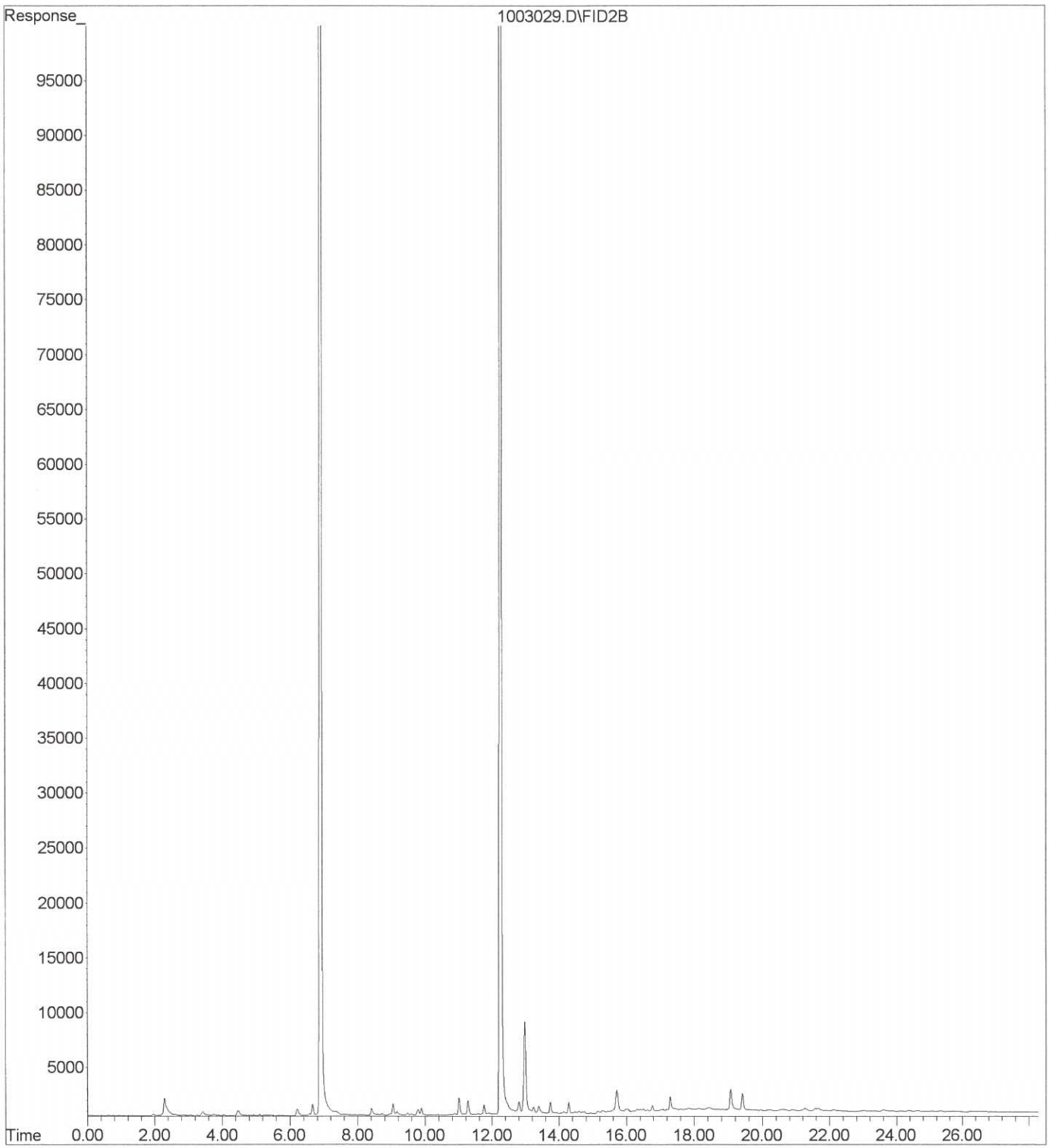
File : X:\BTEX\DARYL\DATA\D111003\1003025.D
Operator :
Acquired : 4 Oct 2011 3:44 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-213-04s
Misc Info : V2-26-24
Vial Number: 25



