

TOC Facility # 01-176/SIT 4.9.2



SoundEarth Strategies, Inc.  
2811 Fairview Avenue East, Suite 2000  
Seattle, Washington 98102

034071

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**GROUNDWATER MONITORING REPORT**  
**Fourth Quarter 2012**  
**TOC Holdings Co.**  
**Facility No. 01-176**  
**Mountlake Terrace, Washington**

Property Address:	<u>24205 56<sup>th</sup> Avenue West, Mountlake Terrace, Washington</u>
Client Contact:	<u>Mark Chandler, Vice President of Environmental Services</u>
Client Work Order/Purchase Order:	<u>WOR1176SES18/WOR1176SES19</u>
Primary Regulatory Agency/ID:	<u>Washington Department of Ecology Site ID #6885/ Agreed Order #DE 8661</u>
Project Number:	<u>0440-030</u>
Project Manager:	<u>Deborah Gardner, LG #1243</u>
Frequency of Groundwater Sampling:	<u>Limited Quarterly</u>
Property Owner/Land Use	<u>Vacant/Romio's Pizza/Getaway Spirits Tavern</u>
Off-Property Land Use	<u>Commercial/Residential</u>

SoundEarth Strategies, Inc. (SoundEarth) prepared this report to present the results of the Fourth Quarter 2012 groundwater monitoring event (monitoring event) conducted at TOC Holdings Co. Facility No. 01-176 located at 24205 56<sup>th</sup> Avenue West in Mountlake Terrace, Washington (the TOC Property). The TOC Property location is shown on Figures 1, 2, and 3.

A petroleum hydrocarbon plume has migrated west and south off the TOC Property to the 56<sup>th</sup> Avenue West right-of-way (ROW), the private property located at 24225 56<sup>th</sup> Avenue West (TOC/Farmasonis Property), and the private property located at 24309 56<sup>th</sup> Avenue West (Drake Property). The TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56<sup>th</sup> Avenue West ROW are collectively referred to as the Interim Remedial Action Project Area, as defined in the Interim Remedial Action Work Plan (IRAWP; SoundEarth 2011) attached to Agreed Order No. DE 8661. The monitoring well network employed for this monitoring event extends as far south as the private property located at 24325 56<sup>th</sup> Avenue West (Shin/Choi Property). Per the IRAWP, the monitoring wells located at the Shin/Choi Property were not included in the scope of groundwater monitoring, and the scope of Fourth Quarter sampling is limited to 31 sample locations.

TOC Holdings Co. formerly operated a retail gasoline station on the TOC Property, which is currently vacant. One 8,000-gallon and two 6,000-gallon underground storage tanks (USTs) were removed from the TOC Property in 1991 (ES&E 1992). A dual-phase extraction remediation system (former DPE system) was installed at the TOC Property in 1996 and operated until October 2004 (Landau 2005). Since August 2005, SoundEarth has conducted groundwater monitoring and resumed remedial investigations to the

south and west of the TOC Property, as well as designed remediation system upgrades and expansion. In 2006, SoundEarth confirmed that gasoline contamination extends off the TOC Property to the south and west, and identified at least three separate water-bearing zones at the TOC Property: the Shallow Zone, the Intermediate Zone, and the Deep Zone (Figures 4.1, 4.2, and 4.3).

Construction of three in situ groundwater remediation systems for the TOC Property, TOC/Farmasonis Property, and the Drake Property, respectively, was completed during Third Quarter 2012. The remediation systems were started at the beginning of Fourth Quarter 2012 on October 3, 2012.

### Shallow Zone

The Shallow Zone occurs within 20 feet of the ground surface, perched within glacial till soil consisting of poorly sorted, ice-laid silty sand with varying amounts of gravel. The primary source of recharge to the Shallow Zone is natural precipitation that infiltrates pervious land surfaces. Other potential sources of recharge to the Shallow Zone include a topographic closed depression where surface runoff ponds and a former stormwater infiltration pit, both of which are located in the southeast portion of the TOC Property. According to a TOC Holdings Co. blueprint drawing, the stormwater infiltration pit measured 10 feet square by 4 feet deep and was backfilled with coarse gravel (Time Oil Co. 1975). Surface runoff intercepted by a catch basin located near the southeast corner of the paved parking area formerly discharged into the stormwater infiltration pit via a 6-inch-diameter drain pipe, which has been capped. The locations of the southern catch basin and former stormwater infiltration pit at the TOC Property are shown on Figures 3, 4.1, 4.2, and 4.3. Monitoring wells MW02 through MW06, MW12, MW19, MW34, MW54, MW61, MW62, MW67, MW68, and MW79 are screened within the Shallow Zone (Figures 3 and 4.1).

