

# Limited Site Investigation

**4304 State Route 530  
Arlington, Washington**

June 28, 2011

Project No. 81117022

UB Project No. 10-1137

**Prepared for:**

Union Bank, N.A.  
Orange, California

**Prepared by:**

Terracon Consultants, Inc.  
Mountlake Terrace, Washington

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# Terracon

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June 28, 2011

Union Bank, N.A.  
500 S Main Street, Ste 320  
MC 4-450-320  
Orange, California 92868

Attn: Mr. Uwe Ligmond

Re: Limited Site Investigation  
4304 State Route 530  
Arlington, Snohomish County, Washington  
Terracon Project No. 81117022

Dear Mr. Ligmond:

Terracon is pleased to submit this Limited Site Investigation (LSI) for the above referenced site. This assessment was performed in accordance with the Master Environmental Services Agreement (MESA) between Terracon and Union Bank, N.A. (UB) dated June 16, 2008; the RIMS on-line award dated March 17, 2011; the supplemental RIMS on-line award dated April 1, 2011; and with Terracon's Proposal No. P81110064R dated March 17, 2011.

We appreciate the opportunity to perform these services for Union Bank, N.A.. Please contact either of the undersigned at (425) 771-3304 if you have questions regarding the information provided in the report.

Sincerely,

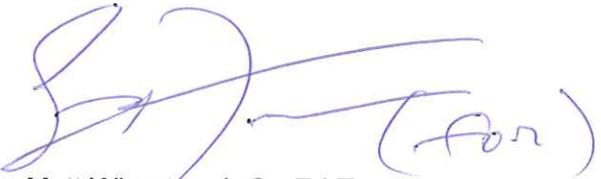
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## 1.0 INTRODUCTION

### 1.1 Site Description

<b>Site Location/Address</b>	4304 State Route 530 Arlington, Snohomish County, Washington 98223
<b>General Site Description</b>	The site consists of Snohomish County Tax parcels 01052900000100, -0200, -0300, -0500 to -1500. The subject property consists of approximately 140 acres improved with a residential structure and outbuildings, a six-bay carport, an equestrian barn, and agricultural fields.

A topographic map and aerial photograph indicating the approximate location of the site is included as Figure 1 and 2 and a site and exploration plan is included as Figure 3 of Appendix A.

### 1.2 Previous Investigations

Terracon's scope of services included a review of the following previously completed environmental reports for the site completed by others:

#### **Phase I Environmental Site Assessment, (March 2004)**

A Phase I Environmental Site Assessment (ESA) dated March 29, 2004 and prepared by Environmental Associates, Inc. (EAI) identified one 500-gallon gasoline UST and one 1,200-gallon diesel UST as recognized environmental conditions (RECs). Both USTs were reportedly installed in 1975 and the remaining product in the USTs was removed in 2003. EAI recommended the USTs be removed and that soil samples be collected in the vicinity of the USTs in order to assess the potential for on-site impacts resulting from undocumented releases from the two USTs.

#### **Tank Closure Assessment & Remedial Actions, (June 2004)**

On June 9, 2004 EAI completed a report documenting the removal of the two USTs they identified in the March 2004 ESA. The two USTs were removed from the site by AAA Tank Service Company on April 8, 2004. EAI reported in their ESA that the USTs consisted of a 1,200-gallon diesel tank and a 500-gallon gasoline tank; however, the final UST Closure Report and Ecology records indicate that the diesel UST was a 1,500-gallon tank. Both USTs were single-walled steel tanks. Significant corrosion was observed on the exterior surfaces of the tanks; however, only the gasoline UST was observed to contain visible holes. Upon removal, impacted soil was reportedly identified in the gasoline UST cavity. Approximately 40 tons of impacted soil was removed from the gasoline UST cavity and stockpiled on-site for future off-

site disposal. Soil impacts reportedly extended to approximately 9 feet below the ground surface (bgs). No groundwater was observed during excavation activities.

Four soils samples were collected from the diesel UST cavity and were analyzed for diesel and oil-range total petroleum hydrocarbons (TPH), which were not identified in the samples above laboratory reporting limits with the exception of a sample collected from the east sidewall, which contained diesel-range TPH at a concentration of 39 mg/kg, well below the MTCA Method A cleanup level for diesel-range TPH in soil established at 2,000 mg/kg. Five soils samples were collected from the gasoline UST cavity after remedial excavation activities and were analyzed for gasoline-range TPH and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Gasoline-range TPH and benzene were not identified in the soil samples above laboratory reporting limits. Toluene, ethylbenzene, and xylenes were identified in one sample at concentrations of 0.05 mg/kg, 0.05 mg/kg, and 0.15 mg/kg, respectively and xylenes were identified in a second sample at a concentration of 0.08 mg/kg. All of the identified concentrations of toluene, ethylbenzene, and xylenes were below MTCA Method A cleanup levels for soil, which have been established at 7 mg/kg, 6 mg/kg, and 9 mg/kg, respectively. One sample from the gasoline UST cavity was also analyzed for lead, which was identified at a concentration of 6.1 mg/kg, which did not exceed the MTCA Method A cleanup level for lead in soil established at 250 mg/kg.

A composited soil sample collected from a stockpile of shallow soil removed from above the USTs was analyzed for diesel, oil, and gasoline-range TPH, BTEX, and lead; however, none of the analytes were identified above laboratory reporting limits. This soil was used as backfill material for the UST cavities.

Additionally, the stock-piled soil reportedly impacted with gasoline-range petroleum hydrocarbons and benzene above current (2007) MTCA Method A cleanup levels was reportedly left on-site. EAI indicated in their report that the petroleum-impacted soil would be staged on-site for planned future transport to an off-site landfill or a thermal desorption treatment facility. No further documentation pertaining to the off-site disposition of petroleum impacted stockpile soil was provided to Terracon for review. During Terracon's initial site visit (see Section 2.1), we interviewed the site contact, Mr. Randy Faber, regarding any documentation that may exist for the off-site disposition of petroleum-impacted stockpile soil. Mr. Faber informed Terracon that AAA Tank Services removed the stockpiled soil and disposed of the material off-site. Mr. Faber was unaware of the disposal method and did not have documentation for review. Furthermore, Terracon attempted to contact AAA Tank Services; however, it appears that they are no longer in business and no telephone calls have been returned as of the issuance date of this report.

#### **Phase I Environmental Site Assessment, (November 2010)**

A Phase I ESA, dated November 9, 2010 and prepared by Krazan & Associates, Inc. (Krazan), identified the following RECs:

- An accident involving a truck towing a tractor occurred on the stretch of Highway 530 near the site in July of 1992. As a result of the accident, the tractor ended up on its side on-site near the driveway to the residence on Lot 1 and approximately 100-gallons of diesel fuel from the tractor was released to site soils. Approximately 20 cubic yards of impacted soil was reportedly removed from the site; however, documentation of disposition of the impacted soil and confirmation soil sampling was not observed within the Snohomish County Health District file;
- Petroleum surface soil staining was observed in the metal storage building on Lot 3 in the vicinity of farm machinery. The staining was reportedly related to on-site storage and maintenance of the farm machinery within the building;
- A dairy waste pond lagoon was previously located on an adjoining property near the east end of Riverbend Lot #4. Groundwater in the vicinity of the former lagoon may contain elevated concentrations of nitrates.

Krazan recommended that soil testing be completed in the vicinity of the on-site diesel spill and areas of observed soil staining in order to assess the extent of soil impacts. Krazan also recommended that water from existing on-site water wells be tested to assess compliance with State and Federal drinking water standards for public consumption.

### 1.3 Scope of Work

Terracon's scope of work was conducted in accordance with our proposal (P81110064R) dated March 17, 2011, as authorized by Mr. Uwe Ligmond with the RIMS on-line award (10-1137) dated March 17, 2011 and the supplemental RIMS on-line award dated April 1, 2011. Our scope of services included completion of the following tasks:

- Task 1. Performed an initial inspection of the property to observe site conditions, consulted with the site contact to verify former UST locations, the location of the reported spill, and to plan boring locations. In addition, Terracon attempted to obtain additional information regarding previous spills and handling of impacted soils at the site.

Concurrent with the site visit, performed a pedestrian survey of the on-site areas where four inactive water supply wells identified in the 2004 EAI Phase I ESA are reportedly located.

- Task 2. Completed six 5-foot borings and collected two samples from each boring. Completed two 20-foot borings and collected three samples and one groundwater sample from each boring.
- Task 3. Completed laboratory analyses of soil and groundwater samples.

Task 4. Prepared this Limited Site Investigation summarizing the results of our findings.

## **1.4 Project Objectives**

The objectives of this project were to complete an initial evaluation of the RECs identified by Krazan to determine if additional investigation is warranted, locate the inactive water supply wells identified during an earlier Phase I ESA to evaluate the condition of the wells and determine if decommissioning is necessary, investigate subsurface soil conditions to evaluate for the presence of impacts to soils and/or groundwater due to potential releases associated with the historical diesel spill, former on-site USTs, and areas of observed stained soil.

## **1.5 Standard of Care**

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These LSI services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-97.

## **1.6 Additional Scope Limitations**

This report was intended to reduce, but not eliminate, uncertainty regarding the existence of recognized environmental conditions in connection with the subject site. Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this LSI. Subsurface conditions may vary from those encountered at the time of construction or at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services. If, during future site development, different subsurface conditions from those encountered during our explorations are observed or appear to be present, we must be advised promptly so that we can review these conditions and reconsider or modify our conclusions and recommendations where necessary.

## 1.7 Reliance

This Limited Site Investigation is certified to, can be relied upon by, and has been prepared for the exclusive use of the following entities: Union Bank, N.A. and their respective successors, assigns, affiliates, and subsidiaries.

Use or reliance by any other party is prohibited without the written authorization of Union Bank, N.A. and Terracon.

Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, this report, and RIMS task order 10-1137. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

## 2.0 METHODOLOGY

Methods used to complete this report were developed based on information derived via review of the reports described in Section 1.2 and our experience on similar projects.

A conceptual model of hydrogeologic and environmental conditions was developed based the results of previously completed assessments. The conceptual model included the following key elements:

- Probable subsurface conditions would consist of native alluvial soils;
- The probable location of potential on-site impaired media would be in the area of the former USTs, the former petroleum contaminated soils (PCS) stockpile, and spills at the site.
- Potential contaminants would consist of gasoline-, diesel- and oil-range total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs).

Based on these conceptual subsurface conditions, direct-push drilling methods were selected for completion of subsurface exploration activities. Subsurface investigation activities included the following tasks:

1. Advancing eight direct-push borings;
2. Limited soil and groundwater sampling; and
3. Analytical laboratory testing.

Each of these investigation activities is summarized below.

## 2.1 Initial Site Reconnaissance and Groundwater Well Location

In accordance with our revised proposal (P81110064R), dated March 17, 2011, Terracon performed an initial inspection of the property to observe site conditions, consulted with the site contact to verify the former UST locations, the location of the PCS stockpile, and the location of the above reported spill. We also located surficial staining in the equipment outbuilding, inventoried the various drums currently in use at the site, and evaluated potential boring locations. Concurrent with our site visit, Terracon performed a pedestrian survey in the locations of the four inactive wells reportedly located at the site. The survey included a visual observation of the ground surface in those locations. In addition, Terracon inquired about any additional documentation and/or information available regarding previous spills and handling of impacted soils at the site.

During Terracon's initial site reconnaissance, we requested information from the site contact regarding the locations of the four groundwater wells that were reportedly located on-site and that were no longer in use. According to Mr. Randy Faber, the site owner, only three inactive wells were located at the site and consisted of hand dug wells located along the northern portion of the site and on Lot 12, respectively. The two hand dug wells located directly east of the site entrance along SR 530 were reportedly decommissioned in 2004. The exact location of the wells could not be determined. According to the site contact, the third hand dug well was formerly located on Lot 12 and was also decommissioned in 2004. An irrigation well to replace the well formerly located on Lot 12 was installed on Lot 15 southeast of the horse barn during subdivision of the site for future development in 2007 concurrent with the installation of the domestic drinking water wells discussed below. The three inactive hand dug wells were decommissioned by Himebaugh Drilling of Arlington, Washington. Copies of decommissioning logs are included in Appendix D. In addition, Mr. Faber indicated that a fourth hand dug well was currently in use by the residence on the northwest portion of the site. The approximate locations of the hand-dug wells are included in Figure 3.

Based on information obtained from Mr. Faber and Terracon's field observations, inactive wells appear to have been decommissioned in accordance with Chapter 173-360 WAC *Minimum Standards for Construction and Maintenance of Wells*. Therefore, no further investigation or decommissioning activities associated with inactive wells appear to be warranted at this time.

In addition to the wells listed above, three additional domestic drinking water wells were installed on-site in 2007 by Dahlman Pump and Well Drilling, Inc. and are located to the north and south of a historic off-site manure collection lagoon. Copies of installation well logs are included in Appendix D. Krazan recommended that these wells be sampled to evaluate groundwater quality due to the former presence of the lagoon and use of the site as a dairy. During site reconnaissance, the owner indicated that the lagoon had been dredged of manure and sediment in 2004 during site redevelopment. Further, the approximate location of the former lagoon is beneath Lot 4, which is not part of the site.

Subsequent to the completion of Krazan's Phase I ESA, UB obtained and provided to Terracon information indicating that the three domestic drinking water wells installed in 2007 were sampled following installation. Analytical results were provided to Terracon for review (see Appendix D). According to the laboratory results, all samples were analyzed for total coliform, E. Coli, metals (iron, chromium, arsenic, selenium, silver, cadmium, barium, lead, mercury, sodium, manganese, and fluoride), hardness, pH, and nitrates. Analytes tested were all identified at concentrations acceptable to the Snohomish County Health Department's drinking water standards. Based on the results of the 2007 analyses conducted by others, it appears that the on-site wells tested have not been impacted with compounds typically associated with dairy or manure waste. Therefore, additional sampling of these wells is not warranted at this time.

Terracon identified the locations of the former traffic accident spill, the former USTs, and the PCS stockpile during site reconnaissance with help from the site owner. According to the site owner, the PCS stockpile was removed by the tank removal contractor, AAA Tank Service Company (AAA Tank), at the time of UST removal. Although no indications of petroleum impacts were identified during our site reconnaissance, Terracon recommended advancing borings in these locations to determine (a) that cleanup of the traffic accident removed PCS along SR 530, (b) that the UST excavations were backfilled with clean fill material and the underlying native soil is not contaminated, and (c) that the impacted soils were not left at the site in the area of the former PCS stockpile following UST removal.

In addition, Terracon observed surficial staining associated with farm equipment and fuel drums stored in the equipment outbuilding on Lot 3. Terracon recommended that two shallow borings be advanced to determine if the staining represents a *de minimis* condition or warrants further investigation.

In sum, Terracon recommended that a total of eight direct-push borings be advanced at the site as follows:

- Two borings advanced in the area of the former USTs to a maximum depth of 20 feet bgs;
- Two borings advanced in the area of the PCS stockpile to a maximum depth of 5 feet bgs;
- Two borings advanced in the area of the former traffic accident spill to a maximum depth of 5 feet bgs; and,
- Two borings advanced in the area of surficial staining in the equipment outbuilding to a maximum depth of 5 feet bgs.

### Drum Inventory

During site reconnaissance, Terracon took inventory of the drums of diesel being stored at the site for fueling of farm equipment. The drums reportedly contained diesel fuel for farm implement use. The following is a brief inventory of drums and/or storage containers observed at the site:

- (1) 55-gallon drum – approximately half-full of used oil;
- (2) 40-gallon drums – approximately half to three-quarters full of diesel;
- (1) 5-gallon bucket - containing approximately one gallon of used oil;
- (1) 500-gallon Aboveground Storage Tank (AST) – empty.

## **2.2 Subsurface Exploration**

Figure 1 and Figure 2 presents the general boundaries and topography of the site on portions of an aerial photograph and the USGS topographic quadrangle map of Arlington West (Appendix A). Figure 3 is a Site and Exploration Plan that indicates the approximate locations of the soil explorations in relation to general site boundaries (Appendix A).

Soil borings (B-1 to B-8) were advanced on the site on April 20, 2011 using a direct-push drill rig operated by Pacific Northwest Probe. The device utilized a direct-push sampler equipped with disposable PVC sample sleeves. Throughout the drilling operation, soil samples were obtained continuously (to the extent practical) from five-foot long pushes driven into the ground using a 550 foot-pound, percussion hammer. The steel sampling tube was extracted from the hole and the liners were removed and split open for soil sample recovery.

Direct-push explorations were advanced to depths ranging from approximately 5 feet to 20 feet below the ground surface (bgs).

A field log of each exploration was maintained, including the thickness and depth of each soil unit encountered and the depth to the uppermost water table (if encountered). Soil samples were observed to document soil lithology, color, and moisture content. Soils were logged in general accordance with American Society for Testing and Materials (ASTM) Practice Designation D-2488, *Standard Practice for Description of Soils (Visual-Manual Procedure)*. Exploration logs are included in Appendix B of this report.

Sampling equipment was cleaned using an Alconox<sup>®</sup> wash and potable water prior to the beginning of the project and before collecting each soil sample.

## **2.3 Groundwater Monitoring Well Installation**

Temporary groundwater monitoring wells were installed in borings B-3 and B-4. Monitoring wells consisted of 1-inch inside diameter, schedule 40, flush-threaded PVC. A 5 foot section of

0.010-inch slotted screen was mated to an appropriate length section of blank riser, which extended the temporary well to the ground surface. Upon completion of groundwater sampling, the temporary monitoring wells were abandoned by pulling the slotted screen and riser and filling the boring with bentonite. The temporary monitoring wells were abandoned in general accordance with the Washington State *Minimum Standards for Construction and Maintenance of Wells* (WAC 173-160).