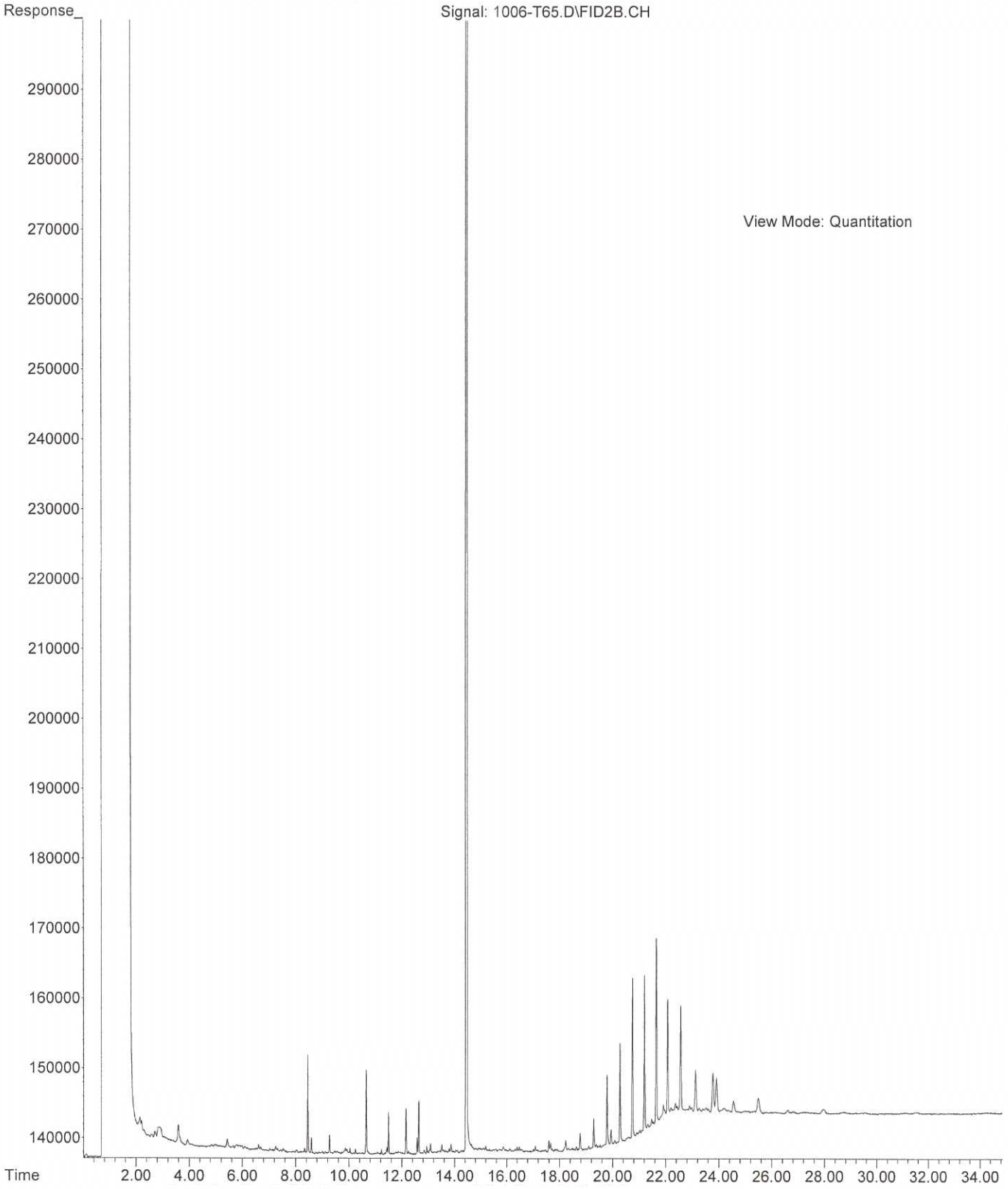
File : X:\BTEX\DARYL\DATA\D111003\1003026.D
Operator :
Acquired : 4 Oct 2011 4:18 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-213-06s
Misc Info : V2-26-24
Vial Number: 26



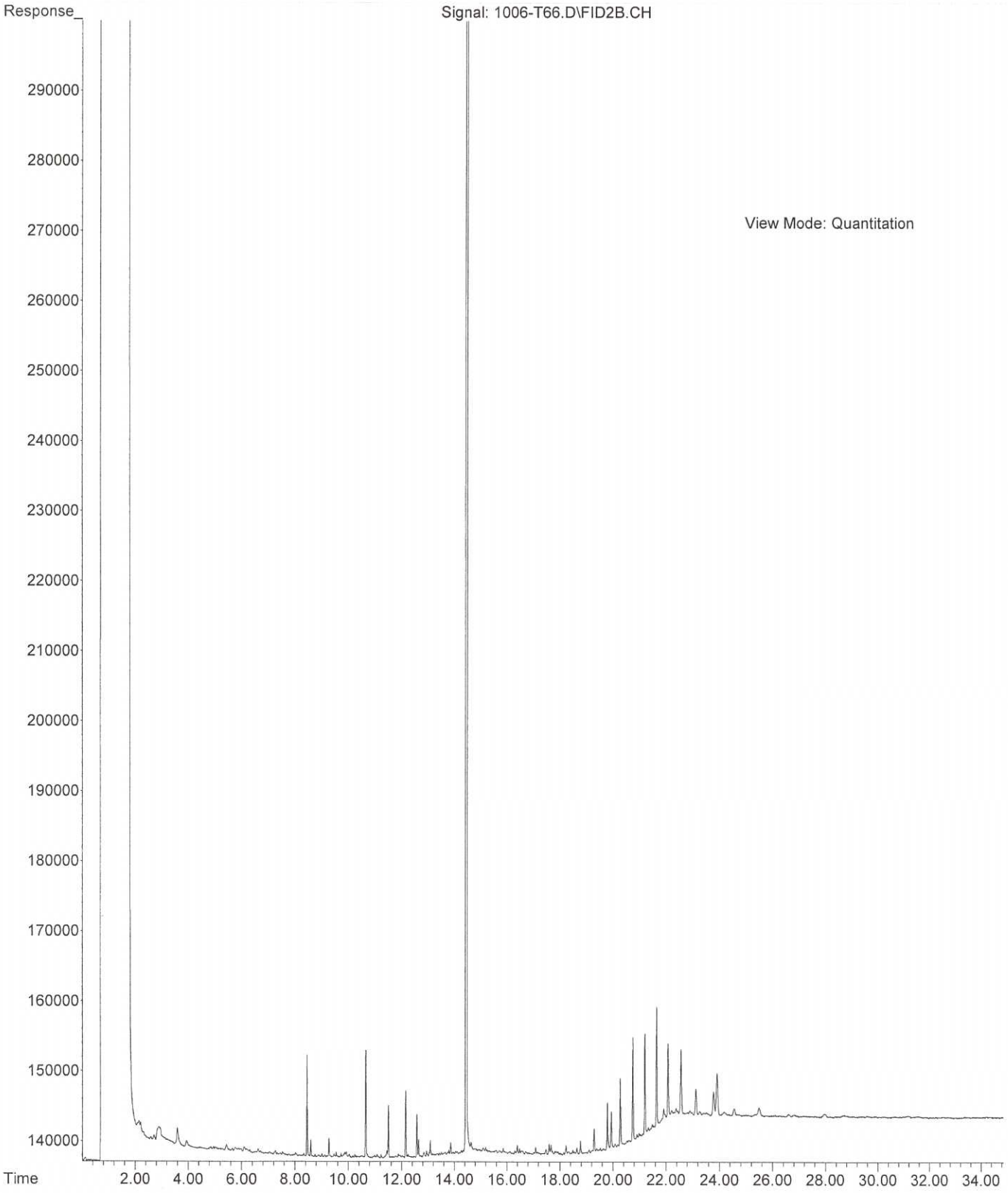
File : X:\BTEX\DARYL\DATA\D111003\1003029.D
Operator :
Acquired : 4 Oct 2011 5:58 using AcqMethod 110630B.M
Instrument : Daryl
Sample Name: 09-182-04s
Misc Info : V2-26-24
Vial Number: 29



