FARALLON consulting

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Gaco Western LLC
Tukwila - King Co.
Release ID: 2576
UST: 3980
VCP# 2219

COPY



January 26, 2010

Segale Properties
Mr. Mark Segale
PO Box 88028
Tukwila, Washington 98138

**RE: SUMMARY OF SUBSURFACE INVESTIGATION AND PRELIMINARY REMEDIAL ALTERNATIVES**
**GACO WESTERN, INC. FACILITY**
**18700 SOUTHCENTER PARKWAY, TUKWILA, WASHINGTON**
**FARALLON PN: 841-003**



Dear Mr. Segale:

Farallon Consulting, L.L.C. (Farallon), has prepared this letter report to summarize the results of the recent subsurface investigation conducted by Farallon and to provide recommendations for preliminary remedial alternatives for cleanup at the GACO Western, Inc. facility located at 18700 Southcenter Parkway in Tukwila, Washington (herein referred to as the Site) (Figure 1). Previous investigations conducted by GACO Western, Inc. confirmed the release of volatile organic compounds (VOCs) to soil and groundwater at concentrations exceeding the Model Toxics Control Act Cleanup Regulation (MTCA) cleanup levels from manufacturing operations at the Site.

Presented below is an overview of relevant background information for the Site, including a summary of the subsurface investigations and interim actions conducted at the Site by others, a summary of the subsurface investigation conducted by Farallon in November 2009, and a discussion of the conceptual site model and data gaps. Recommendations for the development of a cleanup strategy for the Site, including a discussion of preliminary remedial alternatives and additional characterization and feasibility testing, are also included. The overall objective of the project would be to implement a technically feasible cleanup action that would meet the cleanup requirements in accordance with MTCA to obtain an unrestricted No Further Action (NFA) determination from the Washington State Department of Ecology (Ecology) for the Site.

## SITE BACKGROUND

The Site consists of two contiguous tax parcels comprising approximately 2.6 acres and includes a 45,200-square-foot industrial building of concrete tilt-up construction with a concrete slab floor. The majority of the building comprises a single-story warehouse used for manufacturing and storage operations. A second story that is used for office space is present on the northeastern portion of the building (Figure 2). According to Ecology records reviewed for the Site, GACO Western, Inc. has operated the Site since 1968 to manufacture roofing materials and sealants. Farallon understands that GACO Western, Inc. has recently ceased manufacturing operations and

uses the facility only for temporary storage and distribution of roofing products and for office space.

Historically, two underground storage tank (UST) systems were used at the Site to store and distribute a variety of VOCs used in the manufacturing process. The UST systems were located on the west side of the Site warehouse building. One system included a series of 11 USTs located on the northwest portion of the Site (herein referred as the North Tank Excavation) (Figure 2). The second system included a series of three USTs located on the southwest portion of the Site (herein referred to as the South Tank Excavation) (Figure 2). During removal and decommissioning of the UST systems in 1991, a release of VOCs was confirmed to soil and groundwater proximate to the UST systems on the western side of the Site.

A remedial investigation was conducted following the removal and decommissioning of the UST systems to characterize the nature and extent of VOCs in soil and groundwater at the Site. The remedial investigation included installation and sampling of a series of monitoring well pairs screened in multiple groundwater-bearing zones encountered at the Site.

The general Site stratigraphy encountered in the monitoring well borings comprised interbedded silt, silty sand, and sand to the total depth explored of approximately 32 feet below ground surface (bgs). Groundwater was encountered in an upper perched, seasonal groundwater-bearing zone, and a deeper semi-confined to confined groundwater-bearing zone was encountered at a depth of approximately 15 feet bgs. According to the *Draft Remedial Investigation Report, Gaco Western, Inc., Tukwila, Washington* prepared by Hart Crowser, dated August 27, 1993, the shallow perched groundwater-bearing zone and deeper groundwater-bearing zone are separated by an 8- to 10-foot-thick silt horizon.

Gasoline-range organics (GRO) and VOCs, including benzene, toluene, ethylbenzene, xylenes, and tetrachloroethene (PCE), were detected at concentrations exceeding the MTCA Method A cleanup levels in soil and/or groundwater samples collected from the Site.

Interim cleanup activities included excavation of a limited amount of VOC-contaminated soil from the UST areas in late 1991. Subsequently, a soil vapor extraction (SVE) system was installed on the west side of the Site that included two horizontal SVE pipes in the North Tank Excavation area and shallow well HC-2S in the South Tank Excavation area (Figure 2). According to the *Final Report, Soil Vapor Extraction Interim Remedial Action, GACO Western, Inc., Tukwila, Washington* prepared by Hart Crowser, dated February 9, 1994, the SVE system operated from approximately July to December 1993 at the Site. Groundwater compliance monitoring was also conducted from 1992 to 1996 at the Site.

Following completion of the interim actions at the Site, Ecology's Hazardous Waste and Toxics Reduction Program issued an NFA determination for the Site in 1996 that included recording a Restrictive Covenant for the property to provide protection from residual sources of soil and groundwater contamination at the Site.

A groundwater monitoring event was conducted at the Site in 2007 by GACO Western, Inc., which included collecting groundwater samples from monitoring wells HC-1S, HC-1D, and HC-

2D. Concentrations of VOCs exceeding the MTCA Method A cleanup levels were detected only in the groundwater sample collected from monitoring well HC-2D proximate to the South Tank Excavation on the west side of the Site (Figure 2). Groundwater samples collected from the remaining wells were reported either non-detect or below the MTCA Method A cleanup levels for VOCs.

In May 2009, Ecology completed a periodic review of the Site, which is required every 5 years for all sites with institutional controls and environmental covenants. The purpose of the periodic review is to ensure that human health and the environment are protected in accordance with MTCA. A copy of the *Periodic Review, GACO Western, FS ID# 2402, 18700 Southcenter Parkway, Tukwila, Washington 98138* (Periodic Review) report prepared by Ecology dated May 2009 is provided in Attachment A and should be referenced in conjunction with this report.

Based on the May 2009 Periodic Review, Ecology determined that although soil and groundwater cleanup levels have not been met at the Site, the requirements of the Restrictive Covenant continue to be satisfactorily met and that remedial actions at the Site continue to be protective of human health and the environment. However, Ecology noted that there were deficiencies in the record regarding establishing a conditional point of compliance for groundwater. In addition, Ecology noted that the March 26, 1996 NFA letter from the Ecology Hazardous Waste and Toxics Reduction Program is not the equivalent of an NFA letter from the Ecology Voluntary Cleanup Program. The March 1996 NFA letter applies only to the conclusion of "...field investigative work set forth in the MTCA Agreed Order (DE 92HS-N28S)...", not completion of an entire cleanup action. Ecology recommended that GACO Western, Inc. enroll the Site in the Voluntary Cleanup Program to obtain a current NFA letter for the Site.

## SUBSURFACE INVESTIGATION – FARALLON 2009

Farallon conducted a subsurface investigation between November 20 and 25, 2009 to evaluate the nature and extent of VOCs in soil and groundwater from confirmed and potential source areas at the Site. The subsurface investigation included a groundwater monitoring event, and the advancement and sampling of 10 borings at the Site.

The groundwater monitoring event included depth-to-groundwater measurements and collection of groundwater samples from the existing Site monitoring well network (Figure 2). Three wells completed in the shallow groundwater-bearing zone (HC-1S, HC-2S, and HC-5S) were dry. Two other shallow wells could not be accessed and were also presumed to be dry (HC-3S and HC-4S). Groundwater samples were collected from deep monitoring wells HC-1D through HC-5D and GW-6D, and from shallow monitoring well GW-6S.

Farallon advanced a total of 10 borings (B1 through B10) to a depth of approximately 20 feet bgs using direct-push drilling methods to obtain soil and reconnaissance groundwater samples. Soil samples were collected continuously from each boring for lithologic logging and for field screening for VOCs using a photoionization detector (PID). Samples of soil were retained from each boring for chemical analysis of VOCs. A 4-foot screen was temporarily installed in each boring at the approximate depth where groundwater was encountered. Reconnaissance

groundwater samples were collected from the borings and from the monitoring wells using U.S. Environmental Protection Agency (EPA) low-flow purging and sampling methodology.

Figure 2 shows the boring locations and existing features of the Site, including the estimated groundwater flow direction toward the east based on depth-to-water measurements taken on November 20, 2009. Figure 2 also shows concentrations of selected VOCs detected in groundwater samples collected at the Site. Table 1 presents groundwater elevation data. Tables 2 and 3 summarize analytical results for selected VOCs in soil and groundwater, respectively. The complete laboratory analytical reports for the soil and groundwater samples collected by Farallon are provided in Attachment B.

The general stratigraphy encountered in borings B1 through B7 advanced on the western and central portions of the Site comprise silty sand and sand with minor interbeds of silt from 0 to 15 feet bgs underlain by silt to the total depth explored of 20 feet bgs. The general stratigraphy encountered in borings B8 through B10 advanced on the eastern side of the Site predominantly comprises silt with interbeds of sand and silty sand to the total depth explored of 20 feet bgs. Completed Log of Boring forms for borings B1 through B10 are included in Attachment C.

Historically, groundwater has been measured seasonally in the perched shallow groundwater-bearing zone monitoring wells, which are screened in the 8- to 12-foot depth range (monitoring wells with "S" identifiers in Figure 2). However, except for monitoring well GW-6S in the interior of the building, the shallow monitoring wells were dry or presumed to be dry during the November 2009 subsurface investigation conducted by Farallon (Table 1). During the November 2009 investigation, groundwater was encountered between 10 and 18 feet bgs. The estimated groundwater flow direction, based on groundwater measurements collected on November 20, 2009 in monitoring wells HC-1D, HC-2D, and HC-5D, was toward the east with an average gradient of approximately 0.0007 foot per foot.

## CONCEPTUAL SITE MODEL

The results of the subsurface investigations conducted by Farallon and others were used to develop a conceptual model of the Site geology and hydrogeology, and the relation of these physical conditions to the observed distribution of VOCs in soil and groundwater. The conceptual model was used to support a preliminary evaluation of potential technologically feasible remediation alternatives for cleanup of contaminated soil and groundwater at the Site.

Soil and groundwater data confirm VOC sources in soil and groundwater proximate to the former UST systems areas on the west side of the Site. VOCs persist in Site soil and groundwater and potentially in soil vapor in the vadose zone. VOCs detected at concentrations exceeding MTCA cleanup levels in soil and/or groundwater samples collected during the November 2009 subsurface investigation include benzene, toluene, ethylbenzene, xylenes, and vinyl chloride. Other VOCs were also detected at low concentrations, including isopropyl benzene, n-propylbenzene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, acetone, 2-butanone, chloroform, p-isopropyl benzene, sec butyl benzene, n-butylbenzene1, 1-dichloroethane, carbon disulfide, methyl isobutyl ketone, PCE, trichloroethene, and cis-1,2-dichloroethene.

Benzene, toluene, ethylbenzene and xylenes were detected at concentrations exceeding the MTCA Method A cleanup levels in soil samples collected from boring B2 advanced within the North Tank Excavation area and in down-gradient borings B4 and B6 located inside the warehouse (Figure 2; Table 2). Strong petroleum-like odors and elevated PID measurements were noted in the soil samples collected from borings B2, B4, and B6. Halogenated volatile organic compounds (HVOCs) were not detected in soil samples collected from B1 through B10.

Benzene, toluene, ethylbenzene, and xylenes were also detected at concentrations exceeding the MTCA Method A cleanup levels in reconnaissance groundwater samples collected at locations proximate to the North Tank Excavation and South Tank Excavation areas and down-gradient to the east as far as monitoring well HC-5D approximately 80 feet west of the Green River (Figure 2; Table 3). The approximate areal extent of groundwater with concentrations VOCs exceeding the MTCA cleanup levels is shown on Figure 2.

HVOCs, including PCE, trichloroethene, cis-1,2 dichloroethene, and vinyl chloride were also detected in five of the 14 groundwater sampling locations in the southern part of the Site from the South Tank Excavation area and east, down-gradient at boring B10 approximately 120 feet west of the Green River (Figure 2; Table 3). Vinyl chloride was the only HVOC detected at a concentration exceeding the MTCA Method A cleanup level of 0.2 micrograms per liter (µg/l) in monitoring well GW-6D in the interior of the building. The highest VOC concentrations were detected in groundwater samples collected from borings B2, B4, and B6, and monitoring well HC-2D, which are proximate to the North Tank Excavation area and down-gradient to the east beneath the warehouse building (Figure 2). These data confirm the release and migration of VOCs from the former UST systems on the west side of the Site toward the east side of the Site.

## DATA GAPS

The Site has been sufficiently characterized to generate the conceptual site model summarized above. However, the nature and extent of groundwater contamination on the southern and eastern portions of the Site has not been completely characterized. In addition, there is potential for vapor intrusion into the Site building, presenting adverse risk to current and future Site workers. These data gaps will need to be addressed in order to complete a remedial investigation and feasibility study (RI/FS), which would then be used to support the development of a permanent cleanup action for the Site.

## RECOMMENDATIONS

The overall objective of the project would be to implement a technically feasible cleanup action that will meet the cleanup goals for the Site defined in a Cleanup Action Plan (CAP) in order to obtain an unrestricted NFA determination from Ecology for the Site. As part of any future investigation or cleanup activities, Farallon recommends enrolling the Site in the Ecology Voluntary Cleanup Program in order to obtain pre-approval from Ecology to ensure that the work is conducted as an independent remedial action that will meet the substantial equivalent of a department-conducted or -supervised action under MTCA. The proposed remedial strategy to complete the characterization and cleanup of the Site and obtain an unrestricted NFA determination would include the following main components:

- Completion of an RI/FS;
- Preparation of a CAP;
- Implementation and completion of the Cleanup Action; and
- Closure reporting and request for an unrestricted NFA determination.

The purpose of a remedial investigation is to collect and evaluate sufficient information to support the development and evaluation of technically feasible cleanup alternatives in accordance with Sections 360 through 390 of Chapter 173-340 of the Washington Administrative Code (WAC 173-340-360 through 173-340-390). The remedial investigation would provide sufficient data to further refine the conceptual site model for use in evaluating potentially feasible remediation technologies.

The purpose of a feasibility study is to develop and evaluate cleanup alternatives to facilitate selection of a final cleanup action at a site in accordance with WAC 173-340-350(8). A feasibility study is conducted to screen remediation technologies and eliminate those that are not technically practicable and whose costs are disproportionate under WAC 173-340-360(3)(e). The selection of a final cleanup action for the Site would be documented in a CAP in conformance with WAC 173-340-360 through WAC 173-340-390.

The purpose of a CAP is to document the engineering concepts and criteria used in the design of the cleanup action. The objectives of the selected cleanup action are to meet the threshold requirements at the defined points of compliance; protect human health and the environment; comply with applicable state and federal laws; provide for compliance monitoring; and provide a permanent solution to the maximum extent practicable in accordance with WAC 173-340-360(2). The requirements for substantial equivalence under WAC 173-340-515 would be met, including providing Ecology with information on the Site and cleanup action, and obtaining confirmation from Ecology that the cleanup action is being performed in accordance with MTCA.

## PRELIMINARY REMEDIAL ALTERNATIVES

Based on the available data for the Site, which confirms the presence of high concentration VOC sources affecting soil and groundwater over a large area of the Site, it is highly likely that Ecology will require active remediation to clean up affected media at the Site. The technical elements for cleanup have not been established for this Site such as the media of concern (likely soil vapor, soil, and groundwater), applicable cleanup levels, and points of compliance. In addition, although SVE was conducted in a localized area for a short period of time, no additional bench-scale or field pilot testing of other potentially feasible remedial technologies has been performed to assess their effectiveness under the Site-specific conditions. Therefore, this evaluation of remedial alternatives is limited and should be considered preliminary in scope and thoroughness.

Based on the available data, Farallon has identified the following main environmental issues at the Site:

- The presence of high concentration VOC sources in soil and groundwater beneath the Site, and the potential for migration and discharge to the Green River both to surface water and/or sediments in the river.
- Future redevelopment involving excavation or regrading may require off-Site disposal of contaminated soil, some of which may designate as a Dangerous Waste with chlorinated solvents, and treatment of groundwater during redevelopment if dewatering is required.
- Vapor intrusion issues into existing or new buildings related to the existing soil and groundwater contaminant plume in the shallow subsurface may require mitigation measures to ensure protection of human health and the environment.

Conditions at the Site pose several key challenges to cleanup, including:

- A source area adjacent to and beneath a building with high concentrations of VOCs, and potential light non-aqueous phase liquid (LNAPL) in the groundwater-bearing zone; and
- Silty sand and silt in the shallow subsurface combined with the shallow depth of groundwater may limit or preclude the use of typical in-situ remedies such as soil vapor extraction, air sparging, and chemical oxidation and/or bioremediation.

Due to these challenges, the most likely remedial approach for the Site will involve a combination of remedial technologies including, but not limited to, in-situ treatment of soil vapor, soil, and groundwater; and long-term monitoring to confirm natural attenuation of residual VOCs in groundwater. Based on the previous results of the interim action SVE system, a combined air sparge (AS) and SVE may be a feasible remedial technology to clean up soil vapor, soil, and groundwater contamination at the Site. Other technologies may be considered such as additional soil removal, chemical oxidation, or treatment barriers but they would likely be less practicable given Site conditions and constraints.

## ADDITIONAL CHARACTERIZATION AND FEASIBILITY TESTING

Additional characterization and feasibility testing will likely be required by Ecology to address the data gaps and develop preliminary feasible remedial alternatives for cleanup of the Site. These data would be used to complete the RI/FS and support the development and implementation of a cleanup action for the Site. Prior to completing the RI/FS for the Site, Farallon recommends development of a draft RI/FS Work Plan, which would be submitted to Ecology under the Voluntary Cleanup Plan for review and approval.

Based on the available data, the recommended additional remedial investigation would include, at a minimum, soil and groundwater sampling in areas south of boring B7 and proximate to monitoring well HC-5D to bound the extent of VOCs in groundwater on the south and east sides of the Site, respectively (Figure 2). This could be accomplished with the installation of approximately three additional groundwater monitoring wells at the locations shown on Figure 2.

In addition, a sub-slab soil vapor survey should be conducted to assess potential vapor intrusion in the current building and, if necessary, develop mitigation measures.

Farallon recommends pilot-scale testing of an AS/SVE system at the Site, which would include installation of one AS well and two SVE wells proximate to the North Tank Excavation area (Figure 2). The pilot-scale test would be used to assess the effectiveness of AS/SVE technology under Site-specific conditions. Existing shallow and deep monitoring wells would also be used for monitoring during the pilot test. Identification of Site-specific remedial alternative(s) would be conducted as part of the feasibility study (WAC 173-340-380) following completion of the remedial investigation of the Site. The selected cleanup action alternative would be documented in the CAP.

## CLOSING

Farallon appreciates the opportunity to provide Segale Properties with environmental consulting services for this project. We trust that this provides sufficient information for your needs. Please contact the undersigned at (425) 295-0800 if you have any questions or require additional information.

Sincerely,

**Farallon Consulting, L.L.C.**

Thaddeus J. Cline, L.G., L.H.G., P.E.
Senior Hydrogeologist/ Civil Engineer

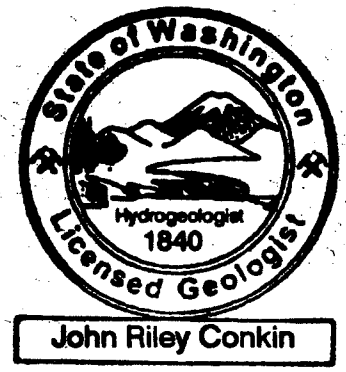
J. Riley Conkin, L.G., L.H.G.
Principal

Attachments: Figure 1 *Site Vicinity Map*
Figure 2 *Site Plan Showing Groundwater Analytical Results for Volatile Organic Constituents*

Table 1 *Summary of Groundwater Elevation Data*
Table 2 *Summary of Soil Analytical Results for VOCs*
Table 3 *Summary of Groundwater Analytical Results for VOCs*

Attachment A Ecology Periodic Review
Attachment B Laboratory Analytical Reports
Attachment C Boring Logs

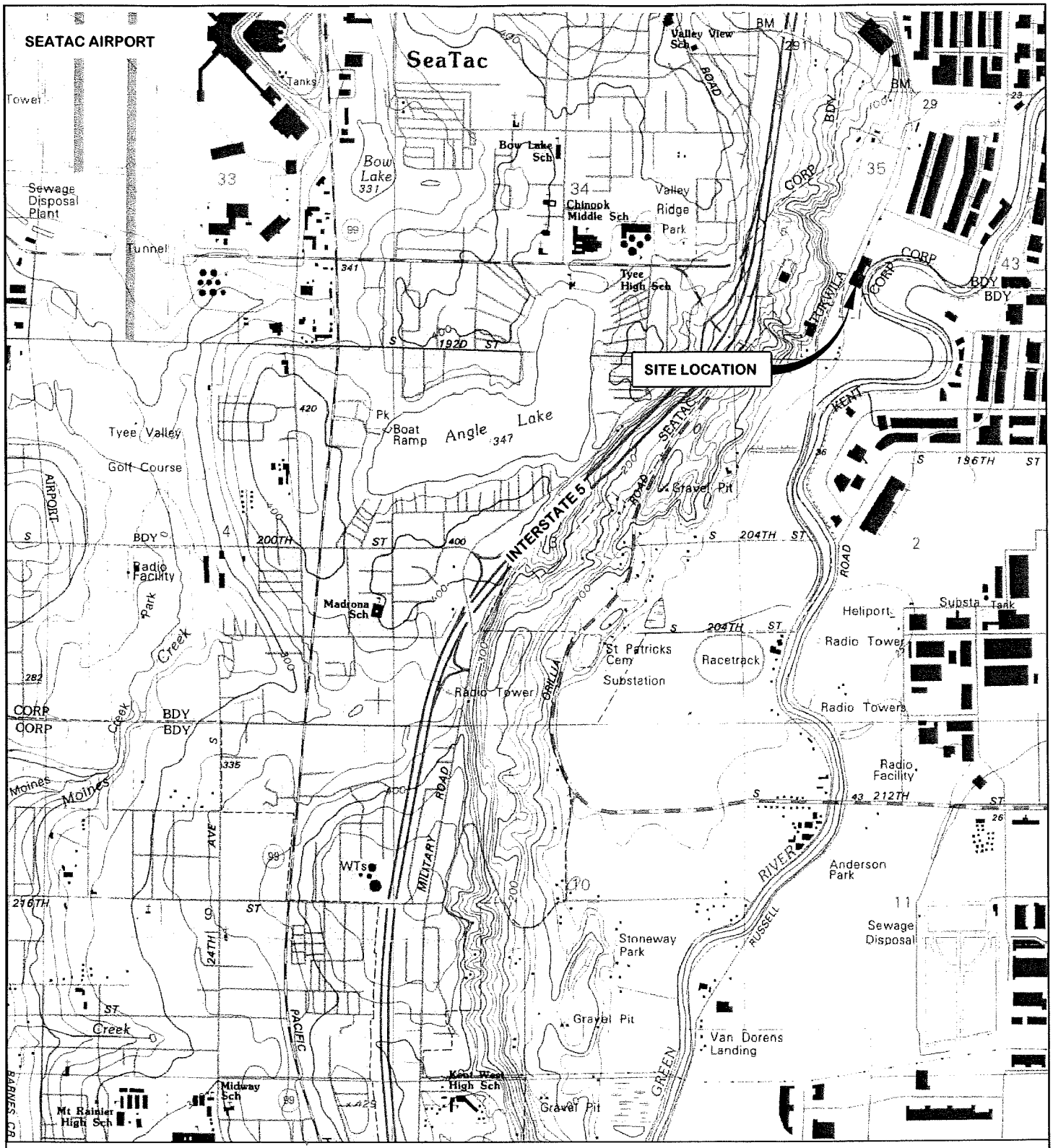
TJC/JRC:bjj



# FIGURES

SUMMARY OF SUBSURFACE INVESTIGATION AND PRELIMINARY REMEDIAL ALTERNATIVES
GACO Western, Inc. Facility
Tukwila, Washington

Farallon PN: 841-003

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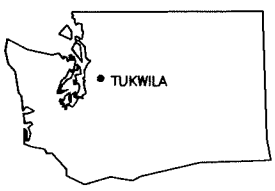


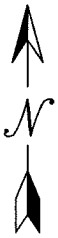


FARALLON CONSULTING
975 5th Avenue Northwest
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# FIGURE 1