## 2.4 Soil Sampling

A total of 18 soil samples were submitted for laboratory analysis. Soil samples retained for chemical analysis were collected at depths ranging from approximately two and a half feet to 20 feet bgs. The samples were collected in an effort to identify potential impacts to site soil associated with the areas of concern discussed above.

Soil samples from the deeper interval in shallow soil borings (B-1, B-2, and B-5 to B-8) were submitted to the analytical laboratory but were placed on hold pending analytical results from the shallow soil samples.

Soil samples were extracted by hand from the disposable sampler using disposable gloves and placed directly into laboratory supplied glassware.

Each sample container was labeled with the site name, date, time, exploration number, and sample number. Sample containers were placed in a chilled cooler immediately after sampling, and subsequently transported to the analytical laboratory by Terracon under strict chain-of-custody procedures.

## 2.5 Groundwater Sampling

Groundwater samples were collected from two borings (B-3 and B-4) on April 20, 2011. One groundwater sample was collected and analyzed from each temporary monitoring well. Prior to sample collection, each temporary monitoring well was purged with a low flow pump until the turbidity stabilized based on visual observations. It should be noted that both groundwater samples were not entirely free of turbidity. Groundwater was collected with a portable peristaltic pump utilizing low flow techniques. The intake of the pump was set at the approximate mid-point of the screened interval in each well. Dedicated polyethylene tubing was used for each temporary monitoring well. Discharge from the peristaltic pump was directed into laboratory supplied glassware and preserved as required for the individual testing methods.

Each sample container was labeled with the site name, date, time, exploration number, sample number, and sampling personnel. Sample containers were placed in a chilled cooler immediately after sampling, and subsequently transported to the analytical laboratory by courier under strict chain-of-custody procedures.

Following receipt of groundwater analytical results and at the client's request, Terracon re-mobilized to the site on June 14, 2011 to sample the drinking water well (Ecology Well ID: APS-889) in the vicinity of the former USTs. Through discussions with the client, Terracon's scope of services included the collection of one groundwater sample from the abovementioned drinking water well using a peristaltic pump utilizing low flow sampling techniques. Dedicated polyethylene tubing was placed approximately in the center of the screened interval. Following the removal of three well volumes, one groundwater sample was collected and submitted for laboratory analyses.

## 2.6 Analytical Laboratory Testing

Thirteen soil samples (one from each five foot soil boring except for B-8 where two samples were analyzed and three from each 20 foot boring) and two groundwater samples were submitted for chemical analysis. All samples were analyzed by Freidman and Bruya, Inc., a Washington State accredited laboratory. All soil and groundwater samples were analyzed for the following:

- Gasoline-range Total Petroleum Hydrocarbons (TPH) via NWTPH-Gx;
- Diesel- and heavier than diesel-range TPH via NWTPH-Dx;
- Volatile Organic Compounds (VOCs) via EPA Method 8260C.

The executed chain-of-custody forms and laboratory analytical certificates are provided in Appendix C. All analyses were completed using standard turnaround times.

Per discussions with the client, the supplemental groundwater sample collected on June 14, 2011 was analyzed for the following:

- Diesel- and oil-range total petroleum hydrocarbons (TPH) using Northwest Method NWTPH-Dx;
- Gasoline-range TPH using Northwest Method NWTPH-Gx;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8021B;
- Total coliform and E.coli using EPA Method SM9223B; and,
- Nitrates using EPA Method 353.2.

Data packages were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering holding times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate recovery, and detection limits.

## **3.0 LIMITED SITE INVESTIGATION RESULTS**

### **3.1 Subsurface Conditions**

Detailed lithologic descriptions are presented on the soil boring logs included in Appendix B. In general, subsurface soil conditions varied slightly between borings and generally consisted of silt to silty fine sand to the maximum depths explored (five feet) in borings B-1, B-2, and B-5 to B-8. In borings B-3 and B-4, soil conditions consisted of silt to silty fine sand to approximately 15 feet bgs with sand to coarse sand to the maximum depths explored (20 feet). Soils were generally moist in the upper soils and wet to saturated below approximately 15 feet bgs. Groundwater was observed at approximately 15 feet bgs in borings B-3 and B-4; groundwater was not observed in borings B-1, B-2, and B-5 to B-8 at the time of drilling.

### **3.2 Analytical Laboratory Results**

Soil quality summary results are presented in Table 1 and Table 2. Groundwater results are presented in Table 3. The complete laboratory report and chain-of-custody are included in Appendix C. Additional discussion and interpretation of analytical results relative to applicable cleanup levels is included in Section 4.

#### **Soil Quality**

A total of thirteen soil samples were collected at depths of 2½ feet to 20 feet from the eight environmental soil borings (B-1 to B-8). TPH and VOCs were not detected above laboratory minimum reporting limits (MRLs) in any of the samples, except as summarized in Table 1 and Table 2 below.

**Table 1. Summarized Soil Analytical Results**

Sample Number	Sample Depth (ft)	Total Petroleum Hydrocarbons (mg/kg)			Volatile Organic Compounds (mg/kg)			
		Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbenzene	Xylenes
B-1, S-1	2½-3	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-2, S-1	2½-3	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-3, S-1	4½-5	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-3, S-2	9½-10	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-3, S-3	19½-20	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-4, S-1	4½-5	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-4, S-2	9½-10	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-4, S-3	19½-20	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-5, S-1	2½-3	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-6, S-1	2½-3	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-7, S-1	2½-3	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
B-8, S-1	2½-3	340	1,000	ND (<250)	ND (<0.02)	ND (<0.02)	0.40	0.45
B-8, S-2	4½-5	ND (<2)	ND (<250)	ND (<250)	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.06)
<b>MTCA Method A Cleanup Level</b>		<b>100</b>	<b>2,000</b>	<b>2,000</b>	<b>0.03</b>	<b>7</b>	<b>6</b>	<b>9</b>

mg/kg: milligrams per kilogram (parts-per-million); NE: Not established; ND: Not detected above indicated laboratory minimum reporting limit. Shaded values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results.

Following receipt of soil analytical results, Terracon contacted the analytical laboratory to additionally analyze B-8, S-2, per our scope of services, for diesel-range TPH, gasoline-range TPH, and BTEX. The results of these additional analyses are included in Table 1 above.

In addition, select VOCs were identified at low concentrations in sample B-8, S-1 as summarized in Table 2 below.

**Table 2: VOC Soil Analytical Results**

Sample	Depth (ft)	Analyte (mg/kg)				
		1,3,5-trimethylbenzene	1,2,4-trimethylbenzene	Sec-Butylbenzene	p-Isopropyltoluene	Naphthalene
B-8, S-1	2½-3	0.76	0.61	0.18	0.18	0.22
<b>MTCA Method A Cleanup Level</b>		<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>5</b>
<b>MTCA Method B Cleanup Level</b>		<b>800</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,600</b>

mg/kg: milligrams per kilogram (parts-per-million); NE: Not established; ND: Not detected above indicated laboratory

minimum reporting limit. Shaded values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results.

VOCs not listed in Tables 1 and 2 above were not identified at concentrations exceeding laboratory MRLs.

**Groundwater Quality**

A total of two groundwater samples were collected from approximately 15 feet bgs from two soil borings (B-3 and B-4). TPH and VOCs were not detected above laboratory MRLs in either sample, except as summarized in Table 3 below.

**Table 3: Summarized Groundwater Analytical Results**

Sample	Total Petroleum Hydrocarbons (ug/L)		
	Gasoline-range	Diesel-range	Oil-range
B-3	ND (<100)	63*	ND (<250)
B-4	ND (<100)	72*	ND (<250)
MTCA Method A Cleanup Level	800	500	500

ug/L: micrograms per liter (parts-per-billion); NE: Not established; ND: Not detected above indicated laboratory minimum reporting limit. Shaded values exceed MTCA Method A cleanup levels. Please refer to Appendix C for the complete set of analytes and analytical results. \* The analytical laboratory indicates that the chromatogram does not resemble the fuel standard for quantitation.

As indicated above, the chromatogram associated with the groundwater analytical results were not representative of diesel-range petroleum hydrocarbons and the analytical laboratory indicated that the concentrations may be associated with organic material in the sample that may resemble diesel fuel. Based on the groundwater sampling results, Terracon collected a groundwater sample from the drinking water well (Ecology Well ID: APS-889) in the vicinity of the former USTs. The following table provides the analytical results from this sample.

**Table 4: Supplemental Groundwater Analytical Results – APS-889**

Analyte	Sample	
	APS-889	
Diesel-range TPH	ND (<50)	500
Oil-range TPH	ND (<250)	500
Gasoline-range TPH	ND (<100)	1,000
Benzene	ND (<1)	5
Toluene	ND (<1)	1,000
Ethylbenzene	ND (<1)	700
Xylenes	ND (<3)	1,000
Total Coliform	ND (<2)*	NE
E. Coli	ND (<2)*	NE
Nitrates	19	NE
	Units (µg/L)	MTCA Method A Cleanup Level

µg/L: micrograms per liter (parts-per-billion); NE: Not established; ND: Not detected above indicated laboratory minimum reporting limit. Shaded values exceed MTCA Method A cleanup levels. Please refer to the attached laboratory report for the complete set of analytes and analytical results.

\*Concentration reported as # of bacteria per 100 mL (#/ml)

Although cleanup levels for total coliform, E.coli, and nitrates have not been established under Chapter 70.105D RCW and its implementing regulation, the Model Toxics Control Act (MTCA), Chapter 173-340 WAC, the Snohomish County Health District has established drinking water standards for these analytes. Maximum Contaminant Levels (MCLs) have been established and are presented in *Understanding Your Water Test Report: Microbiological, Chemical, and Nuisance Contaminants*, issued by the Snohomish County Health District. For coliform bacteria and E.coli, the MCL has been established as non-detectable. For nitrate, the MCL has been established at 10 mg/L, or 10,000 µg/L.

Based on the analytical results, with the exception of low levels of nitrates (which were detected below Snohomish County Health District MCLs), analytes tested were not identified above laboratory minimum reporting limits (MRLs).

### 3.3 Quality Assurance/Quality Control Results

The analytical results for the current investigation were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering hold times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate (MS/MSD) recovery, and detection limits. QA/QC review was completed using guidance described in *USEPA Contract Laboratory*

*Program National Functional Guidelines for Superfund Organic Methods Data Review* (Draft Final, USEPA, 2005). Our evaluation assumes that the QA/QC is correct as reported by the laboratory, and merely provides an interpretation of the QA/QC results.

Hold Times. All analyses were completed within specified hold times.

Surrogate Recoveries. All surrogate recoveries were within laboratory limits.

Method Blanks. Analytes were not detected in any of the laboratory method blanks.

MS/MSD Results. MS and MSD recoveries were all within laboratory limits, and Relative Percent Differences (RPDs) between MS and MSD recoveries were all within laboratory limits.

Laboratory Reporting Limits. Reporting limits were below relevant MTCA cleanup levels.

Based upon our interpretation of quality control information provided by the laboratories, it is our opinion that the overall dataset is useable as qualified for the purposes of this Limited Site Investigation.

## 4.0 FINDINGS AND DISCUSSION

Terracon completed a Limited Site Investigation for the above-referenced site. A total of eight soil borings were advanced. The findings of this report are as follows:

- Prior to the subsurface investigation, Terracon attempted to identify four former on-site groundwater wells that were reportedly located on-site by others. According to the site contact, Mr. Faber, and following a visual survey of the site, a total of three wells, as opposed to the four Krazan identified, which consisted of two hand-dug wells located along the northern site boundary and one hand-dug irrigation well located to the east of the access road on Lot 12 were identified. From information gathered from Mr. Faber and Ecology's Online Water Well Log Database, Terracon understands that the three hand-dug wells historically located to the east of the on-site access road and on Lot 12 were decommissioned in 2004 by Himebaugh Drilling of Arlington, Washington. Furthermore, Mr. Faber informed Terracon that following removal of the hand-dug well on Lot 12, a replacement irrigation well was subsequently installed to the southeast of the on-site horse barn in 2006, and is currently in use. In addition, a hand-dug well is currently in use associated with the residence on Lot 1.
- Based on a review of groundwater analytical results collected from three new on-site domestic wells installed in 2007, total coliform, E. Coli, metals (iron, chromium, arsenic, selenium, silver, cadmium, barium, lead, mercury, sodium, manganese, and fluoride),

hardness, pH, and nitrates were not detected above the Snohomish County Health Department's drinking water standards.

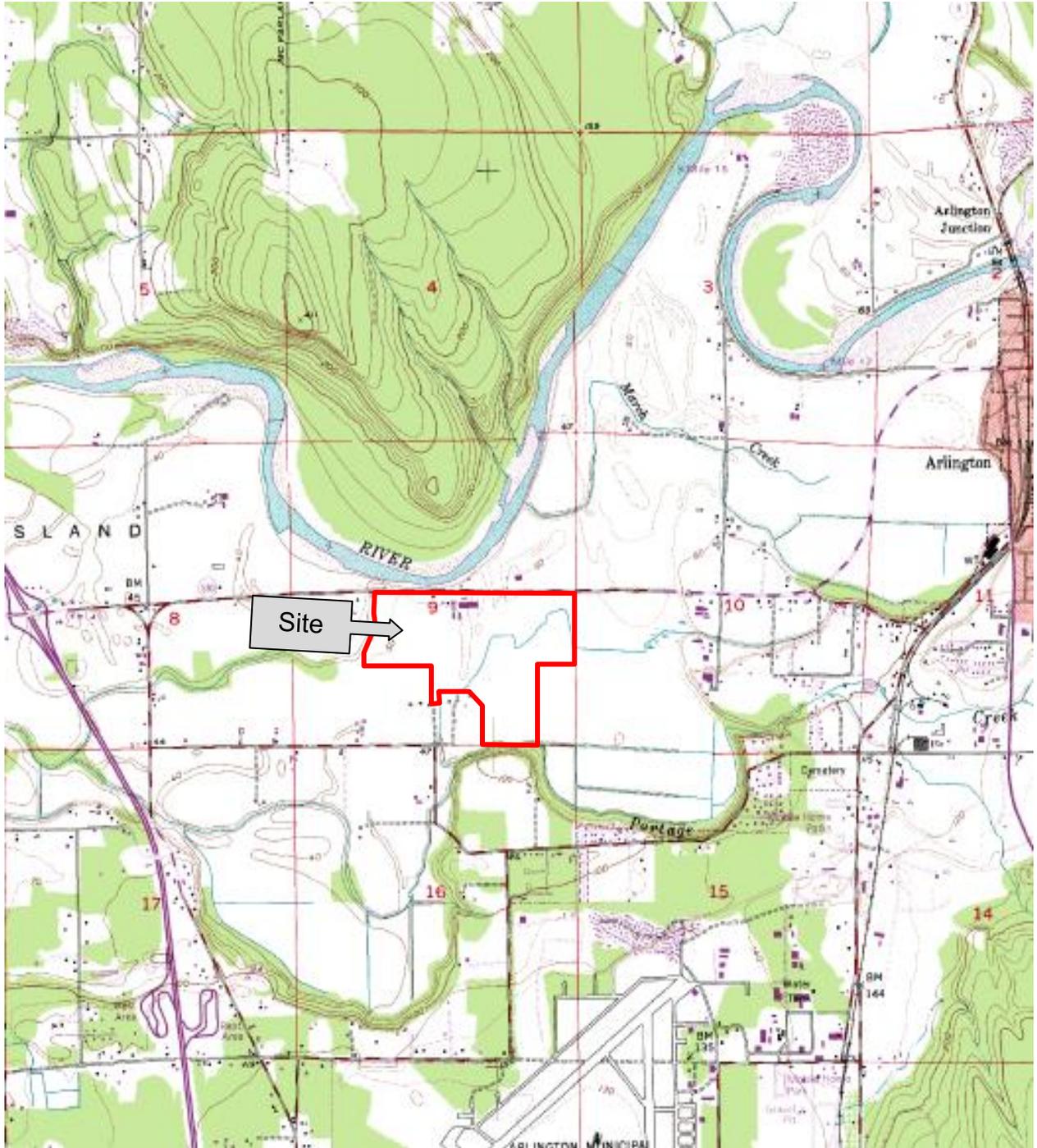
- Based on soil analytical results, gasoline-range TPH was identified at 340 mg/kg in B-8, S-1, above applicable MTCA cleanup levels. Subsequent analysis of the deeper soil sample did not identify concentrations of gasoline-range TPH, diesel-range TPH, or BTEX at concentrations above laboratory MRLs.
- Boring B-8 was advanced through the center of a small stained area in the northeast portion of the equipment outbuilding on Lot 3. Based on visual observations, the staining appeared to be an approximately six foot by six foot area. Following additional analysis of the deeper soil sample from this boring, in which no petroleum hydrocarbon impacts were identified, this impact appears to be limited to near surface soils and no mechanisms (i.e. rainwater infiltration, leaching) for mobilizing this petroleum impact were noted in the field. Based on the analytical results, field observations of the staining, and estimated volume, we are of the opinion that this impact is a *de minimis* condition.
- Based on the groundwater analytical results, low concentrations of diesel were detected in the vicinity of the UST; however, the concentrations appear to be associated with possible organic matter interference. Regardless, the concentrations are well below the MTCA Method A cleanup levels, established at 500 ug/L.
- Based on the supplemental groundwater analytical results from the drinking water well (APS-889) in the vicinity of the former USTs, with the exception of low levels of nitrates, which were detected at concentrations below MCLs established by the Snohomish County Health District, analytes tested were not identified above laboratory minimum reporting limits (MRLs)

## 5.0 RECOMMENDATIONS

- Based on the information discussed above and in this report, Terracon recommends that no further investigation be conducted at this time.