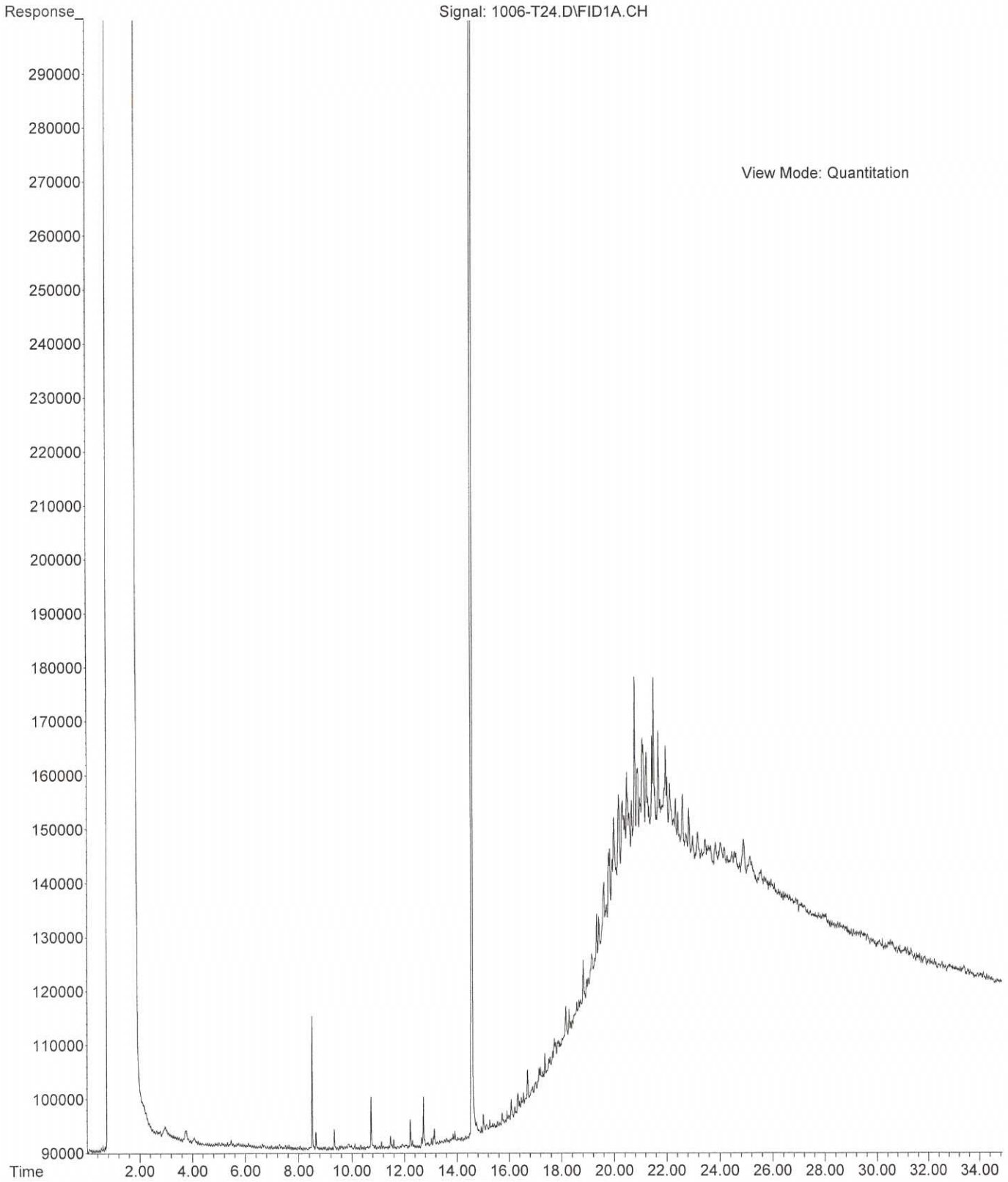
File : C:\msdchem\1\DATA\T111006.SEC\1006-T65.D
Operator : ZT
Acquired : 06 Oct 2011 23:18 using AcqMethod T110816F.M
Instrument : Teri
Sample Name: 09-213-02
Misc Info :
Vial Number: 65