### Intermediate Zone

The Intermediate Zone is situated at depths of approximately 20 to 60 feet below ground surface (bgs), and is perched within glacial till soil consisting of poorly sorted, ice-laid silty sand with varying amounts of gravel. The Intermediate Zone is the primary zone of contaminant transport at the Interim Remedial Action Project Area. The stratigraphy of the Intermediate Zone includes water-laid silty sands with varying amounts of gravel. The Intermediate Zone appears to receive recharge from artificial sources in the proximity of natural and/or artificial pathways, in addition to natural precipitation. The primary source of artificial recharge appears to be Shallow Zone groundwater accumulations within the backfill of the former UST cavity. Monitoring wells MW09 through MW11, MW13, MW15, MW16, MW18, MW20, MW23, MW31 through MW33, MW35, MW36, MW41 through MW53, MW55 through MW60, MW63, MW65, MW66, MW69, MW70, MW75 through MW77, MW81, MW84 through MW87, MW89 through MW99, and MW101 are screened in the Intermediate Zone (Figures 3 and 4.2). The following monitoring wells have been adapted for use as remediation wells: MW11, MW15, MW18, MW24, MW27, MW29, MW31, MW32, MW41, MW57, MW69, MW70, MW84, MW90 through MW99, and MW101. The following Intermediate Zone monitoring wells were connected to the former remediation system between 1996 and 2004: MW09, MW10, MW11, MW21, MW22, MW24, and MW25.

Monitoring wells MW80, MW82, MW88, and MW100 are screened in the upper Intermediate Zone, between the approximate depths of 20 and 30 feet bgs. The screened intervals for monitoring wells MW08, MW22, MW24, MW25, MW27, MW28, MW29, MW32, MW37, and MW38 are shallower than

20 feet bgs, potentially intersecting both the Shallow and Intermediate Zones; data obtained from those monitoring wells and any current or former remediation wells may be used, qualified, or rejected based on seasonal variations in the two water-bearing zones as discussed in the "Results" section of this report. During Fourth Quarter 2012, data obtained from monitoring wells MW22 and MW32 are consistent with Intermediate Zone conditions and are tabulated accordingly.

### Deep Zone

The Deep Zone is a semi-confined aquifer situated within glacial advance sand and gravel at depths of more than 60 feet bgs. The term "semi-confined" describes an aquifer that is trapped beneath a stratigraphic confining layer that prevents groundwater from equilibrating with atmospheric pressure. Groundwater within a semi-confined aquifer can equilibrate with atmospheric pressure inside a properly constructed well. Deep Zone groundwater equilibrates in a properly constructed well at an elevation higher than the bottom of the glacial till deposits, while Intermediate Zone groundwater elevations equilibrate with atmospheric pressure under unconfined conditions near the bottom of the glacial till deposits. South of the TOC Property, Intermediate Zone groundwater descends through the glacial till to an elevation deeper than the elevation at which the Deep Zone equilibrates with atmospheric pressure. Under those circumstances, the Deep Zone gives the appearance of being approximately 1.9 to 2.4 feet shallower than the Intermediate Zone, maintaining an upward vertical gradient between the two zones. Monitoring wells MW26, MW30, MW39, MW40, MW64, and MW78 are screened in the Deep Zone (Figures 3 and 4.3).

### Decommissioned Wells

Of the 101 monitoring wells that have been installed at the Interim Remedial Action Work Area and the Shin/Choi Property, six have been decommissioned. Monitoring wells MW01, MW07, MW14, MW17, MW21, and MW83 were decommissioned by a licensed well driller in accordance with *Minimum Standards for Construction and Maintenance of Wells*, Chapter 173-160 of the Washington Administrative Code, by overdrilling and removing the well casing. Monitoring well MW01 at the TOC Property was decommissioned on October 2, 2009, immediately upon the discovery that its surface seal had been removed in 1996 during the installation of the former DPE system and that it was situated in an area where surface water ponded seasonally. Monitoring wells MW07, MW14, and MW17 at the TOC/Farmasonis Property were decommissioned on November 29, 2004, in accordance with an agreement between Time Oil Co. and the former owner of the TOC/Farmasonis Property (Landau 2005). Monitoring/remediation well MW21 was damaged during spring 2012 and decommissioned on April 16, 2012. Monitoring well MW83 was damaged in autumn 2011, decommissioned on November 21, 2011, and replaced with MW100 on November 22, 2012.

### **QUARTERLY GROUNDWATER MONITORING**

The monitoring event was conducted on December 3 through 5, 2012, to evaluate the environmental quality, flow direction, and gradient of groundwater beneath the Interim Remedial Action Project Area and to eventually demonstrate compliance with Washington State Model Toxics Control Act cleanup regulations. This report presents a summary of field activities performed during the monitoring event, laboratory analytical results, and a description of upcoming work. In the preparation of Figures 2 through 4.3, which are attached to this report, SoundEarth referenced one or more of the following

sources of information: as-built utility maps (City of Mountlake Terrace 2005), Herman Short Plat No. 106 (Reisdorff 1985), K&S Environmental report drawings (K&S 2001), Snohomish County Assessor maps (Snohomish County Assessor's Office 2009), owner's facility drawings (Time Oil Co. 1975), maps prepared by previous consultants (Landau 2005), and recent aerial photographs (USGS 2002). The base map for Figures 2 through 4.3 was developed in 2012 by Axis Survey & Mapping, professional land surveyors of Kirkland, Washington.

The monitoring event included measuring depth to groundwater in each monitoring well and collecting groundwater samples from Intermediate Zone monitoring wells MW09, MW10, MW15, MW20, MW22, MW27, MW32, MW48, MW49, MW51 through MW53, MW55, MW56, MW58, MW59, MW60, MW63, MW65, MW66, MW69, MW70, MW77, MW84, MW85, MW86, and MW89. The scope of work included collection and analysis of 26 groundwater samples and 8 quality assurance/quality control (QA/QC) samples.