## **APPENDIX A**

### **Figures**



Arlington West, Washington  
 USGS 7.5-minute Quadrangle

Not to Scale



TERRACON PROJECT NO.: 81117022

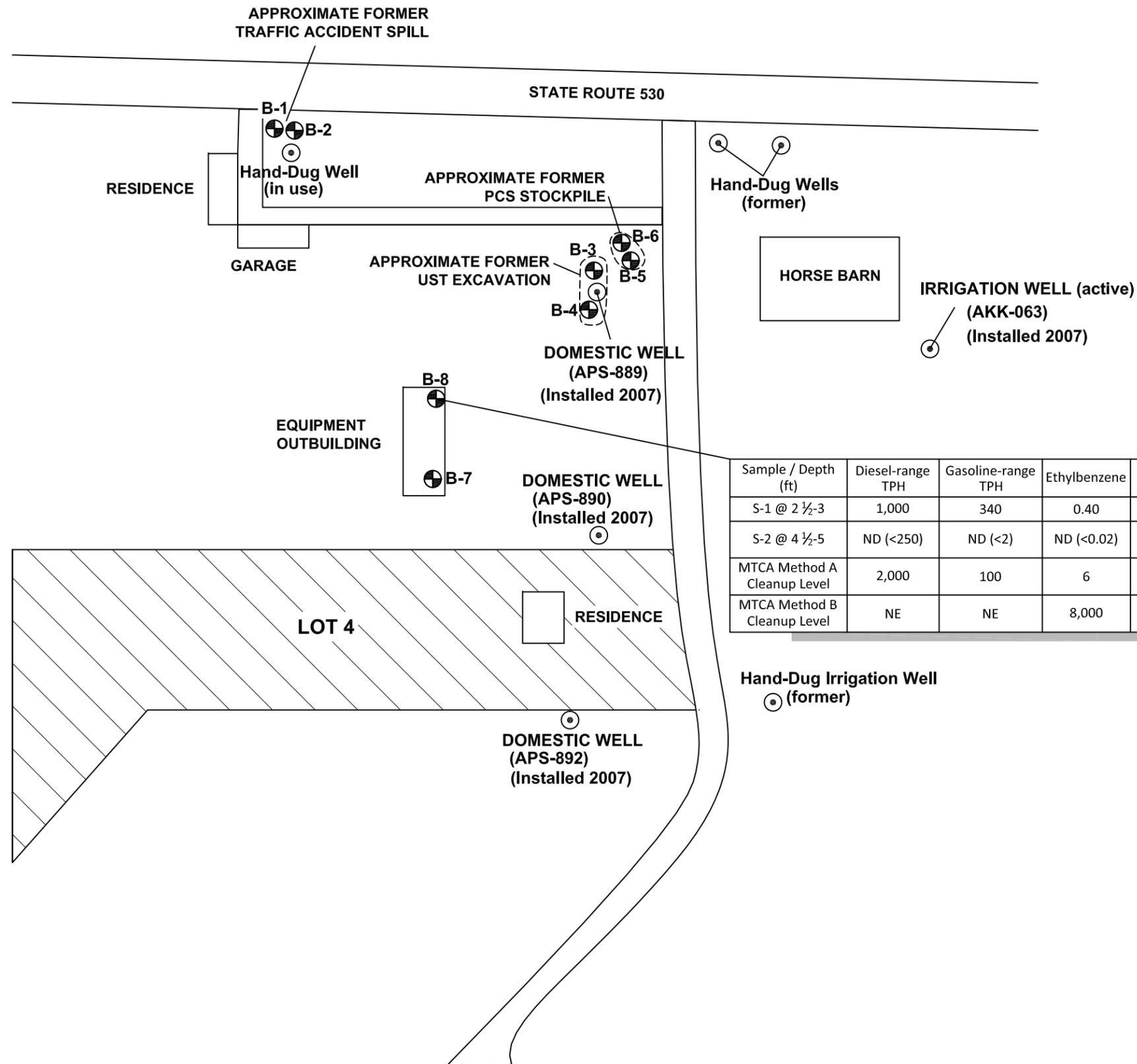
**TOPOGRAPHIC MAP**

Riverbend  
 4504 SR 530  
 Arlington, Snohomish County, Washington

May 2011

Figure 1





Sample / Depth (ft)	Diesel-range TPH	Gasoline-range TPH	Ethylbenzene	Xylenes	1,3,5-trimethyl benzene	1,2,4-trimethyl benzene	Sec-butyl benzene	p-isopropyl toluene	Napthalene
S-1 @ 2 1/2-3	1,000	340	0.40	0.45	0.76	0.61	0.18	0.18	0.22
S-2 @ 4 1/2-5	ND (<250)	ND (<2)	ND (<0.02)	ND (<0.02)	NT	NT	NT	NT	NT
MTCA Method A Cleanup Level	2,000	100	6	11	NE	NE	NE	NE	5.0
MTCA Method B Cleanup Level	NE	NE	8,000	16,000	800	NE	NE	NE	1,600

**LEGEND:**

- ⊕ B-1 BORING NUMBER AND APPROXIMATE LOCATION
- ⊙ WELL APPROXIMATE WELL LOCATION

- NT - Not Tested
- NE - Not Established
- ND - Not Detected
- NOT PART OF SITE

Project Mngr:	MYW	Project No.	81117022
Drawn By:	LCS	Scale:	Not To Scale
Checked By:	LCS	File No.	Figure3.dwg
Approved By:	MYW	Date:	May 2011

**Terracon**  
 Consulting Engineers and Scientists  
 21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043  
 PH. (425) 771-3304 FAX. (425) 771-3549

**SITE AND EXPLORATION PLAN**  
 Riverbend  
 Arlington, Washington  
 Prepared for: Union Bank, N.A.

**APPENDIX B**

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# LOG OF BORING NO. B-1

CLIENT <b>Union Bank</b>													
SITE <b>4504 State Route 530 Arlington, Washington</b>		PROJECT <b>Riverbend</b>											
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS			SAMPLE SENT TO LABORATORY	
				NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB		
1	<b>SILT</b> , trace sand, brown, moist, soft	1											
4	<b>SILT</b> , with sand, brown, moist, medium stiff	4	ML	S-1	DP								YES
5	<b>SILTY FINE SAND</b> , brown, moist, medium dense	5	SM	S-2	DP								YES
<p>B-1 was completed at five feet bgs on 4/20/11. No groundwater was observed at the time of drilling.</p>													

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. \* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft			
WL	▽	NO GW	▽
WL	▽		▽
WL			

21905 64th Avenue West, Suite 100  
Mountlake Terrace, Washington 98043  
T: (425) 771-3304 F: (425) 771-3549

BORING STARTED		04-20-11	
BORING COMPLETED		04-20-11	
RIG	AMS 9500 D	CO.	PNW Probe
LOGGED	LCS	JOB #	81117022

TC\_BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

# LOG OF BORING NO. B-2

CLIENT <b>Union Bank</b>													
SITE <b>4504 State Route 530 Arlington, Washington</b>		PROJECT <b>Riverbend</b>											
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS			SAMPLE SENT TO LABORATORY	
				NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB		
1	<b>SILT</b> , trace sand, brown, moist, soft												
4	<b>SILT</b> , with sand, brown, moist, medium stiff												YES
5	<b>SILTY FINE SAND</b> , brown, moist, medium dense												YES
B-2 was completed at five feet bgs on 4/20/11. No groundwater was observed at the time of drilling.													

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. \* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft		<p style="font-size: 0.8em; margin-top: 5px;">21905 64th Avenue West, Suite 100 Mountlake Terrace, Washington 98043 T: (425) 771-3304 F: (425) 771-3549</p>	BORING STARTED 04-20-11	
WL	▽ NO GW ATD ▽		BORING COMPLETED 04-20-11	
WL	▽		RIG AMS 9500 D	CO. PNW
WL	▽		LOGGED LCS	JOB # 81117022

TC\_BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

# LOG OF BORING NO. B-3

CLIENT <b>Union Bank</b>														
SITE <b>4504 State Route 530 Arlington, Washington</b>		PROJECT <b>Riverbend</b>												
GRAPHIC LOG		DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS				
					NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB	SAMPLE SENT TO LABORATORY	
	1	<b>SILT</b> , with sand, brown, moist, medium stiff												
	1.5	<b>CONCRETE DEBRIS</b>												
		<b>SILTY FINE SAND</b> , brown, moist to wet, medium dense												
	5	<b>SILT</b> , trace sand, brown, wet, soft	5	SM	S-1	DP								YES
		3" lens of <b>SILTY SAND</b>												
	10		10	ML	S-2	DP								YES
	12	Grades to with sand, wet												
	15	<b>SAND</b> , with silt, grey, wet to saturated, medium dense	15											
	19													
	20	Grades to <b>COARSE SAND</b> , grey, saturated, medium dense	20	SW	S-3	DP								YES
		B-3 was completed at 20 feet bgs on 4/20/11. Groundwater was observed at approximately 15 feet bgs at the time of drilling.												

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

\* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

**WATER LEVEL OBSERVATIONS, ft**

WL	▽ 15	ATD	▽
WL	▽		▽
WL			



21905 64th Avenue West, Suite 100  
Mountlake Terrace, Washington 98043  
T: (425) 771-3304 F: (425) 771-3549

BORING STARTED		04-20-11	
BORING COMPLETED		04-20-11	
RIG	AMS 9500 D	CO.	PNW
LOGGED	LCS	JOB #	81117022

TC\_BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

# LOG OF BORING NO. B-4

CLIENT **Union Bank**

SITE **4504 State Route 530  
Arlington, Washington** PROJECT **Riverbend**

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES					TESTS				
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB	SAMPLE SENT TO LABORATORY
1	<b>SILT</b> , with sand, trace gravel, brown, moist, soft											
5	<b>SILTY SAND</b> , brown, moist, medium dense											
9	Grades to <b>SANDY SILT</b> , brown, moist, medium stiff  Grades to grey, wet		ML	S-1	DP							
10	<b>SILTY FINE SAND TO SANDY SILT</b> , grey, wet, medium dense to stiff		SM	S-2	DP							
15	<b>SANDY SILT</b> , grey, wet to saturated, soft											
16	<b>SILTY SAND</b> grey, saturated, medium dense											
20	Grades to <b>COARSE SAND</b> , grey, saturated, medium dense		SW	S-3	DP							
B-4 was completed at 20 feet bgs on 4/20/11. Groundwater was observed at approximately 15 feet bgs at the time of drilling.												

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. \* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft			
WL	▽ 15	ATD	▽
WL	▽		▽
WL			

21905 64th Avenue West, Suite 100  
Mountlake Terrace, Washington 98043  
T: (425) 771-3304 F: (425) 771-3549

BORING STARTED	04-20-11
BORING COMPLETED	04-20-11
RIG AMS 9500 D	CO. PNW
LOGGED LCS	JOB # 81117022

TC\_BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

# LOG OF BORING NO. B-5

CLIENT <b>Union Bank</b>												
SITE <b>4504 State Route 530 Arlington, Washington</b>		PROJECT <b>Riverbend</b>										
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB	SAMPLE SENT TO LABORATORY
0.5	<b>SILT</b> , brown, moist, soft											
5	<b>SILTY SAND</b> , trace gravel, brown, moist, medium dense trace <b>CONCRETE DEBRIS</b>  Grades to grey											
		5	SM	S-1	DP							
			SM	S-2	DP							
B-5 was completed at five feet bgs on 4/20/11. No groundwater was observed at the time of drilling.												

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

\* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

**WATER LEVEL OBSERVATIONS, ft**

WL	∇	NO GW	ATD	∇
WL	∇			∇
WL				



21905 64th Avenue West, Suite 100  
 Mountlake Terrace, Washington 98043  
 T: (425) 771-3304 F: (425) 771-3549

BORING STARTED		04-20-11	
BORING COMPLETED		04-20-11	
RIG	AMS 9500 D	CO.	PNW
LOGGED	LCS	JOB #	81117022

# LOG OF BORING NO. B-6

CLIENT <b>Union Bank</b>	
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SITE <b>4504 State Route 530 Arlington, Washington</b>	PROJECT <b>Riverbend</b>
---	-----------------------------

GRAPHIC LOG	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS					
			NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB	SAMPLE SENT TO LABORATORY		
	0.5												
<b>SILT</b> , brown, moist, stiff <b>SILTY SAND</b> , trace gravel, brown, moist, medium dense  Grades to no gravel													
	5		SM	S-1	DP								
			SM	S-2	DP								
B-6 was completed at five feet bgs on 4/20/11. No groundwater was observed at the time of drilling.													

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. \* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft		
WL	▾ NO GW ATD ▾ ▾ ▾	
WL		
WL		



21905 64th Avenue West, Suite 100  
Mountlake Terrace, Washington 98043  
T: (425) 771-3304 F: (425) 771-3549

BORING STARTED	04-20-11
BORING COMPLETED	04-20-11
RIG AMS 9500 D	CO. PNW
LOGGED LCS	JOB # 81117022

TC\_BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

# LOG OF BORING NO. B-7

CLIENT <b>Union Bank</b>														
SITE <b>4504 State Route 530 Arlington, Washington</b>		PROJECT <b>Riverbend</b>												
GRAPHIC LOG		DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS				
					NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB	SAMPLE SENT TO LABORATORY	
1.5	1.5	<b>SILTY SAND</b> , with gravel, brown, moist, medium dense												
5	5	<b>SILT</b> , with sand, dark brown, moist, stiff Grades to brown, medium stiff												
		B-7 was completed at five feet bgs on 4/20/11. No groundwater was observed at the time of drilling.												

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. \* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft			
WL	▽	NO GW ATD	▽
WL	▽		▽
WL			

21905 64th Avenue West, Suite 100  
Mountlake Terrace, Washington 98043  
T: (425) 771-3304 F: (425) 771-3549

BORING STARTED		04-20-11
BORING COMPLETED		04-20-11
RIG	AMS 9500 D	CO. PNW
LOGGED	LCS	JOB # 81117022

TC: BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

# LOG OF BORING NO. B-8

CLIENT <b>Union Bank</b>	
-----------------------------	--

SITE <b>4504 State Route 530 Arlington, Washington</b>	PROJECT <b>Riverbend</b>
---	-----------------------------

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES					TESTS				
				NUMBER	TYPE	RECOVERY, in.	SPT-N BLOWS / ft.	WATER CONTENT, %	UNCONFINED STRENGTH, psf	FIELD VAPOR TEST (PPM)*	SAMPLE SENT TO LAB	SAMPLE SENT TO LABORATORY	
3	<b>SILTY SAND</b> , with gravel, brown, damp, medium dense	3	SM	S-1	DP								
5	<b>SILTY FINE SAND to SANDY SILT</b> , grey, moist, stiff	5	SM	S-2	DP								
B-8 was completed at five feet bgs on 4/20/11. No groundwater was observed at the time of drilling.													

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. \* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft			
WL	▽	NO GW ATD	▽
WL	▽		▽
WL			

21905 64th Avenue West, Suite 100  
Mountlake Terrace, Washington 98043  
T: (425) 771-3304 F: (425) 771-3549

BORING STARTED	04-20-11
BORING COMPLETED	04-20-11
RIG AMS 9500 D	CO. PNW
LOGGED LCS	JOB # 81117022

TC\_BOREHOLE BORING LOGS.GPJ TERRACON.GDT 04/22/11

## **APPENDIX C**

### **Laboratory Data Sheets**

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Charlene Morrow, M.S.  
Yelena Aravkina, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
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e-mail: fbi@isomedia.com

May 4, 2011

Lucas Swart  
Terracon  
Pacific Cascade Building  
21905 64<sup>th</sup> Ave. W., Suite 100  
Mountlake Terrace, WA 98043

Dear Mr. Swart:

Included are the results from the testing of material submitted on April 20, 2011 from the 81117022, F&BI 104250 project. There are 32 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
TRC0504R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 20, 2011 by Friedman & Bruya, Inc. from the Terracon 81117022, F&BI 104250 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terracon</u>
104250-01	B-1, S-1@2.5-3'
104250-02	B-1, S-2@4.5-5'
104250-03	B-2, S-1@2.5-3'
104250-04	B-2, S-2@4.5-5'
104250-05	B-3, S-1@4.5-5'
104250-06	B-3, S-2@9.5-10'
104250-07	B-3, S-3@19.5-20'
104250-08	B-4, S-1@4.5-5'
104250-09	B-4, S-2@9.5-10'
104250-10	B-4, S-3@19.5-20'
104250-11	B-5, S-1@2.5-3'
104250-12	B-5, S-2@4.5-5'
104250-13	B-6, S-1@2.5-3'
104250-14	B-6, S-2@4.5-5'
104250-15	B-7, S-1@2.5-3'
104250-16	B-7, S-2@4.5-5'
104250-17	B-8, S-1@2.5-3'
104250-18	B-8, S-2@4.5-5'
104250-19	B-3
104250-20	B-4

The 8260C soil calibration standard failed the acceptance criteria for several analytes. The data were flagged accordingly.

1,1,1-Trichloroethane in the 8260C water laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The analyte was not detected in the sample, therefore the data were acceptable.