File : C:\msdchem\1\DATA\T111006.SEC\1006-T66.D
Operator : ZT
Acquired : 07 Oct 2011 0:00 using AcqMethod T110816F.M
Instrument : Teri
Sample Name: 09-213-04
Misc Info :
Vial Number: 66



File : C:\msdchem\1\DATA\T111006\1006-T24.D
Operator : ZT
Acquired : 07 Oct 2011 5:39 using AcqMethod T110816F.M
Instrument : Teri
Sample Name: 09-213-06
Misc Info :
Vial Number: 24



OnSite Environmental Inc.

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

November 22, 2011

Ross Stainsby
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109-3056

Re: Analytical Data for Project 17581-00 phase 21
Laboratory Reference No. 1111-082

Dear Ross:

Enclosed are the analytical results and associated quality control data for samples submitted on November 11, 2011.

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: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**Case Narrative**

Samples were collected on November 10, 2011 and received by the laboratory on November 11, 2011. They were maintained at the laboratory at a temperature of $2^{o}$C to $6^{o}$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: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**NWTPH-Gx**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Laboratory ID: | 11-082-01 | | | | | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *101* | *73-121* | | | | |
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Laboratory ID: | 11-082-02 | | | | | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *96* | *73-121* | | | | |
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Laboratory ID: | 11-082-03 | | | | | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *98* | *73-121* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**NWTPH-Gx**
**QUALITY CONTROL**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB1115W1 | | | | | |
| Gasoline | **ND** | 100 | NWTPH-Gx | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Fluorobenzene* | *100* | *73-121* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | | | | | |
| Laboratory ID: | 11-082-01 | | | | | | | | | | |
| | ORIG | DUP | | | | | | | | | |
| Gasoline | **ND** | **ND** | NA | NA | | NA | | NA | NA | 30 | |
| *Surrogate:* | | | | | | | | | | | |
| *Fluorobenzene* | | | | | | *101* | *98* | *73-121* | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

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

Matrix: Water
Units: mg/L (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Laboratory ID: | 11-082-01 | | | | | |
| Diesel Range Organics | **ND** | 0.26 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| Lube Oil Range Organics | **ND** | 0.41 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *101* | *50-150* | | | | |
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Laboratory ID: | 11-082-02 | | | | | |
| Diesel Range Organics | **ND** | 0.26 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| Lube Oil Range Organics | **ND** | 0.41 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *102* | *50-150* | | | | |
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Laboratory ID: | 11-082-03 | | | | | |
| Diesel Range Organics | **ND** | 0.26 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| Lube Oil Range Organics | **ND** | 0.41 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *99* | *50-150* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

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

Matrix: Water
Units: mg/L (ppm)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB1114W1 | | | | | |
| Diesel Range Organics | **ND** | 0.25 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| Lube Oil Range Organics | **ND** | 0.40 | NWTPH-Dx | 11-14-11 | 11-14-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *o-Terphenyl* | *87* | *50-150* | | | | |

| Analyte | Result | | Percent Recovery | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|
| **DUPLICATE** | | | | | | | |
| Laboratory ID: | 11-080-01 | | | | | | |
| | ORIG | DUP | | | | | |
| Diesel Range Organics | **ND** | **ND** | | | NA | NA | |
| Lube Oil Range Organics | **ND** | **ND** | | | NA | NA | |
| *Surrogate:* | | | | | | | |
| *o-Terphenyl* | | | *91* *96* | *50-150* | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
Page 1 of 2

Matrix: Water
Units: ug/L

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Laboratory ID: | 11-082-01 | | | | | |
| Dichlorodifluoromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chloromethane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Vinyl Chloride | 19 | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromomethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chloroethane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Trichlorofluoromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1-Dichloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Acetone | ND | 5.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Iodomethane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Carbon Disulfide | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Methylene Chloride | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (trans) 1,2-Dichloroethene | 1.4 | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Methyl t-Butyl Ether | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1-Dichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Vinyl Acetate | ND | 2.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2,2-Dichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (cis) 1,2-Dichloroethene | 2.8 | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Butanone | ND | 5.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromochloromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chloroform | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1,1-Trichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Carbon Tetrachloride | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1-Dichloropropene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Benzene | 0.41 | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Trichloroethene | 0.30 | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Dibromomethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromodichloromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Methyl Isobutyl Ketone | ND | 2.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Toluene | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
Page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Laboratory ID: | 11-082-01 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Tetrachloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,3-Dichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Hexanone | ND | 2.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Dibromochloromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dibromoethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Ethylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| m,p-Xylene | ND | 0.40 | EPA 8260 | 11-16-11 | 11-16-11 | |
| o-Xylene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Styrene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromoform | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Isopropylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,3-Trichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| n-Propylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Chlorotoluene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 4-Chlorotoluene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| tert-Butylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| sec-Butylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,3-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| p-Isopropyltoluene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,4-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| n-Butylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Hexachlorobutadiene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Naphthalene | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *90* | *68-120* | | | | |
| *Toluene-d8* | *83* | *73-120* | | | | |
| *4-Bromofluorobenzene* | *74* | *65-120* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
Page 1 of 2