Fourth Quarter 2012 groundwater elevations and sample analytical results are summarized on Table 1. Historical groundwater elevations and analytical results for groundwater samples collected from June 1992 through December 5, 2012, are presented in Table 2. Laboratory analyses of groundwater for fuel additives from September 2005 through December 5, 2012, are presented on Table 3. The results of Fourth Quarter 2012 QA/QC sample analysis are presented on Table 4.

#### FIELD ACTIVITIES

Upon arrival at the Interim Remedial Action Project Area on December 3, 2012, SoundEarth personnel opened the existing monitoring wells. Water levels in the wells were permitted to equilibrate with atmospheric pressure prior to recording depth-to-liquid-level measurements on the same day. SoundEarth measured and recorded groundwater levels relative to the top of well casing using an electronic water level meter or an oil/water interface probe to an accuracy of 0.01 feet. SoundEarth personnel recorded the depth to liquid level in monitoring well MW09 using each of the water level meters and interface probes used during the monitoring event. The depth-to-liquid-level measurements shown on Table 2 have been corrected for differences between instruments based on the measurements recorded for monitoring well MW09 (maximum 0.03 feet). Whenever separate-phase hydrocarbons (i.e., light nonaqueous-phase liquid, or LNAPL) were encountered, SoundEarth used an interface probe to measure both the depth to LNAPL and the depth to groundwater.

LNAPL, which is lighter than water, slightly depresses the groundwater table as a function of the specific gravity difference between the two media. In wells where LNAPL was measureable, the reported groundwater elevations shown on Table 2 were normalized using the industry-standard specific gravity estimate of 0.8 for LNAPL relative to 1.0 for water. The following equation was used for the normalization:

$$\text{Normalized Groundwater Elevation (feet)} = [(H_{\text{TOC}} - H_{\text{W}}) * 1.0] + [(H_{\text{W}} - H_{\text{LNAPL}}) * 0.8]$$

Where  $H_{\text{TOC}}$  is the top of casing elevation,  $H_{\text{W}}$  is the measured depth to groundwater below the top of casing, and  $H_{\text{LNAPL}}$  is the measured depth to LNAPL below the top of casing.

Peristaltic pumps are the default, low-flow sample collection method at the Interim Remedial Action Project Area, but they are ineffective for collection of samples deeper than approximately 31 feet. Because depths to groundwater exceed 31 feet in over half of the monitoring wells at the Interim

Remedial Action Project Area, SoundEarth considered the advantages and disadvantages of the following sampling methods:

- Peristaltic pumps and dedicated tubing collect representative low turbidity samples, pose the least risk of sample cross contamination, and meet the criteria for low-flow protocols (EPA 1996) but are limited to collection of samples shallower than approximately 31 feet.
- Disposable bailers are not depth-limited and do not pose any greater risk of cross-contamination than peristaltic pumps but retrieve turbid samples and potentially volatilize petroleum hydrocarbons, resulting in overstated or understated petroleum hydrocarbon concentrations compared to samples collected in accordance with low-flow protocols.
- Bladder pumps and submersible pumps are not depth-limited and retrieve representative low turbidity samples but pose risks for sample cross-contamination because each sample contacts the interior of the pump, requiring extensive decontamination between samples.
- The use of submersible pumps to collect groundwater samples from the Intermediate Zone generally is precluded by insufficient groundwater recharge rates, insufficient water column heights, and/or the potential to entrain pump-damaging levels of turbidity. Submersible pumps are feasible for sampling Deep Zone monitoring wells, but so are bailers and bladder pumps; historical analytical results indicated that purging and sampling Deep Zone monitoring wells by bailer method would be protective of the project data quality objectives.
- Each remediation well is equipped with a dedicated pneumatic pump to suppress groundwater elevations under induced vacuum. A pneumatic pump delivers groundwater to surface elevations using pulses of compressed air, resulting in a loss of volatile compounds. Pneumatic wells obstruct the use of other groundwater sampling methods; therefore, pneumatic pumps are used to collect performance groundwater samples from selected remediation wells.

SoundEarth decided to restrict the number of sampling methods to four (peristaltic pump, bladder pump, bailer, and pneumatic pump) and elected not to use a fifth sampling method (submersible pumps). The sampling method used to collect each sample is indicated on Tables 1 and 4 with the sample analytical results.

On December 3 through 5, 2012, SoundEarth collected groundwater samples from selected Intermediate Zone wells according to the following methods, protocols, and rationale:

- SoundEarth used pneumatic pumps to collect performance groundwater samples from selected remediation wells (remediation wells MW15, MW27, MW32, MW69, MW70, and MW84).
- Whenever depths to groundwater were shallower than approximately 31 feet bgs, SoundEarth collected groundwater samples in accordance with low-flow protocols using a peristaltic pump (monitoring wells MW09 and MW22).
- In wells where depths to groundwater exceeded approximately 31 feet bgs, SoundEarth collected samples using bottom-loading bladder pumps in accordance with low-flow protocols (monitoring wells MW55, MW56, MW58, MW59, MW60, MW63, MW65, MW85, MW86, and MW89), or disposable polyethylene bailers under the following circumstances:

- Historical analytical results indicated that elevated turbidity associated with bailing likely would not result in detectable concentrations of petroleum hydrocarbons (monitoring wells MW49, MW51, MW53, MW66, and MW77).
- Historical analytical results exceeded their respective cleanup levels to an extent that sampling method would have no bearing on the status of contamination or interpretation of the extent of contamination (monitoring well MW48).
- In order to evaluate the effects of sampling method on data quality, SoundEarth collected one initial groundwater sample and three QA/QC groundwater samples from monitoring well MW09 in the following order: (1) initial sample by bladder pump, (2) method duplicate by peristaltic pump, (3) blind field duplicate by peristaltic pump, and (4) method duplicate by bailer. SoundEarth collected field duplicate samples from monitoring well MW32 and MW86 using a pneumatic pump and a bladder pump, respectively. The results of method duplicate sampling are discussed in the Data Quality Review section of this report and summarized in Table 4.
- The following wells either were dry or insufficient water was present for sample collection: MW13, MW31, MW33, MW42, MW43, MW44, MW45, and MW47 (the scope of quarterly monitoring for Second, Third, and Fourth Quarters of a year is detailed in the IRAWP [SoundEarth 2011] attached to the Agreed Order and includes analysis of groundwater samples collected from the following locations: monitoring wells MW09, MW10, MW20, MW21, MW33, MW45, MW48, MW49, MW50, MW51, MW52, MW53, MW55, MW56, MW58, MW59, MW60, MW63, MW65, MW66, MW77, MW84, MW85, MW86, and MW89, and remediation wells MW15, MW27, MW31, MW32, MW69, MW70).
- LNAPL conditions were encountered in remediation wells MW90 and MW91; however, neither of these remediation wells was included in the Fourth Quarter 2012 scope of sample collection.

Purging and sampling with a peristaltic pump was performed using dedicated polyethylene tubing at flow rates ranging from 45 to 90 milliliters per minute. The tubing intake was placed approximately 2 to 3 feet below the surface of the groundwater in each monitoring well. Purging and sampling with a bottom-loading bladder pump was performed using disposable polyethylene tubing at flow rates ranging from 48 to 320 milliliters per minute. Bladder pumps were suspended approximately 2 to 3 feet below the surface of the groundwater or at least 1 foot above the bottom of each monitoring well.

When purging and sampling in accordance with low-flow protocols, SoundEarth monitored water quality using a HydroLab Quanta or YSI Model 556 water quality meter equipped with a flow-through cell. The water quality parameters that SoundEarth monitored and recorded included temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential. Following purging and stabilization of water quality parameters, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into laboratory-prepared sample containers. The following exceptions to the sample collection protocol were encountered during the sampling event:

- Turbidity did not meet low-flow criteria of less than 10 nephelometric turbidity units (NTU) or varying less than 10 percent prior to collecting groundwater samples from the following locations:

- MW59: The measured turbidity was 20.6 NTU, which varied 38 percent at the time of sample collection from the prior measurement; however, all other purging parameters were documented to have reached stabilization.
- MW56: The measured turbidity was 64.2 NTU, which varied 25 percent at the time of sample collection from the prior measurement; however, all other purging parameters were documented to have reached stabilization.
- MW60: The measured turbidity was 26.8 NTU, which varied 14 percent at the time of sample collection from the prior measurement; however, all other purging parameters were documented to have reached stabilization.

Other exceptions were encountered in the following wells:

- MW89: The turbidity meter malfunctioned during well purging. At the time of sample collection, the measured turbidity was 7,200 NTU; however, all other purging parameters were documented to have reached stabilization.
- MW22: No functioning turbidity meter was available. However, the groundwater was noted to be very clear and all other purging parameters except oxidation-reduction potential were documented to have reached stabilization.

Purging and sampling with disposable bailers required the removal of at least three well volumes to purge each monitoring well prior to collecting samples, with some exceptions as described below. Water quality parameters were not monitored during purging and sampling with bailers. Upon removal of at least three well volumes of groundwater, water samples were collected by carefully pouring from the bailer directly into laboratory-prepared sample containers, while intentionally minimizing disturbance of the sample. As a result of naturally low-yielding groundwater conditions, fewer than three well volumes were purged from the following wells prior to collecting a groundwater sample: MW09, MW10, MW20, MW49, MW51, and MW53.

Each set of sample containers was labeled with a unique sample identification number, placed on ice in a cooler, and transported to Friedman & Bruya, Inc. of Seattle, Washington, under standard chain-of-custody protocols for laboratory analysis. The groundwater samples were submitted for analysis of gasoline-range petroleum hydrocarbons (GRPH) by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx, and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8021B or 8260C. The groundwater samples collected from monitoring wells MW65, MW69, MW70, MW77, MW84, MW85, MW86, and MW89 were analyzed for methyl tertiary-butyl ether (MTBE) and 1,2-dichloroethane (EDC) by EPA Method 8260C. Purge water generated during this sampling event was placed in labeled 55-gallon steel drums and temporarily stored on the TOC Property pending authorization to treat and discharge on-site in accordance with State Waste Discharge Permit No. ST-7384 and the City of Mountlake Terrace Special Use Permit dated September 24, 2012.

## RESULTS

Groundwater levels measured on December 3, 2012, ranged from 7.97 feet (Shallow Zone monitoring well MW61) to 48.14 feet (Deep Zone monitoring well MW26) below the top of the well casings

(Table 2). Groundwater elevations from the monitoring wells were contoured using the water level measurements collected on December 3, 2012 (Figures 4.1, 4.2, and 4.3).