SITE VICINITY MAP
GACO WESTERN PROPERTY
18700 SOUTHCENTER PARKWAY
TUKWILA, WASHINGTON

FARALLON PN: 841-003

| Drawn By: DEW | Checked By: TC | Date: 1/12/10 | Disk Reference: 841003 |
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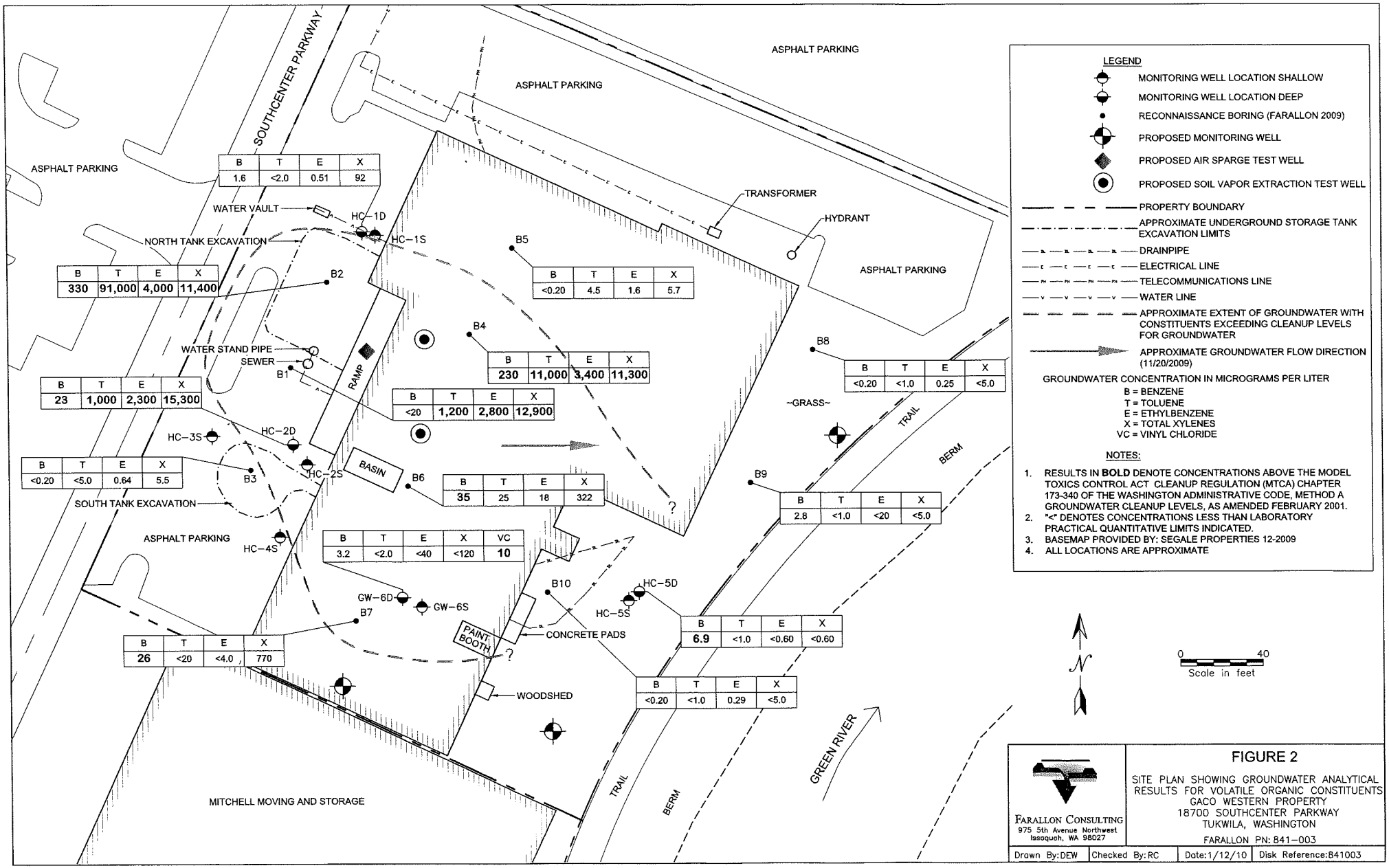


FIGURE 2

SITE PLAN SHOWING GROUNDWATER ANALYTICAL RESULTS FOR VOLATILE ORGANIC CONSTITUENTS
GACO WESTERN PROPERTY
18700 SOUTHCENTER PARKWAY
TUKWILA, WASHINGTON

FARALLON PN: 841-003

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

| Drawn By: DEW | Checked By: RC | Date: 1/12/10 | Disk Reference: 841003 |
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# TABLES

SUMMARY OF SUBSURFACE INVESTIGATION AND PRELIMINARY REMEDIAL ALTERNATIVES
GACO Western, Inc. Facility
Tukwila, Washington

Farallon PN: 841-003

**Table 1**
**Summary of Groundwater Elevation Data**
**GACO Western Property**
**18700 Southcenter Parkway**
**Tukwila, Washington**
**Farallon PN: 841-003**

| Monitoring Well Location | Date Measured | Top of Casing Elevation (feet)[1] | Depth to Water (feet)[2] | Groundwater Elevation (feet)[3] |
|---|---|---|---|---|
| HC-1S | 11/20/2009 | 27.16 | Dry | N/A |
| HC-1D | 11/20/2009 | 27.06 | 14.00 | 13.06 |
| HC-2S | 11/20/2009 | 27.45 | Dry | N/A |
| HC-2D | 11/20/2009 | 27.39 | 14.31 | 13.08 |
| HC-3S | 11/20/2009 | 27.12 | NM | N/A |
| HC-4S | 11/20/2009 | NM | NM | N/A |
| HC-5S | 11/20/2009 | 28.57 | Dry | N/A |
| HC-5D | 11/20/2009 | 28.67 | 15.70 | 12.97 |
| GW-6S | 11/20/2009 | 30.98 | 11.42 | 19.56 |
| GW-6D | 11/20/2009 | 31.23 | 17.92 | 13.31 |

NOTES:

[1] Relative to NGVD 29 datum (mean sea level).

[2] In feet below top of well casing. Top of casing elevations from survey conducted by Segale Properties on November 25, 2009.

[3] Groundwater Elevation = top of casing elevation - depth to water.

Dry = no measurable water in well.

NM = not monitored

# Table 2
## Summary of Soil Analytical Results for VOCs
## GACO Western Property
## 18700 Southcenter Parkway
## Tukwila, Washington
## Farallon Pn: 841-003

| Sample Identification | Sample Date | Depth (ft)[1] | Analytical Results (milligrams per kilogram) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Benzene[2] | Toluene[2] | Ethylbenzene[2] | Total Xylenes[2] | PCE[2] | TCE[2] | cis 1,2-Dichloroethene[2] | trans 1,2-Dichloroethene[2] | Vinyl Chloride[2] |
| B1-9.5 | 11/24/2009 | 9.5 | <0.075 | <0.38 | 0.20 | 0.22 | <0.075 | <0.075 | <0.075 | <0.075 | <0.075 |
| B2-7.5 | 11/24/2009 | 7.5 | <1.2 | **220** | **62** | **272** | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 |
| B2-12.0 | 11/24/2009 | 12.0 | <0.052 | 2.1 | **6.4** | **24.0** | <0.052 | <0.052 | <0.052 | <0.052 | <0.052 |
| B3-7.5 | 11/24/2009 | 7.5 | <0.0011 | <0.0056 | <0.0011 | <0.033 | <0.0011 | <0.0011 | <0.0011 | <0.0011 | <0.0011 |
| B4-12.5 | 11/24/2009 | 12.5 | <16 | **5,500** | **1,900** | **6,000** | <16 | <16 | <16 | <16 | <16 |
| B5-15.0 | 11/25/2009 | 15.0 | 0.0016 | <0.0056 | <0.0011 | 0.0074 | <0.0011 | <0.0011 | <0.0011 | <0.0011 | <0.0011 |
| B6-15.0 | 11/25/2009 | 15.0 | <8.7 | **190** | **370** | **1,710** | <8.7 | <8.7 | <8.7 | <8.7 | <8.7 |
| B7-16.0 | 11/25/2009 | 16.0 | <0.0011 | <0.0053 | <0.0011 | <0.0032 | <0.0011 | 0.02 | <0.0011 | <0.0011 | <0.0011 |
| B8-16.0 | 11/25/2009 | 16.0 | <0.0013 | <0.0065 | <0.0013 | <0.0039 | <0.0013 | <0.0013 | <0.0013 | <0.0013 | <0.0013 |
| B9-16.0 | 11/25/2009 | 16.0 | <0.0017 | <0.0085 | <0.0017 | <0.0051 | <0.0017 | <0.0017 | <0.0017 | <0.0017 | <0.0017 |
| B10-15.5 | 11/25/2009 | 15.5 | <0.0019 | <0.0097 | <0.0019 | <0.0058 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 |
| **MTCA Cleanup Levels for Soil** | | | **0.03**[3] | **7**[3] | **6**[3] | **9**[3] | **0.05**[3] | **0.03**[3] | **800**[4] | **1,600**[4] | **0.67**[4] |

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8260B.

[3] Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Regulation Method A Cleanup Levels for Unrestricted land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washingington Administrative Code, as revised November 2007.

[4]Washington State Department of Ecology Cleanup Levels and Risk Calculations under MTCA, Version 3.1 Standard Method B Formula Values for Soil , https://fortress.wa.gov/ecy/clarc/Reporting/Chemical/Query.aspx

PCE = tetrachloroethene

TCE = trichloroethene

**Table 3**
**Summary of Groundwater Analytical Results for VOCs**
**GACO Western Property**
**18700 Southcenter Parkway**
**Tukwila, Washington**
**Farallon PN: 841-003**

| Sample Location | Sample Identification | Sample Date | Analytical Results (micrograms per liter) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Benzene[1] | Toluene[1] | Ethylbenzene[1] | Total Xylenes[1] | PCE[1] | TCE[1] | cis 1,2-Dichloroethene[1] | trans 1,2-Dichloroethene[1] | Vinyl Chloride[1] |
| HC-1D | HC-1D-112009 | 11/20/2009 | 1.6 | <2.0 | 0.51 | 92 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| HC-2D | HC-2D-112009 | 11/20/2009 | **23** | **1,000** | **2,300** | **15,300** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| HC-5D | HC-5D-112009 | 11/20/2009 | **6.9** | <1.0 | <0.60 | <0.60 | <0.20 | <0.20 | 0.54 | <0.20 | <0.20 |
| GW-6D | GW-6D-112009 | 11/20/2009 | 3.2 | <2.0 | <40 | <120 | <0.40 | <0.40 | 0.43 | <0.40 | **10** |
| B1 | B1-112409-GW | 11/24/2009 | <20 | **1,200** | **2,800** | **12,900** | <20 | <20 | <20 | <20 | <20 |
| B2 | B2-112409-GW | 11/24/2009 | **330** | **91,000** | **4,000** | **11,400** | <20 | <20 | <20 | <20 | <20 |
| B3 | B3-112409-GW | 11/24/2009 | <0.20 | <5.0 | 0.64 | 5.5 | <0.20 | <0.20 | 0.41 | <0.20 | <0.20 |
| B4 | B4-112409-GW | 11/24/2009 | **230** | **11,000** | **3,400** | **11,300** | <50 | <50 | <50 | <50 | <50 |
| B5 | B5-112509-GW | 11/25/2009 | <0.20 | 4.5 | 1.6 | 5.7 | <0.20 | <0.20 | <0.20 | <0.20 | <20 |
| B6 | B6-112509-GW | 11/25/2009 | **35** | 25 | 18 | 322 | <1.0 | <1.0 | 1.3 | <1.0 | <1.0 |
| B7 | B7-112509-GW | 11/25/2009 | **26** | <20 | <4.0 | 770 | <4.0 | <4.0 | 5.1 | <4.0 | <4.0 |
| B8 | B8-112509-GW | 11/25/2009 | <0.20 | <1.0 | 0.25 | <5.0 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| B9 | B9-112509-GW | 11/25/2009 | 2.8 | <1.0 | <20 | <5.0 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| B10 | B10-112509-GW | 11/25/2009 | <0.20 | <1.0 | 0.29 | <5.0 | 0.23 | 0.32 | 0.73 | <0.20 | <0.20 |
| **MTCA Cleanup Levels for Groundwater** | | | **5**[2] | **1000**[2] | **700**[2] | **1000**[2] | **5**[2] | **5**[2] | **80**[3] | **160**[3] | **0.2**[2] |

NOTES:

Results in **bold** denote concentrations above applicable cleanup levels.

< denotes analyte not detected at or above the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency (EPA) Method 8260B.

PCE = tetrachloroethene

TCE = trichloroethene

[2]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washignton Administrative Code, as revised November 2007.

[3]MTCA Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, https://fortress.wa.gov/ecy/clarc/Reporting/Chemical/Query.aspx.

**ATTACHMENT A**
**ECOLOGY PERIODIC REVIEW**

# SUMMARY OF SUBSURFACE INVESTIGATION AND PRELIMINARY REMEDIAL ALTERNATIVES
GACO Western, Inc. Facility
Tukwila, Washington

Farallon PN: 841-003

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
*Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000*

July 14, 2009

Corrine Dobbins
PO Box 88698
Seattle, WA 98138

**Notice of Periodic Review Conducted at the following Hazardous Waste Site:**

- Name: Gaco Western, Inc.
- Address: 18700 Southcenter Parkway, Tukwila, Washington
- Facility/Site No.: 2402

Dear Ms Dobbins:

The Model Toxics Control Act, Chapter 70.105D Revised Code of Washington (MTCA), which governs the cleanup of hazardous waste sites in Washington State, requires the Department of Ecology (Ecology) to conduct a periodic review of all sites with institutional controls and environmental covenants every five years. This letter serves to inform you that a periodic review has been conducted at the Gaco Western, Inc. Site.

The periodic review process includes the following steps:

1. review new information including monitoring data,
2. confirmation that the covenant is active and recorded with the title to the property,
3. a site visit to confirm the institutional controls and conditions of the covenant are effective.

The Gaco Western, Inc. Site appears to meet the requirements of Chapter 173-340 Washington Administrative Code based on the information collected during this periodic review, and the selected remedy appears to be protective of human health and the environment, but there are some apparent omissions in the file regarding setting a conditional point of compliance for groundwater contamination. Ecology could review your cleanup through our Voluntary Cleanup Program and issue a 'No Further Action' letter if the cleanup met requirements. There is a March 26, 1996 letter in the file which uses the terminology 'No Further Action' but it is referring to the completion of the requirements in a MTCA Agreed Order DE 92HS-N28S for "field investigative work", not the entire cleanup action.

A periodic review will continue to be required every five years as long as institutional controls and/or a covenant are required to protect human health and the environment. The next periodic review will be due in 2014.

Please call me at 425-649-7202 if you have any questions regarding this letter or if you would like additional information regarding the cleanup of hazardous waste sites.

Sincerely,

Joseph M. Hickey
Toxics Cleanup Program

Enclosures: 1 (Periodic Review Document)


# PERIODIC REVIEW

## Gaco Western
## FS ID#: 2402

**18700 Southcenter Parkway**
**Tukwila, Washington 98138**

**Northwest Region Office**

**TOXICS CLEANUP PROGRAM**

**May 2009**

# 1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Gaco Western facility (Site). Cleanup at this Site was regulated by the Model Toxics Control Act (MTCA), Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were regulated by MTCA Agreed Order No. DE 92 HS-N28S. The scope of the order was "field investigative work", not the entire cleanup. The cleanup actions resulted in residual concentrations of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene, xylenes and methyl isobutyl ketone (MIBK) exceeding MTCA Method A cleanup levels for soil and groundwater. The cleanup levels for soil were established under WAC 173-340-740(2). The MTCA Method A cleanup levels for groundwater are established under WAC 173-340-720(3). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

(a) Whenever the department conducts a cleanup action
(b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
(c) Or, as resources permit, whenever the department issues a no further action opinion
(d) And one of the following conditions exists:

1. Institutional controls or financial assurance are required as part of the cleanup
2. Where the cleanup level is based on a practical quantitation limit
3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

(a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site;
(b) New scientific information for individual hazardous substances of mixtures present at the site;
(c) New applicable state and federal laws for hazardous substances present at the Site;
(d) Current and projected site use;
(e) Availability and practicability of higher preference technologies; and
(f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

# 2.0 SUMMARY OF SITE CONDITIONS

## 2.1 Site History

The Gaco Western Facility is located in an industrial area of south Seattle in King County, Washington (Vicinity Map - Appendix 6.1). Following remedial activities, a Restrictive Covenant was recorded for the property in 1996. The Site received a 'No Further Action' (NFA) determination in 1996 by Ecology's Hazardous Waste and Toxics Reduction Program for compliance with MTCA Agreed Order No. DE 92 HS-N28S. An NFA has not been issued by Ecology's Toxics Cleanup Program. The Site continues to be used for industrial purposes.

The Gaco Western facility has been in commercial operation in Tukwila, Washington since 1968. Gaco Western's dangerous waste identification number is WAD 009241027, and Gaco Western is an active Medium Quantity Generator of dangerous wastes (less than 2,200 pounds per year and greater than 220 pounds per year). The company manufactures liquid rubber coatings used for industrial tank liners, roof coatings, and general waterproofing. There is approximately 33,000 square feet of manufacturing area and approximately 13,000 square feet of office space at the facility. The Site occupies an area of approximately three acres. North of the Site is the Segale Asphalt Plant and south of the Site is the Mitchell Moving/Storage Warehouse. A residential property is located west of the Site; however, none of the surrounding area is zoned residential for a radius of approximately one-half mile. The Green River is approximately 70 feet east of the Gaco facility and 150 feet from any production areas of the plant. The Gaco Western property eastern boundary is the high-water mark of the Green River.

Gaco Western operated 14 underground storage tanks (USTs) until September 1991, which were located on the west side of the Site. These USTs were organized in two groups: three USTs were clustered on the southwest side of the facility and 11 USTs were clustered on the northwest side of the facility. The two UST groups were approximately 50 feet apart. These USTs contained xylenes, toluene, methyl-ethyl ketone, and ethylbenzene, chlorinated paraffins, cyclolube, trimethyl benzene, propanol, and naphtha. These products were pumped through an underground piping system into the facility building for manufacturing processes.

A site plan is available as Appendix 6.2.

## 2.2 Site Investigations and Cleanup

Gaco Western decided to have the 14 USTs removed and convert to a "just-in-time" system of production materials delivery in mid-1991. Northwest EnviroService, as a subcontractor to Envirocon, Inc., removed and disposed of the 14 USTs in September 1991. Two pits were opened to remove the 14 USTs and associated piping. Solvents were detected under some of the tanks upon removal. Approximately seven yards of soil were removed from the excavated pits

during UST removal and stockpiled near the excavation. Confirmation samples were collected from the limits of the excavation.

Envirocon installed four resource protection wells in 1991, located on the west side of the Gaco Western facility. According to Gaco Western records, these resource protection wells were screened across a clay-silt layer separating two water-bearing zones. Ground water samples taken from the four resource protection wells confirmed the presence of benzene, ethyl benzene, xylenes, and toluene in the ground water. Gaco Western personnel detected approximately 3/8"-1/2" of free product on top of the ground water table in February 1992, in resource protection well MW-3, while making water level measurements in the four resource protection wells. Subsequent laboratory analysis identified this product as gasoline or a gasoline-like substance.

Gaco Western recommended and was given permission by Ecology on February 19, 1992 to abandon the four existing resource protection wells to eliminate the possible threat of cross-contamination of the lower water-bearing zone. These wells were abandoned and five resource protection wells were installed in the upper water-bearing zone. Two resource protection wells were installed in the lower water-bearing zone in April 1992.

Based on the chemical analyses of soil samples taken at the bottom of the two UST excavations and from soil borings, data indicated the following hazardous substances are present in the soils at the site:

- Methyl-Ethyl Ketone
- Ethylbenzene
- Xylenes
- Toluene

Data from these samples is available in Appendix 6.3.

Groundwater monitoring data indicated the following hazardous substances present in groundwater:

- Benzene
- Ethyl Benzene
- MIBK
- Methylene Chloride
- Toluene
- Xylene
- Chloroform
- 1-1-2-2-Tetrachloroethane
- Tetrachloroethene
- Trichloroethene
- 1-2 Dichloroethene
- 1-1-1 Trichloroethane

## 2.3 Cleanup Levels

MTCA Method A and Method B cleanup levels were used for the Site. Some of the key contaminants of concern (COC) and their cleanup levels before and after MTCA changes in 2001 are listed in the table below:

| Analyte | 1991 MTCA Soil Cleanup Level (ppm) | 2001 MTCA Method A Soil Cleanup Level (ppm) | 1991 MTCA Method A Groundwater Cleanup level (ppb) | 2001 MTCA Method A Groundwater Cleanup Level (ppb) |
|---|---|---|---|---|
| Arsenic | 20 | 20 | 5 | 5 |
| Benzene | 0.5 | 0.03 | 5 | 5 |
| Ethylbenzene | 20 | 6 | 30 | NL |
| Lead | 250 | 250 | 5 | 15 |
| Methyl Ethyl Ketone | NL | 48000* | NL | 4800* |
| Tetrachloroethylene | 0.5 | 0.03 | 5 | 5 |
| Toluene | 40 | 7 | 40 | 1000 |
| Total Xylenes | 20 | 9 | 20 | 1000 |
| TPH | NL | NL | 1000 | NL |
| TPH-Gas | 100 | 100/30 | NL | 1000/800 |
| TPH-Diesel | 200 | 2000 | NL | 500 |
| TPH-Oil | 200 | 2000 | NL | 500 |
| 1,1,1 Trichloroethane | 20 | 2 | 200 | 200 |

**NL = None listed**
**ND = Not detected**
*** = Method B level**

## 2.4 Groundwater Monitoring

Groundwater monitoring conducted at the Site between 1992 and 1996. At the time of the final groundwater monitoring event in 1996, groundwater samples collected from HC-1D and HC-2D exceeded MTCA Method A cleanup standards for benzene, ethylbenzene and total xylenes. The groundwater monitoring was ceased after the 1996 event, except for some voluntary sampling in 2007. The September 1996 sampling apparently provided completion to a groundwater sampling plan that was approved by Ecology's Hazardous Waste and Toxics Reduction Program (HWTRP). A letter from Ecology's HWTRP in 1995 indicated that the need for additional groundwater monitoring would be evaluated following the 1996 sampling event. There is no evidence that this evaluation took place, even though the data was sent to Ecology. Groundwater monitoring data from the 1992-1996 is available in Appendix 6.4.

## 2.5 Restrictive Covenant

The Restrictive Covenant was recorded in 1996 and is available as Appendix 6.5. The following limitations are found in the current Restrictive Covenant:

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.
2. Gaco will be sampling some of the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the Site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.
3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.
4. The owner of the Site must give written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance, and monitoring of groundwater wells by Gaco.
5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.
6. The owner shall allow authorized representatives from Ecology the right to enter the site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

A 'No Further Action' determination was issued by Ecology's Hazardous Waste and Toxics Reduction Program in 1996. This determination stated that groundwater monitoring should continue for an additional quarter, after which the need for further monitoring would be evaluated. There is no indication that this evaluation took place.

# 3.0 PERIODIC REVIEW

## 3.1 Effectiveness of completed cleanup actions

Based upon the site visit conducted on January 8, 2009, the building and asphalt cover at the Site continue to eliminate exposure to contaminated soils by ingestion and direct contact. The asphalt in some locations appears moderately degraded, but it likely continues to prevent direct human contact to contaminated soils; however, it is unknown if it prevents surface water infiltration, carrying additional contaminants remaining in the soil to the groundwater. The Site continues to operate as a commercial facility. A photo log is available as Appendix 6.6.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that could result in the release of contaminants contained as part of the cleanup, unless Ecology approves of the activity, and prohibits any use of the property that is inconsistent with the Covenant. This Restrictive Covenant if adhered to ensures the long term integrity of the asphalt cap.

Soils with VOC concentrations higher than MTCA Method A cleanup levels are still present at the Site. However, the structures and asphalt surface prevent human exposure to this contamination by ingestion and direct contact with soils and the Restrictive Covenant will prevent future exposure of these soils to the environment. Groundwater with benzene, ethylbenzene and total xylene concentrations exceeding MTCA Method A cleanup levels are also still be present at the Site, though groundwater use restrictions may prevent human exposure to contaminated groundwater. Groundwater does not appear to be actively isolated, contained, or controlled, but natural attenuation appears to prevent groundwater contamination from leaving the site or entering surface water. This is considered a conditional point of compliance for groundwater. It is unclear from the record that proper steps were taken to properly establish a conditional point of compliance. If this was not done, until groundwater standards are met, a conditional point of compliance for the contaminated groundwater should be established as close as practicable to the source of contamination. A feasibility study which includes a cost/benefit analysis is necessary to show that all practicable methods of treatment have been utilized. Additional groundwater monitoring should be conducted to ensure that groundwater cleanup levels are met at the conditional point of compliance, and contamination remains contained within the property boundaries.

## 3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new scientific information for the petroleum contaminants related to the Site.

## 3.3 New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12) (c) [2001 ed.] provides that,

"A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment."

Although cleanup levels changed for some COCs at the Site as a result of modifications to MTCA in 2001, contamination remains at the site above MTCA Method A cleanup levels.

## 3.4 Current and projected site use

The site is currently used for industrial purposes. There have been no changes in current or projected future site or resource uses.

## 3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances and is likely to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

## 3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect decisions or recommendations made for the site.

# 4.0 CONCLUSIONS

The following conclusions have been made as a result of this periodic review:

- Soil and groundwater cleanup levels have not been met at the Site. The cleanup action complies with cleanup standards under WAC 173-340-740(6)(d) for soil and could comply WAC 173-340-720(6)(c) or (d) for groundwater if the groundwater meets requirements at a conditional point of compliance. It is not clear from the records that the requirements for establishing a conditional point of compliance for groundwater have been met. The long-term integrity of the asphalt cap is unpredictable because moderate degradation appears in some locations. The requirements for isolation and containment technologies in WAC 173-340-360(8) may not be met if the degradation continues. Please note these citations are from the MTCA regulations in effect at the time the remedy was implemented, and are incorrect if applied to the current regulations.

- The cleanup actions completed at the Site appear to be protective of human health for direct contact; groundwater remains contaminated on the property but does not appear to be affecting the abutting surface water.

- The Restrictive Covenant for the property is in place and continues to be effective in protecting humans from direct contact to hazardous substances.

- Groundwater monitoring occurred at the Site since 1996 in 2007. The results show groundwater contamination remaining in one well. This periodic review recommends until groundwater standards are met, a conditional point of compliance for the contaminated groundwater be established if one has not already been established. Additional groundwater monitoring should be conducted to ensure that groundwater cleanup levels are met at the conditional point of compliance, and contamination remains contained within the property boundaries and not entering surface water.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant continue to be satisfactorily met, with the potential noted for degradation of the asphalt surface. It is the property owner's responsibility to continue to inspect the Site to ensure that the integrity of the Site surfaces is maintained. Remedial actions at the Site continue to be protective of human health and the environment, but it should be noted that there appear to be deficiencies in the record regarding establishing a conditional point of compliance for groundwater. It should also be noted that the March 26, 1996 'No Further Action' (NFA) letter from Ecology's Hazardous Waste and Toxics Reduction Program is not the equivalent of an NFA letter from Ecology's Voluntary Cleanup Program (VCP). The 1996 NFA letter only applies to the conclusion of "...field investigative work set forth in MTCA Agreed Order (DE 92HS-N28S)...", not completion of the entire cleanup action. It seems advisable for Gaco Western to enter the VCP to obtain a current NFA letter if such a letter is warranted.