Matrix: Water
Units: ug/L

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Laboratory ID: | 11-082-02 | | | | | |
| Dichlorodifluoromethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloromethane | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Vinyl Chloride | 200 | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromomethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloroethane | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Trichlorofluoromethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloroethene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Acetone | ND | 25 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Iodomethane | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Carbon Disulfide | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methylene Chloride | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (trans) 1,2-Dichloroethene | 9.7 | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methyl t-Butyl Ether | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Vinyl Acetate | ND | 10 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2,2-Dichloropropane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (cis) 1,2-Dichloroethene | 15 | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Butanone | ND | 25 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromochloromethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloroform | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,1-Trichloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Carbon Tetrachloride | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloropropene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Benzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Trichloroethene | 3.3 | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichloropropane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Dibromomethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromodichloromethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (cis) 1,3-Dichloropropene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methyl Isobutyl Ketone | ND | 10 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Toluene | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (trans) 1,3-Dichloropropene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
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| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Laboratory ID: | 11-082-02 | | | | | |
| 1,1,2-Trichloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Tetrachloroethene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3-Dichloropropane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Hexanone | ND | 10 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Dibromochloromethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dibromoethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chlorobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Ethylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| m,p-Xylene | ND | 2.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| o-Xylene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Styrene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromoform | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Isopropylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,3-Trichloropropane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| n-Propylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Chlorotoluene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 4-Chlorotoluene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3,5-Trimethylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| tert-Butylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| sec-Butylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3-Dichlorobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| p-Isopropyltoluene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,4-Dichlorobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichlorobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| n-Butylbenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,4-Trichlorobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Hexachlorobutadiene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Naphthalene | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,3-Trichlorobenzene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *91* | *68-120* | | | | |
| *Toluene-d8* | *83* | *73-120* | | | | |
| *4-Bromofluorobenzene* | *80* | *65-120* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
Page 1 of 2

Matrix: Water
Units: ug/L

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Laboratory ID: | 11-082-03 | | | | | |
| Dichlorodifluoromethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloromethane | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Vinyl Chloride | 630 | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromomethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloroethane | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Trichlorofluoromethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloroethene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Acetone | ND | 100 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Iodomethane | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Carbon Disulfide | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methylene Chloride | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (trans) 1,2-Dichloroethene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methyl t-Butyl Ether | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloroethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Vinyl Acetate | ND | 40 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2,2-Dichloropropane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (cis) 1,2-Dichloroethene | 14 | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Butanone | ND | 100 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromochloromethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloroform | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,1-Trichloroethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Carbon Tetrachloride | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloropropene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Benzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichloroethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Trichloroethene | 4.7 | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichloropropane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Dibromomethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromodichloromethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (cis) 1,3-Dichloropropene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methyl Isobutyl Ketone | ND | 40 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Toluene | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (trans) 1,3-Dichloropropene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
Page 2 of 2

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Laboratory ID: | 11-082-03 | | | | | |
| 1,1,2-Trichloroethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Tetrachloroethene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3-Dichloropropane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Hexanone | ND | 40 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Dibromochloromethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dibromoethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chlorobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Ethylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| m,p-Xylene | ND | 8.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| o-Xylene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Styrene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromoform | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Isopropylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,3-Trichloropropane | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| n-Propylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Chlorotoluene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 4-Chlorotoluene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3,5-Trimethylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| tert-Butylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,4-Trimethylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| sec-Butylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3-Dichlorobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| p-Isopropyltoluene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,4-Dichlorobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichlorobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| n-Butylbenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,4-Trichlorobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Hexachlorobutadiene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Naphthalene | ND | 20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,3-Trichlorobenzene | ND | 4.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *83* | *68-120* | | | | |
| *Toluene-d8* | *81* | *73-120* | | | | |
| *4-Bromofluorobenzene* | *77* | *65-120* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

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

Matrix: Water
Units: ug/L

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1115W1 | | | | | |
| Dichlorodifluoromethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloromethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Vinyl Chloride | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromomethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloroethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Trichlorofluoromethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloroethene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Acetone | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Iodomethane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Carbon Disulfide | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methylene Chloride | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methyl t-Butyl Ether | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloroethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Vinyl Acetate | ND | 2.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2,2-Dichloropropane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Butanone | ND | 5.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromochloromethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chloroform | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,1-Trichloroethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Carbon Tetrachloride | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1-Dichloropropene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Benzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichloroethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Trichloroethene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichloropropane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Dibromomethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromodichloromethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Methyl Isobutyl Ketone | ND | 2.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Toluene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

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

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1115W1 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Tetrachloroethene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3-Dichloropropane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Hexanone | ND | 2.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Dibromochloromethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dibromoethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Chlorobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Ethylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| m,p-Xylene | ND | 0.40 | EPA 8260 | 11-15-11 | 11-15-11 | |
| o-Xylene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Styrene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromoform | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Isopropylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Bromobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,3-Trichloropropane | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| n-Propylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 2-Chlorotoluene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 4-Chlorotoluene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| tert-Butylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| sec-Butylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,3-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| p-Isopropyltoluene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,4-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| n-Butylbenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Hexachlorobutadiene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| Naphthalene | ND | 1.0 | EPA 8260 | 11-15-11 | 11-15-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.20 | EPA 8260 | 11-15-11 | 11-15-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *84* | *68-120* | | | | |
| *Toluene-d8* | *82* | *73-120* | | | | |
| *4-Bromofluorobenzene* | *78* | *65-120* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