During the monitoring event, the overall directions of groundwater flow within the Shallow and Deep Zones generally trended south-southeast (Figures 4.1 and 4.3), while groundwater appears mounded within the Intermediate Zone (Figure 4.2) across the following elevation ranges:

- Shallow Zone groundwater elevations ranged from 339.93 feet (monitoring well MW79) to 350.82 feet (monitoring well MW62). A groundwater mound is visible in the Shallow Zone enclosing the former stormwater infiltration pit; surface runoff ponds in the same area during periods of wet weather (Figure 4.1).
- Intermediate Zone groundwater elevations ranged from 308.17 feet (monitoring well MW101) to 336.09 feet (monitoring well MW91). Mounding of groundwater is evident within the Intermediate Zone, as characterized by the following conditions:
  - The primary mound is centered beneath the southern end of the former UST excavation as characterized by groundwater elevations of elevations 334 to 336 feet (monitoring wells MW11, MW90, and MW91), and measures approximately 20 to 23 feet high (Figure 4.2). The southern margin of the primary mound is characterized by groundwater elevations of 313.28 to 313.31 feet (monitoring wells MW56, MW59, MW66).
  - A secondary mound is evident in the vicinity of monitoring well MW45; where the groundwater elevation is up to 4 feet higher (elevation 317.69 feet) than in surrounding monitoring wells MW46, MW48, MW53, MW56, MW57, and MW60 (elevations 312.65 to 315.72 feet). The groundwater elevation in monitoring well MW45 (over 4 feet higher than in nearby well MW49) signifies semiconfined or confined conditions that appear to be hydrologically connected to the mounded conditions. The groundwater elevation in well MW49 was disregarded in preparation of Figure 4.2 in favor of groundwater elevation data for well MW45; well MW45 is screened 10 feet shallower than well MW49 and more accurately represents the zone of contaminant transport (Tables 1 and 2).
  - The configurations of the primary and secondary mounds are consistent with the contaminant distributions documented throughout 2012 in monitoring wells MW32, MW45, MW48, MW98, and MW69.
  - The flattening of the groundwater gradient south of the TOC Property (such as the flattening observed between monitoring wells MW93 and MW59, MW93 and MW66, MW94 and MW56, and MW53 and MW60) signifies the apparent southern limits of the mounded conditions.
  - The range of groundwater elevations observed in the mounded portion of the Intermediate Zone in the vicinity of the former UST excavation (elevations 334 to 336 feet) approaches the range of elevations in the Shallow Zone (elevations 348 to 349 feet) in the same area. The mounded conditions are attributed to leakage from the Shallow Zone into the Intermediate Zone where the confining conditions between the two layers likely have been breached by the former UST excavation.



- In situ remediation technologies in use at the Interim Remedial Action Work Area include soil vapor extraction (SVE) combined with groundwater pumping; the purpose of groundwater pumping is to counteract the effects of the SVE vacuum on the groundwater table and prevent the groundwater table from submerging the well screens. The effects of SVE and/or pumping are apparent in wells MW15, MW41, MW57, MW93, MW96, MW99, and MW101. The areas around remediation wells MW93 and MW101 (Figure 4.2) show the formation of cones of depression as pumping progresses. The effects of the SVE vacuum prevail in remediation wells MW15, MW41, MW57, and MW99, where the Intermediate Zone groundwater table is elevated approximately 0.4 feet (MW57) to 8.3 feet (MW41) relative to prevailing groundwater elevations surrounding each remediation well.
  - The anomalous groundwater elevation in monitoring well MW45 (over 4 feet higher than in nearby well MW49) signifies semiconfined or confined conditions that appear to be hydrologically connected to the mounded conditions. The connection likely occurs beneath the 56<sup>th</sup> Avenue West ROW between monitoring wells MW13 and MW53 at depths of approximately 40 feet bgs, consistent with the distribution of GRPH and BTEX in groundwater beneath the eastern margin of the 56<sup>th</sup> Avenue West ROW. The groundwater elevation in well MW49 was disregarded in preparation of Figure 4.2, in favor of groundwater elevation data for well MW45; well MW45 is screened 10 feet shallower than well MW49 and more accurately represents the zone of contaminant transport (Tables 1 and 2).
  - Beyond the apparent limits of the mounded groundwater conditions, the Intermediate Zone groundwater table flattens from an elevation of approximately 313 feet in monitoring wells MW56, MW59, and MW66 at the TOC/Farmasonis Property to elevations ranging from 311 to 312 feet in monitoring wells MW65, MW76, MW77, MW84, MW85, MW86, MW87, and MW89 at the Drake Property (Figure 4.2); the deeper groundwater elevation measured in remediation well MW101 reflects the dynamic conditions associated with remedial pumping.
- Deep Zone groundwater elevations ranged from 312.91 feet in monitoring well MW78 (Figure 4.3) to 315.72 feet in monitoring well MW26. The range of groundwater elevations observed in the Deep Zone equilibrates at higher elevations than the range of elevations observed in the Intermediate Zone outside the area where mounded groundwater conditions exist, even though the Deep Zone monitoring wells are screened at greater depth intervals than the Intermediate Zone monitoring wells. During Fourth Quarter 2012, an upward vertical gradient of 2.12 feet was measured between Intermediate Zone monitoring well MW63 (elevation 312.21 feet) and Deep Zone monitoring well MW64 (elevation 314.33 feet). Similarly, a slight vertical upward gradient of 0.26 feet was recorded between Intermediate Zone monitoring well MW77 (elevation 312.65 feet) and Deep Zone monitoring well MW78 (elevation 312.91 feet). These conditions signify confined or semiconfined conditions within the Deep Zone and substantiate evidence of an aquitard between the two water-bearing zones.