The 8260C soil and water laboratory control sample and laboratory control sample duplicate failed the relative percent difference for dichlorofluoromethane. The analyte was not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250  
 Date Extracted: 04/25/11 and 04/27/11  
 Date Analyzed: 04/25/11 and 04/28/11

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
 FOR BENZENE, TOLUENE, ETHYLBENZENE,  
 XYLENES AND TPH AS GASOLINE  
 USING EPA METHOD 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis  
 Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-132)
B-1, S-1@2.5-3' 104250-01	<0.02	<0.02	<0.02	<0.06	<2	73
B-2, S-1@2.5-3' 104250-03	<0.02	<0.02	<0.02	<0.06	<2	63
B-3, S-1@4.5-5' 104250-05	<0.02	<0.02	<0.02	<0.06	<2	77
B-3, S-2@9.5-10' 104250-06	<0.02	<0.02	<0.02	<0.06	<2	75
B-3, S-3@19.5-20' 104250-07	<0.02	<0.02	<0.02	<0.06	<2	60
B-4, S-1@4.5-5' 104250-08	<0.02	<0.02	<0.02	<0.06	<2	68
B-4, S-2@9.5-10' 104250-09	<0.02	<0.02	<0.02	<0.06	<2	77
B-4, S-3@19.5-20' 104250-10	<0.02	<0.02	<0.02	<0.06	<2	58
B-5, S-1@2.5-3' 104250-11	<0.02	<0.02	<0.02	<0.06	<2	67
B-6, S-1@2.5-3' 104250-13	<0.02	<0.02	<0.02	<0.06	<2	66
B-7, S-1@2.5-3' 104250-15	<0.02	<0.02	<0.02	<0.06	<2	68

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
Date Received: 04/20/11  
Project: 81117022, F&BI 104250  
Date Extracted: 04/25/11 and 04/27/11  
Date Analyzed: 04/25/11 and 04/28/11

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-132)
B-8, S-1@2.5-3' 104250-17	<0.02	<0.02	0.40	0.45	340	109
Method Blank 01-0744 MB	<0.02	<0.02	<0.02	<0.06	<2	67

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
Date Received: 04/20/11  
Project: 81117022, F&BI 104250  
Date Extracted: 04/22/11  
Date Analyzed: 04/23/11

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
B-3 104250-19	<1	<1	<1	<3	<100	74
B-4 104250-20	<1	<1	<1	<3	<100	75
Method Blank 01-735 MB	<1	<1	<1	<3	<100	69

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250  
 Date Extracted: 04/21/11  
 Date Analyzed: 04/21/11 and 04/22/11

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis  
 Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B-1, S-1@2.5-3' 104250-01	<50	<250	103
B-2, S-1@2.5-3' 104250-03	<50	<250	104
B-3, S-1@4.5-5' 104250-05	<50	<250	101
B-3, S-2@9.5-10' 104250-06	<50	<250	101
B-3, S-3@19.5-20' 104250-07	<50	<250	99
B-4, S-1@4.5-5' 104250-08	<50	<250	100
B-4, S-2@9.5-10' 104250-09	<50	<250	96
B-4, S-3@19.5-20' 104250-10	<50	<250	99
B-5, S-1@2.5-3' 104250-11	<50	<250	101
B-6, S-1@2.5-3' 104250-13	<50	<250	100
B-7, S-1@2.5-3' 104250-15	<50	<250	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
Date Received: 04/20/11  
Project: 81117022, F&BI 104250  
Date Extracted: 04/21/11  
Date Analyzed: 04/21/11 and 04/22/11

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B-8, S-1@2.5-3' 104250-17	1,000	<250	97
Method Blank 01-726 MB	<50	<250	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
Date Received: 04/20/11  
Project: 81117022, F&BI 104250  
Date Extracted: 04/22/11  
Date Analyzed: 04/23/11

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
B-3 104250-19	63 x	<250	88
B-4 104250-20	72 x	<250	89
Method Blank 01-729 MB	<50	<250	86

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-1, S-1@2.5-3'	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-01
Date Analyzed:	04/28/11	Data File:	042824.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	42	158
Toluene-d8	96	42	159
4-Bromofluorobenzene	96	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-2, S-1@2.5-3'	Client: Terracon
Date Received: 04/20/11	Project: 81117022, F&BI 104250
Date Extracted: 04/28/11	Lab ID: 104250-03
Date Analyzed: 04/28/11	Data File: 042825.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	42	158
Toluene-d8	101	42	159
4-Bromofluorobenzene	104	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-3, S-1@4.5-5	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-05
Date Analyzed:	04/28/11	Data File:	042826.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	42	158
Toluene-d8	101	42	159
4-Bromofluorobenzene	104	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-3, S-2@9.5-10'	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-06
Date Analyzed:	04/28/11	Data File:	042827.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	42	158
Toluene-d8	102	42	159
4-Bromofluorobenzene	105	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-3, S-3@19.5-20'	Client: Terracon
Date Received: 04/20/11	Project: 81117022, F&BI 104250
Date Extracted: 04/28/11	Lab ID: 104250-07
Date Analyzed: 04/28/11	Data File: 042828.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	42	158
Toluene-d8	101	42	159
4-Bromofluorobenzene	104	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-4, S-1@4.5-5'	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-08
Date Analyzed:	04/28/11	Data File:	042829.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	42	158
Toluene-d8	103	42	159
4-Bromofluorobenzene	109	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-4, S-2@9.5-10'	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-09
Date Analyzed:	04/28/11	Data File:	042830.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	42	158
Toluene-d8	105	42	159
4-Bromofluorobenzene	105	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-4, S-3@19.5-20'	Client: Terracon
Date Received: 04/20/11	Project: 81117022, F&BI 104250
Date Extracted: 04/28/11	Lab ID: 104250-10
Date Analyzed: 04/29/11	Data File: 042831.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	42	158
Toluene-d8	98	42	159
4-Bromofluorobenzene	100	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-5, S-1@2.5-3'	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-11
Date Analyzed:	04/29/11	Data File:	042832.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	42	158
Toluene-d8	99	42	159
4-Bromofluorobenzene	100	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-6, S-1@2.5-3'	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	104250-13
Date Analyzed:	04/29/11	Data File:	042833.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	42	158
Toluene-d8	99	42	159
4-Bromofluorobenzene	102	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-7, S-1@2.5-3'	Client: Terracon
Date Received: 04/20/11	Project: 81117022, F&BI 104250
Date Extracted: 04/28/11	Lab ID: 104250-15
Date Analyzed: 04/29/11	Data File: 042834.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	42	158
Toluene-d8	98	42	159
4-Bromofluorobenzene	101	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-8, S-1@2.5-3'	Client: Terracon
Date Received: 04/20/11	Project: 81117022, F&BI 104250
Date Extracted: 04/28/11	Lab ID: 104250-17
Date Analyzed: 04/29/11	Data File: 042835.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	42	158
Toluene-d8	100	42	159
4-Bromofluorobenzene	111	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05 ca	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	0.20
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	0.76
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	0.61
Trichloroethene	<0.03	sec-Butylbenzene	0.18
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	0.18
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	0.22
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	NA	Project:	81117022, F&BI 104250
Date Extracted:	04/28/11	Lab ID:	01-656 mb
Date Analyzed:	04/28/11	Data File:	042809.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	42	158
Toluene-d8	102	42	159
4-Bromofluorobenzene	104	36	160

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-3	Client:	Terracon
Date Received:	04/20/11	Project:	81117022, F&BI 104250
Date Extracted:	04/29/11	Lab ID:	104250-19
Date Analyzed:	04/29/11	Data File:	042922.D
Matrix:	Water	Instrument:	GCMS5
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	63	127
Toluene-d8	101	65	127
4-Bromofluorobenzene	101	40	157

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	trans-1,3-Dichloropropene	<1
Dichlorodifluoromethane	<1	1,1,2-Trichloroethane	<1
Chloromethane	<10	2-Hexanone	<10
Vinyl chloride	<0.2	1,3-Dichloropropane	<1
Bromomethane	<1	Tetrachloroethene	<1
Chloroethane	<1	Dibromochloromethane	<1
Trichlorofluoromethane	<1	1,2-Dibromoethane (EDB)	<1
2-Propanol	<10	Chlorobenzene	<1
Acetone	<10	Ethylbenzene	<1
1,1-Dichloroethene	<1	1,1,1,2-Tetrachloroethane	<1
Hexane	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-4	Client: Terracon
Date Received: 04/20/11	Project: 81117022, F&BI 104250
Date Extracted: 04/29/11	Lab ID: 104250-20
Date Analyzed: 04/29/11	Data File: 042923.D
Matrix: Water	Instrument: GCMS5
Units: ug/L (ppb)	Operator: JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	63	127
Toluene-d8	101	65	127
4-Bromofluorobenzene	102	40	157

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	trans-1,3-Dichloropropene	<1
Dichlorodifluoromethane	<1	1,1,2-Trichloroethane	<1
Chloromethane	<10	2-Hexanone	<10
Vinyl chloride	<0.2	1,3-Dichloropropane	<1
Bromomethane	<1	Tetrachloroethene	<1
Chloroethane	<1	Dibromochloromethane	<1
Trichlorofluoromethane	<1	1,2-Dibromoethane (EDB)	<1
2-Propanol	<10	Chlorobenzene	<1
Acetone	<10	Ethylbenzene	<1
1,1-Dichloroethene	<1	1,1,1,2-Tetrachloroethane	<1
Hexane	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	NA	Project:	81117022, F&BI 104250
Date Extracted:	04/29/11	Lab ID:	01-662 mb
Date Analyzed:	04/29/11	Data File:	042921.D
Matrix:	Water	Instrument:	GCMS5
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	63	127
Toluene-d8	105	65	127
4-Bromofluorobenzene	107	40	157

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Ethanol	<1,000	trans-1,3-Dichloropropene	<1
Dichlorodifluoromethane	<1	1,1,2-Trichloroethane	<1
Chloromethane	<10	2-Hexanone	<10
Vinyl chloride	<0.2	1,3-Dichloropropane	<1
Bromomethane	<1	Tetrachloroethene	<1
Chloroethane	<1	Dibromochloromethane	<1
Trichlorofluoromethane	<1	1,2-Dibromoethane (EDB)	<1
2-Propanol	<10	Chlorobenzene	<1
Acetone	<10	Ethylbenzene	<1
1,1-Dichloroethene	<1	1,1,1,2-Tetrachloroethane	<1
Hexane	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
t-Butyl alcohol (TBA)	<50	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
Diisopropyl ether (DIPE)	<1	n-Propylbenzene	<1
1,1-Dichloroethane	<1	Bromobenzene	<1
Ethyl t-butyl ether (ETBE)	<1	1,3,5-Trimethylbenzene	<1
2,2-Dichloropropane	<1	1,1,2,2-Tetrachloroethane	<1
cis-1,2-Dichloroethene	<1	1,2,3-Trichloropropane	<1
Chloroform	<1	2-Chlorotoluene	<1
2-Butanone (MEK)	<10	4-Chlorotoluene	<1
t-Amyl methyl ether (TAME)	<1	tert-Butylbenzene	<1
1,2-Dichloroethane (EDC)	<1	1,2,4-Trimethylbenzene	<1
1,1,1-Trichloroethane	<1	sec-Butylbenzene	<1
1,1-Dichloropropene	<1	p-Isopropyltoluene	<1
Carbon tetrachloride	<1	1,3-Dichlorobenzene	<1
Benzene	<0.35	1,4-Dichlorobenzene	<1
Trichloroethene	<1	1,2-Dichlorobenzene	<1
1,2-Dichloropropane	<1	1,2-Dibromo-3-chloropropane	<10
Bromodichloromethane	<1	1,2,4-Trichlorobenzene	<1
Dibromomethane	<1	Hexachlorobutadiene	<1
4-Methyl-2-pentanone	<10	Naphthalene	<1
cis-1,3-Dichloropropene	<1	1,2,3-Trichlorobenzene	<1
Toluene	<1		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11

Date Received: 04/20/11

Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 104236-01 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	78	66-121
Toluene	mg/kg (ppm)	0.5	72	72-128
Ethylbenzene	mg/kg (ppm)	0.5	77	69-132
Xylenes	mg/kg (ppm)	1.5	74	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES  
 FOR BENZENE, TOLUENE, ETHYLBENZENE,  
 XYLENES, AND TPH AS GASOLINE  
 USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 104274-07 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	94	65-118
Toluene	ug/L (ppb)	50	85	72-122
Ethylbenzene	ug/L (ppb)	50	91	73-126
Xylenes	ug/L (ppb)	150	86	74-118
Gasoline	ug/L (ppb)	1,000	106	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 104250-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	115	116	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11

Date Received: 04/20/11

Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	89	58-134	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
 FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 104260-17 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	14	10-171
Chloromethane	mg/kg (ppm)	2.5	<0.5	37	10-162
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	39	10-166
Bromomethane	mg/kg (ppm)	2.5	<0.5	47	10-165
Chloroethane	mg/kg (ppm)	2.5	<0.5	58	10-161
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	45	10-168
Acetone	mg/kg (ppm)	12.5	<0.5	81	20-155
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	50	10-168
Methylene chloride	mg/kg (ppm)	2.5	<0.5	62	21-149
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	69	39-139
trans-1,2-Dichloroethane	mg/kg (ppm)	2.5	<0.05	61	20-150
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	62	30-114
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	56	17-150
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	67	36-111
Chloroform	mg/kg (ppm)	2.5	<0.05	66	39-114
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	77	24-153
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	60	38-116
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	66	27-119
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	62	26-118
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	70	22-123
Benzene	mg/kg (ppm)	2.5	<0.03	67	33-113
Trichloroethene	mg/kg (ppm)	2.5	<0.03	64	36-113
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	74	40-113
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	72	43-118
Dibromomethane	mg/kg (ppm)	2.5	<0.05	69	43-113
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	82	34-154
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	74	43-117
Toluene	mg/kg (ppm)	2.5	<0.05	70	38-139
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	73	44-140
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	76	38-146
2-Hexanone	mg/kg (ppm)	12.5	<0.5	77	37-150
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	75	47-133
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	69	29-117
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	79	46-116
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	78	44-139
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	71	41-114
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	72	38-120
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	80	43-120
m,p-Xylene	mg/kg (ppm)	5	<0.1	73	37-122
o-Xylene	mg/kg (ppm)	2.5	<0.05	76	39-121
Styrene	mg/kg (ppm)	2.5	<0.05	76	43-121
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	75	38-126
Bromoform	mg/kg (ppm)	2.5	<0.05	83	44-120
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	76	34-127
Bromobenzene	mg/kg (ppm)	2.5	<0.05	74	42-115
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	73	34-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	80	41-113
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	73	45-134
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	74	40-120
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	74	41-119
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	73	37-125
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	73	34-129
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	76	35-127
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	76	35-128
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	74	39-115
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	73	39-114
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	73	43-115
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	80	30-147
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	79	37-121
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	75	29-121
Naphthalene	mg/kg (ppm)	2.5	<0.05	78	12-168
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	78	11-172

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11

Date Received: 04/20/11

Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	42	34	10-142	21 vo
Chloromethane	mg/kg (ppm)	2.5	64	60	25-121	6
Vinyl chloride	mg/kg (ppm)	2.5	77	74	29-135	4
Bromomethane	mg/kg (ppm)	2.5	74	70	33-123	6
Chloroethane	mg/kg (ppm)	2.5	84	77	10-281	9
Trichlorofluoromethane	mg/kg (ppm)	2.5	70	68	13-151	3
Acetone	mg/kg (ppm)	12.5	86	85	10-151	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	74	69	22-151	7
Methylene chloride	mg/kg (ppm)	2.5	82	78	42-144	5
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	91	85	62-124	7
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	90	88	60-125	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	90	87	66-123	3
2,2-Dichloropropane	mg/kg (ppm)	2.5	102	97	53-134	5
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	94	93	72-118	1
Chloroform	mg/kg (ppm)	2.5	88	85	71-123	3
2-Butanone (MEK)	mg/kg (ppm)	12.5	101	97	10-150	4
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	80	78	60-124	3
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	101	97	68-128	4
1,1-Dichloropropene	mg/kg (ppm)	2.5	90	89	71-123	1
Carbon tetrachloride	mg/kg (ppm)	2.5	103	97	64-136	6
Benzene	mg/kg (ppm)	2.5	92	89	69-122	3
Trichloroethene	mg/kg (ppm)	2.5	88	86	71-122	2
1,2-Dichloropropane	mg/kg (ppm)	2.5	98	95	71-120	3
Bromodichloromethane	mg/kg (ppm)	2.5	92	90	68-140	2
Dibromomethane	mg/kg (ppm)	2.5	92	87	72-121	6
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	102	100	10-150	2
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	99	97	74-126	2
Toluene	mg/kg (ppm)	2.5	94	91	72-122	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	98	95	70-131	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	95	96	70-122	1
2-Hexanone	mg/kg (ppm)	12.5	97	94	10-152	3
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	91	72-121	4
Tetrachloroethene	mg/kg (ppm)	2.5	92	91	69-125	1
Dibromochloromethane	mg/kg (ppm)	2.5	99	96	68-130	3
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	98	97	72-121	1
Chlorobenzene	mg/kg (ppm)	2.5	90	87	69-125	3
Ethylbenzene	mg/kg (ppm)	2.5	93	91	72-130	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	101	100	69-133	1
m,p-Xylene	mg/kg (ppm)	5	94	91	72-131	3
o-Xylene	mg/kg (ppm)	2.5	96	95	71-129	1
Styrene	mg/kg (ppm)	2.5	96	93	73-132	3
Isopropylbenzene	mg/kg (ppm)	2.5	93	92	73-134	1
Bromoform	mg/kg (ppm)	2.5	103	101	68-129	2
n-Propylbenzene	mg/kg (ppm)	2.5	96	93	72-136	3
Bromobenzene	mg/kg (ppm)	2.5	94	91	73-125	3
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	95	92	72-132	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	101	99	67-116	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	94	90	67-123	4
2-Chlorotoluene	mg/kg (ppm)	2.5	94	91	72-130	3
4-Chlorotoluene	mg/kg (ppm)	2.5	94	91	73-129	3
tert-Butylbenzene	mg/kg (ppm)	2.5	93	93	71-130	0
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	94	93	70-132	1
sec-Butylbenzene	mg/kg (ppm)	2.5	95	95	71-134	0
p-Isopropyltoluene	mg/kg (ppm)	2.5	96	93	71-135	3
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	94	91	70-124	3
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	91	88	68-126	3
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	93	90	71-125	3
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	98	97	63-122	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	97	95	69-132	2
Hexachlorobutadiene	mg/kg (ppm)	2.5	93	92	68-121	1
Naphthalene	mg/kg (ppm)	2.5	98	96	60-125	2
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	98	96	68-121	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11