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

Matrix: Water
Units: ug/L

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1116W1 | | | | | |
| Dichlorodifluoromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chloromethane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Vinyl Chloride | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromomethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chloroethane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Trichlorofluoromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1-Dichloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Acetone | ND | 5.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Iodomethane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Carbon Disulfide | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Methylene Chloride | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (trans) 1,2-Dichloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Methyl t-Butyl Ether | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1-Dichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Vinyl Acetate | ND | 2.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2,2-Dichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (cis) 1,2-Dichloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Butanone | ND | 5.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromochloromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chloroform | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1,1-Trichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Carbon Tetrachloride | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1-Dichloropropene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Benzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Trichloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Dibromomethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromodichloromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Chloroethyl Vinyl Ether | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (cis) 1,3-Dichloropropene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Methyl Isobutyl Ketone | ND | 2.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Toluene | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| (trans) 1,3-Dichloropropene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

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

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Laboratory ID: | MB1116W1 | | | | | |
| 1,1,2-Trichloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Tetrachloroethene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,3-Dichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Hexanone | ND | 2.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Dibromochloromethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dibromoethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Chlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Ethylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| m,p-Xylene | ND | 0.40 | EPA 8260 | 11-16-11 | 11-16-11 | |
| o-Xylene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Styrene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromoform | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Isopropylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Bromobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,3-Trichloropropane | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| n-Propylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 2-Chlorotoluene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 4-Chlorotoluene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,3,5-Trimethylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| tert-Butylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,4-Trimethylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| sec-Butylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,3-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| p-Isopropyltoluene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,4-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| n-Butylbenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,4-Trichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Hexachlorobutadiene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| Naphthalene | ND | 1.0 | EPA 8260 | 11-16-11 | 11-16-11 | |
| 1,2,3-Trichlorobenzene | ND | 0.20 | EPA 8260 | 11-16-11 | 11-16-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *Dibromofluoromethane* | *96* | *68-120* | | | | |
| *Toluene-d8* | *87* | *73-120* | | | | |
| *4-Bromofluorobenzene* | *82* | *65-120* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
**SB/SBD QUALITY CONTROL**

Matrix: Water
Units: ug/L

| Analyte | Result | | Spike Level | | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPIKE BLANKS** | | | | | | | | | | |
| Laboratory ID: | SB1115W1 | | | | | | | | | |
| | SB | SBD | SB | SBD | SB | SBD | | | | |
| 1,1-Dichloroethene | **11.9** | **12.1** | 10.0 | 10.0 | 119 | 121 | 70-130 | 2 | 11 | |
| Benzene | **9.73** | **10.3** | 10.0 | 10.0 | 97 | 103 | 75-123 | 6 | 8 | |
| Trichloroethene | **10.1** | **10.5** | 10.0 | 10.0 | 101 | 105 | 80-113 | 4 | 9 | |
| Toluene | **9.70** | **10.4** | 10.0 | 10.0 | 97 | 104 | 80-113 | 7 | 8 | |
| Chlorobenzene | **10.1** | **10.1** | 10.0 | 10.0 | 101 | 101 | 80-111 | 0 | 8 | |
| *Surrogate:* | | | | | | | | | | |
| *Dibromofluoromethane* | | | | | *85* | *87* | *68-120* | | | |
| *Toluene-d8* | | | | | *82* | *82* | *73-120* | | | |
| *4-Bromofluorobenzene* | | | | | *78* | *77* | *65-120* | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**VOLATILES by EPA 8260B**
**SB/SBD QUALITY CONTROL**