The following monitoring wells potentially intersect both the Intermediate and Shallow Zones: MW08, MW24, MW25, MW27, MW28, MW29, MW37, and MW38. Groundwater elevation data associated with

those wells were disregarded in the calculation of Fourth Quarter 2012 groundwater contours for the Shallow and Intermediate Zones. SoundEarth calculated the following hydraulic gradients for each zone:

- Hydraulic gradients in the Shallow Zone range from 0.015 feet per foot between wells MW54 and MW79 to 0.030 feet per foot between wells MW05 and MW79, toward the southeast.
- The hydraulic gradient in the Intermediate Zone outside the mounded conditions is approximately 0.003 feet per foot between wells MW58 and MW84, toward the south.
- Hydraulic gradients within the mounded portion of the Intermediate Zone range from 0.00 at the crest of the mound to 0.78 feet per foot between wells MW32 and MW20, toward the south, perpendicular to the groundwater contours.
- The hydraulic gradient in the Deep Zone is approximately 0.007 feet per foot between wells MW26 and MW78, toward the southeast, perpendicular to the contours.

Groundwater elevation data for former remediation well MW10 and monitoring well MW33 were excluded from the calculation of the Intermediate Zone contours presented on Figure 4.2. The groundwater elevation in former remediation well MW10 is anomalously deep compared with groundwater elevations in monitoring wells MW09, MW20, MW22, and MW24. Groundwater elevation data for monitoring well MW33 was excluded from the calculation of the Intermediate Zone contours; water detected in the bottom of well MW33 does not intersect the well screen and therefore is not representative of the groundwater table measured on December 3, 2012. Although groundwater elevation data for monitoring wells MW08, MW24, MW25, MW27, MW28, MW29, MW37, and MW38 were excluded from calculation of Intermediate Zone groundwater contours, groundwater analytical results for those wells historically have been representative of Intermediate Zone conditions for the purpose of evaluating the lateral distribution of petroleum hydrocarbons. Specifically, monitoring wells where petroleum hydrocarbons have never been detected (monitoring wells MW37 and MW38) define the northeast lateral extent of contamination in the Intermediate Zone, regardless of groundwater elevation. Furthermore, in cases where petroleum hydrocarbons are detected in these wells, historical maximum concentrations of petroleum hydrocarbons generally coincide with groundwater elevations deeper than 340 to 345 feet (monitoring wells MW08, MW24, MW27, and MW29), consistent with the hypothesis that the Intermediate Zone remains the primary zone of contaminant transport.

Laboratory analytical results from the monitoring event indicated the following (Tables 1, 2, 3, and 4).

#### Shallow Zone

No groundwater samples were collected from the Shallow Zone during Fourth Quarter 2012.

#### Intermediate Zone

- LNAPL conditions were not observed during Fourth Quarter 2012. Concentrations of GRPH exceeded the cleanup level in monitoring wells MW09, MW10, MW20, MW27, MW32, MW48, MW84, and MW86.
- Concentrations of benzene exceeded the cleanup level in monitoring wells MW09, MW20, MW27, MW32, and MW48.

- Concentrations of toluene exceeded the cleanup level in monitoring well MW32.
- Concentrations of total xylenes exceeded the cleanup level in monitoring wells MW27, MW32, and MW48.
- Concentrations of GRPH and/or BTEX compounds either were not detected or were below the cleanup level in groundwater samples collected from monitoring wells MW15, MW22, MW49, MW51, MW53, MW55, MW56, MW58, MW59, MW60, MW63, MW65, MW66, MW69, MW70, MW77, MW85, and MW89.
- Concentrations of the fuel additives MTBE were not detected in the selected groundwater samples collected from monitoring wells at the Drake Property: MW65, MW69, MW70, MW77, MW84, MW85, MW86, and MW89. **MTBE has been detected in Intermediate Zone groundwater** samples collected from monitoring wells MW73 and MW74, located south and downgradient from the Drake Property (Table3).

The subsurface distributions of GRPH and benzene in Intermediate Zone groundwater beneath the southern 120 feet of the Interim Remedial Action Project Area are illustrated on Figures 5.1 and 5.2, respectively, in relation to surface features and approximate property boundaries. Because the Fourth Quarter 2012 monitoring event was limited in scope, insufficient data were collected to illustrate the subsurface distributions of GRPH and benzene throughout the entire Interim Remedial Action Project Area. Therefore, Figures 5.1 and 5.2 focus on the southern 120 feet of the Interim Remedial Action Project Area, including the leading edge of the ongoing remedial investigation along the southern boundary of the Drake Property. Figures 5.1 and 5.2 were prepared using ESRI ArcGIS 3D Analyst software (version 9.3.1) and RockWare, Inc. Surfer software (version 8.2) to map three-dimensional surfaces according to the methods described in Attachment A.

Actual concentrations may vary from those illustrated on Figures 5.1 and 5.2 due to lithology, stratigraphy, well screen interval depths, and/or spacing between individual monitoring wells.

#### Deep Zone

No groundwater samples were collected from the Deep Zone during Fourth Quarter 2012.