Date Received: 04/20/11

Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 104250-20 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	101	10-185
Chloromethane	ug/L (ppb)	50	<10	106	26-167
Vinyl chloride	ug/L (ppb)	50	<0.2	116	10-185
Bromomethane	ug/L (ppb)	50	<1	109	24-165
Chloroethane	ug/L (ppb)	50	<1	123	10-172
Trichlorofluoromethane	ug/L (ppb)	50	<1	125	30-199
Acetone	ug/L (ppb)	250	<10	99	19-168
1,1-Dichloroethene	ug/L (ppb)	50	<1	112	35-149
Methylene chloride	ug/L (ppb)	50	<5	103	61-138
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	114	49-139
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	111	65-128
1,1-Dichloroethane	ug/L (ppb)	50	<1	110	67-127
2,2-Dichloropropane	ug/L (ppb)	50	<1	121	23-163
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	113	65-139
Chloroform	ug/L (ppb)	50	<1	111	71-127
2-Butanone (MEK)	ug/L (ppb)	250	<10	106	47-162
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	108	68-132
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	122	63-135
1,1-Dichloropropene	ug/L (ppb)	50	<1	108	65-127
Carbon tetrachloride	ug/L (ppb)	50	<1	124	55-139
Benzene	ug/L (ppb)	50	<0.35	106	62-144
Trichloroethene	ug/L (ppb)	50	<1	109	66-121
1,2-Dichloropropane	ug/L (ppb)	50	<1	109	73-130
Bromodichloromethane	ug/L (ppb)	50	<1	112	65-135
Dibromomethane	ug/L (ppb)	50	<1	108	65-135
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	114	56-143
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	109	55-146
Toluene	ug/L (ppb)	50	<1	103	68-131
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	112	63-147
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	105	63-143
2-Hexanone	ug/L (ppb)	250	<10	109	51-149
1,3-Dichloropropane	ug/L (ppb)	50	<1	107	72-126
Tetrachloroethene	ug/L (ppb)	50	<1	98	64-132
Dibromochloromethane	ug/L (ppb)	50	<1	116	65-135
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	106	77-127
Chlorobenzene	ug/L (ppb)	50	<1	102	72-118
Ethylbenzene	ug/L (ppb)	50	<1	105	51-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	117	72-129
m,p-Xylene	ug/L (ppb)	100	<2	105	72-137
o-Xylene	ug/L (ppb)	50	<1	104	67-133
Styrene	ug/L (ppb)	50	<1	108	73-126
Isopropylbenzene	ug/L (ppb)	50	<1	108	65-135
Bromoform	ug/L (ppb)	50	<1	120	60-136
n-Propylbenzene	ug/L (ppb)	50	<1	104	66-133
Bromobenzene	ug/L (ppb)	50	<1	102	70-129
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	106	72-130
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	102	65-137
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	104	66-135
2-Chlorotoluene	ug/L (ppb)	50	<1	103	62-131
4-Chlorotoluene	ug/L (ppb)	50	<1	102	62-132
tert-Butylbenzene	ug/L (ppb)	50	<1	104	64-135
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	103	69-139
sec-Butylbenzene	ug/L (ppb)	50	<1	104	64-134
p-Isopropyltoluene	ug/L (ppb)	50	<1	106	69-134
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	100	65-126
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	101	65-121
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	102	64-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	112	54-133
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	103	63-141
Hexachlorobutadiene	ug/L (ppb)	50	<1	102	53-140
Naphthalene	ug/L (ppb)	50	<1	106	40-166
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	104	55-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/04/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES  
 FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	83	103	27-138	22 vo
Chloromethane	ug/L (ppb)	50	94	110	49-125	16
Vinyl chloride	ug/L (ppb)	50	109	122	53-131	11
Bromomethane	ug/L (ppb)	50	103	114	62-148	10
Chloroethane	ug/L (ppb)	50	109	123	30-176	12
Trichlorofluoromethane	ug/L (ppb)	50	109	121	65-172	10
Acetone	ug/L (ppb)	250	105	112	32-177	6
1,1-Dichloroethene	ug/L (ppb)	50	103	113	65-157	9
Methylene chloride	ug/L (ppb)	50	99	107	17-177	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	112	118	54-156	5
trans-1,2-Dichloroethene	ug/L (ppb)	50	107	116	71-128	8
1,1-Dichloroethane	ug/L (ppb)	50	108	115	74-118	6
2,2-Dichloropropane	ug/L (ppb)	50	123	131	65-150	6
cis-1,2-Dichloroethene	ug/L (ppb)	50	111	118	74-126	6
Chloroform	ug/L (ppb)	50	106	112	76-118	6
2-Butanone (MEK)	ug/L (ppb)	250	112	114	52-152	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	105	108	71-135	3
1,1,1-Trichloroethane	ug/L (ppb)	50	116	124 vo	77-123	7
1,1-Dichloropropene	ug/L (ppb)	50	107	113	75-122	5
Carbon tetrachloride	ug/L (ppb)	50	116	124	73-126	7
Benzene	ug/L (ppb)	50	108	111	77-121	3
Trichloroethene	ug/L (ppb)	50	110	114	74-119	4
1,2-Dichloropropane	ug/L (ppb)	50	112	116	77-121	4
Bromodichloromethane	ug/L (ppb)	50	109	113	77-129	4
Dibromomethane	ug/L (ppb)	50	107	110	79-121	3
4-Methyl-2-pentanone	ug/L (ppb)	250	120	120	65-135	0
cis-1,3-Dichloropropene	ug/L (ppb)	50	112	116	79-129	4
Toluene	ug/L (ppb)	50	106	105	81-113	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	115	113	90-128	2
1,1,2-Trichloroethane	ug/L (ppb)	50	110	105	85-116	5
2-Hexanone	ug/L (ppb)	250	111	109	58-160	2
1,3-Dichloropropane	ug/L (ppb)	50	108	109	88-115	1
Tetrachloroethene	ug/L (ppb)	50	99	100	83-113	1
Dibromochloromethane	ug/L (ppb)	50	113	113	89-128	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	108	110	88-122	2
Chlorobenzene	ug/L (ppb)	50	107	106	84-116	1
Ethylbenzene	ug/L (ppb)	50	110	109	83-116	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	117	117	86-124	0
m,p-Xylene	ug/L (ppb)	100	110	109	84-120	1
o-Xylene	ug/L (ppb)	50	109	110	83-120	1
Styrene	ug/L (ppb)	50	112	112	87-119	0
Isopropylbenzene	ug/L (ppb)	50	110	111	83-120	1
Bromoform	ug/L (ppb)	50	118	118	77-119	0
n-Propylbenzene	ug/L (ppb)	50	108	108	83-118	0
Bromobenzene	ug/L (ppb)	50	108	108	88-117	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	110	109	85-121	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	107	106	81-120	1
1,2,3-Trichloropropane	ug/L (ppb)	50	108	106	77-123	2
2-Chlorotoluene	ug/L (ppb)	50	107	107	81-116	0
4-Chlorotoluene	ug/L (ppb)	50	107	108	83-117	1
tert-Butylbenzene	ug/L (ppb)	50	112	108	84-118	4
1,2,4-Trimethylbenzene	ug/L (ppb)	50	108	107	86-119	1
sec-Butylbenzene	ug/L (ppb)	50	110	108	84-121	2
p-Isopropyltoluene	ug/L (ppb)	50	112	110	85-118	2
1,3-Dichlorobenzene	ug/L (ppb)	50	108	106	85-118	2
1,4-Dichlorobenzene	ug/L (ppb)	50	107	107	85-119	0
1,2-Dichlorobenzene	ug/L (ppb)	50	109	109	81-117	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	110	111	62-136	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	108	108	75-129	0
Hexachlorobutadiene	ug/L (ppb)	50	110	107	72-138	3
Naphthalene	ug/L (ppb)	50	111	111	66-135	0
1,2,3-Trichlorobenzene	ug/L (ppb)	50	112	111	70-133	1

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

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May 16, 2011

Lucas Swart  
Terracon  
Pacific Cascade Building  
21905 64<sup>th</sup> Ave. W., Suite 100  
Mountlake Terrace, WA 98043

Dear Mr. Swart:

Included are the additional results from the testing of material submitted on April 20, 2011 from the 81117022, F&BI 104250 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
TRC0516R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 20, 2011 by Friedman & Bruya, Inc. from the Terracon 81117022, F&BI 104250 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terracon</u>
104250-01	B-1, S-1@2.5-3'
104250-02	B-1, S-2@4.5-5'
104250-03	B-2, S-1@2.5-3'
104250-04	B-2, S-2@4.5-5'
104250-05	B-3, S-1@4.5-5'
104250-06	B-3, S-2@9.5-10'
104250-07	B-3, S-3@19.5-20'
104250-08	B-4, S-1@4.5-5'
104250-09	B-4, S-2@9.5-10'
104250-10	B-4, S-3@19.5-20'
104250-11	B-5, S-1@2.5-3'
104250-12	B-5, S-2@4.5-5'
104250-13	B-6, S-1@2.5-3'
104250-14	B-6, S-2@4.5-5'
104250-15	B-7, S-1@2.5-3'
104250-16	B-7, S-2@4.5-5'
104250-17	B-8, S-1@2.5-3'
104250-18	B-8, S-2@4.5-5'
104250-19	B-3
104250-20	B-4

Sample B-8, S-2@4.5-5' was requested to be analyzed outside of the holding time. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/16/11  
Date Received: 04/20/11  
Project: 81117022, F&BI 104250  
Date Extracted: 05/11/11  
Date Analyzed: 05/12/11

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl</u> <u>Benzene</u>	<u>Total</u> <u>Xylenes</u>	<u>Gasoline</u> <u>Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-132)
B-8, S-2@4.5-5' ht 104250-18	<0.02	<0.02	<0.02	<0.06	<2	89
Method Blank 01-866 MB	<0.02	<0.02	<0.02	<0.06	<2	72

Date of Report: 05/16/11  
 Date Received: 04/20/11  
 Project: 81117022, F&BI 104250  
 Date Extracted: 05/11/11  
 Date Analyzed: 05/11/11

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis  
 Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B-8, S-2@4.5-5' ht 104250-18	<50	<250	95
Method Blank 01-860 MB2	<50	<250	101

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/16/11

Date Received: 04/20/11

Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 105110-04 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	99	66-121
Toluene	mg/kg (ppm)	0.5	105	72-128
Ethylbenzene	mg/kg (ppm)	0.5	113	69-132
Xylenes	mg/kg (ppm)	1.5	112	69-131
Gasoline	mg/kg (ppm)	20	120	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/16/11

Date Received: 04/20/11

Project: 81117022, F&BI 104250

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 105114-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	117	109	63-146	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	107	79-144

**Data Qualifiers & Definitions**

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 – More than one compound of similar molecule structure was identified with equal probability.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte indicated may be due to carryover from previous sample injections.
- d - The sample was diluted. Detection limits may be raised due to dilution.
- ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb - Analyte present in the blank and the sample.
- fc – The compound is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht - Analysis performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j – The result is below normal reporting limits. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the compound indicated is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

104250

SAMPLE CHAIN OF CUSTODY

ME 04/20/11 VS4/v1/204

Send Report To

Company TEMAACON

Address 21405 64th Ave W. STC100

City, State, ZIP MULTI, WA 98045

Phone # 4257713304 Fax # 4257713549

SAMPLERS (signature)

PROJECT NAME/NO.

B117022

PO #

REMARKS

Page # 1 of 2

TURNAROUND TIME

Standard (2 Weeks)

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED						Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS		
B-1-S-02@4'1/2-3'	01A	4/20	0855	801L	5	X	X	X					HOLD!
B-1-S-20@4'1/2-5'	02		0856										HOLD!
B-2-S-1@2'1/2-3'	03		0904										
B-2-S-2@4'1/2-5'	04		0906										
B-3-S-1@4'1/2-5'	05		0927										
B-3-S-2@9'1/2-10'	06		0929										
B-3-S-3@19'1/2-20'	07		0931										
B-4-S-1@7'1/2-5'	08		0955										
B-4-S-2@9'1/2-10'	09		0958										
B-4-S-3@19'1/2-20'	10		1000										

SIGNATURE

Relinquished by:

PRINT NAME

LEON SWANER

COMPANY

TEMACON

DATE

4/20/11

TIME

1840

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

Received by:

Beckbauer

COMPANY

FRB

DATE

4/20/11

TIME

1640

Samples received at: 2

104250

SAMPLE CHAIN OF CUSTODY

ME 04/20/11 VS4/V1/2 Day

Send Report To

Company TERACON

Address 21905 64th Ave. W, STE 100

City, State, ZIP MULT WA 98043

Phone # 4287713304 Fax # 4287713549

SAMPLERS (signature)

PROJECT NAME/NO.

8117022

PO #

REMARKS

Page # 2 of 2

TURNAROUND TIME

Standard (2 Weeks)

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Notes
B-5 S-10 2 1/2 -3'	11E	4/20/11	1028	Soil	5	XX	XX	X				HOLD!
B-5 S-2 @ 4 1/2 -5'	12		1030									HOLD!
B-6 S-1 @ 2 1/2 -3'	13		1030									HOLD!
B-6 S-2 @ 4 1/2 -5'	14		1032									HOLD!
B-7 S-1 @ 2 1/2 -3'	15		1051									HOLD!
B-7 S-2 @ 4 1/2 -5'	16		1055									HOLD!
B-8 S-1 @ 2 1/2 -3'	17		1100									HOLD!
B-8 S-2 @ 4 1/2 -5'	18		1101									HOLD!
B-3	A-F		0941	GW	6							
B-4	A-F		0916	GW	6							

Hold - analyze for PCBs per IS 5/1/11 PM

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by:

Received by:

Relinquished by:

Received by:

Lucas Smart

TERACON

4/20/11

1645

Eric Spawer

EB

4/20/11

1640

Received by:

Samples received at 2

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029

Ph. (206) 285-3282

Fax (206) 283-5044

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Charlene Morrow, M.S.  
Yelena Aravkina, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044  
e-mail: fbi@isomedia.com

June 28, 2011

Lucas Swart  
Terracon  
Pacific Cascade Building  
21905 64<sup>th</sup> Ave. W., Suite 100  
Mountlake Terrace, WA 98043

Dear Mr. Swart:

Included are the results from the testing of material submitted on June 14, 2011 from the 81117022, F&BI 106197 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
TRC0628R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 14, 2011 by Friedman & Bruya, Inc. from the Terracon 81117022, F&BI 106197 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID  
106197-01

Terracon  
APS 889-6-14-11

Sample APS 889-6-14-11 was sent to Aquatic Research for total coliform, e.coli, and nitrate analyses. Review of the enclosed report indicates that all quality assurance were acceptable.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/28/11  
Date Received: 06/14/11  
Project: 81117022, F&BI 106197  
Date Extracted: 06/15/11  
Date Analyzed: 06/15/11

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
APS 889-6-14-11 106197-01	<1	<1	<1	<3	<100	74
Method Blank 01-1095 MB	<1	<1	<1	<3	<100	79

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/28/11  
Date Received: 06/14/11  
Project: 81117022, F&BI 106197  
Date Extracted: 06/16/11  
Date Analyzed: 06/17/11

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
APS 889-6-14-11 106197-01	<50	<250	75
Method Blank 01-1097 MB	<50	<250	73

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/28/11

Date Received: 06/14/11

Project: 81117022, F&BI 106197

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 106186-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	2.1	2.7	25 a
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	102	65-118
Toluene	ug/L (ppb)	50	100	72-122
Ethylbenzene	ug/L (ppb)	50	101	73-126
Xylenes	ug/L (ppb)	150	101	74-118
Gasoline	ug/L (ppb)	1,000	100	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/28/11

Date Received: 06/14/11

Project: 81117022, F&BI 106197

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	99	98	61-133	1

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



# AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

<b>CASE FILE NUMBER:</b>	<b>FBI008-31</b>	<b>PAGE 1</b>
<b>REPORT DATE:</b>	<b>06/28/11</b>	
<b>DATE SAMPLED:</b>	<b>06/14/11</b>	<b>DATE RECEIVED: 06/15/11</b>
<b>FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER</b>		
<b>SAMPLES FROM FRIEDMAN &amp; BRUYA, INC. / PROJECT NO. 106197</b>		

## CASE NARRATIVE

One water sample was received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of this sample. Sample data follows while QA/QC data is contained on subsequent pages.