Matrix: Water
Units: ug/L

| Analyte | Result | | Spike Level | | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPIKE BLANKS** | | | | | | | | | | |
| Laboratory ID: | SB1116W1 | | | | | | | | | |
| | SB | SBD | SB | SBD | SB | SBD | | | | |
| 1,1-Dichloroethene | **12.8** | **12.1** | 10.0 | 10.0 | 128 | 121 | 70-130 | 6 | 11 | |
| Benzene | **10.7** | **11.0** | 10.0 | 10.0 | 107 | 110 | 75-123 | 3 | 8 | |
| Trichloroethene | **10.3** | **10.4** | 10.0 | 10.0 | 103 | 104 | 80-113 | 1 | 9 | |
| Toluene | **10.3** | **10.5** | 10.0 | 10.0 | 103 | 105 | 80-113 | 2 | 8 | |
| Chlorobenzene | **10.2** | **10.1** | 10.0 | 10.0 | 102 | 101 | 80-111 | 1 | 8 | |
| *Surrogate:* | | | | | | | | | | |
| *Dibromofluoromethane* | | | | | *93* | *88* | *68-120* | | | |
| *Toluene-d8* | | | | | *88* | *82* | *73-120* | | | |
| *4-Bromofluorobenzene* | | | | | *79* | *76* | *65-120* | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**TOTAL METALS**
**EPA 200.8/7470A**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | EPA Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Lab ID: | 11-082-01 | | | | | |
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Arsenic | **ND** | 3.3 | 200.8 | 11-16-11 | 11-16-11 | |
| Cadmium | **ND** | 4.4 | 200.8 | 11-16-11 | 11-16-11 | |
| Chromium | **ND** | 11 | 200.8 | 11-16-11 | 11-16-11 | |
| Lead | **ND** | 1.1 | 200.8 | 11-16-11 | 11-16-11 | |
| Mercury | **ND** | 0.50 | 7470A | 11-16-11 | 11-16-11 | |
| Lab ID: | 11-082-02 | | | | | |
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Arsenic | **7.5** | 3.3 | 200.8 | 11-16-11 | 11-17-11 | |
| Cadmium | **ND** | 4.4 | 200.8 | 11-16-11 | 11-16-11 | |
| Chromium | **ND** | 11 | 200.8 | 11-16-11 | 11-16-11 | |
| Lead | **ND** | 1.1 | 200.8 | 11-16-11 | 11-16-11 | |
| Mercury | **ND** | 0.50 | 7470A | 11-16-11 | 11-16-11 | |
| Lab ID: | 11-082-03 | | | | | |
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Arsenic | **ND** | 3.3 | 200.8 | 11-16-11 | 11-16-11 | |
| Cadmium | **ND** | 4.4 | 200.8 | 11-16-11 | 11-16-11 | |
| Chromium | **ND** | 11 | 200.8 | 11-16-11 | 11-16-11 | |
| Lead | **ND** | 1.1 | 200.8 | 11-16-11 | 11-16-11 | |
| Mercury | **ND** | 0.50 | 7470A | 11-16-11 | 11-16-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**TOTAL METALS**
**EPA 200.8/7470A**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Extracted: | 11-16-11 |
| Date Analyzed: | 11-16-11 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | MB1116WM1&MB1116W1 |

| Analyte | Method | Result | PQL |
|---|---|---|---|
| Arsenic | 200.8 | **ND** | 3.3 |
| Cadmium | 200.8 | **ND** | 4.4 |
| Chromium | 200.8 | **ND** | 11 |
| Lead | 200.8 | **ND** | 1.1 |
| Mercury | 7470A | **ND** | 0.50 |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**TOTAL METALS**
**EPA 200.8/7470A**
**DUPLICATE QUALITY CONTROL**

Date Extracted: 11-16-11
Date Analyzed: 11-16-11

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-048-01

| Analyte | Sample Result | Duplicate Result | RPD | PQL | Flags |
|---|---|---|---|---|---|
| Arsenic | **4.98** | **5.79** | 15 | 3.3 | |
| Cadmium | **ND** | **ND** | NA | 4.4 | |
| Chromium | **ND** | **ND** | NA | 11 | |
| Lead | **ND** | **ND** | NA | 1.1 | |
| Mercury | **ND** | **ND** | NA | 0.50 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**TOTAL METALS**
**EPA 200.8/7470A**
**MS/MSD QUALITY CONTROL**

Date Extracted: 11-16-11
Date Analyzed: 11-16-11

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-048-01

| Analyte | Spike Level | MS | Percent Recovery | MSD | Percent Recovery | RPD | Flags |
|---|---|---|---|---|---|---|---|
| Arsenic | 111 | **116** | 100 | **118** | 102 | 2 | |
| Cadmium | 111 | **104** | 93 | **105** | 95 | 2 | |
| Chromium | 111 | **110** | 99 | **106** | 96 | 4 | |
| Lead | 111 | **105** | 95 | **107** | 96 | 2 | |
| Mercury | 6.25 | **4.89** | 78 | **4.92** | 79 | 1 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**DISSOLVED METALS**
**EPA 200.8/7470A**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | EPA Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| Lab ID: | 11-082-01 | | | | | |
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Arsenic | **ND** | 3.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Cadmium | **ND** | 4.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Chromium | **ND** | 10 | 200.8 | 11-11-11 | 11-16-11 | |
| Lead | **ND** | 1.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Mercury | **ND** | 0.50 | 7470A | 11-11-11 | 11-16-11 | |
| Lab ID: | 11-082-02 | | | | | |
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Arsenic | **6.0** | 3.0 | 200.8 | 11-11-11 | 11-17-11 | |
| Cadmium | **ND** | 4.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Chromium | **ND** | 10 | 200.8 | 11-11-11 | 11-16-11 | |
| Lead | **ND** | 1.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Mercury | **ND** | 0.50 | 7470A | 11-11-11 | 11-16-11 | |
| Lab ID: | 11-082-03 | | | | | |
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Arsenic | **ND** | 3.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Cadmium | **ND** | 4.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Chromium | **ND** | 10 | 200.8 | 11-11-11 | 11-16-11 | |
| Lead | **ND** | 1.0 | 200.8 | 11-11-11 | 11-16-11 | |
| Mercury | **ND** | 0.50 | 7470A | 11-11-11 | 11-16-11 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**DISSOLVED METALS**
**EPA 200.8/7470A**
**METHOD BLANK QUALITY CONTROL**

| | |
|---|---|
| Date Filtered: | 11-11-11 |
| Date Analyzed: | 11-16-11 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | MB1111F1 |

| Analyte | Method | Result | PQL |
|---|---|---|---|
| Arsenic | 200.8 | **ND** | 3.0 |
| Cadmium | 200.8 | **ND** | 4.0 |
| Chromium | 200.8 | **ND** | 10 |
| Lead | 200.8 | **ND** | 1.0 |
| Mercury | 7470A | **ND** | 0.50 |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**DISSOLVED METALS**
**EPA 200.8/7470A**
**DUPLICATE QUALITY CONTROL**