#### **DATA QUALITY REVIEW**

The scope of groundwater monitoring included the collection and laboratory analysis of 26 groundwater samples and 8 QA/QC samples. SoundEarth performed a QA/QC review of the analytical results, which included a review of accuracy and precision of the data supplied by the laboratory. The QA/QC program for this sampling event included collection and analysis of the following samples:

- The laboratory prepared four trip blanks for this sampling event. The two trip blanks that accompanied samples collected from the TOC Property and the Drake Property were submitted for analysis of GRPH by Method NWTPH-Gx and BTEX by EPA Method 8021B or 8260C. The trip blank that accompanied samples collected from the Drake Property also was analyzed for MTBE and EDC by EPA Method 8260C.

- SoundEarth collected a sample of the rinsate water poured through the bladder pump that was used at monitoring well MW86 (01176-20121203-R1). SoundEarth submitted this sample for analysis of GRPH by Method NWTPH-Gx and for BTEX, MTBE, and EDC by EPA Method 8260C.
- SoundEarth collected field duplicate sample MW999-20121205-PE from monitoring well MW09. SoundEarth submitted this sample for analysis of GRPH by Method NWTPH-Gx and of BTEX by EPA Method 8021B. The sample and the field duplicate sample were collected using the same equipment (peristaltic pump).
- SoundEarth collected samples and method duplicate samples from the following monitoring wells with the objective of comparing the effect(s), if any, of sample method on the variability of analytical results:
  - MW09, using a peristaltic pump, a bladder pump, and a bailer (sample MW09-20121205-PE, and method duplicate samples MW09-20121204-BL and MW09-20121205-BA). SoundEarth submitted all three samples for GRPH and BTEX analyses.
  - MW32 using its dedicated pneumatic pump (sample MW32-20121205-PN and method duplicate sample MW32-20121205-PN2). SoundEarth submitted both samples for GRPH and BTEX analyses.
  - MW86 using a bladder pump (sample MW86-20121204-BL and method duplicate sample MW86-20121204-BL2). SoundEarth submitted both samples for GRPH, BTEX and MTBE analyses.

Analytical results for field quality assurance samples are summarized on Table 4. In the event that a QA/QC result for any chemical of concern exceeded the sample result, and the QA/QC sample was collected using the same method as the sample, then the higher of the two values is reported on Tables 1 and 2; however, if the sample collection methods differed, then the primary sample results are reported on Tables 1 and 2, regardless of the QA/QC analytical result. Analytical results for laboratory quality assurance samples are included in the laboratory analytical reports, which are appended to this report (Attachment B). The results of the QA/QC review indicated the following:

- GRPH, BTEX, and MTBE constituents were not detected in the trip blanks associated with the groundwater samples collected from the Drake Property and the TOC Property. Laboratory trip blanks serve as an indicator of the integrity of sample handling and shipping procedures.
- GRPH and BTEX constituents were not detected in the rinsate blank associated with the groundwater samples collected using bladder pumps, in particular the bladder pump specified for deployment in monitoring well MW86 at the Drake Property. Rinsate blanks serve as an indicator of the integrity of equipment decontamination procedures.
- GRPH and BTEX detection limits for groundwater samples collected from monitoring wells MW09, MW32, and MW48 were elevated because of sample dilution. With the exception of toluene in monitoring well MW48, each of the GRPH and BTEX concentrations for these groundwater samples exceeded the elevated laboratory detection limits. Toluene was not detected in the groundwater sample collected from monitoring well MW48, and the elevated toluene detection limit of 40 micrograms per liter ( $\mu\text{g/L}$ ) was less than the cleanup level of 1,000

µg/L. Therefore, the analytical results for the groundwater samples and field duplicates are considered usable to meet the objectives of the monitoring event.

- The relative percent difference calculations (RPD) for each analyte that was detected were within acceptable limits (less than 20 percent) for the field duplicate samples collected by peristaltic pump from monitoring well MW09, by pneumatic pump from monitoring well MW32, and by bladder pump from monitoring well MW86. The field duplicate sample RPD serves as a measure of the reproducibility of sampling and analysis procedures.
- The analytical results for the sample method duplicates (Table 4) indicated the following:
  - Consistent with First Quarter 2012 results, sampling by bailer resulted in understated GRPH and BTEX concentrations in groundwater (method duplicate sample MW09-20121205-BA), compared to sampling by peristaltic pump (sample MW09-20121205-PE and method duplicate sample MW999-20121205-PE). RPDs for samples collected by bailer compared with peristaltic pump ranged between 8 and 28 percent.
  - Sampling by peristaltic pump (sample MW09-20121205-PE and field duplicate sample MW999-20121205-PE) resulted in understated GRPH and BTEX concentrations in groundwater, compared to sampling by bladder pump (method duplicate samples MW09-20121204-BL). RPDs for samples collected by bladder pump compared with peristaltic pump ranged between 14 and 30 percent.
  - Reported concentrations of GRPH and BTEX in groundwater samples collected using bladder pump may be overstated due to elevated retention of volatiles compared with other sample collection methods.
- Low-flow criteria for turbidity were not achieved prior to collecting groundwater samples from monitoring wells MW56, MW59, and MW60, even though the wells were purged at minimum pump flow rates. Turbidity at the time of sample collection ranged from 26.8 to 64.2 NTU, and final turbidity readings varied more than plus or minus 10 percent in each case. Therefore, the reported concentrations of GRPH and BTEX in the groundwater samples collected from MW56, MW59, and MW60 may be overstated or exaggerated due to elevated/unstable turbidity.
- Although low-flow criteria for stability of turbidity readings were met prior to collection of groundwater samples from monitoring wells MW09, MW63, MW85, and MW86, final turbidity readings ranged from 12.4 to 483 NTU. Therefore, the reported concentrations of GRPH and BTEX in the groundwater samples collected from MW09, MW63, MW85, and MW86 may be overstated or exaggerated due to elevated turbidity.
- Monitoring wells MW09, MW10, MW20, MW49, MW51, and MW53 ran dry prior to removal of three well-volumes of groundwater. SoundEarth allowed the wells to recharge and collected samples the same day. The groundwater analytical data associated with these wells should be qualified as screening results appropriate for assessing the absence of petroleum hydrocarbons in groundwater as follows:
  - In wells where GRPH and BTEX are not detected (MW49, MW51, and MW53), the GRPH and benzene data are assumed to be representative of unimpaired groundwater quality,