## 4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

# 5.0 REFERENCES

EnviroCon, Inc. 1991. Findings from UST Assessment.

Gaco Western, Inc. 1995. Third Quarter Ground Water Monitoring Report and Long Term Groundwater Monitoring Proposal.

Gaco Western, Inc. 1996. September 1996 Groundwater Monitoring Report.

Ecology. Restrictive Covenant, 1996.

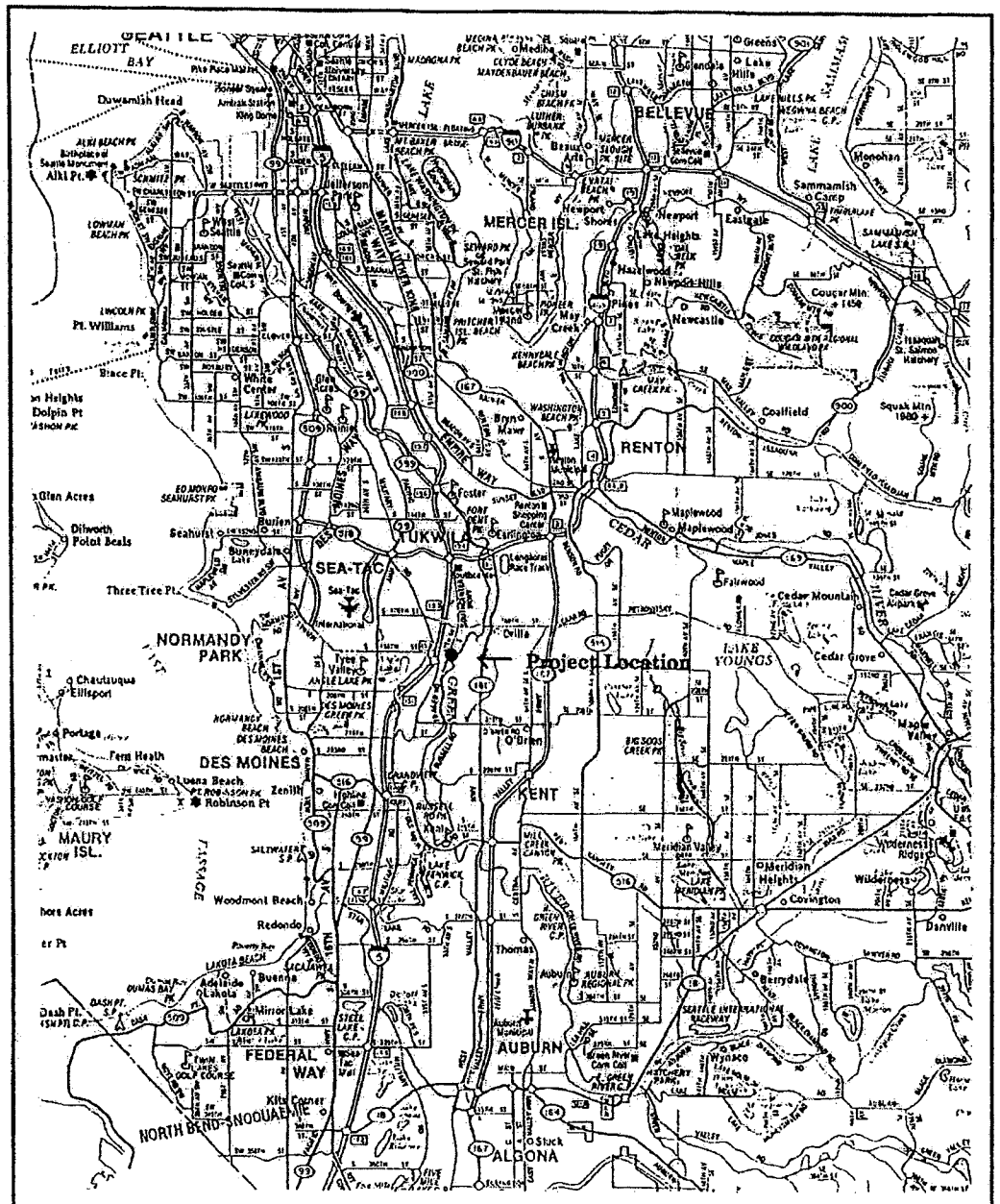
Ecology HW/TR. No Further Action letter. 1996.

2007 Groundwater Sampling Data provided by Gaco Western April 2, 2009.

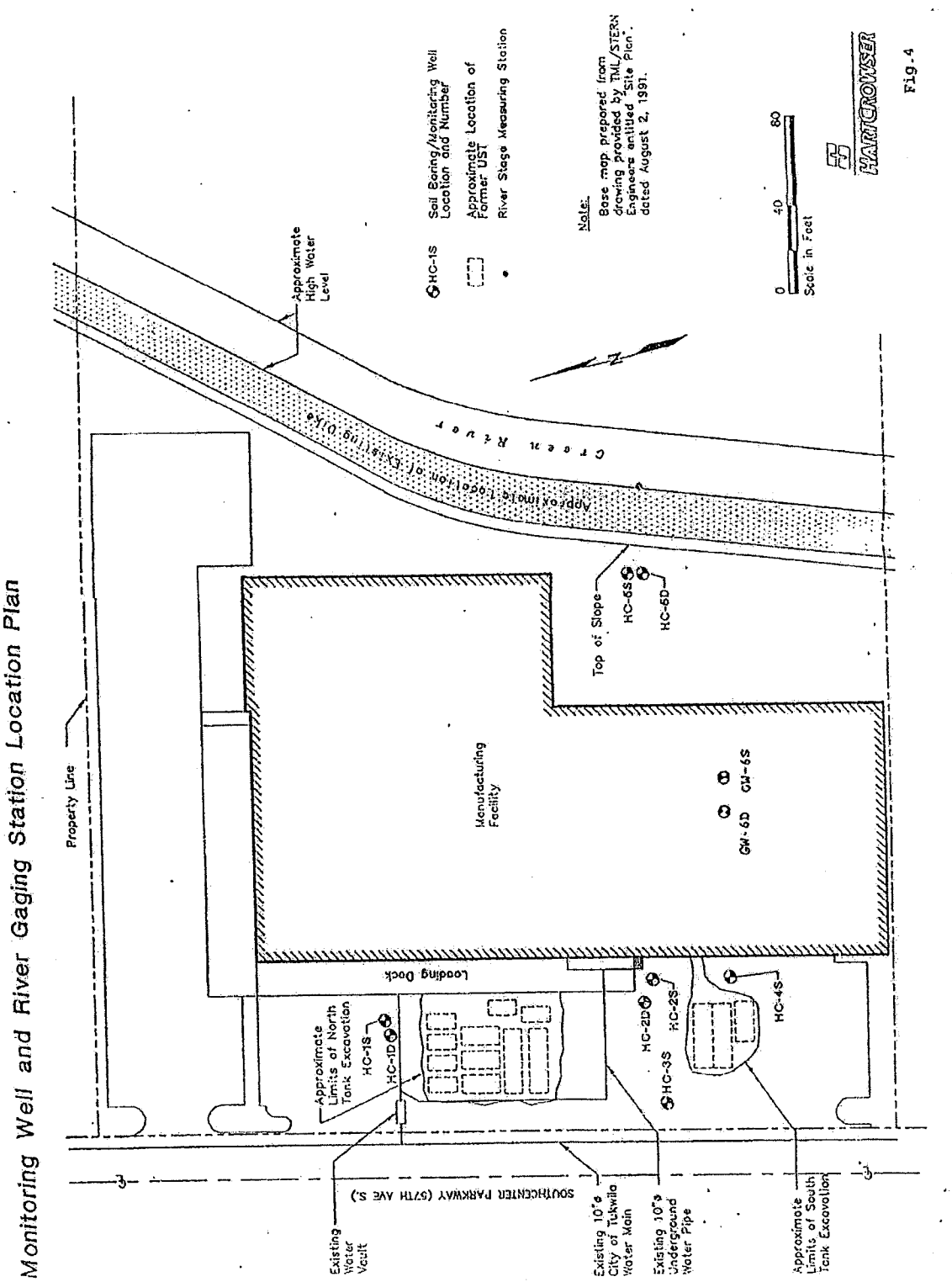
Ecology. Site Visit. 2009.

# 6.0 APPENDICES

## 6.1 Vicinity Map



## 6.2 Site Plan


Monitoring Well and River Gaging Station Location Plan
Fig.4
HARTCROWSER
Scale in Feet
0
40
80
Note:
Base map prepared from drawing provided by TML/STERN Engineers entitled "Site Plan", dated August 2, 1991.
HC-1S Soil Boring/Monitoring Well Location and Number
Approximate Location of Former UST
River Stage Measuring Station
Approximate High Water Level
Green River
Approximate Location of Existing Dike
Property Line
Manufacturing Facility
Loading Dock
Top of Slope
HC-6S
HC-6D
GW-6S
GW-6D
HC-4S
HC-2S
HC-2D
HC-3S
HC-1S
HC-1D
Approximate Limits of North Tank Excavation
SOUTHCENTER PARKWAY (57TH AVE S.)
Existing Water Vault
Existing 10"ø City of Tukwila Water Main
Existing 10"ø Underground Water Pipe
Approximate Limits of South Tank Excavation

## 6.3 Soil Sampling Data

Table 1. A Summary of Results for Volatile Organics in Soils - EPA Test Method 8240

| Sample Number | Sample Depth in Feet | MICRO TIP[1] (ppm) | TCA (ppm) | PCE (ppm) | MEK (ppm) | Toluene (ppm) | Ethyl benzene (ppm) | Total Xylene (ppm) |
|---|---|---|---|---|---|---|---|---|
| A-1B | 12 to 13 | | - | - | - | 19 | 160 | 1,600 |
| A-2SE | 7 to 8 | | - | 0.120 | - | - | - | 0.092 |
| A-3W | 7 to 8 | | - | - | - | - | 22 | 310 |
| B-1B | 12 to 13 | 1,023 | - | - | - | 4 | 26 | 260 |
| B-2E | 7 | | - | - | - | - | 0.350 | 7.4 |
| D-1B[1] | NA | | - | - | - | - | 16 | 120 |
| D-1[2] | NA | | - | - | - | 12 | 97 | 900 |
| E-1 | 2 | 11 | 0.06 | - | - | - | 0.130 | 0.870 |
| 4-1B | 12 to 13 | 1,476 | - | - | 1,300 | 38 | - | 300 |
| 9-1B | 12 to 13 | 8,013 | - | - | - | 6,500 | 870 | 870 |
| 10-1B | 13 | 3,317 | - | - | - | 640 | 97 | 74 |
| 11-1B | 12 to 13 | | - | - | - | 400 | 71 | 130 |
| 11-2E | 7 to 8 | | - | - | - | 1.9 | 1.2 | 4.7 |
| 12-1B[3] | NA | | - | - | - | 15,000 | 1,700 | 1,700 |
| MTCA | | | NA | 0.5 | NA | 40 | 20 | 20 |

1 = Field Duplicate of B-1B
2 = Stockpile Soil Sample (composite)
3 = Field Duplicate of 9-1B
* = Field Screening Gas Analyzer - Photoionization Detector
Photovac MICROTIP
TCA = Tetrachloroethane
PCE = Tetrachloroethene
MEK = Methyl Ethyl Ketone (2-Butanone)
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Applicable

Table 2. - A Summary of Results for Volatile Organics and Total Petroleum Hydrocarbons in Soils - EPA Test Methods 8020 and 418.1

| Sample Number | Sample Depth in Feet | MICRO TIP* (ppm) | Toluene (ppm) | Ethyl benzene (ppm) | Total xylenes (ppm) | TPH (ppm) |
|---|---|---|---|---|---|---|
| C-1B | 12 | - | NA | NA | NA | - |
| C-2E | 5 | - | NA | NA | NA | - |
| D-1[a] | | | | | | 190 |
| 1-1B | 10 to 12 | 3,900 | 12 | 17 | 77 | 330 |
| 1-2W | 5 to 6 | 50 | - | - | 0.55 | NA |
| 2-1B | 12 to 13 | | 120 | 230 | 860 | NA |
| 2-2E | 2 | | - | 0.050 | 0.21 | NA |
| 3-1BE | 12 to 13 | 4,800 | 330 | 120 | 560 | NA |
| 5-1B | 12 to 13 | 2,120 | 2,500 | 100 | 410 | NA |
| 6-1B | 12 to 13 | 5,500 | 840 | 90 | 260 | NA |
| 7-1B | 12 to 13 | 8,176 | NA | NA | NA | 1,600 |
| 7-2E | 4 to 5 | 6,676 | 18 | 84 | 460 | NA |
| 8-1B | 13 to 14 | 1,700 | 40 | - | 13 | NA |
| 8-2E | 12 to 13 | 76 | 0.070 | - | 0.36 | NA |
| MTCA | | | 40 | 20 | 20 | 200 |

a = See Table 1 for volatile organic results
* = Field Screening Gas Analyzer - Photoionization Detector
ppm = parts per million (mg/Kg)
- = below detection limit
MTCA = WA. State Models Toxics Control Act (Method A industrial soils)
NA = Not Analyzed

## 6.4 Groundwater Monitoring Data

Table 2 - Summary of Detected Chemical Constituents in Groundwater

| Well | Acetone | Benzene | 2-Butanone (MEK) | Total 1,2-Dichloro-ethene | Ethyl-benzene | 4-Methyl-2-Pentanone (MIBK) | Tetrachloro-ethene | Toluene | Total Xylenes | TPH Quantified as Gasoline | TPH Quantified as Diesel |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration in ug/L | | | | | | | | | Concentration in mg/L | |
| HC-1D | | | | | | | | | | | |
| 12/9/92 | 10 U | 39 | 88 | | 670 D4 | 10 U | 1 U | 2,800 D4 | 2,000 D4 | 8 | 5 U |
| 3/22/93 | 50 U | 30 | 50 U | | 360 | 50 U | 5 U | 880 | 1,400 | 3 | 1 U |
| 6/10/93 | 50 U | 22 | 50 U | | 220 | 50 U | 5 U | 570 | 970 | 2 | 1 U |
| 9/23/93 | 10 U | 8 | 10 U | | 180 | 10 U | 1 U | 480 D3 | 920 D3 | 2 | 1 U |
| 8/11/94 | 100 U | 50 U | 200 U | | 410 D4 | 200 U | 50 U | 3200 D4 | 900 D4 | 8.6 D4 | NA |
| 3/23/95 | NA | 36 | NA | | 340 | NA | NA | 340 | 2100 | NA | NA |
| 6/30/95 | NA | 13 F | NA | | 100 E,F | NA | NA | 78 E,F | 710 E,F | NA | NA |
| 10/3/95 | 20 U | 25 | 20 U | 1 U | 460 E | 1 U | 1 U | 1500 E,F | 1510 E | NA | NA |
| 9/29/96 | 400 U | 27 D5 | 400 U | 100 U | 360 D5 | 100 U | 100 U | 980 D5 | 1400 D5 | NA | NA |
| HC-2D | | | | | | | | | | | |
| 12/9/92 | 140 B | 240 | 100 U | | 6,400 D7 | 4,000 D7 | 10 U | 2,200 | 28,000 D7 | 62 | 5 U |
| 3/22/93 | 100 U | 250 | 100 U | | 9,000 D7 | 630 | 10 U | 2,200 | 36,000 D7 | 59 | 1 U |
| 6/10/93 | 200 U | 200 | 200 U | | 5,300 | 800 | 20 U | 1,900 | 28,000 D7 | 44 | 1 U |
| 9/23/93 | 500 U | 250 | 500 U | | 6,700 | 1,100 | 50 U | 1,400 | 29,000 | 51 | 1 U |
| 8/11/94 | 1000 U | 260 D8 | 1000 U | | 7,300 D8 | 1000 U | 200 U | 710 D8 | 18,000 D8 | 20 D4 | NA |
| 3/23/95 | NA | 210 | NA | | 9,500 | NA | NA | 3,300 | 40,000 | NA | NA |
| 6/30/95 | NA | 320 D7,F | NA | | 10,000 D7,E,F | NA | NA | 3,000 D7,E,F | 42,000 D7,E,F | NA | NA |
| 10/3/95 | 20 U | 220 | 20 U | 3.8 | 3,500 | 120 F | 1 U | 700 F, E | 21,000 | NA | NA |
| 9/29/96 | 20 U | 290 J | 20 U | 4.7 J | 1,200 J | 83 J | 5 U | 830 J | 5,600 J | NA | NA |

Notes:

D3 = Value from a five-fold diluted analysis
D4 = Value from a ten-fold diluted analysis
D5 = Value from a 20-fold diluted analysis
D7 = Value from a 100-fold diluted analysis
D8 = Value from a 50-fold diluted analysis
NA = Not Analyzed

J = Estimated Value
U = Not detected at the method detection limit indicated
B = Constituent also detected in laboratory reagent blank; Laboratory contamination indicated
E = Constituent also detected in equipment blank
F = Constituent also detected in field blank

Table 2 - Summary of Detected Chemical Constituents in Groundwater (cont.)

| Well | Acetone | Benzene | 2-Butanone (MEK) | Total 1,2-Dichloro-ethene | Ethyl-benzene | 4-Methyl-2-Pentanone (MIBK) | Tetrachloro-ethene | Toluene | Total Xylenes | TPH Quantified as Gasoline | TPH Quantified as Diesel |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Concentration in ug/L | | | | | | | | | Concentration in mg/L | |
| HC-5D | | | | | | | | | | | |
| 12/9/92 | 10 U | 1 U | 10 U | | 1 U | 10 U | 1 U | 1 U | 2 | 1 U | 5 U |
| 3/22/93 | 10 U | 1 U | 10 U | | 2 | 10 U | 1 U | 1 U | 3 | 1 U | 1 U |
| 6/10/93 | 10 U | 1 U | 10 U | | 1 U | 10 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| 9/23/93 | 10 U | 1 U | 10 U | | 1 U | 10 U | 1 U | 1 U | 2 | 1 U | 1 U |
| 8/11/94 | 20 U | 5 U | 20 U | | 5 U | 20 U | 5 U | 5 U | 5 U | 0.05 U | NA |
| 3/23/95 | NA | 0.74 | NA | | 0.5 U | NA | NA | 0.5 U | 5.3 | NA | NA |
| 6/30/95 | NA | 0.5 U | NA | | 0.5 U | NA | NA | 0.5 U | 2.3 E,F | NA | NA |
| 10/3/95 | 72 E,F | 1 U | 20 U | 1 U | 1 U | 1 U | 1 U | 1 U | 6 E | NA | NA |
| 9/29/96 | 20 U | 5 U | 20 U | 5 U | 5 U | 5 U | 5 U | 5 U | 8.8 | NA | NA |
| GW-6D | | | | | | | | | | | |
| 8/11/94 | 20 U | 5 U | 20 U | 7 | 5 U | 20 U | 5 U | 5 U | 5 U | 0.05 U | NA |
| 3/23/95 | NA | 1 | NA | NA | 0.5 U | NA | NA | 0.5 U | 0.5 U | NA | NA |
| 6/30/95 | NA | 0.82 F | NA | NA | 0.5 U | NA | NA | 8.3 E,F | 0.5 U | NA | NA |
| 10/3/95 | 20 U | 1 U | 29 E,F | 20 | 1 U | 1 U | 1 U | 1 U | 1 U | NA | NA |
| 9/29/96 | 20 U | 5 U | 20 U | 31 | 5 U | 5 U | 5 U | 5 U | 5 U | NA | NA |
| FIELD BLANK | | | | | | | | | | | |
| 6/30/95 | NA | 0.5 U | NA | | 1.7 | NA | NA | 2.7 | 8 | NA | NA |
| 10/3/95 | 26 | 1 U | 23 | 1 U | 1 U | 1.4 | 1 U | 1.1 | 1 U | NA | NA |

Notes:

D3 = Value from a five-fold diluted analysis
D4 = Value from a ten-fold diluted analysis
D5 = Value from a 20-fold diluted analysis
D7 = Value from a 100-fold diluted analysis
D8 = Value from a 50-fold diluted analysis
NA = Not Analyzed

J = Estimated value
U = Not detected at the method detection limit indicated
B = Constituent also detected in laboratory reagent blank; Laboratory contamination indicated
E = Constituent also detected in equipment blank
F = Constituent also detected in field blank

## 6.5 Environmental Covenant

10

After recording, mail to:

Gaco Western, Inc.
P.O. Box 88698
Seattle, WA 98138-2698

FIDELITY NATIONAL TITLE

9601170252

96011702 52 09:47:00 AM KING COUNTY RECORDS 004 LAS 15.00

**RESTRICTIVE COVENANT**

The undersigned, Gaco Western, Inc. ("Gaco"), is the fee owner of the real property described on Exhibit A in King County, Washington, hereafter referred to as the "Site." There are subsurface areas at the Site where there have been detections of petroleum hydrocarbons and volatile organic compounds including toluene, ethylbenzene, xylenes, MIBK and gasoline and oil range hydrocarbons at levels which exceed the Method A or B Cleanup Level Guidelines (depending on the constituent) as published in the Model Toxics Control Act ("MTCA") Regulations. More detailed information on the location and concentration of the detected substances and on the location of groundwater monitoring wells on the Site is available in reports that have been filed by Gaco with the Washington Department of Ecology or a successor agency ("Ecology"). These reports include the;

Final Report, Soil Vapor Extraction Interim Remedial Action Prepared by Hart Crowser, Febuary 9, 1994

Third Quarter Groundwater Monitoring Report And Long Term Monitoring Proposal, Prepared by Gaco Western, Inc., November 14, 1995

Gaco makes the following declarations as to limitations, restrictions and uses to which the Site may be put. It specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under it, including all current and future owners of any portion of or interest in the Site.

1. No redevelopment of the property other than for street or industrial use shall hereafter be undertaken unless thirty days prior notice has been given to Ecology. For purposes of this restriction, "industrial use" means and includes any industrial use described or defined in or allowed under MTCA, MTCA regulations or the City of Tukwila's zoning laws.

2. Gaco will be sampling some if the existing groundwater monitoring wells at the Site pursuant to a program approved by Ecology. Any activity on the site that may interfere with such monitoring is prohibited. Gaco expressly reserves the right of access to the Site for

"This document filed for record by Fidelity National Title Insurance as an accommodation only. It has not been examined as to its effect upon the title."

purposes of performing such monitoring or for any other environmental investigations or remediations that it may desire to undertake.

3. No groundwater may be taken for domestic purposes at the Site. No wells for the extraction of groundwater for domestic purposes shall be installed at the Site without Ecology approval.

4. The owner of the Site must be given written notice to Ecology of the owner's intent to convey any fee interest in the Site. No conveyance or title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of groundwater wells by Gaco.

5. The owner must notify and obtain approval from Ecology prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. If required by applicable law, Ecology may have to seek public notice and comment prior to approval of the proposed change.

6. The owner shall allow authorized representatives from Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the monitoring of groundwater wells or any other remedial action undertaken by Gaco.

9601170252

Owner reserves the right to record, with Ecology's prior approval, an instrument terminating this Restrictive Covenant and rendering it null and void and of no further force or effect.

Gaco Western, Inc.,
a WASHINGTON Corporation

By: [signature]
Name: MICHAEL C. O'LEARY
Title: VICE-PRESIDENT, FINANCE

STATE OF WASHINGTON )
)ss.
COUNTY OF KING )

On this 15th day of December, 1995, before me, the undersigned, sworn, personally appeared MICHAEL C. O'LEARY to me known to be the person who signed as V.P.-FINANCE of GACO WESTERN, INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be

the free and voluntary act and deed of said corporation for the uses and purposes therein mentioned, and on oath stated that MICHAEL C. O'LEARY was duly elected, qualified and acting as said officer of the corporation, that MICHAEL C. O'LEARY was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Yolanda L Sewell
(Signature of Notary)

(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of Washington, residing at Auburn, WA

My Appointment Expires:

9601170252

DESCRIPTION:

PARCEL A:

THAT PORTION OF GOVERNMENT LOT 6, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M., IN KING COUNTY, WASHINGTON, LYING SOUTHEASTERLY OF THE SOUTHEASTERLY MARGIN OF COUNTY ROAD SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH, AND SOUTHWESTERLY OF A LINE DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT FROM WHICH THE SOUTHWEST CORNER OF SAID GOVERNMENT LOT 6 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE SOUTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT BEING MARKED BY AN IRON PIPE SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE NORTH 67°36'00" WEST 1.46 FEET, MORE OR LESS, TO THE SOUTHEASTERLY MARGIN OF SAID COUNTY ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED LINE; THENCE SOUTH 67°36'00" EAST 1.46 FEET, MORE OR LESS, TO SAID IRON PIPE; THENCE CONTINUE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY R.W. JONES AND ASSOCIATES ON OCTOBER 4, 1966; THENCE CONTINUE SOUTH 67°36'00" EAST TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

PARCEL B:

THAT PORTION OF GOVERNMENT LOT 7, SECTION 35, TOWNSHIP 23, RANGE 4 EAST, W.M., LYING SOUTHEASTERLY OF COUNTY ROAD (SOUTHCENTER PARKWAY, FORMERLY 57TH AVENUE SOUTH) AND LYING NORTHEASTERLY OF A LINE ESTABLISHED OF STATUTORY WARRANTY DEED RECORDED AUGUST 3, 1973, UNDER RECORDING NO. 7308030425, SAID LINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 7 BEARS SOUTH 0°58'10" WEST 313.17 FEET AND NORTH 89°01'50" WEST 505.54 FEET, SAID DISTANCES BEING MEASURED RESPECTIVELY AT RIGHT ANGLES TO AND ALONG THE NORTH BOUNDARY LINE OF SAID GOVERNMENT LOT, SAID POINT OF BEGINNING IS MARKED BY A CONCRETE MONUMENT WHICH IS INDICATED AS POINT "A" ON SURVEY DRAWING BY R.W. JONES AND ASSOCIATES, ENGINEERS AND SURVEYORS, DATED OCTOBER 6, 1966 AND ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY OF A PORTION OF GOVERNMENT LOTS 6, 7, SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST, W.M.; THENCE SOUTH 67°36'00" EAST 248.63 FEET TO A CONCRETE MONUMENT SET BY SAID ENGINEERS AND SURVEYORS ON OCTOBER 4, 1966 AND INDICATED AS POINT "B" ON SAID SURVEY DRAWING; THENCE SOUTH 23°57'22" WEST 208.79 FEET TO A CONCRETE MONUMENT ALSO SET BY SAID ENGINEERS AND SURVEYORS, SAID MONUMENT MARKING THE INTERSECTION WITH A LINE AT RIGHT ANGLES, SAID LINE TO BE REFERRED TO HEREINAFTER IN THIS DESCRIPTION AS THE SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT; THENCE CONTINUING SOUTH 23°57'22" WEST 138.76 FEET; THENCE NORTH 66°02'38" WEST ALONG A LINE PARALLEL TO SAID SOUTHWESTERLY LINE OF THE GACO-WESTERN TRACT 5.39 FEET TO A CONCRETE MONUMENT; THENCE CONTINUING NORTH 66°02'38" WEST 244.61 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE SOUTHEASTERLY LINE OF 57TH AVENUE SOUTH; THENCE SOUTHWESTERLY ALONG SAID ROAD MARGIN 5.14 FEET, MORE OR LESS, TO AN INTERSECTION WITH THE NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY FACE OF THE ALASKA SEAVAN BUILDING AND THE TRUE POINT OF BEGINNING OF THE LINE HEREIN DESCRIBED; THENCE SOUTH 66°02'38" EAST ALONG SAID EXTENSION AND ALONG SAID NORTHEASTERLY FACE OF SAID BUILDING AND ALONG THE SOUTHEASTERLY EXTENSION OF SAID BUILDING LINE 280 FEET, MORE OR LESS, TO THE BANK OF THE GREEN RIVER AND THE TERMINUS OF THE HEREIN DESCRIBED LINE.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

S.W.C. OF GOVT. LOT 6
SEC. 35, T23 N, R 4 E.