## SAMPLE DATA

SAMPLE ID	TOTAL COLIFORM (#/100ml)	E COLI (#/100ml)	NITRATE (mg/L)
APS889-6-14-11	<2	<2	0.019



# AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715    FAX: (206) 632-2417

<b>CASE FILE NUMBER:</b>	FBI008-31	<b>PAGE 2</b>
<b>REPORT DATE:</b>	06/28/11	
<b>DATE SAMPLED:</b>	06/14/11	<b>DATE RECEIVED:</b> 06/15/11
<b>FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER</b>		
<b>SAMPLES FROM FRIEDMAN &amp; BRUYA, INC. / PROJECT NO. 106197</b>		

**QA/QC DATA**

QC PARAMETER	TOTAL COLIFORM (#/100ml)	E COLI (#/100ml)	NITRATE (mg/L)
METHOD	SM189222B	EPA10029	SM184500N03F
DATE ANALYZED	06/15/11	06/15/11	06/15/11
DETECTION LIMIT	2	2	0.010
DUPLICATE			
SAMPLE ID	APS889-6-14-11	APS889-6-14-11	BATCH
ORIGINAL	<2	<2	0.148
DUPLICATE	<2	<2	0.147
RPD	NC	NC	0.74%
SPIKE SAMPLE			
SAMPLE ID			BATCH
ORIGINAL			0.148
SPIKED SAMPLE			0.353
SPIKE ADDED			0.200
% RECOVERY	NA	NA	102.75%
QC CHECK			
FOUND			0.421
TRUE			0.408
% RECOVERY	NA	NA	103.11%
BLANK			
	<2	<2	<0.010

RPD = RELATIVE PERCENT DIFFERENCE  
 NA = NOT APPLICABLE OR NOT AVAILABLE  
 NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.  
 OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Steven Lazoff  
 Laboratory Director



106197

**SAMPLE CHAIN OF CUSTODY**

ME 06/14/11 of 1/15  
ALC

Send Report To Lucas Smart

Company Terracon Consultants

Address 21905 64th Ave W # 100

City, State, ZIP Mountlake Terrace WA

Phone # 425-791-3304 Fax # \_\_\_\_\_

SAMPLERS (signature) [Signature]

PROJECT NAME/NO. 8117002

PO# \_\_\_\_\_

REMARKS \_\_\_\_\_

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSIS REQUESTED							Notes							
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Other								
ARS 889-6-14-11	01 A-L	6/14/11	9:35	H <sub>2</sub> O	12	X	X	X												

Samples received at 2:00

EPA 8M9223B

Total Coli  
E. Coli  
Nitrites

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS/COC/COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	SABINE DAVIN	TERRACON	6/14/11	12:00
<u>[Signature]</u>	LUCAS SMART	TERRACON	6/14/11	12:00
<u>[Signature]</u>	LUCAS SMART	TERRACON	6/14/11	16:45
<u>[Signature]</u>	BRAD BRANN	LA RZ	6/14/11	16:45

## **APPENDIX D**

### **Historical Information**

# REQUEST FOR REVIEW: INDIVIDUAL WATER SUPPLY

Property Tax Account Number 0195 0900 0085 00  
Applicant W. J. Investment Co., LTD Phone 425-501-1900  
Mailing Address 1525 20th St., W 5305 City Snohomish Zip 98030  
Well located at 2000 24th Dr., NE City Arlington  
Sec 1 Twp 1 Rg 1 1/4 Sec 1 Subdivision Name (or attach legal) Blair Road Lot 5 Blk     

**DECLARATION OF APPLICANT** W. J. Sabar declares as follows:  
Printed Name of Applicant

I have had made available to me the rules and regulations concerning the provisions of an adequate and potable water supply as set forth in the Growth Management Act of 1990, RCW 19.27.097, as well as the Department of Ecology *Guidelines for Determining Water Availability* for such new buildings. I hereby certify that the water samples/results presented to the Snohomish Health District for purposes of bacteriological and inorganic chemical sample analyses are from the individual water supply source located on the above described property.

Bacteriological Lab # 15421015 Inorganic Lab # 21254

I DECLARE THE ABOVE STATEMENT TO BE TRUE AND CORRECT AND MADE SUBJECT TO THE PENALTIES FOR PERJURY UNDER THE LAWS FOR THE STATE OF WASHINGTON.

DATED this 3rd day of July 2008  
Signature of Applicant

### FOR REVIEW, THE FOLLOWING INFORMATION MUST BE SUBMITTED:

1. Copy of Water Well Report (well drillers log) to verify well constructed as per WAC 173-160.
2. Testing the yield of the well per WAC 173-160-321 and sufficient in detail to demonstrate a 400 gallon/day minimum (800 gallon/day for two connection systems).
3. Satisfactory results of a bacteriological analysis.
4. Satisfactory results of the primary inorganic chemical analyses for the following elements: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, sodium, fluoride, and nitrate.

### For two connection systems, the following additional information must be provided:

- a. Property tax account number for second connection \_\_\_\_\_
- b. Recorded water use agreement, easements, and/or declaration (two copies)
- c. Documentation from adjacent purveyors declining to provide service. (two copies)

### FOR SHD USE ONLY

WATER SUPPLY NOT ACCEPTED  WATER SUPPLY ACCEPTED  
Comments/Conditions: Arsenic detected @ 0.005 mg/l - see  
AF# 201307030221

Sanitarian Name [Signature] Date 7/3/08

Acceptance of this Request for Review of an Individual Water Supply is based on information provided by the declarant. Upon acceptance by the Health District, this water supply is found to be consistent with the "Guidelines for Determining Water Availability for New Buildings" as established by the Washington State Department of Health and the Washington State Department of Ecology, Ecology Publication 93-27, April 1993 and Snohomish Health District Sanitary Code Chapter 9.1. Consequently, this water source will be considered adequate for the purposes of fulfilling the requirements of RCW 19.27.097 as applied to the issuance of building permits. However, this review does not address the issue of water rights and, therefore, provides no opinion as to the applicant's legal right to use the subject water source.

HD 30 rev101705jc





Burlington WA | 11620 S Walnut St - 98233  
 Corporate Office | 800.755.9295 • 360.757.1400 • 360.757.1402fax  
 Bellingham WA | 805 Orchard Dr Ste 4 - 98225  
 Microbiology | 360.671.0688 • 360.671.1577fax

## Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

**Client Name:** Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

**Reference Number:** 07-09342  
**Project:** Faber Lot #5 APS892

**System Name:**  
**System ID Number:**  
**DOH Source Number:**  
**Sample Type:**  
**Sample Purpose:** Investigative or Other  
**Sample Location:** Faber Lot 5  
**County:**  
**Sampled By:** Ralph  
**Sampler Phone:**

**Repeat Sample Number:**  
**Lab Number:** 16421255  
**Collect Date:** 7/19/2007  
**Date Received:** 7/20/2007  
**Report Date:** 7/21/2007  
**Field ID:** APS892 dup  
**Comment:**  
**Supervisor:**

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	sk	SM9223 B	
3	E. COLI	Absent	per 100mL			

**NOTES:**  
 If the result is Unsatisfactory a reposit sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.  
 If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.

Comments:



Burlington WA | 11620 S Walnut St - 98233  
 Corporate Office | 800.755.9295 • 360.757.1400 • 360.757.1402fax  
 Bellingham WA | 805 Orchard Dr Ste 4 - 98225  
 Microbiology | 360.671.0688 • 360.671.1577fax

**Washington State Department of Health  
 WATER BACTERIOLOGICAL ANALYSIS**

Client Name: **Dahlman Pump**  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: **07-09342**  
 Project: **Faber Lot #5 APS892**

System Name:  
 System ID Number:  
 DOH Source Number:  
 Sample Type:  
 Sample Purpose: **Investigative or Other**  
 Sample Location: **Faber Lot 5**  
 County:  
 Sampled By: **Ralph**  
 Sampler Phone:

Repeat Sample Number:  
 Lab Number: **16421254**  
 Collect Date: **7/20/2007**  
 Date Received: **7/20/2007**  
 Report Date: **7/21/2007**  
 Field ID: **APS892**  
 Comment:  
 Supervisor:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	sk	SM9223 B	
3	E. COLI	Absent	per 100mL			

**NOTES:**

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.

If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.

Comments:



Burlington WA | 1620 S Walnut St - 98233  
*Corporate Office* | 800.755.9295 • 360.757.1400 • 360.757.1402fax  
 Bellingham WA | 805 Orchard Dr Suite 4 - 98225  
*Microbiology* | 360.671.0688 • 360.671.1577fax

## Data Report

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: 07-09342  
 Report Date: 7/27/2007  
 Supervisor: *JK*

Lab Number: 21254  
 Sample Description: APS892 - Faber Lot 5

Project: Faber Lot #5 APS892  
 Date Sampled: 7/20/2007  
 Date Received: 7/20/2007

WSDOH Number	Analyte	Result	MCL	Pass	SRL	Units
7	CHROMIUM	ND	0.1	Pass	0.010	mg/L
4	ARSENIC	0.005	0.01	Pass	0.002	mg/L
12	SELENIUM	ND	0.05	Pass	0.005	mg/L
13	SILVER	ND	0.05	Pass	0.010	mg/L
6	CADMIUM	ND	0.005	Pass	0.002	mg/L
5	BARIUM	ND	2	Pass	0.100	mg/L
9	LEAD	0.002	0.015	Pass	0.002	mg/L
11	MERCURY	ND	0.002	Pass	0.0002	mg/L
14	SODIUM	15.6			1.0	mg/L
19	FLUORIDE	ND	4	Pass	0.10	mg/L
20	NITRATE-N	ND	10	Pass	0.10	mg/L

**Notation:**

MCL = Maximum Contaminant Level, maximum permissible level of a contaminant in water established by EPA; Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. Sodium has a recommended limit of 20 mg/L. A blank MCL value indicates a level is not currently established.

SRL = State Reporting Limit (WSDOH required detection limit).

ND = Not detected above the listed specified reporting limit (SRL).



Burlington WA | 1620 S Walnut St - 98233  
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 Bellingham WA | 805 Orchard Dr Suite 4 - 98225  
 Microbiology | 360.671.0688 • 360.671.1577fax

## Data Report

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Report Date: 7/27/2007  
 Reference Number: 07-09342  
 Project: Faber Lot #5 APS892

Collected By: Ralph

Date Received: 7/20/2007  
 Supervisor: *[Signature]*

Lab Number: 21254

Sample Description: APS892 - Faber Lot 5

Sample Date: 7/20/2007

CAS ID#	Analyte	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comments
7439-89-6	IRON	10.9	0.050	0.004	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
E-11778	HARDNESS	115.7	3.30	0.055	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
7439-96-5	MANGANESE	0.39	0.005	0.0012	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
E-10139	HYDROGEN ION (pH)	6.88			pH Units	1.0	SM4500-H+ B	7/23/2007	JS	PH_070720	

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

D.F. = Dilution Factor

When recorded return to:

Riverband Investment Co, LLC  
PO Box 1702  
Lynnwood WA 98046



200807030221 1 PG  
07/03/2008 10:44am \$42.00  
SNOHOMISH COUNTY, WASHINGTON

### NOTICE WELL WATER ARSENIC DISCLOSURE

Tax Parcel No 0105 2900 0005 00  
Section 9 Township 31 Range 5 Quarter Section SW

Legal Description  Attached  As follows: Plot of Riverband, Lot 5

For the purpose of Snohomish Health District supplemental drinking water policies and procedures. The MCL for Arsenic shall be 0.010mg/l (10 parts per billion [ppb]).

Arsenic concentrations in groundwater can vary over time.

There is variability in laboratory reporting.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

The following arsenic level of 0.005 mg/l was detected on 27 day of July, 2007.  
by: Edge Laboratories (Testing Laboratory Name)

21254 (Lab No.)  
07-09342 (Reference No.)

Applicant Signature [Signature] Date 6/16/08

STATE OF WASHINGTON  
COUNTY OF SNOHOMISH

I certify that I know or have satisfactory evidence that Randall Faber is the person who appeared before me, and said person acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

[Signature]



NOTARY PUBLIC in and for the State of Washington,  
Residing at: Royalton WA  
My commission expires 10/01/10

# REQUEST FOR REVIEW: INDIVIDUAL WATER SUPPLY

Property Tax Account Number 0108 0000 0003 00  
Applicant Investment Co., LLC Phone 425-341-1000  
Mailing Address 1000 1st St, Everett, WA 98201 City Everett Zip 98201  
Well located at 1000 1st St, Everett, WA City Everett  
Sec \_\_\_ Twp \_\_\_ Rg \_\_\_ 1/4 Sec \_\_\_ Subdivision Name (or attach legal) Silver Sand Lot \_\_\_ Blk \_\_\_

**DECLARATION OF APPLICANT** John J. Babay declares as follows:  
Printed Name of Applicant

I have had made available to me the rules and regulations concerning the provisions of an adequate and potable water supply as set forth in the Growth Management Act of 1990, RCW 19.27.097, as well as the Department of Ecology *Guidelines for Determining Water Availability* for such new buildings. I hereby certify that the water samples/results presented to the Snohomish Health District for purposes of bacteriological and inorganic chemical sample analyses are from the individual water supply source located on the above described property.

Bacteriological Lab # 00000000 Inorganic Lab # 01010

I DECLARE THE ABOVE STATEMENT TO BE TRUE AND CORRECT AND MADE SUBJECT TO THE PENALTIES FOR PERJURY UNDER THE LAWS FOR THE STATE OF WASHINGTON.

DATED this 11 day of May 2008  
Signature of Applicant

### FOR REVIEW, THE FOLLOWING INFORMATION MUST BE SUBMITTED:

1. Copy of Water Well Report (well drillers log) to verify well constructed as per WAC 173-160.
2. Testing the yield of the well per WAC 173-160-321 and sufficient in detail to demonstrate a 400 gallon/day minimum (800 gallon/day for two connection systems).
3. Satisfactory results of a bacteriological analysis.
4. Satisfactory results of the primary inorganic chemical analyses for the following elements: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, sodium, fluoride, and nitrate.

### For two connection systems, the following additional information must be provided:

- a. Property tax account number for second connection \_\_\_\_\_
- b. Recorded water use agreement, easements, and/or declaration (two copies)
- c. Documentation from adjacent purveyors declining to provide service. (two copies)

### FOR SHD USE ONLY

WATER SUPPLY NOT ACCEPTED  WATER SUPPLY ACCEPTED

Comments/Conditions: Arsenic disclosure recording # 200805270031

Sanitarian Name [Signature] Date 5/27/08

Acceptance of this Request for Review of an Individual Water Supply is based on information provided by the declarant. Upon acceptance by the Health District, this water supply is found to be consistent with the "Guidelines for Determining Water Availability for New Buildings" as established by the Washington State Department of Health and the Washington State Department of Ecology, Ecology Publication 93-27, April 1993 and Snohomish Health District Sanitary Code Chapter 9.1. Consequently, this water source will be considered adequate for the purposes of fulfilling the requirements of RCW 19.27.097 as applied to the issuance of building permits. However, this review does not address the issue of water rights and, therefore, provides no opinion as to the applicant's legal right to use the subject water source.

HD 30 rev101705jc



ENVIRONMENTAL HEALTH DIVISION  
Water & Wastewater Section  
3020 Rucker Avenue, Suite 104  
Everett, WA 98201-3900

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 Microbiology | 360.671.0688 • 360.671.1577fax

Washington State Department of Health  
 WATER BACTERIOLOGICAL ANALYSIS

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: 07-09912  
 Project: Faber Lot 3

System Name:  
 System ID Number:  
 DOH Source Number:  
 Sample Type:  
 Sample Purpose: Investigative or Other  
 Sample Location: Wellhead 890  
 County:  
 Sampled By: Erick  
 Sampler Phone:

Repeat Sample Number:  
 Lab Number: 16422552  
 Collect Date: 7/31/2007  
 Date Received: 7/31/2007  
 Report Date: 8/1/2007  
 Field ID: Faber - Lot 3 (2)  
 Comment:  
 Supervisor:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	sk	SM9223 B	
3	E. COLI	Absent	per 100mL			

**NOTES:**

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.

If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.

**Comments:**



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 Bellingham WA | 805 Orchard Dr Suite 4 - 98225  
 Microbiology | 360.671.0688 • 360.671.1577fax

## Data Report

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: **07-09312**  
 Report Date: 7/27/2007  
 Supervisor: *[Signature]*

Lab Number: 21210  
 Sample Description: Lot 3 - River Bend Inv

Project: River Bend Inv Lot 2,3,4  
 Date Sampled: 7/19/2007  
 Date Received: 7/20/2007

WSDOH Number	Analyte	Result	MCL	Pass	SRL	Units
7	CHROMIUM	ND	0.1	Pass	0.010	mg/L
4	ARSENIC	0.004	0.01	Pass	0.002	mg/L
12	SELENIUM	ND	0.05	Pass	0.005	mg/L
13	SILVER	ND	0.05	Pass	0.010	mg/L
6	CADMIUM	ND	0.005	Pass	0.002	mg/L
5	BARIUM	ND	2	Pass	0.100	mg/L
9	LEAD	0.003	0.015	Pass	0.002	mg/L
11	MERCURY	ND	0.002	Pass	0.0002	mg/L
14	SODIUM	11.5			1.0	mg/L
19	FLUORIDE	ND	4	Pass	0.10	mg/L
20	NITRATE-N	ND	10	Pass	0.10	mg/L

**Notation:**

MCL = Maximum Contaminant Level, maximum permissible level of a contaminant in water established by EPA; Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. Sodium has a recommended limit of 20 mg/L. A blank MCL value indicates a level is not currently established.

SRL = State Reporting Limit (WSDOH required detection limit).

ND = Not detected above the listed specified reporting limit (SRL).



# Data Report

Collected By: Ralph

Date Received: 7/20/2007

Lab Number: 21210		Sample Description: Lot 3 - River Bend Inv					Sample Date: 7/19/2007				
CAS ID#	Analyte	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comments
7439-89-6	IRON	8.62	0.050	0.004	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
E-11778	HARDNESS	107.1	3.30	0.055	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
7439-96-5	MANGANESE	0.35	0.005	0.0012	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
E-10139	HYDROGEN ION (pH)	7.01			pH Units	1.0	SM4500-H+ B	7/23/2007	JS	PH_070720	

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

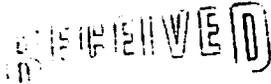
D.F. - Dilution Factor

When recorded return to:

Riverband Enrichment Company  
P.O. Box 1702  
Lynnwood, WA 98046



200805270031 1 PG  
05/27/2008 9:17am \$42.00  
SNOHOMISH COUNTY, WASHINGTON



MAY 27 2008

Snohomish  
Health District

### NOTICE WELL WATER ARSENIC DISCLOSURE

Tax Parcel No 0105 2900 0003 00  
Section 9 Township 31 Range 5 Quarter Section SW

Legal Description(x) Attached( ) As follows: Lot 3, Plat of Riverband

For the purpose of Snohomish Health District supplemental drinking water policies and procedures. The MCL for Arsenic shall be 0.010mg/l (10 parts per billion [ppb]).

Arsenic concentrations in groundwater can vary over time.