Date Filtered: 11-11-11
Date Analyzed: 11-16-11

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-048-01

| Analyte | Sample Result | Duplicate Result | RPD | PQL | Flags |
|---|---|---|---|---|---|
| Arsenic | **8.57** | **8.02** | 7 | 3.0 | |
| Cadmium | **ND** | **ND** | NA | 4.0 | |
| Chromium | **27.6** | **33.1** | 18 | 10 | |
| Lead | **ND** | **ND** | NA | 1.0 | |
| Mercury | **ND** | **ND** | NA | 0.50 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**DISSOLVED METALS**
**EPA 200.8/7470A**
**MS/MSD QUALITY CONTROL**

Date Filtered: 11-11-11
Date Analyzed: 11-16-11

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-048-01

| Analyte | Spike Level | MS | Percent Recovery | MSD | Percent Recovery | RPD | Flags |
|---|---|---|---|---|---|---|---|
| Arsenic | 200 | **240** | 116 | **234** | 112 | 3 | |
| Cadmium | 200 | **198** | 99 | **193** | 96 | 3 | |
| Chromium | 200 | **218** | 95 | **209** | 91 | 4 | |
| Lead | 200 | **196** | 98 | **193** | 96 | 2 | |
| Mercury | 6.25 | **5.26** | 84 | **5.43** | 87 | 3 | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**EDB by EPA 8011**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **Client ID:** | **HC-N12342526-6** | | | | | |
| Laboratory ID: | 11-082-01 | | | | | |
| EDB | **ND** | 0.0096 | EPA 8011 | 11-22-11 | 11-22-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *TCMX* | *100* | *31-144* | | | | |
| **Client ID:** | **HC-N12342526-7** | | | | | |
| Laboratory ID: | 11-082-02 | | | | | |
| EDB | **ND** | 0.0096 | EPA 8011 | 11-22-11 | 11-22-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *TCMX* | *93* | *31-144* | | | | |
| **Client ID:** | **HC-N12342526-8** | | | | | |
| Laboratory ID: | 11-082-03 | | | | | |
| EDB | **ND** | 0.0095 | EPA 8011 | 11-22-11 | 11-22-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *TCMX* | *82* | *31-144* | | | | |

Date of Report: November 22, 2011
Samples Submitted: November 11, 2011
Laboratory Reference: 1111-082
Project: 17581-00 phase 21

**EDB by EPA 8011**
**QUALITY CONTROL**

Matrix: Water
Units: ug/L (ppb)

| Analyte | Result | PQL | Method | Date Prepared | Date Analyzed | Flags |
|---|---|---|---|---|---|---|
| **METHOD BLANK** | | | | | | |
| Laboratory ID: | MB1122W1 | | | | | |
| EDB | **ND** | 0.010 | EPA 8011 | 11-22-11 | 11-22-11 | |
| *Surrogate:* | *Percent Recovery* | *Control Limits* | | | | |
| *TCMX* | *110* | *31-144* | | | | |

| Analyte | Result | | Spike Level | | Source Result | Percent Recovery | | Recovery Limits | RPD | RPD Limit | Flags |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPIKE BLANKS** | | | | | | | | | | | |
| Laboratory ID: | SB1122W1 | | | | | | | | | | |
| | SB | SBD | SB | SBD | | SB | SBD | | | | |
| EDB | **0.103** | **0.107** | 0.100 | 0.100 | N/A | **103** | **107** | 78-122 | 4 | 8 | |
| *Surrogate:* | | | | | | | | | | | |
| *TCMX* | | | | | | *124* | *109* | *31-144* | | | |

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

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com



Company: Hart Crowser
Project Number: 17581-00 phase 21
Project Name: Port of Tacoma: UST remediation
Project Manager: Ross Steinsby
Sampled by: Jesse Overton

**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: 11-082**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | No. of Cont. | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Gx | NWTPH-Dx | Volatiles 8260B MTBE, 8260B, SIM | 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 RCRA Metals | Total MTCA Metals | TCLP Metals | HEM (oil and grease) 1664 | Dissolved MTCA Metals | | | | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HC-N123425226-6 | 11/10/11 | 16:53-17:13 | water | 16 | | | X | X | X | | | | | | | | | X | | | X | | | | |
| 2 | HC-N123425226-7 | " | 16:12-16:32 | " | 16 | | | X | X | X | | | | | | | | | X | | | X | | | | |
| 3 | HC-N123425226-8 | " | 15:32-15:52 | " | 16 | | | X | X | X | | | | | | | | | X | | | X | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished | | Hart Crowser | 11/11/11 | 18:50 |
| Received | | OSE | 11/11/11 | 1152 |
| Relinquished | | | | |
| Received | | | | |
| Relinquished | | | | |
| Received | | | | |

**Comments/Special Instructions**

2 total coolers
each sample consists of:
1 500mL poly w/ $HNO_3$
1 500mL poly w/out
2 500mL Amber w/ HCl
2 1L Amber w/ HCl
2 1L Amber w/out
8 40mL VOA w/ HCl

HOLD REMAINING CONTAINERS FOR POTENTIAL ANALYSIS.

Reviewed/Date

Reviewed/Date

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐

Electronic Data Deliverables (EDDs) ☐ _____