N 8°

GOV

9601170252

AUDITOR OR RECORDER'S CERTIFICATE

Filed for record this _____ day of _____, 19____ at _____ M.

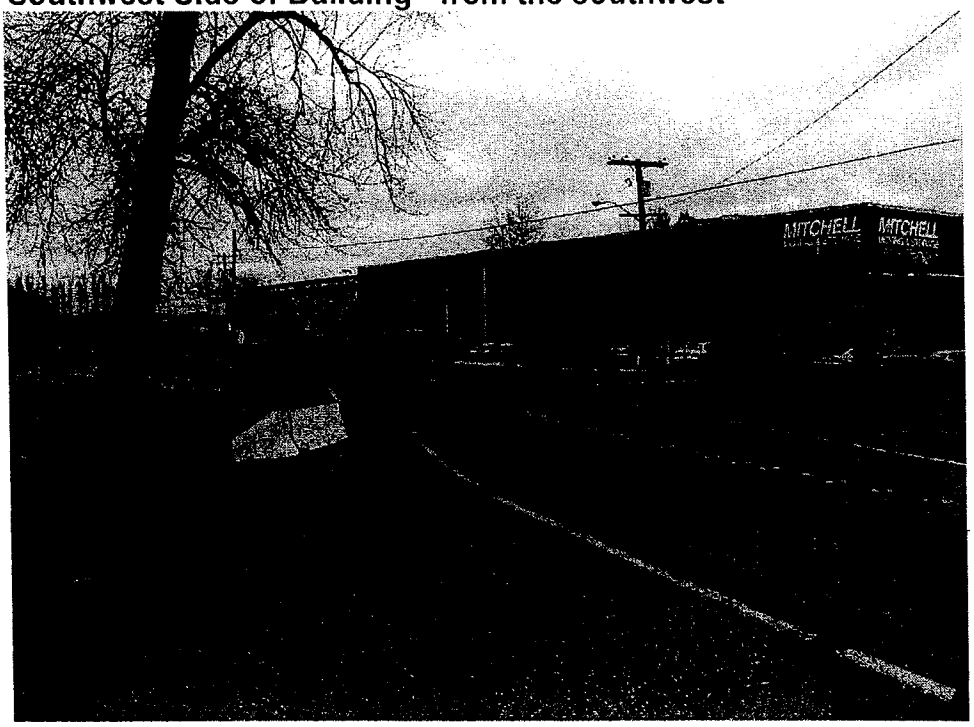
in Book _____ of Surveys at page _____ at the request of

SURVEYOR'S CERTIFIC.

This map correctly represents a s
my direction in conformance with

## 6.6 Photo log

### Photo 1: Southwest Side of Building - from the southwest




### Photo 2: North Side of Building – from the west

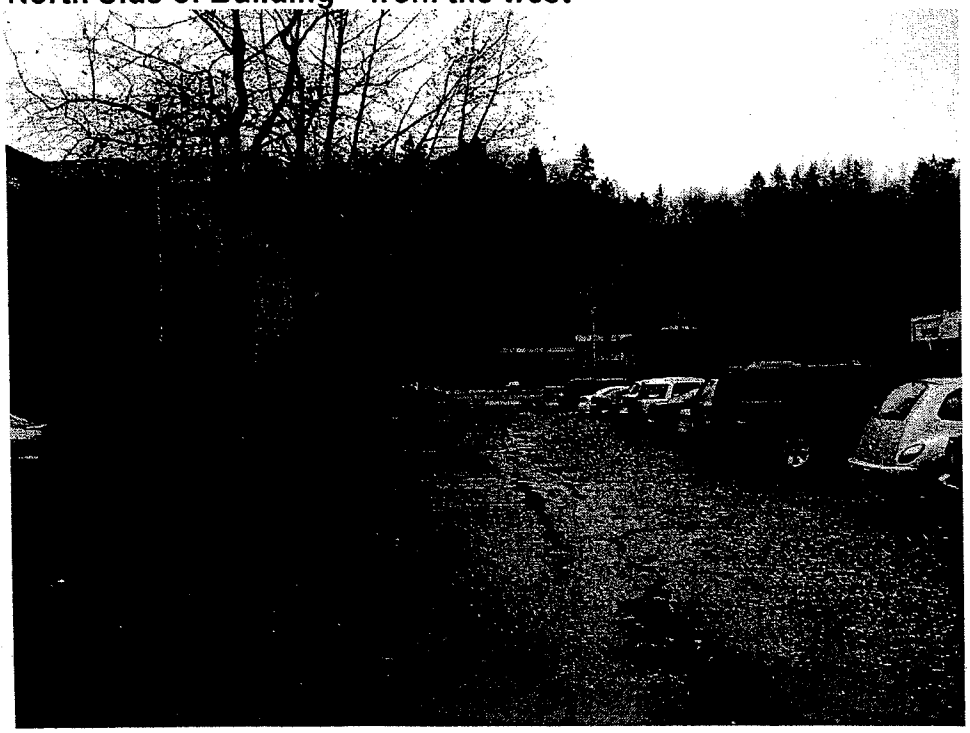


**Photo 3: Former Tank Area – from the north.**

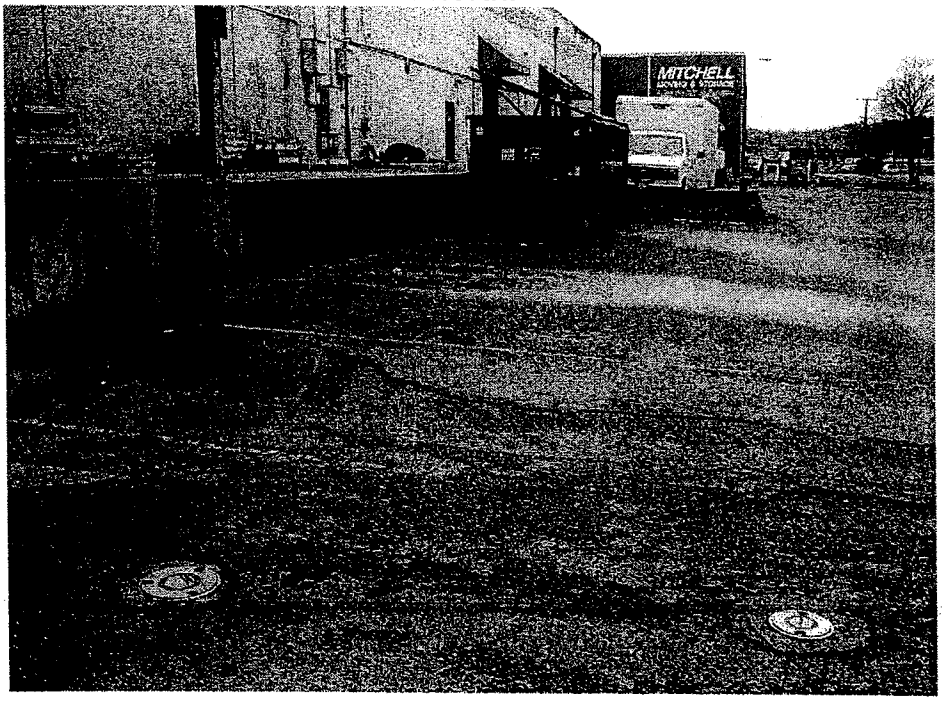



**Photo 4: Former Tank Area – from the south**

# ATTACHMENT B
# LABORATORY ANALYTICAL REPORTS

SUMMARY OF SUBSURFACE INVESTIGATION AND PRELIMINARY REMEDIAL ALTERNATIVES
GACO Western, Inc. Facility
Tukwila, Washington

Farallon PN: 841-003

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

November 30, 2009

Ken Scott
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 841-003
Laboratory Reference No. 0911-165

Dear Ken:

Enclosed are the analytical results and associated quality control data for samples submitted on November 20, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**Case Narrative**

Samples were collected on November 20, 2009, and received by the laboratory on November 20, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

| | |
|---|---|
| Date Extracted: | 11-24-09 |
| Date Analyzed: | 11-24-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-165-01 |
| **Client ID:** | **HC-5D-112009** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | 0.54 | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | 6.9 | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Lab ID: 11-165-01
**Client ID: HC-5D-112009**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 82 | 71-126 |
| Toluene-d8 | 86 | 76-116 |
| 4-Bromofluorobenzene | 91 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

| | |
|---|---|
| Date Extracted: | 11-24&25-09 |
| Date Analyzed: | 11-24&25-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-165-02 |
| **Client ID:** | **HC-1D-112009** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.40 |
| Chloromethane | ND | | 2.0 |
| Vinyl Chloride | ND | | 0.40 |
| Bromomethane | ND | | 0.40 |
| Chloroethane | ND | | 2.0 |
| Trichlorofluoromethane | ND | | 0.40 |
| 1,1-Dichloroethene | ND | | 0.40 |
| Acetone | ND | | 10 |
| Iodomethane | ND | | 2.0 |
| Carbon Disulfide | ND | | 0.40 |
| Methylene Chloride | ND | | 2.0 |
| (trans) 1,2-dichloroethene | ND | | 0.40 |
| Methyl t-Butyl Ether | ND | | 0.40 |
| 1,1-Dichloroethane | ND | | 0.40 |
| Vinyl Acetate | ND | | 4.0 |
| 2,2-Dichloropropane | ND | | 0.40 |
| (cis) 1,2-Dichloroethene | ND | | 0.40 |
| 2-Butanone | ND | | 10 |
| Bromochloromethane | ND | | 0.40 |
| Chloroform | ND | | 0.40 |
| 1,1,1-Trichloroethane | ND | | 0.40 |
| Carbon Tetrachloride | ND | | 0.40 |
| 1,1-Dichloropropene | ND | | 0.40 |
| Benzene | 1.6 | | 0.40 |
| 1,2-Dichloroethane | ND | | 0.40 |
| Trichloroethene | ND | | 0.40 |
| 1,2-Dichloropropane | ND | | 0.40 |
| Dibromomethane | ND | | 0.40 |
| Bromodichloromethane | ND | | 0.40 |
| 2-Chloroethyl Vinyl Ether | ND | | 2.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.40 |
| Methyl Isobutyl Ketone | ND | | 4.0 |
| Toluene | ND | | 2.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.40 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Lab ID: 11-165-02
**Client ID: HC-1D-112009**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.40 |
| Tetrachloroethene | ND | | 0.40 |
| 1,3-Dichloropropane | ND | | 0.40 |
| 2-Hexanone | ND | | 4.0 |
| Dibromochloromethane | ND | | 0.40 |
| 1,2-Dibromoethane | ND | | 0.40 |
| Chlorobenzene | ND | | 0.40 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.40 |
| Ethylbenzene | 0.51 | | 0.40 |
| m,p-Xylene | 91 | | 4.0 |
| o-Xylene | 0.94 | | 0.40 |
| Styrene | ND | | 0.40 |
| Bromoform | ND | | 2.0 |
| Isopropylbenzene | 1.2 | | 0.40 |
| Bromobenzene | ND | | 0.40 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.40 |
| 1,2,3-Trichloropropane | ND | | 0.40 |
| n-Propylbenzene | 0.63 | | 0.40 |
| 2-Chlorotoluene | ND | | 0.40 |
| 4-Chlorotoluene | ND | | 0.40 |
| 1,3,5-Trimethylbenzene | ND | | 0.40 |
| tert-Butylbenzene | ND | | 0.40 |
| 1,2,4-Trimethylbenzene | 1.8 | | 0.40 |
| sec-Butylbenzene | ND | | 0.40 |
| 1,3-Dichlorobenzene | ND | | 0.40 |
| p-Isopropyltoluene | ND | | 0.40 |
| 1,4-Dichlorobenzene | ND | | 0.40 |
| 1,2-Dichlorobenzene | ND | | 0.40 |
| n-Butylbenzene | ND | | 0.40 |
| 1,2-Dibromo-3-chloropropane | ND | | 2.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.40 |
| Hexachlorobutadiene | ND | | 0.40 |
| Naphthalene | ND | | 2.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.40 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 80 | 71-126 |
| Toluene-d8 | 85 | 76-116 |
| 4-Bromofluorobenzene | 90 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 11-20&24-09 |
| Date Analyzed: | 11-20&24-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-165-03 |
| **Client ID:** | **HC-2D-112009** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 20 |
| Chloromethane | ND | | 100 |
| Vinyl Chloride | ND | | 20 |
| Bromomethane | ND | | 20 |
| Chloroethane | ND | | 100 |
| Trichlorofluoromethane | ND | | 20 |
| 1,1-Dichloroethene | ND | | 20 |
| Acetone | ND | | 500 |
| Iodomethane | ND | | 100 |
| Carbon Disulfide | ND | | 20 |
| Methylene Chloride | ND | | 100 |
| (trans) 1,2-dichloroethene | ND | | 20 |
| Methyl t-Butyl Ether | ND | | 20 |
| 1,1-Dichloroethane | ND | | 20 |
| Vinyl Acetate | ND | | 200 |
| 2,2-Dichloropropane | ND | | 20 |
| (cis) 1,2-Dichloroethene | ND | | 20 |
| 2-Butanone | ND | | 500 |
| Bromochloromethane | ND | | 20 |
| Chloroform | ND | | 20 |
| 1,1,1-Trichloroethane | ND | | 20 |
| Carbon Tetrachloride | ND | | 20 |
| 1,1-Dichloropropene | ND | | 20 |
| Benzene | 23 | | 20 |
| 1,2-Dichloroethane | ND | | 20 |
| Trichloroethene | ND | | 20 |
| 1,2-Dichloropropane | ND | | 20 |
| Dibromomethane | ND | | 20 |
| Bromodichloromethane | ND | | 20 |
| 2-Chloroethyl Vinyl Ether | ND | | 100 |
| (cis) 1,3-Dichloropropene | ND | | 20 |
| Methyl Isobutyl Ketone | ND | | 200 |
| Toluene | 1000 | | 100 |
| (trans) 1,3-Dichloropropene | ND | | 20 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-165-03
**Client ID: HC-2D-112009**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 20 |
| Tetrachloroethene | ND | | 20 |
| 1,3-Dichloropropane | ND | | 20 |
| 2-Hexanone | ND | | 200 |
| Dibromochloromethane | ND | | 20 |
| 1,2-Dibromoethane | ND | | 20 |
| Chlorobenzene | ND | | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | 20 |
| Ethylbenzene | 2300 | | 20 |
| m,p-Xylene | 8000 | | 40 |
| o-Xylene | 7300 | | 50 |
| Styrene | ND | | 20 |
| Bromoform | ND | | 100 |
| Isopropylbenzene | 67 | | 20 |
| Bromobenzene | ND | | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | 20 |
| 1,2,3-Trichloropropane | ND | | 20 |
| n-Propylbenzene | ND | | 20 |
| 2-Chlorotoluene | ND | | 20 |
| 4-Chlorotoluene | ND | | 20 |
| 1,3,5-Trimethylbenzene | ND | | 20 |
| tert-Butylbenzene | ND | | 20 |
| 1,2,4-Trimethylbenzene | ND | | 20 |
| sec-Butylbenzene | ND | | 20 |
| 1,3-Dichlorobenzene | ND | | 20 |
| p-Isopropyltoluene | ND | | 20 |
| 1,4-Dichlorobenzene | ND | | 20 |
| 1,2-Dichlorobenzene | ND | | 20 |
| n-Butylbenzene | ND | | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | 100 |
| 1,2,4-Trichlorobenzene | ND | | 20 |
| Hexachlorobutadiene | ND | | 20 |
| Naphthalene | ND | | 100 |
| 1,2,3-Trichlorobenzene | ND | | 20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 87 | 71-126 |
| Toluene-d8 | 88 | 76-116 |
| 4-Bromofluorobenzene | 90 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 11-24-09 |
| Date Analyzed: | 11-24-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-165-04 |
| **Client ID:** | **GW-6D-112009** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.40 |
| Chloromethane | ND | | 2.0 |
| Vinyl Chloride | 10 | | 0.40 |
| Bromomethane | ND | | 0.40 |
| Chloroethane | ND | | 2.0 |
| Trichlorofluoromethane | ND | | 0.40 |
| 1,1-Dichloroethene | ND | | 0.40 |
| Acetone | ND | | 10 |
| Iodomethane | ND | | 2.0 |
| Carbon Disulfide | ND | | 0.40 |
| Methylene Chloride | ND | | 2.0 |
| (trans) 1,2-dichloroethene | ND | | 0.40 |
| Methyl t-Butyl Ether | ND | | 0.40 |
| 1,1-Dichloroethane | 0.54 | | 0.40 |
| Vinyl Acetate | ND | | 4.0 |
| 2,2-Dichloropropane | ND | | 0.40 |
| (cis) 1,2-Dichloroethene | 0.43 | | 0.40 |
| 2-Butanone | ND | | 10 |
| Bromochloromethane | ND | | 0.40 |
| Chloroform | ND | | 0.40 |
| 1,1,1-Trichloroethane | ND | | 0.40 |
| Carbon Tetrachloride | ND | | 0.40 |
| 1,1-Dichloropropene | ND | | 0.40 |
| Benzene | 3.2 | | 0.40 |
| 1,2-Dichloroethane | ND | | 0.40 |
| Trichloroethene | ND | | 0.40 |
| 1,2-Dichloropropane | ND | | 0.40 |
| Dibromomethane | ND | | 0.40 |
| Bromodichloromethane | ND | | 0.40 |
| 2-Chloroethyl Vinyl Ether | ND | | 2.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.40 |
| Methyl Isobutyl Ketone | ND | | 4.0 |
| Toluene | ND | | 2.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.40 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-165-04
**Client ID: GW-6D-112009**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.40 |
| Tetrachloroethene | ND | | 0.40 |
| 1,3-Dichloropropane | ND | | 0.40 |
| 2-Hexanone | ND | | 4.0 |
| Dibromochloromethane | ND | | 0.40 |
| 1,2-Dibromoethane | ND | | 0.40 |
| Chlorobenzene | ND | | 0.40 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.40 |
| Ethylbenzene | ND | | 0.40 |
| m,p-Xylene | ND | | 0.80 |
| o-Xylene | ND | | 0.40 |
| Styrene | ND | | 0.40 |
| Bromoform | ND | | 2.0 |
| Isopropylbenzene | ND | | 0.40 |
| Bromobenzene | ND | | 0.40 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.40 |
| 1,2,3-Trichloropropane | ND | | 0.40 |
| n-Propylbenzene | ND | | 0.40 |
| 2-Chlorotoluene | ND | | 0.40 |
| 4-Chlorotoluene | ND | | 0.40 |
| 1,3,5-Trimethylbenzene | ND | | 0.40 |
| tert-Butylbenzene | ND | | 0.40 |
| 1,2,4-Trimethylbenzene | ND | | 0.40 |
| sec-Butylbenzene | ND | | 0.40 |
| 1,3-Dichlorobenzene | ND | | 0.40 |
| p-Isopropyltoluene | ND | | 0.40 |
| 1,4-Dichlorobenzene | ND | | 0.40 |
| 1,2-Dichlorobenzene | ND | | 0.40 |
| n-Butylbenzene | ND | | 0.40 |
| 1,2-Dibromo-3-chloropropane | ND | | 2.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.40 |
| Hexachlorobutadiene | ND | | 0.40 |
| Naphthalene | ND | | 2.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.40 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 81 | 71-126 |
| Toluene-d8 | 84 | 76-116 |
| 4-Bromofluorobenzene | 86 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Date Extracted: 11-20-09
Date Analyzed: 11-20-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1120W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1120W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 93 | 71-126 |
| Toluene-d8 | 89 | 76-116 |
| 4-Bromofluorobenzene | 84 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Date Extracted: 11-24-09
Date Analyzed: 11-24-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1124W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1124W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 80 | 71-126 |
| Toluene-d8 | 87 | 76-116 |
| 4-Bromofluorobenzene | 82 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1125W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1125W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 87 | 71-126 |
| Toluene-d8 | 87 | 76-116 |
| 4-Bromofluorobenzene | 92 | 70-123 |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Date Extracted: 11-20-09
Date Analyzed: 11-20-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1120W1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 10.3 | 103 | 10.7 | 107 | 70-130 | |
| Benzene | 10.0 | 9.66 | 97 | 9.92 | 99 | 70-130 | |
| Trichloroethene | 10.0 | 10.1 | 101 | 10.2 | 102 | 70-123 | |
| Toluene | 10.0 | 9.96 | 100 | 10.1 | 101 | 77-120 | |
| Chlorobenzene | 10.0 | 10.2 | 102 | 10.6 | 106 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 4 | 21 | |
| Benzene | 3 | 18 | |
| Trichloroethene | 1 | 18 | |
| Toluene | 1 | 17 | |
| Chlorobenzene | 4 | 18 | |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

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

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1125W1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 10.7 | 107 | 9.80 | 98 | 70-130 | |
| Benzene | 10.0 | 10.1 | 101 | 9.34 | 93 | 70-130 | |
| Trichloroethene | 10.0 | 9.79 | 98 | 9.11 | 91 | 70-123 | |
| Toluene | 10.0 | 9.86 | 99 | 9.41 | 94 | 77-120 | |
| Chlorobenzene | 10.0 | 9.76 | 98 | 9.44 | 94 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 9 | 21 | |
| Benzene | 7 | 18 | |
| Trichloroethene | 7 | 18 | |
| Toluene | 5 | 17 | |
| Chlorobenzene | 3 | 18 | |

Date of Report: November 30, 2009
Samples Submitted: November 20, 2009
Laboratory Reference: 0911-165
Project: 841-003

## VOLATILES by EPA 8260B
## MS/MSD QUALITY CONTROL

Date Extracted: 11-24-09
Date Analyzed: 11-24-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 11-166-03

| Compound | Sample Amount | Spike Amount | MS | Percent Recovery | MSD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.1 | 101 | 70-130 | |
| Benzene | ND | 10.0 | 9.94 | 99 | 10.0 | 100 | 81-125 | |
| Trichloroethene | ND | 10.0 | 9.24 | 92 | 9.55 | 96 | 79-116 | |
| Toluene | ND | 10.0 | 9.69 | 97 | 10.2 | 102 | 88-118 | |
| Chlorobenzene | ND | 10.0 | 10.1 | 101 | 9.91 | 99 | 75-121 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 2 | 22 | |
| Benzene | 1 | 11 | |
| Trichloroethene | 3 | 11 | |
| Toluene | 5 | 14 | |
| Chlorobenzene | 2 | 14 | |

OnSite Environmental Inc.

**Data Qualifiers and Abbreviations**

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

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

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

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

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

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

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

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

N1 - Hydrocarbons in the diesel range are impacting the lube oil range result.

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

Z -

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

# Chain of Custody



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

Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

**Turnaround Request (in working days):**

(Check One)

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

**Laboratory Number:** 11-165

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HC-5D-112009 | 11/20/09 | 1205 | W | 3 | | | | X | | | | | | | | | | |
| 2 | HC-1D-112009 | | 1305 | W | 3 | | | | X | | | | | | | | | | |
| 3 | HC-2D-112009 | | 1340 | W | 3 | | | | X | | | | | | | | | | |
| 4 | GW-6D-112009 | ↓ | 1445 | W | 3 | | | | X | | | | | | | | | | |

KS

| | Signature | Company | Date | Time | Comments/Special Instructions |
|---|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/20/09 | 1615 | |
| Received by | | | 11/20/09 | 1615 | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Reviewed by/Date | | Reviewed by/Date | | | Chromatograms with final report ☐ |

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

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

December 3, 2009

Ken Scott
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 841-003
Laboratory Reference No. 0911-191

Dear Ken:

Enclosed are the analytical results and associated quality control data for samples submitted on November 24, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**Case Narrative**

Samples were collected on November 24, 2009, and received by the laboratory on November 24, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260B (soil) Analysis

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

Some MTCA Method A cleanup levels are non-achievable for samples B1-9.5, B2-7.5, and B2-12.0 due to the necessary dilutions of the samples.