There is variability in laboratory reporting.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

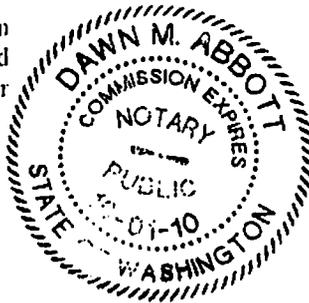
The following arsenic level of 0.004 mg/l was detected on 27<sup>th</sup> day of July, 2007.  
by: Edge Analytical Laboratories (Testing Laboratory Name)  
21210 (Lab No.)  
07-09312 (Reference No.)

Applicant Signature [Signature] Date 5/13/08

STATE OF WASHINGTON)  
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that Randall Faber is the person who appeared before me, and said person acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

[Signature]



NOTARY PUBLIC in and for the State of Washington,  
Residing at: royallup WA  
My commission expires: 10/01/10

# REQUEST FOR REVIEW: INDIVIDUAL WATER SUPPLY

Property Tax Account Number 4100 2900 0002 00  
Applicant Wishard Investment Co., LLC Phone 425-501-1909  
Mailing Address 4025 206th St. SE #205 City Lynnwood Zip 98034  
Well located at 4100 14th Street NE City Brilligton  
Sec     Twp     Rg     1/4 Sec     Subdivision Name (or attach legal) Wishard Lot 2 Blk    

**DECLARATION OF APPLICANT** ES Wishard, Nabor Printed Name of Applicant declares as follows:

I have had made available to me the rules and regulations concerning the provisions of an adequate and potable water supply as set forth in the Growth Management Act of 1990, RCW 19.27.097, as well as the Department of Ecology *Guidelines for Determining Water Availability* for such new buildings. I hereby certify that the water samples/results presented to the Snohomish Health District for purposes of bacteriological and inorganic chemical sample analyses are from the individual water supply source located on the above described property.

Bacteriological Lab # 15401201 Inorganic Lab # 21208

I DECLARE THE ABOVE STATEMENT TO BE TRUE AND CORRECT AND MADE SUBJECT TO THE PENALTIES FOR PERJURY UNDER THE LAWS FOR THE STATE OF WASHINGTON.

DATED this 12 day of May 2005  
[Signature] Signature of Applicant

**FOR REVIEW, THE FOLLOWING INFORMATION MUST BE SUBMITTED:**

1. Copy of Water Well Report (well drillers log) to verify well constructed as per WAC 173-160.
2. Testing the yield of the well per WAC 173-160-321 and sufficient in detail to demonstrate a 400 gallon/day minimum (800 gallon/day for two connection systems).
3. Satisfactory results of a bacteriological analysis.
4. Satisfactory results of the primary inorganic chemical analyses for the following elements: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, sodium, fluoride, and nitrate.

**For two connection systems, the following additional information must be provided:**

- a. Property tax account number for second connection \_\_\_\_\_
- b. Recorded water use agreement, easements, and/or declaration (two copies)
- c. Documentation from adjacent purveyors declining to provide service. (two copies)

**FOR SHD USE ONLY**

WATER SUPPLY NOT ACCEPTED       WATER SUPPLY ACCEPTED  
Comments/Conditions: Arsenic discharge recording # 200805270030

Sanitarian Name [Signature] Date 5/27/05

Acceptance of this *Request for Review of an Individual Water Supply* is based on information provided by the declarant. Upon acceptance by the Health District, this water supply is found to be consistent with the "Guidelines for Determining Water Availability for New Buildings" as established by the Washington State Department of Health and the Washington State Department of Ecology, Ecology Publication 93-27, April 1993 and Snohomish Health District Sanitary Code Chapter 9.1. Consequently, this water source will be considered adequate for the purposes of fulfilling the requirements of RCW 19.27.097 as applied to the issuance of building permits. However, this review does not address the issue of water rights and, therefore, provides no opinion as to the applicant's legal right to use the subject water source.

HD 30 rev101705je



ENVIRONMENTAL HEALTH DIVISION  
Water & Wastewater Section  
3020 Rucker Avenue, Suite 104  
Everett, WA 98201-3900

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 Bellingham WA | 805 Orchard Dr Ste 4 - 98225  
 Microbiology | 360.671.0688 • 360.671.1577fax

Washington State Department of Health  
**WATER BACTERIOLOGICAL ANALYSIS**

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: 07-09312  
 Project: River Bend Inv Lot 2,3,4

System Name:  
 System ID Number:  
 DOH Source Number:  
 Sample Type:  
 Sample Purpose: Investigative or Other  
 Sample Location: River Bend Inv  
 County:  
 Sampled By: Ralph  
 Sampler Phone:

Repeat Sample Number:  
 Lab Number: 16421208  
 Collect Date: 7/19/2007  
 Date Received: 7/20/2007  
 Report Date: 7/21/2007  
 Field ID: Lot 2  
 Comment:  
 Supervisor:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	sk	SM9223 B	
3	E. COLI	Absent	per 100mL			

**NOTES:**  
 If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.  
 If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.

Comments:



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 Bellingham WA 805 Orchard Dr Ste 4 - 98225  
 Microbiology 360.671.0688 • 360.671.1577fax

Washington State Department of Health  
 WATER BACTERIOLOGICAL ANALYSIS

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: 07-09312  
 Project: River Bend Inv Lot 2,3,4

System Name:  
 System ID Number:  
 DOH Source Number:  
 Sample Type:  
 Sample Purpose: Investigative or Other  
 Sample Location: River Bend Inv  
 County:  
 Sampled By: Ralph  
 Sampler Phone:

Repeat Sample Number:  
 Lab Number: 16421209  
 Collect Date: 7/19/2007  
 Date Received: 7/20/2007  
 Report Date: 7/21/2007  
 Field ID: Lot 2 dup  
 Comment:  
 Supervisor:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	sk	SM9223 B	
3	E. COLI	Absent	per 100mL			

**NOTES:**

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.

If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.

Comments:



Burlington WA | 1620 S Walnut St - 98233  
 Corporate Office | 800.755.9295 • 360.757.1400 • 360.757.1402fax  
 Bellingham WA | 805 Orchard Dr Suite 4 - 98225  
 Microbiology | 360.671.0688 • 360.671.1577fax

## Data Report

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Reference Number: **07-09312**  
 Report Date: 7/27/2007  
 Supervisor: *[Signature]*

Lab Number: 21208  
 Sample Description: Lot 2 - River Bend Inv

Project: River Bend Inv Lot 2,3,4  
 Date Sampled: 7/19/2007  
 Date Received: 7/20/2007

WSDOH Number	Analyte	Result	MCL	Pass	SRL	Units
7	CHROMIUM	ND	0.1	Pass	0.010	mg/L
4	ARSENIC	0.003	0.01	Pass	0.002	mg/L
12	SELENIUM	ND	0.05	Pass	0.005	mg/L
13	SILVER	ND	0.05	Pass	0.010	mg/L
6	CADMIUM	ND	0.005	Pass	0.002	mg/L
5	BARIUM	ND	2	Pass	0.100	mg/L
9	LEAD	ND	0.015	Pass	0.002	mg/L
11	MERCURY	ND	0.002	Pass	0.0002	mg/L
14	SODIUM	10.2			1.0	mg/L
19	FLUORIDE	ND	4	Pass	0.10	mg/L
20	NITRATE-N	ND	10	Pass	0.10	mg/L

Notation:

MCL = Maximum Contaminant Level, maximum permissible level of a contaminant in water established by EPA; Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. Sodium has a recommended limit of 20 mg/L. A blank MCL value indicates a level is not currently established.

SRL = State Reporting Limit (WSDOH required detection limit).

ND = Not detected above the listed specified reporting limit (SRL).



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 Bellingham WA 805 Orchard Dr Suite 4 - 98225  
 Microbiology 360.671.0688 • 360.671.1577fax

## Data Report

Client Name: Dahlman Pump  
 P.O. Box 422  
 Burlington, WA 98233

Report Date: 7/27/2007  
 Reference Number: 07-09312  
 Project: River Bend Inv Lot 2,3,4

Collected By: Ralph

Date Received: 7/20/2007  
 Supervisor: *[Signature]*

Lab Number: 21208

Sample Description: Lot 2 - River Bend Inv

Sample Date: 7/19/2007

CAS ID#	Analyte	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comments
7439-89-6	IRON	6.85	0.050	0.004	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
E-11778	HARDNESS	102.4	3.30	0.055	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
7439-96-5	MANGANESE	0.306	0.005	0.0012	mg/L	1.0	200.7	7/24/2007	BJ	200.7_070724	
E-10139	HYDROGEN ION (pH)	7.09			pH Units	1.0	SM4500-H+ B	7/23/2007	JS	PH_070720	

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested

DF = Dilution Factor

When recorded return to:

Riverview Investment Company  
PO Box 1702  
Lynnwood WA 98046



200805270030 1 PG  
05/27/2008 9:17am \$42.00  
SNOHOMISH COUNTY, WASHINGTON

RECEIVED

MAY 27 2008

Snohomish Health District

NOTICE  
WELL WATER ARSENIC DISCLOSURE

Tax Parcel No 0105 2900 0002 00  
Section 9 Township 31 Range 5 Quarter Section SW

Legal Description  Attached  As follows: Lot 2, Plat of Riverview

For the purpose of Snohomish Health District supplemental drinking water policies and procedures. The MCL for Arsenic shall be 0.010mg/l (10 parts per billion [ppb]).

Arsenic concentrations in groundwater can vary over time.

There is variability in laboratory reporting.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

The following arsenic level of 0.003 mg/l was detected on 27<sup>th</sup> day of July, 2007.  
by: Edge Analytical Laboratories  
(Testing Laboratory Name)

21208  
(Lab No.)  
07-09312  
(Reference No.)

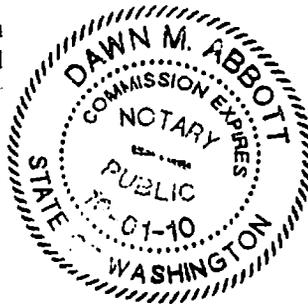
Applicant Signature [Signature] Date 5/13/08

STATE OF WASHINGTON)  
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that Randall Faber is the person who appeared before me, and said person acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

[Signature]

NOTARY PUBLIC in and for the State of Washington,  
Residing at: Prallup WA  
My commission expires: 10/01/10



31-5E-9Q

# WATER WELL REPORT STATE OF WASHINGTON

151489

Start Card No. A47549  
Unique Well I.D.#  
Water Right Permit No.

(1) OWNER: RANDY FAVOR ADDRESS: 6525 200st S W, LYNNWOOD 98036

(2) LOCATION OF WELL: County: SNOHOMISH SW 1/4 SE 1/4 Sec 9 T 31 N, R 05E WM  
(2a) STREET ADDRESS OF WELL (or nearest Address): 45th AVEE N E SR530 ARLINGTON WA 98223

(3) PROPOSED USE: Domestic Irrigation DeWater Industrial TEST WELL Municipal Other....

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION:

(4) TYPE OF WORK: Abandoned X New Well..... Deepened..... Reconditioned Owner' No of Well if more than one: 3 METHOD Dug... X Cable. Rotary Bored. Driven

Formation: Describe by color, character, size of material and show thickness of aquifers and the kind of nature of the material in each stratum penetrated, with at least one entry for each change of information.

(5) DIMENSIONS: Diameter of well 36 inches. Drilled 0.00 Feet Depth of completed well 0.00 Ft.

MATERIAL FROM TO  
THIS WELL WAS ABANDONED . : .

(6) CONSTRUCTION DETAILS: Casing Installed: 36 Welded Liner Inst Threaded Diam From Ft To Ft

TOTAL DEPTH 23  
STATIC 18  
FILLED WITH CHLORINATED SAND TO 16 FEET.

Perforations: Types of perforator used Size of perforations Inches, by Inches

FILLED WITH 5 BAG/YARD CONCRETE TO 3 FEET OF FINAL GRADE THEN NATIVE SOILS TO FINAL GRADE

Screens: Manufacturer's Name: Type: Diam Slot size Model No. From Ft To Ft

RECEIVED  
JUN 30 2004  
DEPT OF ECOLOGY

Gravel packed: Gravel placed from: Ft To: Ft Size of gravel:

Surface seal: YES To What Depth?: Ft  
Material used in seal CONCRETE  
Did any strata contain unusable water?:  
Type of water: Depth of strata: Ft  
Method of sealing strata off:

(7) PUMP: Manufacturer's Name: Type: H.P.

(8) WATER LEVELS? Above mean sea level Static Level 18 Ft. below top of well Date: 06/16/04  
Artesian pressure Lbs. per square inch Date: / /  
Artesian water is controlled by:

Work Started 06/16/04 Work Completed 06/16/04

(9) WELL TESTS: Drawdown is amount water level is lowered below static level  
Was a pump test made?: If yes, by whom?:  
Yield: Gal/min. with Ft drawdown after Hrs.  
Yield: Gal/min. with Ft drawdown after Hrs.  
Yield: Gal/min. with Ft drawdown after Hrs.  
RECOVERY DATA  
Time Water Level Time Water Level Time Water Level

WELL CONSTRUCTOR CERTIFICATION:  
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to the best knowledge and belief.

Name: HIMEBAUGH DRILLING - BOYD HIMEBAUGH  
Address: 828 B PORTAGE STREET, ARLINGTON, WA 98223  
(Signed) *Boyd Himebaugh* License No 1877  
Contractors Registration No. HIMEBD099CK Date 06/18/04

Date of test / /  
Bailer Test gal/min with ft. drawdown after Hrs  
Airstest gal/min with stem set at ft for Hrs  
Artesian flow G.P.M. Date / /  
Temperature of Water Was a chemical analysis made?:

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

31-5E-9Q

1296

151488

# WATER WELL REPORT STATE OF WASHINGTON

Start Card No. A47550  
Unique Well I.D.#  
Water Right Permit No.

(1) OWNER: RANDY FAVOR ADDRESS: 6525 200st S W, LYNNWOOD 98036

(2) LOCATION OF WELL: County: SNOHOMISH SW 1/4 SE 1/4 Sec 9 T 31 N, R 05E WM  
(2a) STREET ADDRESS OF WELL (or nearest Address): 45th AVE N E SR530 ARLINGTON WA 98223

(3) PROPOSED USE: Domestic Irrigation DeWater Industrial TEST WELL Municipal Other....

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION:

(4) TYPE OF WORK: Abandoned X New Well..... Deepened..... Reconditioned Owner' No of Well if more than one: 3 METHOD Dug... X Cable. Rotary Bored. Driven

Formation: Describe by color, character, size of material and show thickness of aquifers and the kind of nature of the material in each stratum penetrated, with at least one entry for each change of information.

(5) DIMENSIONS: Diameter of well 36 inches. Drilled 0.00 Feet Depth of completed well 0.00 Ft.

MATERIAL FROM TO

(6) CONSTRUCTION DETAILS: Casing Installed: Welded Liner Inst Threaded Diam From Ft To Ft

THIS WELL WAS ABANDONED

TOTAL DEPTH 24 STATIC 18

FILLED WITH CHLORINATED SAND TO 16 FEET.

Perforations: Types of perforator used Size of perforations Perforations from Perforations from Perforations from Inches, by ft to ft to ft to Inches

FILLED WITH 5 BAG/YARD CONCRETE TO 3 FEET OF FINAL GRADE THEN NATIVE SOIL TO FINAL GRADE

Screens: Manufacturer's Name: Type: Diam Slot size Diam Slot size Model No. From Ft To Ft From Ft To Ft

RECEIVED

JUN 30 2004

DEPT OF ECOLOGY

Gravel packed: Gravel placed from: Ft To: Ft Size of gravel:

Surface seal: YES To What Depth?: Ft Material used in seal CONCRETE Did any strata contain unusable water?: Type of water: Depth of strata: Ft Method of sealing strata off:

(7) PUMP: Manufacturer's Name: Type: H.P.

(8) WATER LEVELS? Above mean sea level Static Level 18 Ft. below top of well Date: 06/16/04 Artesian pressure Lbs. per square inch Date: / / Artesian water is controlled by:

Work Started 06/16/04 Work Completed 06/16/04

(9) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made?: If yes, by whom?: Yield: Gal/min. with Ft drawdown after Hrs. Yield: Gal/min. with Ft drawdown after Hrs. Yield: Gal/min. with Ft drawdown after Hrs. RECOVERY DATA Time Water Level Time Water Level Time Water Level

WELL CONSTRUCTOR CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to the best knowledge and belief.

Name: HIMEBAUGH DRILLING - BOYD HIMEBAUGH Address: 828 B PORTAGE STREET, ARLINGTON, WA 98223

(Signed) *Boyd Himebaugh* License No 1877 Contractors Registration No. HIMEBD099CK Date 06/18/04

Date of test / / Bailer Test gal/min with ft. drawdown after Hrs Airstest gal/min with stem set at ft for Hrs Artesian flow G.P.M. Date / / Temperature of Water Was a chemical analysis made?:

31-5E-9Q

151487

1294

# WATER WELL REPORT STATE OF WASHINGTON

Start Card No. A47511  
Unique Well I.D.#  
Water Right Permit No.

(1) OWNER: RANDY FAVOR ADDRESS: 6525 200st S W, LYNNWOOD 98036

(2) LOCATION OF WELL: County: SNOHOMISH SW 1/4 SE 1/4 Sec 9 T 31 N, R 05E WM  
(2a) STREET ADDRESS OF WELL (or nearest Address): 45th AVE N E SR530 ARLINGTON WA

(3) PROPOSED USE: Domestic Irrigation DeWater Industrial TEST WELL Municipal Other....

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION:

(4) TYPE OF WORK: Abandoned X New Well..... Deepened..... Reconditioned Owner' No of Well if more than one: 3 METHOD Dug... X Bored. Cable. Driven Rotary

Formation: Describe by color, character, size of material and show thickness of aquifers and the kind of nature of the material in each stratum penetrated, with at least one entry for each change of information.