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

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

| | |
|---|---|
| Date Extracted: | 11-25-09 |
| Date Analyzed: | 11-25-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-191-02 |
| **Client ID:** | **B1-9.5** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.075 |
| Chloromethane | ND | | 0.38 |
| Vinyl Chloride | ND | | 0.075 |
| Bromomethane | ND | | 0.075 |
| Chloroethane | ND | | 0.38 |
| Trichlorofluoromethane | ND | | 0.075 |
| 1,1-Dichloroethene | ND | | 0.075 |
| Acetone | ND | | 0.38 |
| Iodomethane | ND | | 0.38 |
| Carbon Disulfide | ND | | 0.075 |
| Methylene Chloride | ND | | 0.38 |
| (trans) 1,2-Dichloroethene | ND | | 0.075 |
| Methyl t-Butyl Ether | ND | | 0.075 |
| 1,1-Dichloroethane | ND | | 0.075 |
| Vinyl Acetate | ND | | 0.38 |
| 2,2-Dichloropropane | ND | | 0.075 |
| (cis) 1,2-Dichloroethene | ND | | 0.075 |
| 2-Butanone | ND | | 0.38 |
| Bromochloromethane | ND | | 0.075 |
| Chloroform | ND | | 0.075 |
| 1,1,1-Trichloroethane | ND | | 0.075 |
| Carbon Tetrachloride | ND | | 0.075 |
| 1,1-Dichloropropene | ND | | 0.075 |
| Benzene | ND | | 0.075 |
| 1,2-Dichloroethane | ND | | 0.075 |
| Trichloroethene | ND | | 0.075 |
| 1,2-Dichloropropane | ND | | 0.075 |
| Dibromomethane | ND | | 0.075 |
| Bromodichloromethane | ND | | 0.075 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.38 |
| (cis) 1,3-Dichloropropene | ND | | 0.075 |
| Methyl Isobutyl Ketone | ND | | 0.38 |
| Toluene | ND | | 0.38 |
| (trans) 1,3-Dichloropropene | ND | | 0.075 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Lab ID: 11-191-02
**Client ID: B1-9.5**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.075 |
| Tetrachloroethene | ND | | 0.075 |
| 1,3-Dichloropropane | ND | | 0.075 |
| 2-Hexanone | ND | | 0.38 |
| Dibromochloromethane | ND | | 0.075 |
| 1,2-Dibromoethane | ND | | 0.075 |
| Chlorobenzene | ND | | 0.075 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.075 |
| Ethylbenzene | 0.20 | | 0.075 |
| m,p-Xylene | 0.22 | | 0.15 |
| o-Xylene | ND | | 0.075 |
| Styrene | ND | | 0.075 |
| Bromoform | ND | | 0.075 |
| Isopropylbenzene | 0.26 | | 0.075 |
| Bromobenzene | ND | | 0.075 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.075 |
| 1,2,3-Trichloropropane | ND | | 0.075 |
| n-Propylbenzene | 0.25 | | 0.075 |
| 2-Chlorotoluene | ND | | 0.075 |
| 4-Chlorotoluene | ND | | 0.075 |
| 1,3,5-Trimethylbenzene | ND | | 0.075 |
| tert-Butylbenzene | ND | | 0.075 |
| 1,2,4-Trimethylbenzene | ND | | 0.075 |
| sec-Butylbenzene | ND | | 0.075 |
| 1,3-Dichlorobenzene | ND | | 0.075 |
| p-Isopropyltoluene | ND | | 0.075 |
| 1,4-Dichlorobenzene | ND | | 0.075 |
| 1,2-Dichlorobenzene | ND | | 0.075 |
| n-Butylbenzene | ND | | 0.075 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.38 |
| 1,2,4-Trichlorobenzene | ND | | 0.075 |
| Hexachlorobutadiene | ND | | 0.38 |
| Naphthalene | ND | | 0.075 |
| 1,2,3-Trichlorobenzene | ND | | 0.075 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 88 | 55-125 |
| Toluene-d8 | 89 | 56-127 |
| 4-Bromofluorobenzene | 91 | 54-130 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

| | |
|---|---|
| Date Extracted: | 11-25-09 |
| Date Analyzed: | 11-25-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-191-05 |
| **Client ID:** | **B2-7.5** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 1.2 |
| Chloromethane | ND | | 6.1 |
| Vinyl Chloride | ND | | 1.2 |
| Bromomethane | ND | | 1.2 |
| Chloroethane | ND | | 6.1 |
| Trichlorofluoromethane | ND | | 1.2 |
| 1,1-Dichloroethene | ND | | 1.2 |
| Acetone | ND | | 6.1 |
| Iodomethane | ND | | 6.1 |
| Carbon Disulfide | ND | | 1.2 |
| Methylene Chloride | ND | | 6.1 |
| (trans) 1,2-Dichloroethene | ND | | 1.2 |
| Methyl t-Butyl Ether | ND | | 1.2 |
| 1,1-Dichloroethane | ND | | 1.2 |
| Vinyl Acetate | ND | | 6.1 |
| 2,2-Dichloropropane | ND | | 1.2 |
| (cis) 1,2-Dichloroethene | ND | | 1.2 |
| 2-Butanone | ND | | 6.1 |
| Bromochloromethane | ND | | 1.2 |
| Chloroform | ND | | 1.2 |
| 1,1,1-Trichloroethane | ND | | 1.2 |
| Carbon Tetrachloride | ND | | 1.2 |
| 1,1-Dichloropropene | ND | | 1.2 |
| Benzene | ND | | 1.2 |
| 1,2-Dichloroethane | ND | | 1.2 |
| Trichloroethene | ND | | 1.2 |
| 1,2-Dichloropropane | ND | | 1.2 |
| Dibromomethane | ND | | 1.2 |
| Bromodichloromethane | ND | | 1.2 |
| 2-Chloroethyl Vinyl Ether | ND | | 6.1 |
| (cis) 1,3-Dichloropropene | ND | | 1.2 |
| Methyl Isobutyl Ketone | ND | | 6.1 |
| Toluene | 220 | | 30 |
| (trans) 1,3-Dichloropropene | ND | | 1.2 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Lab ID: 11-191-05
**Client ID: B2-7.5**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 1.2 |
| Tetrachloroethene | ND | | 1.2 |
| 1,3-Dichloropropane | ND | | 1.2 |
| 2-Hexanone | ND | | 6.1 |
| Dibromochloromethane | ND | | 1.2 |
| 1,2-Dibromoethane | ND | | 1.2 |
| Chlorobenzene | ND | | 1.2 |
| 1,1,1,2-Tetrachloroethane | ND | | 1.2 |
| Ethylbenzene | 62 | | 1.2 |
| m,p-Xylene | 210 | | 12 |
| o-Xylene | 62 | | 1.2 |
| Styrene | ND | | 1.2 |
| Bromoform | ND | | 1.2 |
| Isopropylbenzene | 2.4 | | 1.2 |
| Bromobenzene | ND | | 1.2 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.2 |
| 1,2,3-Trichloropropane | ND | | 1.2 |
| n-Propylbenzene | 3.7 | | 1.2 |
| 2-Chlorotoluene | ND | | 1.2 |
| 4-Chlorotoluene | ND | | 1.2 |
| 1,3,5-Trimethylbenzene | 9.0 | | 1.2 |
| tert-Butylbenzene | ND | | 1.2 |
| 1,2,4-Trimethylbenzene | 18 | | 1.2 |
| sec-Butylbenzene | ND | | 1.2 |
| 1,3-Dichlorobenzene | ND | | 1.2 |
| p-Isopropyltoluene | 1.5 | | 1.2 |
| 1,4-Dichlorobenzene | ND | | 1.2 |
| 1,2-Dichlorobenzene | ND | | 1.2 |
| n-Butylbenzene | ND | | 1.2 |
| 1,2-Dibromo-3-chloropropane | ND | | 6.1 |
| 1,2,4-Trichlorobenzene | ND | | 1.2 |
| Hexachlorobutadiene | ND | | 6.1 |
| Naphthalene | ND | | 1.2 |
| 1,2,3-Trichlorobenzene | ND | | 1.2 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 91 | 55-125 |
| Toluene-d8 | 101 | 56-127 |
| 4-Bromofluorobenzene | 88 | 54-130 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

| | |
|---|---|
| Date Extracted: | 11-25-09 |
| Date Analyzed: | 11-25-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-191-06 |
| **Client ID:** | **B2-12.0** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.052 |
| Chloromethane | ND | | 0.26 |
| Vinyl Chloride | ND | | 0.052 |
| Bromomethane | ND | | 0.052 |
| Chloroethane | ND | | 0.26 |
| Trichlorofluoromethane | ND | | 0.052 |
| 1,1-Dichloroethene | ND | | 0.052 |
| Acetone | ND | | 0.26 |
| Iodomethane | ND | | 0.26 |
| Carbon Disulfide | ND | | 0.052 |
| Methylene Chloride | ND | | 0.26 |
| (trans) 1,2-Dichloroethene | ND | | 0.052 |
| Methyl t-Butyl Ether | ND | | 0.052 |
| 1,1-Dichloroethane | ND | | 0.052 |
| Vinyl Acetate | ND | | 0.26 |
| 2,2-Dichloropropane | ND | | 0.052 |
| (cis) 1,2-Dichloroethene | ND | | 0.052 |
| 2-Butanone | ND | | 0.26 |
| Bromochloromethane | ND | | 0.052 |
| Chloroform | ND | | 0.052 |
| 1,1,1-Trichloroethane | ND | | 0.052 |
| Carbon Tetrachloride | ND | | 0.052 |
| 1,1-Dichloropropene | ND | | 0.052 |
| Benzene | ND | | 0.052 |
| 1,2-Dichloroethane | ND | | 0.052 |
| Trichloroethene | ND | | 0.052 |
| 1,2-Dichloropropane | ND | | 0.052 |
| Dibromomethane | ND | | 0.052 |
| Bromodichloromethane | ND | | 0.052 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.26 |
| (cis) 1,3-Dichloropropene | ND | | 0.052 |
| Methyl Isobutyl Ketone | ND | | 0.26 |
| Toluene | 2.1 | | 0.26 |
| (trans) 1,3-Dichloropropene | ND | | 0.052 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Lab ID: 11-191-06
**Client ID: B2-12.0**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.052 |
| Tetrachloroethene | ND | | 0.052 |
| 1,3-Dichloropropane | ND | | 0.052 |
| 2-Hexanone | ND | | 0.26 |
| Dibromochloromethane | ND | | 0.052 |
| 1,2-Dibromoethane | ND | | 0.052 |
| Chlorobenzene | ND | | 0.052 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.052 |
| Ethylbenzene | 6.4 | | 0.52 |
| m,p-Xylene | 19 | | 1.0 |
| o-Xylene | 5.0 | | 0.052 |
| Styrene | ND | | 0.052 |
| Bromoform | ND | | 0.052 |
| Isopropylbenzene | 0.53 | | 0.052 |
| Bromobenzene | ND | | 0.052 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.052 |
| 1,2,3-Trichloropropane | ND | | 0.052 |
| n-Propylbenzene | 1.0 | | 0.052 |
| 2-Chlorotoluene | ND | | 0.052 |
| 4-Chlorotoluene | ND | | 0.052 |
| 1,3,5-Trimethylbenzene | 3.5 | | 0.052 |
| tert-Butylbenzene | ND | | 0.052 |
| 1,2,4-Trimethylbenzene | 8.4 | | 0.052 |
| sec-Butylbenzene | 0.16 | | 0.052 |
| 1,3-Dichlorobenzene | ND | | 0.052 |
| p-Isopropyltoluene | 0.19 | | 0.052 |
| 1,4-Dichlorobenzene | ND | | 0.052 |
| 1,2-Dichlorobenzene | ND | | 0.052 |
| n-Butylbenzene | 0.29 | | 0.052 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.26 |
| 1,2,4-Trichlorobenzene | ND | | 0.052 |
| Hexachlorobutadiene | ND | | 0.26 |
| Naphthalene | ND | | 0.052 |
| 1,2,3-Trichlorobenzene | ND | | 0.052 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 84 | 55-125 |
| Toluene-d8 | 122 | 56-127 |
| 4-Bromofluorobenzene | 96 | 54-130 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 11-191-10
**Client ID: B3-7.5**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.0011 |
| Chloromethane | ND | | 0.0056 |
| Vinyl Chloride | ND | | 0.0011 |
| Bromomethane | ND | | 0.0011 |
| Chloroethane | ND | | 0.0056 |
| Trichlorofluoromethane | ND | | 0.0011 |
| 1,1-Dichloroethene | ND | | 0.0011 |
| Acetone | 0.014 | | 0.0056 |
| Iodomethane | ND | | 0.0056 |
| Carbon Disulfide | ND | | 0.0011 |
| Methylene Chloride | ND | | 0.0056 |
| (trans) 1,2-Dichloroethene | ND | | 0.0011 |
| Methyl t-Butyl Ether | ND | | 0.0011 |
| 1,1-Dichloroethane | ND | | 0.0011 |
| Vinyl Acetate | ND | | 0.0056 |
| 2,2-Dichloropropane | ND | | 0.0011 |
| (cis) 1,2-Dichloroethene | ND | | 0.0011 |
| 2-Butanone | ND | | 0.0056 |
| Bromochloromethane | ND | | 0.0011 |
| Chloroform | ND | | 0.0011 |
| 1,1,1-Trichloroethane | ND | | 0.0011 |
| Carbon Tetrachloride | ND | | 0.0011 |
| 1,1-Dichloropropene | ND | | 0.0011 |
| Benzene | ND | | 0.0011 |
| 1,2-Dichloroethane | ND | | 0.0011 |
| Trichloroethene | ND | | 0.0011 |
| 1,2-Dichloropropane | ND | | 0.0011 |
| Dibromomethane | ND | | 0.0011 |
| Bromodichloromethane | ND | | 0.0011 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.0056 |
| (cis) 1,3-Dichloropropene | ND | | 0.0011 |
| Methyl Isobutyl Ketone | ND | | 0.0056 |
| Toluene | ND | | 0.0056 |
| (trans) 1,3-Dichloropropene | ND | | 0.0011 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-191-10
**Client ID: B3-7.5**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.0011 |
| Tetrachloroethene | ND | | 0.0011 |
| 1,3-Dichloropropane | ND | | 0.0011 |
| 2-Hexanone | ND | | 0.0056 |
| Dibromochloromethane | ND | | 0.0011 |
| 1,2-Dibromoethane | ND | | 0.0011 |
| Chlorobenzene | ND | | 0.0011 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.0011 |
| Ethylbenzene | ND | | 0.0011 |
| m,p-Xylene | ND | | 0.0022 |
| o-Xylene | ND | | 0.0011 |
| Styrene | ND | | 0.0011 |
| Bromoform | ND | | 0.0011 |
| Isopropylbenzene | ND | | 0.0011 |
| Bromobenzene | ND | | 0.0011 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0011 |
| 1,2,3-Trichloropropane | ND | | 0.0011 |
| n-Propylbenzene | ND | | 0.0011 |
| 2-Chlorotoluene | ND | | 0.0011 |
| 4-Chlorotoluene | ND | | 0.0011 |
| 1,3,5-Trimethylbenzene | ND | | 0.0011 |
| tert-Butylbenzene | ND | | 0.0011 |
| 1,2,4-Trimethylbenzene | ND | | 0.0011 |
| sec-Butylbenzene | ND | | 0.0011 |
| 1,3-Dichlorobenzene | ND | | 0.0011 |
| p-Isopropyltoluene | ND | | 0.0011 |
| 1,4-Dichlorobenzene | ND | | 0.0011 |
| 1,2-Dichlorobenzene | ND | | 0.0011 |
| n-Butylbenzene | ND | | 0.0011 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.0056 |
| 1,2,4-Trichlorobenzene | ND | | 0.0011 |
| Hexachlorobutadiene | ND | | 0.0056 |
| Naphthalene | ND | | 0.0011 |
| 1,2,3-Trichlorobenzene | ND | | 0.0011 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 92 | 55-125 |
| Toluene-d8 | 89 | 56-127 |
| 4-Bromofluorobenzene | 93 | 54-130 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1125S1

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

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1125S1

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

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 92 | 55-125 |
| Toluene-d8 | 89 | 56-127 |
| 4-Bromofluorobenzene | 95 | 54-130 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1125S1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.0500 | 0.0401 | 80 | 0.0456 | 91 | 70-130 | |
| Benzene | 0.0500 | 0.0420 | 84 | 0.0450 | 90 | 70-128 | |
| Trichloroethene | 0.0500 | 0.0464 | 93 | 0.0435 | 87 | 70-124 | |
| Toluene | 0.0500 | 0.0452 | 90 | 0.0405 | 81 | 73-123 | |
| Chlorobenzene | 0.0500 | 0.0525 | 105 | 0.0509 | 102 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 13 | 16 | |
| Benzene | 7 | 15 | |
| Trichloroethene | 7 | 14 | |
| Toluene | 11 | 14 | |
| Chlorobenzene | 3 | 13 | |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 11-25&12-1-09 |
| Date Analyzed: | 11-25&12-1-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-191-03 |
| **Client ID:** | **B1-112409-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 20 |
| Chloromethane | ND | | 100 |
| Vinyl Chloride | ND | | 20 |
| Bromomethane | ND | | 20 |
| Chloroethane | ND | | 100 |
| Trichlorofluoromethane | ND | | 20 |
| 1,1-Dichloroethene | ND | | 20 |
| Acetone | ND | | 500 |
| Iodomethane | ND | | 100 |
| Carbon Disulfide | ND | | 20 |
| Methylene Chloride | ND | | 100 |
| (trans) 1,2-dichloroethene | ND | | 20 |
| Methyl t-Butyl Ether | ND | | 20 |
| 1,1-Dichloroethane | ND | | 20 |
| Vinyl Acetate | ND | | 200 |
| 2,2-Dichloropropane | ND | | 20 |
| (cis) 1,2-Dichloroethene | ND | | 20 |
| 2-Butanone | ND | | 500 |
| Bromochloromethane | ND | | 20 |
| Chloroform | ND | | 20 |
| 1,1,1-Trichloroethane | ND | | 20 |
| Carbon Tetrachloride | ND | | 20 |
| 1,1-Dichloropropene | ND | | 20 |
| Benzene | ND | | 20 |
| 1,2-Dichloroethane | ND | | 20 |
| Trichloroethene | ND | | 20 |
| 1,2-Dichloropropane | ND | | 20 |
| Dibromomethane | ND | | 20 |
| Bromodichloromethane | ND | | 20 |
| 2-Chloroethyl Vinyl Ether | ND | | 100 |
| (cis) 1,3-Dichloropropene | ND | | 20 |
| Methyl Isobutyl Ketone | ND | | 200 |
| Toluene | 1200 | | 100 |
| (trans) 1,3-Dichloropropene | ND | | 20 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-191-03
**Client ID: B1-112409-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 20 |
| Tetrachloroethene | ND | | 20 |
| 1,3-Dichloropropane | ND | | 20 |
| 2-Hexanone | ND | | 200 |
| Dibromochloromethane | ND | | 20 |
| 1,2-Dibromoethane | ND | | 20 |
| Chlorobenzene | ND | | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | 20 |
| Ethylbenzene | 2800 | | 20 |
| m,p-Xylene | 7100 | | 100 |
| o-Xylene | 5800 | | 50 |
| Styrene | ND | | 20 |
| Bromoform | ND | | 100 |
| Isopropylbenzene | 200 | | 20 |
| Bromobenzene | ND | | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | 20 |
| 1,2,3-Trichloropropane | ND | | 20 |
| n-Propylbenzene | 110 | | 20 |
| 2-Chlorotoluene | ND | | 20 |
| 4-Chlorotoluene | ND | | 20 |
| 1,3,5-Trimethylbenzene | 21 | | 20 |
| tert-Butylbenzene | ND | | 20 |
| 1,2,4-Trimethylbenzene | 44 | | 20 |
| sec-Butylbenzene | ND | | 20 |
| 1,3-Dichlorobenzene | ND | | 20 |
| p-Isopropyltoluene | ND | | 20 |
| 1,4-Dichlorobenzene | ND | | 20 |
| 1,2-Dichlorobenzene | ND | | 20 |
| n-Butylbenzene | ND | | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | 100 |
| 1,2,4-Trichlorobenzene | ND | | 20 |
| Hexachlorobutadiene | ND | | 20 |
| Naphthalene | ND | | 100 |
| 1,2,3-Trichlorobenzene | ND | | 20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 79 | 71-126 |
| Toluene-d8 | 85 | 76-116 |
| 4-Bromofluorobenzene | 90 | 70-123 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 11-25&12-1-09 |
| Date Analyzed: | 11-25&12-1-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-191-08 |
| **Client ID:** | **B2-112409-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 20 |
| Chloromethane | ND | | 100 |
| Vinyl Chloride | ND | | 20 |
| Bromomethane | ND | | 20 |
| Chloroethane | ND | | 100 |
| Trichlorofluoromethane | ND | | 20 |
| 1,1-Dichloroethene | ND | | 20 |
| Acetone | ND | | 500 |
| Iodomethane | ND | | 100 |
| Carbon Disulfide | ND | | 20 |
| Methylene Chloride | ND | | 100 |
| (trans) 1,2-dichloroethene | ND | | 20 |
| Methyl t-Butyl Ether | ND | | 20 |
| 1,1-Dichloroethane | ND | | 20 |
| Vinyl Acetate | ND | | 200 |
| 2,2-Dichloropropane | ND | | 20 |
| (cis) 1,2-Dichloroethene | ND | | 20 |
| 2-Butanone | ND | | 500 |
| Bromochloromethane | ND | | 20 |
| Chloroform | ND | | 20 |
| 1,1,1-Trichloroethane | ND | | 20 |
| Carbon Tetrachloride | ND | | 20 |
| 1,1-Dichloropropene | ND | | 20 |
| Benzene | 330 | | 20 |
| 1,2-Dichloroethane | ND | | 20 |
| Trichloroethene | ND | | 20 |
| 1,2-Dichloropropane | ND | | 20 |
| Dibromomethane | ND | | 20 |
| Bromodichloromethane | ND | | 20 |
| 2-Chloroethyl Vinyl Ether | ND | | 100 |
| (cis) 1,3-Dichloropropene | ND | | 20 |
| Methyl Isobutyl Ketone | 240 | | 200 |
| Toluene | 91000 | | 5000 |
| (trans) 1,3-Dichloropropene | ND | | 20 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-191-08
**Client ID: B2-112409-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 20 |
| Tetrachloroethene | ND | | 20 |
| 1,3-Dichloropropane | ND | | 20 |
| 2-Hexanone | ND | | 200 |
| Dibromochloromethane | ND | | 20 |
| 1,2-Dibromoethane | ND | | 20 |
| Chlorobenzene | ND | | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | 20 |
| Ethylbenzene | 4000 | | 200 |
| m,p-Xylene | 7600 | | 400 |
| o-Xylene | 3800 | | 200 |
| Styrene | ND | | 20 |
| Bromoform | ND | | 100 |
| Isopropylbenzene | 39 | | 20 |
| Bromobenzene | ND | | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | 20 |
| 1,2,3-Trichloropropane | ND | | 20 |
| n-Propylbenzene | 37 | | 20 |
| 2-Chlorotoluene | ND | | 20 |
| 4-Chlorotoluene | ND | | 20 |
| 1,3,5-Trimethylbenzene | 53 | | 20 |
| tert-Butylbenzene | ND | | 20 |
| 1,2,4-Trimethylbenzene | 130 | | 20 |
| sec-Butylbenzene | ND | | 20 |
| 1,3-Dichlorobenzene | ND | | 20 |
| p-Isopropyltoluene | ND | | 20 |
| 1,4-Dichlorobenzene | ND | | 20 |
| 1,2-Dichlorobenzene | ND | | 20 |
| n-Butylbenzene | ND | | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | 100 |
| 1,2,4-Trichlorobenzene | ND | | 20 |
| Hexachlorobutadiene | ND | | 20 |
| Naphthalene | ND | | 100 |
| 1,2,3-Trichlorobenzene | ND | | 20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 78 | 71-126 |
| Toluene-d8 | 86 | 76-116 |
| 4-Bromofluorobenzene | 100 | 70-123 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-1-09 |
| Date Analyzed: | 12-1-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-191-13 |
| **Client ID:** | **B3-112409-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | 0.41 | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 5.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-191-13
**Client ID: B3-112409-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | 0.64 | | 0.20 |
| m,p-Xylene | 3.5 | | 0.40 |
| o-Xylene | 2.0 | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | 0.44 | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 79 | 71-126 |
| Toluene-d8 | 81 | 76-116 |
| 4-Bromofluorobenzene | 77 | 70-123 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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| | |
|---|---|
| Date Extracted: | 11-25-09 |
| Date Analyzed: | 11-25-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | MB1125W1 |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1125W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 87 | 71-126 |
| Toluene-d8 | 87 | 76-116 |
| 4-Bromofluorobenzene | 92 | 70-123 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Date Extracted: 12-1-09
Date Analyzed: 12-1-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1201W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Lab ID: MB1201W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 78 | 71-126 |
| Toluene-d8 | 82 | 76-116 |
| 4-Bromofluorobenzene | 78 | 70-123 |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Date Extracted: 11-25-09
Date Analyzed: 11-25-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1125W1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 10.7 | 107 | 9.80 | 98 | 70-130 | |
| Benzene | 10.0 | 10.1 | 101 | 9.34 | 93 | 70-130 | |
| Trichloroethene | 10.0 | 9.79 | 98 | 9.11 | 91 | 70-123 | |
| Toluene | 10.0 | 9.86 | 99 | 9.41 | 94 | 77-120 | |
| Chlorobenzene | 10.0 | 9.76 | 98 | 9.44 | 94 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 9 | 21 | |
| Benzene | 7 | 18 | |
| Trichloroethene | 7 | 18 | |
| Toluene | 5 | 17 | |
| Chlorobenzene | 3 | 18 | |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

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

Date Extracted: 12-1-09
Date Analyzed: 12-1-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1201W1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 11.5 | 115 | 12.5 | 125 | 70-130 | |
| Benzene | 10.0 | 9.08 | 91 | 9.29 | 93 | 70-130 | |
| Trichloroethene | 10.0 | 9.72 | 97 | 9.38 | 94 | 70-123 | |
| Toluene | 10.0 | 8.61 | 86 | 8.59 | 86 | 77-120 | |
| Chlorobenzene | 10.0 | 10.1 | 101 | 9.76 | 98 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 8 | 21 | |
| Benzene | 2 | 18 | |
| Trichloroethene | 4 | 18 | |
| Toluene | 0 | 17 | |
| Chlorobenzene | 4 | 18 | |

Date of Report: December 3, 2009
Samples Submitted: November 24, 2009
Laboratory Reference: 0911-191
Project: 841-003

## % MOISTURE

Date Analyzed: 11-25-09

| Client ID | Lab ID | % Moisture |
|---|---|---|
| B1-9.5 | 11-191-02 | 22 |
| B2-7.5 | 11-191-05 | 13 |
| B2-12.0 | 11-191-06 | 12 |
| B3-7.5 | 11-191-10 | 13 |

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 the diesel range are impacting the lube oil range result.

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

Z -

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

# Chain of Custody

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



Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN Scott
Sampled by: Ken Scott

**Turnaround Request (in working days)**

(Check One)

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

**Laboratory Number: 11-191**

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | B1-2.5 | 11/24/09 | 930 | S | 4 | | | | | | | | | | | | | | |
| 2 | B1-9.5 | | 945 | S | 4 | | | | ⊗ | | | | | | | | | | ⊗ |
| 3 | B1-112409-GW | | 1030 | W | 3 | | | | ⊗ | | | | | | | | | | |
| 4 | B2-2.5 | | 1130 | S | 4 | | | | | | | | | | | | | | |
| 5 | B2-7.5 | | 1150 | S | 4 | | | | ⊗ | | | | | | | | | | ⊗ |
| 6 | B2-12.0 | | 1215 | S | 4 | | | | ⊗ | | | | | | | | | | ⊗ |
| 7 | B2-16.0 | | 1230 | S | 4 | | | | | | | | | | | | | | |
| 8 | B2-112409-GW | | 1245 | W | 3 | | | | ⊗ | | | | | | | | | | |
| 9 | B3-2.5 | | 1330 | S | 4 | | | | | | | | | | | | | | |
| 10 | B3-7.5 | ↓ | 1350 | S | 4 | | | | ⊗ | | | | | | | | | | ⊗ |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/24/09 | 1450 |
| Received by | Brian Smith | Speedy | 11/24/09 | 1450 |
| Relinquished by | Brian Smith | Speedy | 11/24/09 | 1530 |
| Received by | | O&E | 11/24/09 | 1530 |
| Relinquished by | | | | |
| Received by | | | | |

Comments/Special Instructions:
Hold samples, RC will call @ Analysis.
⊗ Requested 11/25/09. DJ

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

# Chain of Custody

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



Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

**Turnaround Request (in working days)**

(Check One)

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

**Laboratory Number:** 11-191

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | B3-12.5 | 11/24/09 | 1410 | S | 4 | | | | | | | | | | | | | | |
| 12 | B3-16.5 | ↓ | 1420 | S | 4 | | | | | | | | | | | | | | |
| 13 | B3-112409-GW | ↓ | 1430 | W | 3 | | | | X | | | | | | | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/24/09 | 1450 |
| Received by | Brian Fouth | Speedy | 11/24/09 | 1450 |
| Relinquished by | Brian Fouth | Speedy | 11/24/09 | 1530 |
| Received by | | LOE | 11/24/09 | 1530 |
| Relinquished by | | | | |
| Received by | | | | |
| Reviewed by/Date | | Reviewed by/Date | | |

**Comments/Special Instructions**

HOLD SAMPLES, RC will CALL @ ANALYSIS.

Requested 11/25/09. DB

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Client Copy

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

December 8, 2009

Ken Scott
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 841-003
Laboratory Reference No. 0911-215

Dear Ken:

Enclosed are the analytical results and associated quality control data for samples submitted on November 25, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**Case Narrative**

Samples were collected on November 24 and 25, 2009, and received by the laboratory on November 25, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles (soil) 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: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2&3-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-215-03 |
| **Client ID:** | **B4-12.5** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 16 |
| Chloromethane | ND | | 80 |
| Vinyl Chloride | ND | | 16 |
| Bromomethane | ND | | 16 |
| Chloroethane | ND | | 80 |
| Trichlorofluoromethane | ND | | 16 |
| 1,1-Dichloroethene | ND | | 16 |
| Acetone | ND | | 80 |
| Iodomethane | ND | | 80 |
| Carbon Disulfide | ND | | 16 |
| Methylene Chloride | ND | | 80 |
| (trans) 1,2-Dichloroethene | ND | | 16 |
| Methyl t-Butyl Ether | ND | | 16 |
| 1,1-Dichloroethane | ND | | 16 |
| Vinyl Acetate | ND | | 80 |
| 2,2-Dichloropropane | ND | | 16 |
| (cis) 1,2-Dichloroethene | ND | | 16 |
| 2-Butanone | ND | | 80 |
| Bromochloromethane | ND | | 16 |
| Chloroform | ND | | 16 |
| 1,1,1-Trichloroethane | ND | | 16 |
| Carbon Tetrachloride | ND | | 16 |
| 1,1-Dichloropropene | ND | | 16 |
| Benzene | ND | | 16 |
| 1,2-Dichloroethane | ND | | 16 |
| Trichloroethene | ND | | 16 |
| 1,2-Dichloropropane | ND | | 16 |
| Dibromomethane | ND | | 16 |
| Bromodichloromethane | ND | | 16 |
| 2-Chloroethyl Vinyl Ether | ND | | 80 |
| (cis) 1,3-Dichloropropene | ND | | 16 |
| Methyl Isobutyl Ketone | ND | | 80 |
| Toluene | 5500 | | 400 |
| (trans) 1,3-Dichloropropene | ND | | 16 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Lab ID: 11-215-03
**Client ID: B4-12.5**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 16 |
| Tetrachloroethene | ND | | 16 |
| 1,3-Dichloropropane | ND | | 16 |
| 2-Hexanone | ND | | 80 |
| Dibromochloromethane | ND | | 16 |
| 1,2-Dibromoethane | ND | | 16 |
| Chlorobenzene | ND | | 16 |
| 1,1,1,2-Tetrachloroethane | ND | | 16 |
| Ethylbenzene | 1900 | | 80 |
| m,p-Xylene | 4700 | | 160 |
| o-Xylene | 1300 | | 16 |
| Styrene | ND | | 16 |
| Bromoform | ND | | 16 |
| Isopropylbenzene | 52 | | 16 |
| Bromobenzene | ND | | 16 |
| 1,1,2,2-Tetrachloroethane | ND | | 16 |
| 1,2,3-Trichloropropane | ND | | 16 |
| n-Propylbenzene | 88 | | 16 |
| 2-Chlorotoluene | ND | | 16 |
| 4-Chlorotoluene | ND | | 16 |
| 1,3,5-Trimethylbenzene | 120 | | 16 |
| tert-Butylbenzene | ND | | 16 |
| 1,2,4-Trimethylbenzene | 200 | | 16 |
| sec-Butylbenzene | ND | | 16 |
| 1,3-Dichlorobenzene | ND | | 16 |
| p-Isopropyltoluene | ND | | 16 |
| 1,4-Dichlorobenzene | ND | | 16 |
| 1,2-Dichlorobenzene | ND | | 16 |
| n-Butylbenzene | ND | | 16 |
| 1,2-Dibromo-3-chloropropane | ND | | 80 |
| 1,2,4-Trichlorobenzene | ND | | 16 |
| Hexachlorobutadiene | ND | | 80 |
| Naphthalene | ND | | 16 |
| 1,2,3-Trichlorobenzene | ND | | 16 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 96 | 55-125 |
| Toluene-d8 | 90 | 56-127 |
| 4-Bromofluorobenzene | 89 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 11-215-08
**Client ID: B5-15.0**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.0011 |
| Chloromethane | ND | | 0.0056 |
| Vinyl Chloride | ND | | 0.0011 |
| Bromomethane | ND | | 0.0011 |
| Chloroethane | ND | | 0.0056 |
| Trichlorofluoromethane | ND | | 0.0011 |
| 1,1-Dichloroethene | ND | | 0.0011 |
| Acetone | 0.12 | | 0.0056 |
| Iodomethane | ND | | 0.0056 |
| Carbon Disulfide | ND | | 0.0011 |
| Methylene Chloride | ND | | 0.0056 |
| (trans) 1,2-Dichloroethene | ND | | 0.0011 |
| Methyl t-Butyl Ether | ND | | 0.0011 |
| 1,1-Dichloroethane | ND | | 0.0011 |
| Vinyl Acetate | ND | | 0.0056 |
| 2,2-Dichloropropane | ND | | 0.0011 |
| (cis) 1,2-Dichloroethene | ND | | 0.0011 |
| 2-Butanone | 0.022 | | 0.0056 |
| Bromochloromethane | ND | | 0.0011 |
| Chloroform | ND | | 0.0011 |
| 1,1,1-Trichloroethane | ND | | 0.0011 |
| Carbon Tetrachloride | ND | | 0.0011 |
| 1,1-Dichloropropene | ND | | 0.0011 |
| Benzene | 0.0016 | | 0.0011 |
| 1,2-Dichloroethane | ND | | 0.0011 |
| Trichloroethene | ND | | 0.0011 |
| 1,2-Dichloropropane | ND | | 0.0011 |
| Dibromomethane | ND | | 0.0011 |
| Bromodichloromethane | ND | | 0.0011 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.0056 |
| (cis) 1,3-Dichloropropene | ND | | 0.0011 |
| Methyl Isobutyl Ketone | ND | | 0.0056 |
| Toluene | ND | | 0.0056 |
| (trans) 1,3-Dichloropropene | ND | | 0.0011 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Lab ID: 11-215-08
**Client ID: B5-15.0**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.0011 |
| Tetrachloroethene | ND | | 0.0011 |
| 1,3-Dichloropropane | ND | | 0.0011 |
| 2-Hexanone | ND | | 0.0056 |
| Dibromochloromethane | ND | | 0.0011 |
| 1,2-Dibromoethane | ND | | 0.0011 |
| Chlorobenzene | ND | | 0.0011 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.0011 |
| Ethylbenzene | ND | | 0.0011 |
| m,p-Xylene | 0.0074 | | 0.0023 |
| o-Xylene | ND | | 0.0011 |
| Styrene | ND | | 0.0011 |
| Bromoform | ND | | 0.0011 |
| Isopropylbenzene | 0.0016 | | 0.0011 |
| Bromobenzene | ND | | 0.0011 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0011 |
| 1,2,3-Trichloropropane | ND | | 0.0011 |
| n-Propylbenzene | 0.0019 | | 0.0011 |
| 2-Chlorotoluene | ND | | 0.0011 |
| 4-Chlorotoluene | ND | | 0.0011 |
| 1,3,5-Trimethylbenzene | ND | | 0.0011 |
| tert-Butylbenzene | ND | | 0.0011 |
| 1,2,4-Trimethylbenzene | 0.0016 | | 0.0011 |
| sec-Butylbenzene | ND | | 0.0011 |
| 1,3-Dichlorobenzene | ND | | 0.0011 |
| p-Isopropyltoluene | ND | | 0.0011 |
| 1,4-Dichlorobenzene | ND | | 0.0011 |
| 1,2-Dichlorobenzene | ND | | 0.0011 |
| n-Butylbenzene | ND | | 0.0011 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.0056 |
| 1,2,4-Trichlorobenzene | ND | | 0.0011 |
| Hexachlorobutadiene | ND | | 0.0056 |
| Naphthalene | ND | | 0.0011 |
| 1,2,3-Trichlorobenzene | ND | | 0.0011 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 94 | 55-125 |
| Toluene-d8 | 92 | 56-127 |
| 4-Bromofluorobenzene | 88 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-3-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-215-11 |
| **Client ID:** | **B6-15.0** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 8.7 |
| Chloromethane | ND | | 43 |
| Vinyl Chloride | ND | | 8.7 |
| Bromomethane | ND | | 8.7 |
| Chloroethane | ND | | 43 |
| Trichlorofluoromethane | ND | | 8.7 |
| 1,1-Dichloroethene | ND | | 8.7 |
| Acetone | ND | | 43 |
| Iodomethane | ND | | 43 |
| Carbon Disulfide | ND | | 8.7 |
| Methylene Chloride | ND | | 43 |
| (trans) 1,2-Dichloroethene | ND | | 8.7 |
| Methyl t-Butyl Ether | ND | | 8.7 |
| 1,1-Dichloroethane | ND | | 8.7 |
| Vinyl Acetate | ND | | 43 |
| 2,2-Dichloropropane | ND | | 8.7 |
| (cis) 1,2-Dichloroethene | ND | | 8.7 |
| 2-Butanone | ND | | 43 |
| Bromochloromethane | ND | | 8.7 |
| Chloroform | ND | | 8.7 |
| 1,1,1-Trichloroethane | ND | | 8.7 |
| Carbon Tetrachloride | ND | | 8.7 |
| 1,1-Dichloropropene | ND | | 8.7 |
| Benzene | ND | | 8.7 |
| 1,2-Dichloroethane | ND | | 8.7 |
| Trichloroethene | ND | | 8.7 |
| 1,2-Dichloropropane | ND | | 8.7 |
| Dibromomethane | ND | | 8.7 |
| Bromodichloromethane | ND | | 8.7 |
| 2-Chloroethyl Vinyl Ether | ND | | 43 |
| (cis) 1,3-Dichloropropene | ND | | 8.7 |
| Methyl Isobutyl Ketone | ND | | 43 |
| Toluene | 190 | | 43 |
| (trans) 1,3-Dichloropropene | ND | | 8.7 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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**VOLATILES by EPA 8260B**
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Lab ID: 11-215-11
**Client ID: B6-15.0**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 8.7 |
| Tetrachloroethene | ND | | 8.7 |
| 1,3-Dichloropropane | ND | | 8.7 |
| 2-Hexanone | ND | | 43 |
| Dibromochloromethane | ND | | 8.7 |
| 1,2-Dibromoethane | ND | | 8.7 |
| Chlorobenzene | ND | | 8.7 |
| 1,1,1,2-Tetrachloroethane | ND | | 8.7 |
| Ethylbenzene | 370 | | 8.7 |
| m,p-Xylene | 1100 | | 17 |
| o-Xylene | 610 | | 8.7 |
| Styrene | ND | | 8.7 |
| Bromoform | ND | | 8.7 |
| Isopropylbenzene | 12 | | 8.7 |
| Bromobenzene | ND | | 8.7 |
| 1,1,2,2-Tetrachloroethane | ND | | 8.7 |
| 1,2,3-Trichloropropane | ND | | 8.7 |
| n-Propylbenzene | 10 | | 8.7 |
| 2-Chlorotoluene | ND | | 8.7 |
| 4-Chlorotoluene | ND | | 8.7 |
| 1,3,5-Trimethylbenzene | 12 | | 8.7 |
| tert-Butylbenzene | ND | | 8.7 |
| 1,2,4-Trimethylbenzene | 20 | | 8.7 |
| sec-Butylbenzene | ND | | 8.7 |
| 1,3-Dichlorobenzene | ND | | 8.7 |
| p-Isopropyltoluene | ND | | 8.7 |
| 1,4-Dichlorobenzene | ND | | 8.7 |
| 1,2-Dichlorobenzene | ND | | 8.7 |
| n-Butylbenzene | ND | | 8.7 |
| 1,2-Dibromo-3-chloropropane | ND | | 43 |
| 1,2,4-Trichlorobenzene | ND | | 8.7 |
| Hexachlorobutadiene | ND | | 43 |
| Naphthalene | ND | | 8.7 |
| 1,2,3-Trichlorobenzene | ND | | 8.7 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 94 | 55-125 |
| Toluene-d8 | 86 | 56-127 |
| 4-Bromofluorobenzene | 85 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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| | |
|---|---|
| Date Extracted: | 12-3-09 |
| Date Analyzed: | 12-3-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-215-16 |
| **Client ID:** | **B7-16.0** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.0011 |
| Chloromethane | ND | | 0.0053 |
| Vinyl Chloride | ND | | 0.0011 |
| Bromomethane | ND | | 0.0011 |
| Chloroethane | ND | | 0.0053 |
| Trichlorofluoromethane | ND | | 0.0011 |
| 1,1-Dichloroethene | ND | | 0.0011 |
| Acetone | ND | | 0.0053 |
| Iodomethane | ND | | 0.0053 |
| Carbon Disulfide | ND | | 0.0011 |
| Methylene Chloride | ND | | 0.0053 |
| (trans) 1,2-Dichloroethene | ND | | 0.0011 |
| Methyl t-Butyl Ether | ND | | 0.0011 |
| 1,1-Dichloroethane | ND | | 0.0011 |
| Vinyl Acetate | ND | | 0.0053 |
| 2,2-Dichloropropane | ND | | 0.0011 |
| (cis) 1,2-Dichloroethene | ND | | 0.0011 |
| 2-Butanone | ND | | 0.0053 |
| Bromochloromethane | ND | | 0.0011 |
| Chloroform | ND | | 0.0011 |
| 1,1,1-Trichloroethane | ND | | 0.0011 |
| Carbon Tetrachloride | ND | | 0.0011 |
| 1,1-Dichloropropene | ND | | 0.0011 |
| Benzene | ND | | 0.0011 |
| 1,2-Dichloroethane | ND | | 0.0011 |
| Trichloroethene | ND | | 0.0011 |
| 1,2-Dichloropropane | ND | | 0.0011 |
| Dibromomethane | ND | | 0.0011 |
| Bromodichloromethane | ND | | 0.0011 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.0053 |
| (cis) 1,3-Dichloropropene | ND | | 0.0011 |
| Methyl Isobutyl Ketone | ND | | 0.0053 |
| Toluene | ND | | 0.0053 |
| (trans) 1,3-Dichloropropene | ND | | 0.0011 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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Lab ID: 11-215-16
**Client ID: B7-16.0**

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

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 103 | 55-125 |
| Toluene-d8 | 86 | 56-127 |
| 4-Bromofluorobenzene | 81 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-215-21 |
| **Client ID:** | **B8-16.0** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.0013 |
| Chloromethane | ND | | 0.0065 |
| Vinyl Chloride | ND | | 0.0013 |
| Bromomethane | ND | | 0.0013 |
| Chloroethane | ND | | 0.0065 |
| Trichlorofluoromethane | ND | | 0.0013 |
| 1,1-Dichloroethene | ND | | 0.0013 |
| Acetone | 0.071 | | 0.0065 |
| Iodomethane | ND | | 0.0065 |
| Carbon Disulfide | ND | | 0.0013 |
| Methylene Chloride | ND | | 0.0065 |
| (trans) 1,2-Dichloroethene | ND | | 0.0013 |
| Methyl t-Butyl Ether | ND | | 0.0013 |
| 1,1-Dichloroethane | ND | | 0.0013 |
| Vinyl Acetate | ND | | 0.0065 |
| 2,2-Dichloropropane | ND | | 0.0013 |
| (cis) 1,2-Dichloroethene | ND | | 0.0013 |
| 2-Butanone | 0.011 | | 0.0065 |
| Bromochloromethane | ND | | 0.0013 |
| Chloroform | ND | | 0.0013 |
| 1,1,1-Trichloroethane | ND | | 0.0013 |
| Carbon Tetrachloride | ND | | 0.0013 |
| 1,1-Dichloropropene | ND | | 0.0013 |
| Benzene | ND | | 0.0013 |
| 1,2-Dichloroethane | ND | | 0.0013 |
| Trichloroethene | ND | | 0.0013 |
| 1,2-Dichloropropane | ND | | 0.0013 |
| Dibromomethane | ND | | 0.0013 |
| Bromodichloromethane | ND | | 0.0013 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.0065 |
| (cis) 1,3-Dichloropropene | ND | | 0.0013 |
| Methyl Isobutyl Ketone | ND | | 0.0065 |
| Toluene | ND | | 0.0065 |
| (trans) 1,3-Dichloropropene | ND | | 0.0013 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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**VOLATILES by EPA 8260B**
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Lab ID: 11-215-21
**Client ID: B8-16.0**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.0013 |
| Tetrachloroethene | ND | | 0.0013 |
| 1,3-Dichloropropane | ND | | 0.0013 |
| 2-Hexanone | ND | | 0.0065 |
| Dibromochloromethane | ND | | 0.0013 |
| 1,2-Dibromoethane | ND | | 0.0013 |
| Chlorobenzene | ND | | 0.0013 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.0013 |
| Ethylbenzene | ND | | 0.0013 |
| m,p-Xylene | ND | | 0.0026 |
| o-Xylene | ND | | 0.0013 |
| Styrene | ND | | 0.0013 |
| Bromoform | ND | | 0.0013 |
| Isopropylbenzene | ND | | 0.0013 |
| Bromobenzene | ND | | 0.0013 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0013 |
| 1,2,3-Trichloropropane | ND | | 0.0013 |
| n-Propylbenzene | ND | | 0.0013 |
| 2-Chlorotoluene | ND | | 0.0013 |
| 4-Chlorotoluene | ND | | 0.0013 |
| 1,3,5-Trimethylbenzene | ND | | 0.0013 |
| tert-Butylbenzene | ND | | 0.0013 |
| 1,2,4-Trimethylbenzene | ND | | 0.0013 |
| sec-Butylbenzene | ND | | 0.0013 |
| 1,3-Dichlorobenzene | ND | | 0.0013 |
| p-Isopropyltoluene | ND | | 0.0013 |
| 1,4-Dichlorobenzene | ND | | 0.0013 |
| 1,2-Dichlorobenzene | ND | | 0.0013 |
| n-Butylbenzene | ND | | 0.0013 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.0065 |
| 1,2,4-Trichlorobenzene | ND | | 0.0013 |
| Hexachlorobutadiene | ND | | 0.0065 |
| Naphthalene | ND | | 0.0013 |
| 1,2,3-Trichlorobenzene | ND | | 0.0013 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 95 | 55-125 |
| Toluene-d8 | 84 | 56-127 |
| 4-Bromofluorobenzene | 83 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-215-26 |
| **Client ID:** | **B9-16.0** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.0017 |
| Chloromethane | ND | | 0.0085 |
| Vinyl Chloride | ND | | 0.0017 |
| Bromomethane | ND | | 0.0017 |
| Chloroethane | ND | | 0.0085 |
| Trichlorofluoromethane | ND | | 0.0017 |
| 1,1-Dichloroethene | ND | | 0.0017 |
| Acetone | 0.15 | | 0.0085 |
| Iodomethane | ND | | 0.0085 |
| Carbon Disulfide | ND | | 0.0017 |
| Methylene Chloride | ND | | 0.0085 |
| (trans) 1,2-Dichloroethene | ND | | 0.0017 |
| Methyl t-Butyl Ether | ND | | 0.0017 |
| 1,1-Dichloroethane | ND | | 0.0017 |
| Vinyl Acetate | ND | | 0.0085 |
| 2,2-Dichloropropane | ND | | 0.0017 |
| (cis) 1,2-Dichloroethene | ND | | 0.0017 |
| 2-Butanone | 0.032 | | 0.0085 |
| Bromochloromethane | ND | | 0.0017 |
| Chloroform | ND | | 0.0017 |
| 1,1,1-Trichloroethane | ND | | 0.0017 |
| Carbon Tetrachloride | ND | | 0.0017 |
| 1,1-Dichloropropene | ND | | 0.0017 |
| Benzene | ND | | 0.0017 |
| 1,2-Dichloroethane | ND | | 0.0017 |
| Trichloroethene | ND | | 0.0017 |
| 1,2-Dichloropropane | ND | | 0.0017 |
| Dibromomethane | ND | | 0.0017 |
| Bromodichloromethane | ND | | 0.0017 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.0085 |
| (cis) 1,3-Dichloropropene | ND | | 0.0017 |
| Methyl Isobutyl Ketone | ND | | 0.0085 |
| Toluene | ND | | 0.0085 |
| (trans) 1,3-Dichloropropene | ND | | 0.0017 |