(5) DIMENSIONS: Diameter of well 36 inches. Drilled 0.00 Feet Depth of completed well 0.00 Ft.

MATERIAL FROM TO

(6) CONSTRUCTION DETAILS: Casing Installed: 36 Diam From H Ft To Ft Welded Diam From Ft To Ft Liner Inst Diam From Ft To Ft Threaded

THIS WELL WAS ABANDONED

Perforations: Types of perforator used Size of perforations Inches, by Inches Perforations from ft to Perforations from ft to Perforations from ft to

TOTAL DEPTH 35 STATIC 16

FILLED WITH CHLORINATED SAND TO 14 FEET.

Screens: Manufacturer's Name: Type: Diam Slot size From Ft To Ft Diam Slot size From Ft To Ft

FILLED WITH 5 BAG/YARD CONCRETE TO 1 FOOT BELOW FINAL GRADE THEN NATIVE SOILS TO FINAL GRADE

Gravel packed: Size of gravel: Gravel placed from: Ft To: Ft

RECEIVED  
JUN 30 2004  
DEPT OF ECOLOGY

Surface seal: YES To What Depth?: Ft Material used in seal CEMENT Did any strata contain unusable water?: Type of water: Depth of strata: Ft Method of sealing strata off:

(7) PUMP: Manufacturer's Name: Type: H.P.

(8) WATER LEVELS? Above mean sea level Static Level 16 Ft. below top of well Date: 06/16/04 Artesian pressure Lbs. per square inch Date: / / Artesian water is controlled by:

Work Started 06/16/04 Work Completed 06/16/04

(9) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made?: If yes, by whom?: Yield: Gal/min. with Ft drawdown after Hrs. Yield: Gal/min. with Ft drawdown after Hrs. Yield: Gal/min. with Ft drawdown after Hrs.

WELL CONSTRUCTOR CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to the best knowledge and belief.

RECOVERY DATA Time Water Level Time Water Level Time Water Level

Name: HIMEBAUGH DRILLING - BOYD HIMEBAUGH Address: 828 B PORTAGE STREET, ARLINGTON, WA 98223

Date of test / / Bailer Test gal/min with ft. drawdown after Hrs Airtest gal/min with stem set at ft for Hrs Artesian flow G.P.M. Date / / Temperature of Water Was a chemical analysis made?:

(Signed) *Boyd Himebaugh* License No 1877 Contractors Registration No. HIMEBD099CK Date 06/18/04

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

## **APPENDIX E**

### **Credentials**

# LUCAS SWART

## SENIOR STAFF GEOLOGIST

### PROFESSIONAL EXPERIENCE

**Environmental Characterization:** Mr. Swart has more than 2 years of assessing soil and groundwater contamination and regulatory compliance issues. He has served as staff geologist for environmental site characterizations on numerous projects ranging from agricultural land, automotive service stations, small- and large-scale retail facilities and urban and suburban development projects. Mr. Swart's experience accounts for him being well versed in the specification and execution of field explorations utilizing a variety of investigative techniques and drilling equipment including hollow-stem auger and geoprobe/hydropunch methodologies.

Mr. Swart possesses an excellent understanding of state-specific environmental statutes in Washington. He has a strong ability to differentiate between real and perceived risks to human health and the environment. Mr. Swart is knowledgeable about EPA and state-specific testing protocol and data interpretation, and clearly understands the influence laboratory testing can have on a project.

### PROJECT EXPERIENCE

#### Phase I Environmental Site Assessments – Northwest Region

Mr. Swart has provided Phase I Environmental Site Assessments for numerous clients throughout Washington, Oregon, and Idaho. The Phase I Assessments were performed in accordance with ASTM Standard E 1527-05. A variety of commercial/retail property transactions associated with the sale or acquisition and development of real property necessitated the identification of environmentally-related risk factors.

#### Landslide Remediation, Mercer Island, Washington

Following a slope failure, Mr. Swart served as the on-site geotechnical engineer documenting changes in lithology and assisting in forensic analysis. Site work included extensive documentation of areas of excavation, commenting on the interface between disturbed and undisturbed soils, and noting the slip face in the subsurface. Remediation activities included the installation of a soldier pile wall at the base of the slope and structural backfill to rehabilitate the slope.

#### Site Characterization, Wenatchee, Washington

Mr. Swart conducted a Limited Site Investigation at an existing Wal-Mart store. According to a Phase I ESA, the store was constructed on a historic orchard with suspect relict pesticide impacts. A subsurface investigation identified lead, arsenic, relict pesticides, and daughter products at the site. Accordingly, Mr. Swart proposed enrolling the site in the Washington State Department of Ecology's Voluntary Cleanup Program (VCP) and represented the client in interfacing with the regulatory agency.

#### Seattle University Waste Characterization, Seattle, Washington

Following a Phase I ESA and Limited Site Investigation, conducted by Terracon, Mr. Swart performed continued field observation and waste stream profiling during earthwork phases of construction for a new Admissions and Alumni Relations building at Seattle University. During field activities, several distinct areas were identified as impacted with petroleum hydrocarbons, VOCs, and PAHs. In addition, a historic Underground Storage Tank (UST) cavity which had been backfilled with refuse and tires was unearthed. Mr. Swart extensively monitoring excavation spoils for indications of petroleum impacts, maintained daily field logs, and collected representative soil samples for analytical laboratory testing.

### EDUCATION

*Bachelor of Arts, Geology, 2008  
Whitman College  
Semester Abroad, Spring 2007,  
University of Otago*

### CERTIFICATIONS

*Troxler Electronic Laboratories, Inc.  
Nuclear Gauge Safety Training*

*USDOT and IATA HAZMAT Certification*

*40-Hr Hazardous Waste Operations and  
Emergency Response Training*

*ICC Washington State Site Assessment*

### WORK HISTORY

*Terracon, Senior Staff Geologist, June  
2008 - present*

### MEMBERSHIP

*Association of Environmental and  
Engineering Geologists*

**Retail Bank Branch Development, Yakima, Washington**

Mr. Swart completed a Phase I ESA which identified former agricultural land use as a recognized environmental concern (REC) and identified that a draft Environmental Covenant was to encumber the site. Further, a review of previous reports confirmed arsenic, lead, and pesticides at concentrations exceeding applicable state cleanup levels. As a result, Mr. Swart proposed enrolling in the Washington State Department of Ecology's Voluntary Cleanup Program (VCP) to satisfy conditions of the Environmental Covenant. Mr. Swart negotiated roles and responsibilities to mitigate construction schedule delays due to the environmental conditions at the site. Shallow soil sampling was conducted for waste stream profiling purposes to facilitate final off-site disposition of impacted site soils. Currently, the site is under construction and strict management of soil on- and off-site is being overseen by Terracon.

**Mixed Use Development, Seattle, Washington**

Terracon was contracted by a client seeking to redevelop this derelict property in Seattle. We conducted an extensive geotechnical investigation prior to demolition of the existing structures. As we began our soils test borings, and during the installation of soldier piles and mass excavation of the site, significant petroleum-contaminated soils were discovered. Terracon's environmental team quickly responded and pursued intense testing to determine the extent of the contamination. In the process, two aging Underground Storage Tanks (USTs) were discovered from the site's previous use as industrial p

roperty. Mr. Swart supervised the removal of the USTs, and conducted in-depth soils testing in compliance with environmental protocols and regulatory statutes. Mr. Swart also assisted the client with enrollment and participation in the state's Voluntary Cleanup Program, which included the removal and proper disposal of over 250 tons of petroleum-contaminated soil. Mr. Swart represented the client in interfacing with the regulatory agency and was able to achieve a No Further Action letter from the Department of Ecology on behalf of the client. Mr. Swart conducted extensive site monitoring, recommending remediation procedures, and monitoring their installation.

**Environmental Site Work**

Mr. Swart has conducted a number of Phase I environmental site assessments in the Puget Sound Area. He has also been involved in various Limited Site Investigations ranging from on-site sampling and documentation of off-site disposition of contaminated soils to sampling of environmental bore hole drilling. Work associated with such projects has ranged from preparing Independent Remedial Action Reports to communicating with the Washington State Department of Ecology in pursuit of cleaning up sites in accordance with applicable laws.

**ACADEMIC EXPERIENCE****Field Sampling**

Mr. Swart has worked in field sampling rock outcrops for trace mineral assemblages in the Walla Walla, WA area. Sampling was performed with a portable X-Ray Fluorescence device and data was analyzed to correlate basaltic lava flows with source locations in southeastern Washington.

**Research**

Mr. Swart conducted research on coal mining with a focus on environmental concerns such as radioactive fly-ash, increase CO<sub>2</sub> production, and sulfur by-products. Research involved a historical review of scientific publications regarding concerns related to coal mining and energy production. Additionally, work focused on the new technology of carbon sequestration in bedrock. This research was presented as part of a seminar class at Whitman College.

**Mapping Field Work**

Mr. Swart completed a mapping field course in Spring 2007 while abroad in New Zealand. The coursework consisted of extensive fieldwork and hands-on investigation of bedding, contacts, sedimentology, paleontology, and structural geology. The field work was supplemented with lab exercises and the project culminated in the production of a scientific essay with a series of associated maps and cross-sections formulated from observations made in the field.

# MATT WHEATON, L.G., E.I.T.

## SENIOR PROJECT MANAGER

### PROFESSIONAL EXPERIENCE

Mr. Wheaton is a Senior Environmental Project Manager in Terracon's Mountlake Terrace, Washington office. His duties include the management of all phases of environmental site assessments (ESAs), business environmental risk reviews, asbestos and lead surveys, and National Environmental Policy Act (NEPA) compliance assessments for wireless telecommunications providers. He also performs technical review of environmental service projects.

Mr. Wheaton has more than 11 years of professional experience in the fields of environmental and geotechnical engineering. He has performed site characterizations of soil and groundwater for regulatory compliance, and for remediation design projects throughout North America.

### PROJECT EXPERIENCE

#### **Aboveground Storage Tank Spill Response – Tacoma, Washington**

Performed spill response and coordinated remedial excavation activities associated with a petroleum hydrocarbon release from an aboveground storage tank. Duties included the management of haz-mat excavation contractors, communication of site activities with local regulators overseeing cleanup activities, soil sampling activities for compliance, and report preparation and submittal to the Tacoma/Pierce County Health Department and Washington State Department of Ecology. Based on successful removal of impacted soil and clean soil sampling results, Terracon recommended that no further remedial action is necessary.

#### **Family Housing Asbestos and Lead Assessment – Ft. Wainwright & Ft. Greely, Alaska**

Managed the completion of over 300 NESHAP asbestos surveys associated with on-call contract. Upcoming phases of project include asbestos and lead surveys of remaining family housing units scheduled for demolition and/or renovation, preparation of abatement specification, bidding assistance, abatement oversight monitoring and air sampling in accordance with federal and Alaska State regulations.

#### **NEPA Compliance – Washington, Oregon, Idaho, Nevada, Alaska**

Managed over 200 Phase I ESAs and NEPA reviews for new towers and collocations for various wireless carriers. Responsible for the coordination of all projects with subcontracted Principal Investigators in order to conduct cultural resource surveys for potential direct and indirect effect on known resources. Directed tribal contact and additional correspondence with responsive tribes. Responsible for managing public notification and communication as well as correspondence to local government agencies and additional consulting parties. Mr. Wheaton oversaw the preparation and submittal of FCC Form 620 and 621s to the respective SHPO in order to obtain concurrence on opinion of effect. Mr. Wheaton provided reviews of final reports that also included limited wildlife, floodplain, and wetlands assessments.

#### **Union Bank Environmental Services**

As the National Account Manager for Union Bank, located in California, managed the completion of over 100 Phase I and Phase II ESAs as well as numerous environmental Transaction Screens. Work is ongoing.

### Education

*Master of Science, Civil & Environmental Engineering, University of Maryland, 2006*

*Bachelor of Science, Geology, Colorado State University, 1996*

### Registrations

*Licensed Geologist, State of Washington (2872)*

*Registered Engineer in Training, State of Washington (31584)*

*Washington State Department of Ecology Registered Site Assessor (5/08)*

*Certified Environmental Manager – State of Nevada (CEM#1985)*

### Certifications

*OSHA 40-Hour Hazardous Waste Site Operations*

*EPA approved AHERA Building Inspector (License # 00-0076)*

### Work History

*Terracon Consultants, Inc., Senior Project Manager, 2006 – Present; Environmental Department Manager, 2005-2006; Environmental Field Project Manager, 2000-2001; Staff Geologist, 1997-2000*

*Private Consultant, Environmental Field Manager, 2003 - 2005*

*University of Maryland, Research/Teaching Assistant, 2002 – 2004*

*Alpine Field Services, Inc., Geologist, 2001 – 2002*

*BHP Copper, Geologist, 1997*

**Automobile Service Center – Bellevue, Washington**

Performed remedial investigation of petroleum impacted soil and groundwater at an active LUST facility. Investigation was conducted within, and surrounding an operational automobile service center. Initiated a dual phase extraction program of the delineated gasoline free-product groundwater plume. Results of RI currently being applied to feasibility study required to select optimum remediation option.

**Washington Mutual/JPMorgan Chase Property Assessments – Washington State**

Managed property assessments of 200 Washington Mutual financial and banking branches throughout Washington State. Project included visual assessments, limited asbestos surveys and sampling, and lead and mold visual assessments. The project was completed within three weeks of initiation.

**Underground Storage Tank Removal and Remedial Excavation – Federal Way, Washington**

Managed the removal of two underground storage tanks (UST) that previously contained gasoline and heating oil for personal use. Subsequent to removal, soil impacts above Washington State Model Toxics Control Act Method A cleanup levels were documented in the vicinity of the heating oil UST. Mr. Wheaton managed the cleanup of all petroleum-impacted soil by removal from a subcontracted earthwork contractor. As a result, no further remedial action was deemed necessary.

**Manufacturing Facilities – Calgary, Alberta, Canada**

Managed ASTM-05 compliant Phase I ESAs at two American-owned well field equipment manufacturing facilities in Calgary. Duties also included a business environmental risk review of facility operations with respect to typical U.S. practices.

**Community Health Center NEPA Environmental Assessment – Everett, Washington**

Managed the preparation of an Environmental Assessment (EA) for the proposed renovations and construction of a new Community Health Center in Everett. Duties included the coordination of professionals to assess cultural resources and wildlife that may be present within the proposed APE and adversely affected as a result of the proposed undertaking, public notification and communication, tribal contact and subsequent communication, and interaction with the Washington SHPO in order to obtain an opinion on the effect of the proposed undertaking on known cultural resources. A draft EA was subsequently prepared which presented the findings of the cultural resource survey including SHPO's concurrence of "no adverse effect," tribal correspondence, a wildlife assessment, and a description of alternatives to mitigate potential adverse impacts. The draft EA cleared the public comment period and a Finding of No Significant Impact (FONSI) was provided and an Environmental Impact Statement was not required.

**Sedimentation Pond Cleanout – Tacoma, Washington**

Characterized a sedimentation pond bottom formerly used by an aluminum smelter for polynuclear aromatic hydrocarbons, petroleum hydrocarbons, and metals. Provided oversight management during excavation of impacted soils, and collected post-excavation soil samples for regulatory compliance.

**Electronics Manufacturing Facility – Cheney, Washington**

Project manager for Phase I site assessment and business environmental risk review of a high-end audio repair and assembly facility. Services included a review of applicable regulatory permits and subsequent completion of required permits in order to bring facility into compliance with state and federal reporting regulations.

**Various Shopping Centers –Washington**

Managed asbestos surveys and lead-based paint sampling in accordance with Federal NESHAP and state regulations on numerous large shopping mall facilities proposed for demolition and/or renovation.

**Former Restaurant and Office Space – Seattle, Washington**

Managed asbestos survey, lead-based paint sampling, and demolition debris characterization sampling in accordance with Federal NESHAP and state regulations on a former restaurant and office space scheduled for demolition.

### **Duckwater Shoshone Tribe – Carlin, Nevada**

Project manager responsible for a Phase I and Phase II ESAs at a former unregulated municipal landfill purchased by the Duckwater Shoshone Tribe from the City of Carlin. Duties included project administration, client consultation, soil sampling, and report preparation.

### **Russell Road Landfill – Marine Corps Base, Quantico, Virginia**

Conducted all field activities for remediation of chlorinated solvent leachate plume emanating from a RCRA capped landfill. Duties included site investigation, well installation, and groundwater monitoring activities using low flow techniques. Provided technical support for quarterly monitoring reports submitted to the Virginia Department of Environmental Quality. Analyzed hydrogeologic site conditions using slug and tracer tests. Provided technical support during the installation, and operation and maintenance of pilot remediation program using Hydrogen Release Compound®.

### **Colorado Condensate Facilities – Colorado Front Range**

Project field manager for extensive site characterizations to define extent of hydrocarbon and chlorinated solvent plumes at numerous sites in Colorado. Installed various remedial compounds, depending on site specific conditions, including; zero-valent iron, Oxygen Release Compound®, molasses, and microbes. Collected groundwater samples from treated areas for compliance with state voluntary cleanup plan.

### **Gates Rubber Facility – Boone, Iowa**

Project field manager for remediation of chlorinated solvent groundwater plume. Conducted extensive site characterization for plume delineation and lithologic descriptions. Provided technical support during the design and installation of on-site pilot program and subsequent full scale remedial operations utilizing zero-valent iron and/or permanganate.

### **Gates Rubber Facility – London, Ontario, Canada**

Project field manager for remediation of chlorinated solvent groundwater plume. Conducted extensive site characterization for plume delineation and lithologic descriptions. Provided technical support during full-scale remedial operations using Fenton's reagent. Assisted in consultations and meetings with the client and the Ontario Ministry of the Environment.

### **Geotechnical Investigations – Various Locations**

Field geologist responsible for performing over 200 geotechnical investigations throughout Southern Arizona and New Mexico.