Date of Report: December 8, 2009
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Lab ID: 11-215-26
**Client ID: B9-16.0**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.0017 |
| Tetrachloroethene | ND | | 0.0017 |
| 1,3-Dichloropropane | ND | | 0.0017 |
| 2-Hexanone | ND | | 0.0085 |
| Dibromochloromethane | ND | | 0.0017 |
| 1,2-Dibromoethane | ND | | 0.0017 |
| Chlorobenzene | ND | | 0.0017 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.0017 |
| Ethylbenzene | ND | | 0.0017 |
| m,p-Xylene | ND | | 0.0034 |
| o-Xylene | ND | | 0.0017 |
| Styrene | ND | | 0.0017 |
| Bromoform | ND | | 0.0017 |
| Isopropylbenzene | ND | | 0.0017 |
| Bromobenzene | ND | | 0.0017 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0017 |
| 1,2,3-Trichloropropane | ND | | 0.0017 |
| n-Propylbenzene | ND | | 0.0017 |
| 2-Chlorotoluene | ND | | 0.0017 |
| 4-Chlorotoluene | ND | | 0.0017 |
| 1,3,5-Trimethylbenzene | ND | | 0.0017 |
| tert-Butylbenzene | ND | | 0.0017 |
| 1,2,4-Trimethylbenzene | ND | | 0.0017 |
| sec-Butylbenzene | ND | | 0.0017 |
| 1,3-Dichlorobenzene | ND | | 0.0017 |
| p-Isopropyltoluene | ND | | 0.0017 |
| 1,4-Dichlorobenzene | ND | | 0.0017 |
| 1,2-Dichlorobenzene | ND | | 0.0017 |
| n-Butylbenzene | ND | | 0.0017 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.0085 |
| 1,2,4-Trichlorobenzene | ND | | 0.0017 |
| Hexachlorobutadiene | ND | | 0.0085 |
| Naphthalene | ND | | 0.0017 |
| 1,2,3-Trichlorobenzene | ND | | 0.0017 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 107 | 55-125 |
| Toluene-d8 | 88 | 56-127 |
| 4-Bromofluorobenzene | 85 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Soil |
| Units: | mg/kg (ppm) |
| Lab ID: | 11-215-31 |
| **Client ID:** | **B10-15.5** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.0019 |
| Chloromethane | ND | | 0.0097 |
| Vinyl Chloride | ND | | 0.0019 |
| Bromomethane | ND | | 0.0019 |
| Chloroethane | ND | | 0.0097 |
| Trichlorofluoromethane | ND | | 0.0019 |
| 1,1-Dichloroethene | ND | | 0.0019 |
| Acetone | ND | | 0.0097 |
| Iodomethane | ND | | 0.0097 |
| Carbon Disulfide | ND | | 0.0019 |
| Methylene Chloride | ND | | 0.0097 |
| (trans) 1,2-Dichloroethene | ND | | 0.0019 |
| Methyl t-Butyl Ether | ND | | 0.0019 |
| 1,1-Dichloroethane | ND | | 0.0019 |
| Vinyl Acetate | ND | | 0.0097 |
| 2,2-Dichloropropane | ND | | 0.0019 |
| (cis) 1,2-Dichloroethene | ND | | 0.0019 |
| 2-Butanone | ND | | 0.0097 |
| Bromochloromethane | ND | | 0.0019 |
| Chloroform | 0.0037 | | 0.0019 |
| 1,1,1-Trichloroethane | ND | | 0.0019 |
| Carbon Tetrachloride | ND | | 0.0019 |
| 1,1-Dichloropropene | ND | | 0.0019 |
| Benzene | ND | | 0.0019 |
| 1,2-Dichloroethane | ND | | 0.0019 |
| Trichloroethene | ND | | 0.0019 |
| 1,2-Dichloropropane | ND | | 0.0019 |
| Dibromomethane | ND | | 0.0019 |
| Bromodichloromethane | ND | | 0.0019 |
| 2-Chloroethyl Vinyl Ether | ND | | 0.0097 |
| (cis) 1,3-Dichloropropene | ND | | 0.0019 |
| Methyl Isobutyl Ketone | ND | | 0.0097 |
| Toluene | ND | | 0.0097 |
| (trans) 1,3-Dichloropropene | ND | | 0.0019 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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Lab ID: 11-215-31
**Client ID: B10-15.5**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.0019 |
| Tetrachloroethene | ND | | 0.0019 |
| 1,3-Dichloropropane | ND | | 0.0019 |
| 2-Hexanone | ND | | 0.0097 |
| Dibromochloromethane | ND | | 0.0019 |
| 1,2-Dibromoethane | ND | | 0.0019 |
| Chlorobenzene | ND | | 0.0019 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.0019 |
| Ethylbenzene | ND | | 0.0019 |
| m,p-Xylene | ND | | 0.0039 |
| o-Xylene | ND | | 0.0019 |
| Styrene | ND | | 0.0019 |
| Bromoform | ND | | 0.0019 |
| Isopropylbenzene | ND | | 0.0019 |
| Bromobenzene | ND | | 0.0019 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.0019 |
| 1,2,3-Trichloropropane | ND | | 0.0019 |
| n-Propylbenzene | ND | | 0.0019 |
| 2-Chlorotoluene | ND | | 0.0019 |
| 4-Chlorotoluene | ND | | 0.0019 |
| 1,3,5-Trimethylbenzene | ND | | 0.0019 |
| tert-Butylbenzene | ND | | 0.0019 |
| 1,2,4-Trimethylbenzene | ND | | 0.0019 |
| sec-Butylbenzene | ND | | 0.0019 |
| 1,3-Dichlorobenzene | ND | | 0.0019 |
| p-Isopropyltoluene | ND | | 0.0019 |
| 1,4-Dichlorobenzene | ND | | 0.0019 |
| 1,2-Dichlorobenzene | ND | | 0.0019 |
| n-Butylbenzene | ND | | 0.0019 |
| 1,2-Dibromo-3-chloropropane | ND | | 0.0097 |
| 1,2,4-Trichlorobenzene | ND | | 0.0019 |
| Hexachlorobutadiene | ND | | 0.0097 |
| Naphthalene | ND | | 0.0019 |
| 1,2,3-Trichlorobenzene | ND | | 0.0019 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 95 | 55-125 |
| Toluene-d8 | 85 | 56-127 |
| 4-Bromofluorobenzene | 81 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1202S1

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

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Lab ID: MB1202S1

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

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 92 | 55-125 |
| Toluene-d8 | 88 | 56-127 |
| 4-Bromofluorobenzene | 88 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Date Extracted: 12-3-09
Date Analyzed: 12-3-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1203S1

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

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1203S1

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

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 96 | 55-125 |
| Toluene-d8 | 92 | 56-127 |
| 4-Bromofluorobenzene | 89 | 54-130 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1202S1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.0500 | 0.0484 | 97 | 0.0489 | 98 | 70-130 | |
| Benzene | 0.0500 | 0.0479 | 96 | 0.0475 | 95 | 70-128 | |
| Trichloroethene | 0.0500 | 0.0408 | 82 | 0.0410 | 82 | 70-124 | |
| Toluene | 0.0500 | 0.0505 | 101 | 0.0499 | 100 | 73-123 | |
| Chlorobenzene | 0.0500 | 0.0500 | 100 | 0.0495 | 99 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 1 | 16 | |
| Benzene | 1 | 15 | |
| Trichloroethene | 1 | 14 | |
| Toluene | 1 | 14 | |
| Chlorobenzene | 1 | 13 | |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Date Extracted: 12-3-09
Date Analyzed: 12-3-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1203S1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.0500 | 0.0456 | 91 | 0.0451 | 90 | 70-130 | |
| Benzene | 0.0500 | 0.0484 | 97 | 0.0460 | 92 | 70-128 | |
| Trichloroethene | 0.0500 | 0.0408 | 82 | 0.0410 | 82 | 70-124 | |
| Toluene | 0.0500 | 0.0528 | 106 | 0.0510 | 102 | 73-123 | |
| Chlorobenzene | 0.0500 | 0.0517 | 103 | 0.0474 | 95 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 1 | 16 | |
| Benzene | 5 | 15 | |
| Trichloroethene | 1 | 14 | |
| Toluene | 4 | 14 | |
| Chlorobenzene | 9 | 13 | |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-04 |
| **Client ID:** | **B4-112409-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 50 |
| Chloromethane | ND | | 250 |
| Vinyl Chloride | ND | | 50 |
| Bromomethane | ND | | 50 |
| Chloroethane | ND | | 250 |
| Trichlorofluoromethane | ND | | 50 |
| 1,1-Dichloroethene | ND | | 50 |
| Acetone | ND | | 1300 |
| Iodomethane | ND | | 250 |
| Carbon Disulfide | ND | | 50 |
| Methylene Chloride | ND | | 250 |
| (trans) 1,2-dichloroethene | ND | | 50 |
| Methyl t-Butyl Ether | ND | | 50 |
| 1,1-Dichloroethane | ND | | 50 |
| Vinyl Acetate | ND | | 500 |
| 2,2-Dichloropropane | ND | | 50 |
| (cis) 1,2-Dichloroethene | ND | | 50 |
| 2-Butanone | ND | | 1300 |
| Bromochloromethane | ND | | 50 |
| Chloroform | ND | | 50 |
| 1,1,1-Trichloroethane | ND | | 50 |
| Carbon Tetrachloride | ND | | 50 |
| 1,1-Dichloropropene | ND | | 50 |
| Benzene | 230 | | 50 |
| 1,2-Dichloroethane | ND | | 50 |
| Trichloroethene | ND | | 50 |
| 1,2-Dichloropropane | ND | | 50 |
| Dibromomethane | ND | | 50 |
| Bromodichloromethane | ND | | 50 |
| 2-Chloroethyl Vinyl Ether | ND | | 250 |
| (cis) 1,3-Dichloropropene | ND | | 50 |
| Methyl Isobutyl Ketone | ND | | 500 |
| Toluene | 11000 | | 250 |
| (trans) 1,3-Dichloropropene | ND | | 50 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-215-04
**Client ID: B4-112409-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 50 |
| Tetrachloroethene | ND | | 50 |
| 1,3-Dichloropropane | ND | | 50 |
| 2-Hexanone | ND | | 500 |
| Dibromochloromethane | ND | | 50 |
| 1,2-Dibromoethane | ND | | 50 |
| Chlorobenzene | ND | | 50 |
| 1,1,1,2-Tetrachloroethane | ND | | 50 |
| Ethylbenzene | 3400 | | 50 |
| m,p-Xylene | 9600 | | 100 |
| o-Xylene | 1700 | | 50 |
| Styrene | ND | | 50 |
| Bromoform | ND | | 250 |
| Isopropylbenzene | 71 | | 50 |
| Bromobenzene | ND | | 50 |
| 1,1,2,2-Tetrachloroethane | ND | | 50 |
| 1,2,3-Trichloropropane | ND | | 50 |
| n-Propylbenzene | ND | | 50 |
| 2-Chlorotoluene | ND | | 50 |
| 4-Chlorotoluene | ND | | 50 |
| 1,3,5-Trimethylbenzene | ND | | 50 |
| tert-Butylbenzene | ND | | 50 |
| 1,2,4-Trimethylbenzene | 130 | | 50 |
| sec-Butylbenzene | ND | | 50 |
| 1,3-Dichlorobenzene | ND | | 50 |
| p-Isopropyltoluene | ND | | 50 |
| 1,4-Dichlorobenzene | ND | | 50 |
| 1,2-Dichlorobenzene | ND | | 50 |
| n-Butylbenzene | ND | | 50 |
| 1,2-Dibromo-3-chloropropane | ND | | 250 |
| 1,2,4-Trichlorobenzene | ND | | 50 |
| Hexachlorobutadiene | ND | | 50 |
| Naphthalene | ND | | 250 |
| 1,2,3-Trichlorobenzene | ND | | 50 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 84 | 71-126 |
| Toluene-d8 | 84 | 76-116 |
| 4-Bromofluorobenzene | 83 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-7-09 |
| Date Analyzed: | 12-7-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-09 |
| **Client ID:** | **B5-112509-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | 18 | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | 4.5 | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-215-09
**Client ID: B5-112509-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | 1.6 | | 0.20 |
| m,p-Xylene | 4.2 | | 0.40 |
| o-Xylene | 1.5 | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 86 | 71-126 |
| Toluene-d8 | 87 | 76-116 |
| 4-Bromofluorobenzene | 90 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-7-09 |
| Date Analyzed: | 12-7-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-12 |
| **Client ID:** | **B6-112509-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 1.0 |
| Chloromethane | ND | | 5.0 |
| Vinyl Chloride | ND | | 1.0 |
| Bromomethane | ND | | 1.0 |
| Chloroethane | ND | | 5.0 |
| Trichlorofluoromethane | ND | | 1.0 |
| 1,1-Dichloroethene | ND | | 1.0 |
| Acetone | 29 | | 25 |
| Iodomethane | ND | | 5.0 |
| Carbon Disulfide | ND | | 1.0 |
| Methylene Chloride | ND | | 5.0 |
| (trans) 1,2-dichloroethene | ND | | 1.0 |
| Methyl t-Butyl Ether | ND | | 1.0 |
| 1,1-Dichloroethane | ND | | 1.0 |
| Vinyl Acetate | ND | | 10 |
| 2,2-Dichloropropane | ND | | 1.0 |
| (cis) 1,2-Dichloroethene | 1.3 | | 1.0 |
| 2-Butanone | ND | | 25 |
| Bromochloromethane | ND | | 1.0 |
| Chloroform | ND | | 1.0 |
| 1,1,1-Trichloroethane | ND | | 1.0 |
| Carbon Tetrachloride | ND | | 1.0 |
| 1,1-Dichloropropene | ND | | 1.0 |
| Benzene | 35 | | 1.0 |
| 1,2-Dichloroethane | ND | | 1.0 |
| Trichloroethene | ND | | 1.0 |
| 1,2-Dichloropropane | ND | | 1.0 |
| Dibromomethane | ND | | 1.0 |
| Bromodichloromethane | ND | | 1.0 |
| 2-Chloroethyl Vinyl Ether | ND | | 5.0 |
| (cis) 1,3-Dichloropropene | ND | | 1.0 |
| Methyl Isobutyl Ketone | ND | | 10 |
| Toluene | 25 | | 5.0 |
| (trans) 1,3-Dichloropropene | ND | | 1.0 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-215-12
**Client ID: B6-112509-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 1.0 |
| Tetrachloroethene | ND | | 1.0 |
| 1,3-Dichloropropane | ND | | 1.0 |
| 2-Hexanone | ND | | 10 |
| Dibromochloromethane | ND | | 1.0 |
| 1,2-Dibromoethane | ND | | 1.0 |
| Chlorobenzene | ND | | 1.0 |
| 1,1,1,2-Tetrachloroethane | ND | | 1.0 |
| Ethylbenzene | 18 | | 1.0 |
| m,p-Xylene | 300 | | 2.0 |
| o-Xylene | 22 | | 1.0 |
| Styrene | ND | | 1.0 |
| Bromoform | ND | | 5.0 |
| Isopropylbenzene | 2.9 | | 1.0 |
| Bromobenzene | ND | | 1.0 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 |
| 1,2,3-Trichloropropane | ND | | 1.0 |
| n-Propylbenzene | ND | | 1.0 |
| 2-Chlorotoluene | ND | | 1.0 |
| 4-Chlorotoluene | ND | | 1.0 |
| 1,3,5-Trimethylbenzene | ND | | 1.0 |
| tert-Butylbenzene | ND | | 1.0 |
| 1,2,4-Trimethylbenzene | 3.8 | | 1.0 |
| sec-Butylbenzene | ND | | 1.0 |
| 1,3-Dichlorobenzene | ND | | 1.0 |
| p-Isopropyltoluene | ND | | 1.0 |
| 1,4-Dichlorobenzene | ND | | 1.0 |
| 1,2-Dichlorobenzene | ND | | 1.0 |
| n-Butylbenzene | ND | | 1.0 |
| 1,2-Dibromo-3-chloropropane | ND | | 5.0 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 |
| Hexachlorobutadiene | ND | | 1.0 |
| Naphthalene | ND | | 5.0 |
| 1,2,3-Trichlorobenzene | ND | | 1.0 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 82 | 71-126 |
| Toluene-d8 | 80 | 76-116 |
| 4-Bromofluorobenzene | 88 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-17 |
| **Client ID:** | **B7-112509-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 4.0 |
| Chloromethane | ND | | 20 |
| Vinyl Chloride | ND | | 4.0 |
| Bromomethane | ND | | 4.0 |
| Chloroethane | ND | | 20 |
| Trichlorofluoromethane | ND | | 4.0 |
| 1,1-Dichloroethene | ND | | 4.0 |
| Acetone | ND | | 100 |
| Iodomethane | ND | | 20 |
| Carbon Disulfide | ND | | 4.0 |
| Methylene Chloride | ND | | 20 |
| (trans) 1,2-dichloroethene | ND | | 4.0 |
| Methyl t-Butyl Ether | ND | | 4.0 |
| 1,1-Dichloroethane | ND | | 4.0 |
| Vinyl Acetate | ND | | 40 |
| 2,2-Dichloropropane | ND | | 4.0 |
| (cis) 1,2-Dichloroethene | 5.1 | | 4.0 |
| 2-Butanone | ND | | 100 |
| Bromochloromethane | ND | | 4.0 |
| Chloroform | ND | | 4.0 |
| 1,1,1-Trichloroethane | ND | | 4.0 |
| Carbon Tetrachloride | ND | | 4.0 |
| 1,1-Dichloropropene | ND | | 4.0 |
| Benzene | 26 | | 4.0 |
| 1,2-Dichloroethane | ND | | 4.0 |
| Trichloroethene | ND | | 4.0 |
| 1,2-Dichloropropane | ND | | 4.0 |
| Dibromomethane | ND | | 4.0 |
| Bromodichloromethane | ND | | 4.0 |
| 2-Chloroethyl Vinyl Ether | ND | | 20 |
| (cis) 1,3-Dichloropropene | ND | | 4.0 |
| Methyl Isobutyl Ketone | ND | | 40 |
| Toluene | ND | | 20 |
| (trans) 1,3-Dichloropropene | ND | | 4.0 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-215-17
**Client ID: B7-112509-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 4.0 |
| Tetrachloroethene | ND | | 4.0 |
| 1,3-Dichloropropane | ND | | 4.0 |
| 2-Hexanone | ND | | 40 |
| Dibromochloromethane | ND | | 4.0 |
| 1,2-Dibromoethane | ND | | 4.0 |
| Chlorobenzene | ND | | 4.0 |
| 1,1,1,2-Tetrachloroethane | ND | | 4.0 |
| Ethylbenzene | ND | | 4.0 |
| m,p-Xylene | 770 | | 8.0 |
| o-Xylene | ND | | 40 |
| Styrene | ND | | 4.0 |
| Bromoform | ND | | 20 |
| Isopropylbenzene | ND | | 4.0 |
| Bromobenzene | ND | | 4.0 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 |
| 1,2,3-Trichloropropane | ND | | 4.0 |
| n-Propylbenzene | ND | | 4.0 |
| 2-Chlorotoluene | ND | | 4.0 |
| 4-Chlorotoluene | ND | | 4.0 |
| 1,3,5-Trimethylbenzene | ND | | 4.0 |
| tert-Butylbenzene | ND | | 4.0 |
| 1,2,4-Trimethylbenzene | ND | | 4.0 |
| sec-Butylbenzene | ND | | 4.0 |
| 1,3-Dichlorobenzene | ND | | 4.0 |
| p-Isopropyltoluene | ND | | 4.0 |
| 1,4-Dichlorobenzene | ND | | 4.0 |
| 1,2-Dichlorobenzene | ND | | 4.0 |
| n-Butylbenzene | ND | | 4.0 |
| 1,2-Dibromo-3-chloropropane | ND | | 20 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 |
| Hexachlorobutadiene | ND | | 4.0 |
| Naphthalene | ND | | 20 |
| 1,2,3-Trichlorobenzene | ND | | 4.0 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 78 | 71-126 |
| Toluene-d8 | 83 | 76-116 |
| 4-Bromofluorobenzene | 78 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-22 |
| **Client ID:** | **B8-112509-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | 0.41 | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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**VOLATILES by EPA 8260B**
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Lab ID: 11-215-22
**Client ID: B8-112509-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | 0.25 | | 0.20 |
| m,p-Xylene | ND | | 3.0 |
| o-Xylene | ND | | 2.0 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 79 | 71-126 |
| Toluene-d8 | 81 | 76-116 |
| 4-Bromofluorobenzene | 78 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-27 |
| **Client ID:** | **B9-112509-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | 0.23 | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | 0.64 | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | 2.8 | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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Project: 841-003

**VOLATILES by EPA 8260B**
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Lab ID: 11-215-27
**Client ID: B9-112509-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 3.0 |
| o-Xylene | ND | | 2.0 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 82 | 71-126 |
| Toluene-d8 | 82 | 76-116 |
| 4-Bromofluorobenzene | 77 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
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| | |
|---|---|
| Date Extracted: | 12-2-09 |
| Date Analyzed: | 12-2-09 |
| Matrix: | Water |
| Units: | ug/L (ppb) |
| Lab ID: | 11-215-32 |
| **Client ID:** | **B10-112509-GW** |

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | 22 | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | 0.73 | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | 0.71 | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | 0.32 | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
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**VOLATILES by EPA 8260B**
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Lab ID: 11-215-32
**Client ID: B10-112509-GW**

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | 0.23 | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | 0.29 | | 0.20 |
| m,p-Xylene | ND | | 3.0 |
| o-Xylene | ND | | 2.0 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 79 | 71-126 |
| Toluene-d8 | 79 | 76-116 |
| 4-Bromofluorobenzene | 76 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB1202W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 |
| Chloromethane | ND | | 1.0 |
| Vinyl Chloride | ND | | 0.20 |
| Bromomethane | ND | | 0.20 |
| Chloroethane | ND | | 1.0 |
| Trichlorofluoromethane | ND | | 0.20 |
| 1,1-Dichloroethene | ND | | 0.20 |
| Acetone | ND | | 5.0 |
| Iodomethane | ND | | 1.0 |
| Carbon Disulfide | ND | | 0.20 |
| Methylene Chloride | ND | | 1.0 |
| (trans) 1,2-dichloroethene | ND | | 0.20 |
| Methyl t-Butyl Ether | ND | | 0.20 |
| 1,1-Dichloroethane | ND | | 0.20 |
| Vinyl Acetate | ND | | 2.0 |
| 2,2-Dichloropropane | ND | | 0.20 |
| (cis) 1,2-Dichloroethene | ND | | 0.20 |
| 2-Butanone | ND | | 5.0 |
| Bromochloromethane | ND | | 0.20 |
| Chloroform | ND | | 0.20 |
| 1,1,1-Trichloroethane | ND | | 0.20 |
| Carbon Tetrachloride | ND | | 0.20 |
| 1,1-Dichloropropene | ND | | 0.20 |
| Benzene | ND | | 0.20 |
| 1,2-Dichloroethane | ND | | 0.20 |
| Trichloroethene | ND | | 0.20 |
| 1,2-Dichloropropane | ND | | 0.20 |
| Dibromomethane | ND | | 0.20 |
| Bromodichloromethane | ND | | 0.20 |
| 2-Chloroethyl Vinyl Ether | ND | | 1.0 |
| (cis) 1,3-Dichloropropene | ND | | 0.20 |
| Methyl Isobutyl Ketone | ND | | 2.0 |
| Toluene | ND | | 1.0 |
| (trans) 1,3-Dichloropropene | ND | | 0.20 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

**VOLATILES by EPA 8260B**
**METHOD BLANK QUALITY CONTROL**
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Lab ID: MB1202W1

| Compound | Results | Flags | PQL |
|---|---|---|---|
| 1,1,2-Trichloroethane | ND | | 0.20 |
| Tetrachloroethene | ND | | 0.20 |
| 1,3-Dichloropropane | ND | | 0.20 |
| 2-Hexanone | ND | | 2.0 |
| Dibromochloromethane | ND | | 0.20 |
| 1,2-Dibromoethane | ND | | 0.20 |
| Chlorobenzene | ND | | 0.20 |
| 1,1,1,2-Tetrachloroethane | ND | | 0.20 |
| Ethylbenzene | ND | | 0.20 |
| m,p-Xylene | ND | | 0.40 |
| o-Xylene | ND | | 0.20 |
| Styrene | ND | | 0.20 |
| Bromoform | ND | | 1.0 |
| Isopropylbenzene | ND | | 0.20 |
| Bromobenzene | ND | | 0.20 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 |
| 1,2,3-Trichloropropane | ND | | 0.20 |
| n-Propylbenzene | ND | | 0.20 |
| 2-Chlorotoluene | ND | | 0.20 |
| 4-Chlorotoluene | ND | | 0.20 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 |
| tert-Butylbenzene | ND | | 0.20 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 |
| sec-Butylbenzene | ND | | 0.20 |
| 1,3-Dichlorobenzene | ND | | 0.20 |
| p-Isopropyltoluene | ND | | 0.20 |
| 1,4-Dichlorobenzene | ND | | 0.20 |
| 1,2-Dichlorobenzene | ND | | 0.20 |
| n-Butylbenzene | ND | | 0.20 |
| 1,2-Dibromo-3-chloropropane | ND | | 1.0 |
| 1,2,4-Trichlorobenzene | ND | | 0.20 |
| Hexachlorobutadiene | ND | | 0.20 |
| Naphthalene | ND | | 1.0 |
| 1,2,3-Trichlorobenzene | ND | | 0.20 |

| Surrogate | Percent Recovery | Control Limits |
|---|---|---|
| Dibromofluoromethane | 71 | 71-126 |
| Toluene-d8 | 80 | 76-116 |
| 4-Bromofluorobenzene | 74 | 70-123 |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

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

Date Extracted: 12-2-09
Date Analyzed: 12-2-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1202W1

| Compound | Spike Amount | SB | Percent Recovery | SBD | Percent Recovery | Recovery Limits | Flags |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 10.0 | 7.99 | 80 | 8.93 | 89 | 70-130 | |
| Benzene | 10.0 | 9.13 | 91 | 9.10 | 91 | 70-130 | |
| Trichloroethene | 10.0 | 9.61 | 96 | 9.31 | 93 | 70-123 | |
| Toluene | 10.0 | 8.50 | 85 | 8.39 | 84 | 77-120 | |
| Chlorobenzene | 10.0 | 10.1 | 101 | 10.1 | 101 | 73-115 | |

| | RPD | RPD Limit | Flags |
|---|---|---|---|
| 1,1-Dichloroethene | 11 | 21 | |
| Benzene | 0 | 18 | |
| Trichloroethene | 3 | 18 | |
| Toluene | 1 | 17 | |
| Chlorobenzene | 0 | 18 | |

Date of Report: December 8, 2009
Samples Submitted: November 25, 2009
Laboratory Reference: 0911-215
Project: 841-003

## % MOISTURE

Date Analyzed: 11-30-09

| Client ID | Lab ID | % Moisture |
|---|---|---|
| B-4-12.5 | 11-215-03 | 23 |
| B5-15.0 | 11-215-08 | 16 |
| B6-15.0 | 11-215-11 | 25 |
| B7-16.0 | 11-215-16 | 9 |
| B8-16.0 | 11-215-21 | 23 |
| B9-16.0 | 11-215-26 | 29 |
| B10-15.5 | 11-215-31 | 22 |

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**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 the diesel range are impacting the lube oil range result.

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

Z -

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

# Chain of Custody

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



Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN Scott
Sampled by: Ken Scott

**Turnaround Request (in working days)**

(Check One)

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

**Laboratory Number:** 11-215

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | B4-2.5 | 11/24/09 | 1535 | S | 4 | | | | | | | | | | | | | | |
| 2 | B4-7.0 | | 1550 | S | 4 | | | | | | | | | | | | | | |
| 3 | B4-12.5 | | 1605 | S | 4 | | | | X | | | | | | | | | | X |
| 4 | B4-112409-GW | | 1630 | W | 3 | | | | X | | | | | | | | | | |
| 5 | B5-2.5 | 11/25/09 | 825 | S | 4 | | | | | | | | | | | | | | |
| 6 | B5-7.0 | | 830 | S | 4 | | | | | | | | | | | | | | |
| 7 | B5-12.0 | | 840 | S | 4 | | | | | | | | | | | | | | |
| 8 | B5-15.0 | | 850 | S | 4 | | | | X | | | | | | | | | | X |
| 9 | B5-112509-GW | | 900 | W | 3 | | | | X | | | | | | | | | | |
| 10 | B6-2.5 | | 1010 | S | 4 | | | | | | | | | | | | | | |

| | Signature | Company | Date | Time | Comments/Special Instructions |
|---|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/25/09 | 18:05 | ~~Hold samples, PC will call with analysis~~ KS<br>E-mail Riley confirmation results. |
| Received by | | OnSite Env | 11/25/09 | 1805 | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Reviewed by/Date | | Reviewed by/Date | | | Chromatograms with final report ☐ |

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Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN SCOTT
Sampled by: Ken Scott

**Turnaround Request (in working days)**

(Check One)

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

**Laboratory Number:** 11-215

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | B6-15.0 | 11/25/09 | 1030 | S | 4 | | | | X | | | | | | | | | | X |
| 12 | B6-112509-GW | | 1045 | W | 3 | | | | X | | | | | | | | | | |
| 13 | B7-2.5 | | 1125 | S | 4 | | | | | | | | | | | | | | |
| 14 | B7-7.0 | | 1135 | S | 4 | | | | | | | | | | | | | | |
| 15 | B7-12.0 | | 1145 | S | 4 | | | | | | | | | | | | | | |
| 16 | B7-16.0 | | 1155 | S | 4 | | | | X | | | | | | | | | | X |
| 17 | B7-112509-GW | | 1205 | W | 3 | | | | X | | | | | | | | | | |
| 18 | B8-2.5 | | 1340 (1355) | S | 4 | | | | | | | | | | | | | | |
| 19 | B8-7.0 | | 1355 (1405) | S | 4 | | | | | | | | | | | | | | |
| 20 | B8-11.0 | ↓ | 1405 (1415) | S | 4 | | | | | | | | | | | | | | |

| | Signature | Company | Date | Time | Comments/Special Instructions |
|---|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/25/09 | 1805 | E-MAIL Riley Conklin results! |
| Received by | | OnSite Env. | 11/25/09 | 1805 | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Relinquished by | | | | | |
| Received by | | | | | |

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

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Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN Scott
Sampled by: Ken Scott

**Turnaround Request (in working days)**

(Check One)

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

**Laboratory Number:** 11-215

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | B8-16.0 | 11/25/09 | 1415 | S | 4 | | | | X | | | | | | | | | | X |
| 22 | B8-112509-GW | | 1425 | W | 3 | | | | X | | | | | | | | | | |
| 23 | B9-2.5 | | 1455 | S | 4 | | | | | | | | | | | | | | |
| 24 | B9-7.5 | | 1505 | S | 4 | | | | | | | | | | | | | | |
| 25 | B9-11.0 | | 1515 | S | 4 | | | | | | | | | | | | | | |
| 26 | B9-16.0 | | 1530 | S | 4 | | | | X | | | | | | | | | | X |
| 27 | B9-112509-GW | | 1540 | W | 3 | | | | X | | | | | | | | | | |
| 28 | B10-2.5 | | 1610 | S | 4 | | | | | | | | | | | | | | |
| 29 | B10-7.5 | | 1620 | S | 4 | | | | | | | | | | | | | | |
| 30 | B10-12.5 | ↓ | 1630 | S | 4 | | | | | | | | | | | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/25/09 | 18:05 |
| Received by | | OnSite Env | 11/25/09 | 1805 |
| Relinquished by | | | | |
| Received by | | | | |
| Relinquished by | | | | |
| Received by | | | | |
| Reviewed by/Date | | Reviewed by/Date | | |

Comments/Special Instructions: E-MAIL Riley CONFIRM RESULTS.

Chromatograms with final report ☐

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# Chain of Custody

Page 4 of 4

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Company: FARALLON
Project Number: 841-003
Project Name: GACO WESTERN
Project Manager: KEN Scott
Sampled by: Ken Scott

**Turnaround Request (in working days)**

(Check One)

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

**Laboratory Number:** 11-215

**Requested Analysis**

| Lab ID | Sample Identification | Date Sampled | Time Sampled | Matrix | # of Cont. | NWTPH-HCID | NWTPH-Gx/BTEX | NWTPH-Dx | Volatiles by 8260B | Halogenated Volatiles by 8260B | Semivolatiles by 8270D / SIM | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (8) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | B10-15.5 | 11/25/09 | 1640 | S | 4 | | | | X | | | | | | | | | | X |
| 32 | B10-112509-GW | ✓ | 1650 | W | 3 | | | | X | | | | | | | | | | |

| | Signature | Company | Date | Time |
|---|---|---|---|---|
| Relinquished by | Ken Scott | FARALLON | 11/25/09 | 1805 |
| Received by | | GeoEngineers | 11/25/09 | 1805 |
| Relinquished by | | | | |
| Received by | | | | |
| Relinquished by | | | | |
| Received by | | | | |

Comments/Special Instructions: E-MAIL Riley CONFIRM results.

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

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# ATTACHMENT C
# BORING LOGS

SUMMARY OF SUBSURFACE INVESTIGATION AND PRELIMINARY REMEDIAL ALTERNATIVES
GACO Western, Inc. Facility
Tukwila, Washington

Farallon PN: 841-003

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

# USCS Classification and Graphic Legend

| Major Divisions | | | USCS Graphic Symbol | USCS Letter Symbol | Lithologic Description |
|---|---|---|---|---|---|
| Coarse-Grained Soil (More than 50% of material is larger than No. 200 sieve size) | GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve) | CLEAN GRAVEL (Little or no fines) | | GW | Well graded GRAVEL, well graded GRAVEL with sand |
| | | | | GP | Poorly graded GRAVEL, GRAVEL with sand |
| | | GRAVEL WITH FINES (Appreciable amount of fines) | | GP-GM | Poorly graded GRAVEL - GRAVEL with sand and silt |
| | | | | GM | Silty GRAVEL |
| | | | | GC | Clayey GRAVEL |
| | SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve) | CLEAN SAND (Little or no fines) | | SW | Well graded SAND |
| | | | | SP | Poorly graded SAND |
| | | SAND WITH FINES (Appreciable amount of fines) | | SP-SM | Poorly graded SAND - silty SAND |
| | | | | SM | Silty SAND |
| | | | | SC | Clayey SAND |
| | | | | SM-ML | SILT - Silty SAND |
| Fine-Grained Soil (More than 50% of material is smaller than No. 200 sieve size) | SILT AND CLAY (Liquid limit less than 50) | | | ML | SILT |
| | | | | CL | CLAY |
| | | | | OL | Organic SILT |
| | SILT AND CLAY (Liquid limit greater than 50) | | | MH | Inorganic SILT |
| | | | | CH | Inorganic CLAY |
| | | | | OH | Organic CLAY |
| | | Highly Organic Soil | | PT | Peat |
| OTHER MATERIALS | PAVEMENT | | | AC | Asphalt concrete |
| | | | | CO | Concrete |
| | OTHER | | | RK | Bedrock |
| | | | | WD | Wood Debris |
| | | | | DB | Debris (Miscellaneous) |
| | | | | PC | Portland cement |

## Legend

- Sample Interval
- G — Grab Sample Interval
- ▼ — Water level at time of drilling
- ▼ — Water level at time of sampling
- Blank Casing
- Screened Casing
- Cement Grout
- Bentonite
- Sand Pack
- Well Cap

_____ Solid line indicates sharp contact between units well defined.

_ _ _ _ _ _ Dashed line indicates gradational contact between units.

feet bgs = feet below ground surface
NE = Not Encountered
NA = Not Applicable
PID = Photoionization Detector
PN = Project Number
*ppm = parts per million total organic vapors in isobutylene equivalents using a 10.6 electron volt lamp
USCS = Unified Soil Classification System

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Issaquah, Washington 98027

# Log of Boring: B1



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/24/2009 905 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/24/2009 1050 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 11 |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Sample Interval | Lithologic Description | USCS | USGS Graphic | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 0-0.3' Asphalt, black, dry, odor, sheen | AC | | | | | | | Asphalt |
| | | 0.3-2.0' Silty SAND with gravel (65% sand, 20% silt, 15% gravel), fine sand, fine gravel, brown, moist, no odor, no sheen. Observed 2" to 3" subrounded cobbles. | SM | | | | | | | |
| | | | SM | | 100 | N/A | 0.0 | B1-2.5 | | |
| | | 2.0-3.5' SAND with silt (80% sand, 20% silt), fine sand, brown, moist, no odor, no sheen. Observed 2" to 3" subrounded cobbles. | ML | | | | | | | |
| 5 | | 3.5-4.5' Sandy SILT (75% silt, 25% sand), fine sand, dark grey, moist, no odor, no sheen. | SM | | | | | | | Bentonite |
| | | 4.5-6.0' Silty SAND (65% sand, 35% silt), fine sand, brown, moist, no odor, no sheen. | ML | | | | | | | |
| | | | ML | | 80 | N/A | 0.0 | | | |
| | | 6.0-7.0' Sandy SILT (60% silt, 40% sand), fine sand, tan, moist, no odor, no sheen. | SP | | | | | | | |
| 10 | | 7.0-7.5' SILT (100% silt), grey, moist, odor, no sheen. | | | | | 526 | B1-9.5 | X | Water level |
| | | 7.5-13.0' SAND (95% sand, 5% silt), fine sand, trace silt, brown, moist to wet, odor, no sheen. | | | 100 | N/A | 606 | B1-112409-GW | X | Screen |
| | | 13.0-16.0' SILT (100% silt), brown, wet, odor, no sheen. | ML | | | | | | | |
| 15 | | 16.0-20.0' SILT (100% silt), grey, wet, slight odor, no sheen. | ML | | | | | | | |
| | | | | | 100 | N/A | 48.0 | | | |
| 20 | | | | | | | | | | |

## Well Construction Information

**Monument Type:** N/A
**Casing Diameter (inches):** N/A
**Screen Slot Size (inches):** 0.010
**Screened Interval (ft bgs):** 10-14
**Filter Pack:** N/A
**Surface Seal:** Asphalt
**Annular Seal:** Bentonite
**Ground Surface Elevation (ft):** N/A
**Top of Casing Elevation (ft):** N/A
**Boring Abandonment:** Yes
**Surveyed Location:** X: N/A Y: N/A

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# Log of Boring: B2



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/24/2009 1105 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/24/2009 1255 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 17.0 |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Lithologic Description | USCS | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|
| 0 | 0-0.3' Asphalt, black, dry, odor, sheen | AC | | | | | | Asphalt |
| | 0.3-3.5' Gravelly SAND, trace silt (60% sand, 35% gravel, 5% silt), fine sand, fine gravel, grey, moist, odor, no sheen. Observed 2" to 3" subrounded cobbles. | SP | 100 | N/A | 48.0 | B2-2.5 | | |
| | 3.5-6.0' Silty SAND, trace gravel (65% sand, 30% silt, 5% gravel), fine sand, fine gravel, grey, moist, sweet-odor, sheen. | SM | | | 12.1 | | | Bentonite |
| 5 | 6.0-12.5' SAND with silt (80% sand, 20% silt), fine sand, grey, moist to slightly-wet, sweet-odor, white sheen. | SM | 100 | N/A | 2,288 | B2-7.5 | X | |
| 10 | | | 100 | N/A | 3,266 | B2-12.0 | X | |
| | 12.5-13.5' SILT (100% silt), brown, moist, sweet-odor, no sheen. | ML | | | | | | |
| | 13.5-16.0' SILT (100% silt), grey, moist, sweet-odor, sheen. | ML | | | | | | |
| 15 | 16.0-17.0' Silty SAND (65% sand 35% silt, 5% gravel), fine sand, grey, moist to wet, odor, no sheen. | SM | 100 | N/A | 502 | B2-16.0 | | ▽ Water level |
| | 17.0-20.0' SILT (100% silt), brown, wet, odor, no sheen. | ML | | | | B2-112409-GW | X | Screen |
| 20 | | | | | | | | |

## Well Construction Information

**Monument Type:** N/A
**Casing Diameter (inches):** N/A
**Screen Slot Size (inches):** 0.010
**Screened Interval (ft bgs):** 16-20
**Filter Pack:** N/A
**Surface Seal:** Asphalt
**Annular Seal:** Bentonite
**Ground Surface Elevation (ft):** N/A
**Top of Casing Elevation (ft):** N/A
**Boring Abandonment:** Yes
**Surveyed Location:** X: N/A Y: N/A

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Issaquah, Washington 98027

# Log of Boring: B5



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/25/2009 820 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/25/2009 915 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 15.5 |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Lithologic Description | USCS | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|
| 0 | 0-0.5' Concrete, white, dry, no odor, no sheen | CO | | | | | | Concrete |
| | 0.5-4.0' Silty SAND (60% sand, 35% silt, 5% gravel), fine sand, trace fine gravel, brown, moist, no odor, no sheen. | SM | 100 | N/A | 0.0 | B5-2.5 | | |
| 5 | 4.0-16.0' Poorly graded SAND, trace silt (95% sand 5% silt), fine sand, grey, moist to wet, no odor, no sheen. | SP | 100 | N/A | 0.0 | B5-7.0 | | Bentonite |
| 10 | | | 100 | N/A | 0.0 | B5-12.0 | | |
| 15 | | | | N/A | 0.0 | B5-15.0 | X | Screen<br>▽ Water level |
| | 16.0-18.0' Silty SAND (65% sand 35% silt), fine sand, grey, wet, no odor, no sheen. | SM | 100 | | 0.0 | | | |
| | 18.0-20.0' SILT (100% silt), brown, wet, no odor, no sheen. | ML | | | | B5-112509-GW | X | |
| 20 | | | | | | | | |

## Well Construction Information

**Monument Type:** N/A
**Casing Diameter (inches):** N/A
**Screen Slot Size (inches):** 0.010
**Screened Interval (ft bgs):** 16-20
**Filter Pack:** N/A
**Surface Seal:** Concrete
**Annular Seal:** Bentonite
**Ground Surface Elevation (ft):** N/A
**Top of Casing Elevation (ft):** N/A
**Boring Abandonment:** Yes
**Surveyed Location:** X: N/A Y: N/A

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# Log of Boring: B6



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/25/2009 1005 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/25/2009 1105 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 16.0 |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Sample Interval | Lithologic Description | USCS | USGS Graphic | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 0-0.5' Concrete, white, dry, no odor, no sheen | CO | | | | | | | Concrete |
| | | 0.5-5.0' Silty SAND with gravel (65% sand 20% silt, 15% gravel), fine sand, fine gravel, brown, moist, slight odor, no sheen. Observed 2" subrounded gravel. | SM | | 70 | N/A | 15.3 | B6-2.5 | | |
| 5 | | 5.0-15.0' No recovery between 5 to 15' bgs due to rock in shoe per driller (Elijah). | | | 0 | N/A | NM | | | Bentonite |
| 10 | | | | | 0 | N/A | NM | | | |
| 15 | | 15.0-17.0' Silty SAND (65% sand 35% silt), fine sand, brown, moist to wet, sweet odor, no sheen. | SM | | | N/A | 110 | B6-15.0 | X | Water level |
| | | 17.0-20.0' SILT (100% silt), grey, wet, odor, no sheen. | ML | | 100 | | 12.0 | B6-112509-GW | X | Screen |
| 20 | | | | | | | | | | |

## Well Construction Information

**Monument Type:** N/A
**Casing Diameter (inches):** N/A
**Screen Slot Size (inches):** 0.010
**Screened Interval (ft bgs):** 16-20
**Filter Pack:** N/A
**Surface Seal:** Concrete
**Annular Seal:** Bentonite
**Ground Surface Elevation (ft):** N/A
**Top of Casing Elevation (ft):** N/A
**Boring Abandonment:** Yes
**Surveyed Location:** X: N/A Y: N/A

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# Log of Boring: B7



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/25/2009 1120 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/25/2009 1215 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 17.0 |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Sample Interval | Lithologic Description | USCS | USGS Graphic | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 0-0.5' Concrete, white, dry, no odor, no sheen | CO | | | | | | | Concrete |
| | | 0.5-7.0' Silty SAND (65% sand, 20% silt, 15% gravel), fine sand, fine to coarse gravel, brown, moist, no odor, no sheen. | SM | | 100 | N/A | 0.0 | B7-2.5 | | |
| 5 | | | | | | | | | | Bentonite |
| | | 7.0-16.0' Poorly graded SAND (95% sand 5% silt), fine sand, trace silt, brown, moist to slightly wet, no odor, no sheen. | SP | | 100 | N/A | 0.0 | B7-7.0 | | |
| 10 | | | | | 100 | N/A | 0.0 | B7-12.0 | | |
| 15 | | 16.0-16.75' Silty SAND (65% sand 35% silt), fine sand, brown, moist to slightly wet, no odor, no sheen. | SM | | 100 | N/A | 0.0 | B7-16.0 | X | ▽ Water level |
| | | 16.75-20.0' SILT (100% silt), brown, wet, no odor, no sheen. | ML | | | | | B7-112509-GW | X | Screen |
| | | 18.0-20.0' SILT (100% silt), grey, wet, no odor, no sheen. | ML | | | | | | | |
| 20 | | | | | | | | | | |

## Well Construction Information

| | | | | | |
|---|---|---|---|---|---|
| **Monument Type:** | N/A | **Filter Pack:** | N/A | **Ground Surface Elevation (ft):** | N/A |
| **Casing Diameter (inches):** | N/A | **Surface Seal:** | Concrete | **Top of Casing Elevation (ft):** | N/A |
| **Screen Slot Size (inches):** | 0.010 | **Annular Seal:** | Bentonite | **Boring Abandonment:** | Yes |
| **Screened Interval (ft bgs):** | 16-20 | | | **Surveyed Location:** X: N/A | Y: N/A |

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# Log of Boring: B8



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/25/2009 1330 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/25/2009 1430 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 16' |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Lithologic Description | USCS | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|
| 0 | 0-0.3' Organic, (100% grass) green, moist, ortganic odor, no sheen | TOPSOIL | | | | | | Topsoil |
| | 0.4-6.0' SILT, minor sand (90% silt, 10% sand), fine sand, brown, moist, no odor, no sheen. | ML | 100 | N/A | 0.1 | B8-2.5 | | |
| 5 | | | | | | | | Bentonite |
| | 6.0-7.0' Poorly graded SAND (95% sand 5% silt), fine sand, trace silt, brown, moist, no odor, no sheen. | SP | 100 | N/A | 0.0 | B8-7.0 | | |
| | 7.0-11.0' SILT, minor sand (90% silt, 10% sand), fine sand, brown, moist, no odor, no sheen. | ML | | | | | | |
| 10 | | | | | | | | |
| | 11.0-12.0' Poorly graded SAND (95% sand, 5% silt), fine sand, trace silt, brown with red-oxides, moist, no odor, no sheen. | SP | 100 | N/A | 0.0 | B8-11.0 | | |
| | 12.0-14.0' SILT (100% silt), brown, moist to wet, no odor, no sheen. | ML | | | | | | |
| 15 | 14.0-15.0' Poorly graded SAND, minor silt (90% sand, 10% silt), fine sand, dark grey, moist to wet, no odor, no sheen. | SP | | | | | | |
| | 15.0-16.0' SILT(100% silt), brown, wet, no odor, no sheen. | ML | | | | | | ▽ Water level |
| | 16.0-17.0' Poorly graded SAND (95% sand, 5% silt), fine sand, trace silt, grey, wet, no odor, no sheen. | SP | 100 | N/A | 0.0 | B8-16.0 | X | |
| | 17.0-20.0' SILT, minor sand(90% silt, 10% sand), fine sand, grey, wet, no odor, no sheen. | ML | | | | B8-112509-GW | X | |
| 20 | | | | | | | | Screen |

## Well Construction Information

**Monument Type:** N/A
**Casing Diameter (inches):** N/A
**Screen Slot Size (inches):** 0.010
**Screened Interval (ft bgs):** 16-20
**Filter Pack:** N/A
**Surface Seal:** Topsoil
**Annular Seal:** Bentonite
**Ground Surface Elevation (ft):** N/A
**Top of Casing Elevation (ft):** N/A
**Boring Abandonment:** Yes
**Surveyed Location:** X: N/A Y: N/A

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# Log of Boring: B9



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/25/2009 1445 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/25/2009 1550 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 17' |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Lithologic Description | USCS | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed |
|---|---|---|---|---|---|---|---|
| 0 | 0-0.3' Organic, (100% grass) green, moist, ortganic odor, no sheen | TOPSOIL | | | | | |
| | 0.4-8.0' SILT, minor sand (90% silt, 10% sand), fine sand, brown, moist, no odor, no sheen. | ML | 100 | N/A | 0.0 | B9-2.5 | |
| 5 | | | | | | | |
| | | | 100 | N/A | 0.0 | B9-7.0 | |
| | 8.0-12.0' SAND with silt (80% sand, 20% silt), fine sand, brown, moist, no odor, no sheen. | SM | | | | | |
| 10 | | | 100 | N/A | 0.0 | B9-11.0 | |
| | 12.0-13.0' Poorly graded SAND (95% sand, 5% silt), fine sand, trace silt, brown, moist to slightly wet, no odor, no sheen. | SP | | | | | |
| | 13.0-17.0' SILT (100% silt), grey, moist to wet, no odor, no sheen. | ML | | | | | |
| 15 | | | 100 | N/A | 0.0 | B9-16.0 | X |
| | 17.0-18.0' Sandy SILT (65% silt, 35% sand), brown, wet, no odor, no sheen. | ML | | | | | |
| | 18.0-20.0' SILT, minor sand (90% silt, 10% sand), fine sand, grey, wet, no odor, no sheen. | ML | 100 | | | B9-112509-GW | X |
| 20 | | | | | | | |

Boring/Well Construction Details: Topsoil; Bentonite; Water level; Screen

## Well Construction Information

**Monument Type:** N/A
**Casing Diameter (inches):** N/A
**Screen Slot Size (inches):** 0.010
**Screened Interval (ft bgs):** 16-20
**Filter Pack:** N/A
**Surface Seal:** Topsoil
**Annular Seal:** Bentonite
**Ground Surface Elevation (ft):** N/A
**Top of Casing Elevation (ft):** N/A
**Boring Abandonment:** Yes
**Surveyed Location:** X: N/A Y: N/A

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# Log of Boring: B10



**Client:** Segale Properties
**Project:** GACO Western Property
**Location:** Tukwila, Washington
**Farallon PN:** 841-003
**Logged By:** Ken Scott

| | | | |
|---|---|---|---|
| **Date/Time Started:** | 11/25/2009 1600 | **Sampler Type:** | 5' macrocore |
| **Date/Time Completed:** | 11/25/2009 1705 | **Drive Hammer (lbs.):** | N/A |
| **Equipment:** | Geoprobe 7730 DT | **Depth of Water ATD (ft bgs):** | 16' |
| **Drilling Company:** | Cascade Drilling | **Total Boring Depth (ft bgs):** | 20 |
| **Drilling Foreman:** | Elijah Floyd | **Total Well Depth (ft bgs):** | N/A |
| **Drilling Method:** | Direct-push | | |

| Depth (feet bgs.) | Sample Interval | Lithologic Description | USCS | % Recovery | Blow Counts 8/8/8 | PID (ppm*) | Sample ID | Sample Analyzed | Boring/Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 0-0.3' Organic, (100% grass) green, moist, ortganic odor, no sheen | TOPSOIL | | | | | | Topsoil |
| | | 0.4-4.0' SAND with gravel and silt (65% sand, 20% gravel, 15% silt), fine sand, fine to coarse gravel, brown, moist, no odor, no sheen. | SM | 100 | N/A | 0.0 | B10-2.5 | | |
| 5 | | 4.0-6.0' SILT (100% silt), brown, moist, no odor, no sheen. | ML | | | | | | Bentonite |
| | | 6.0-12.0' Sandy SILT (65% silt, 35% sand), brown, moist, no odor, no sheen. | ML | 100 | N/A | 0.0 | B10-7.5 | | |
| 10 | | 12.0-13.5' SAND, minor silt (90% sand, 10% silt), fine sand, brown, moist, no odor, no sheen. | SM | 100 | N/A | 0.0 | B10-12.5 | | |
| | | 13.5-17.5' SILT (100% silt), grey, moist to wet, no odor, no sheen. | ML | 100 | N/A | 0.0 | B10-15.5 | X | ▽ Water level |
| 15 | | 17.5-20.0' SILT with sand (80% silt, 20% sand), fine sand, grey, wet, no odor, no sheen. | ML | 100 | | 0.0 | B10-112509-GW | X | |
| 20 | | | | | | | | | Screen |

## Well Construction Information

| | | | | | |
|---|---|---|---|---|---|
| **Monument Type:** | N/A | **Filter Pack:** | N/A | **Ground Surface Elevation (ft):** | N/A |
| **Casing Diameter (inches):** | N/A | **Surface Seal:** | Topsoil | **Top of Casing Elevation (ft):** | N/A |
| **Screen Slot Size (inches):** | 0.010 | **Annular Seal:** | Bentonite | **Boring Abandonment:** | Yes |
| **Screened Interval (ft bgs):** | 16-20 | | | **Surveyed Location:** X: N/A | Y: N/A |