primarily because the groundwater cleanup levels for GRPH and BTEX are between 5 and 1,000 times (500 and 100,000 percent) their respective laboratory reporting limits.

The remaining QA/QC criteria are acceptable for the groundwater samples; therefore, no action is required and analytical results meet the project objectives. Copies of the laboratory analytical reports are provided in Attachment B.

## CONCLUSIONS

SoundEarth draws the following conclusions from an evaluation of the data obtained during the monitoring event:

- The overall directions of groundwater flow through the Shallow, Intermediate, and Deep Zones are toward the south-southeast. Although groundwater flow directions appear to radiate away from the center of the mounded groundwater conditions in the Intermediate Zone, the distribution of petroleum hydrocarbons in Intermediate Zone groundwater, relative to the former UST excavation at the TOC Property, is consistent with the overall direction of groundwater flow toward the south and southeast.
- Mounded groundwater conditions within the Intermediate Zone appear to be centered beneath the southern portion of the former UST excavation. The location and elevation of the mounded conditions, and the vertical and lateral distributions of petroleum hydrocarbons, support the working hypothesis that the former UST excavation cross-connects with the Shallow Zone and portions of the Intermediate Zone.
- The current conceptual model for the Interim Remedial Action Project Area assumes the following:
  - The former UST excavation intersects the Shallow Zone and granular strata within the Upper Intermediate Zone. Seasonal diminishment of saturated conditions within the Shallow Zone facilitates vertical downward migration of petroleum hydrocarbons into the Intermediate Zone where they become adsorbed to the soil formation. Seasonal recharge of the Shallow Zone traps and surcharges the adsorbed petroleum hydrocarbons. One basis for this working hypothesis is the former occurrence of LNAPL in monitoring well MW48, which is located more than 180 feet from the southern end of the former UST excavation, and at elevations 308 and 314 feet, over 34 feet deeper than the bottom of the former UST excavation.
  - Intermittent saturation, soil adsorption, wicking, and anisotropic stratigraphy contribute to the lateral and downward vertical migration of petroleum hydrocarbons through the ice-melt and water-laid glacial deposits of the Intermediate Zone, while the vertical upward gradient between the Intermediate Zone and Deep Zone inhibits the descent of petroleum hydrocarbons through the lower reaches of the Intermediate Zone.
- The extent of petroleum hydrocarbons in groundwater south of the Drake Property remains the focus of an ongoing remedial investigation. Currently, the southernmost line of Intermediate Zone monitoring wells is defined, from west to east, by MW52, MW75, MW51, MW89, MW84, MW86, MW85, MW77, and MW87. During Fourth Quarter 2012, concentrations of GRPH exceeded the cleanup limit in monitoring wells MW84 and MW86 and were detected below the

cleanup level in monitoring wells MW51, MW77, MW85, and MW89 (Figure 5.1). Concentrations of benzene were detected below their respective cleanup levels in monitoring wells MW51, MW77, MW84, MW85, MW86, and MW89 (Figure 5.2). Further remedial investigation of Intermediate Zone groundwater south of and downgradient from monitoring wells MW84, MW85, and MW86 is pending.

- Based on an evaluation of the analytical results for method duplicate samples collected from monitoring well MW09 using a bladder pump, a peristaltic pump, and a bailer, all three sampling methods are protective of human health and the environment. Bladder pumps appear to be the most conservatively protective sampling equipment for documenting compliance of GRPH and benzene concentrations with groundwater cleanup levels. Therefore, around the western and southern perimeter of the monitoring well network, where demonstration of compliance is crucial, groundwater samples are collected using bladder pumps (monitoring wells MW55, MW60, MW75, MW85, MW86, and MW89). A more detailed analysis of sample collection methods is presented in the First Quarter 2012 Groundwater Monitoring Report (SoundEarth 2012). SoundEarth will continue to collect groundwater samples using bailers and peristaltic pumps for screening and performance monitoring purposes, and using bladder pumps for crucial compliance purposes, SoundEarth will also continue to collect method duplicate samples for data qualification purposes.

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## WORK PLANNED

In First Quarter 2013, SoundEarth will conduct a comprehensive groundwater monitoring event at the Interim Remedial Action Work Area in accordance with the IRAWP. The results will be presented in a formal groundwater monitoring report.

## CLOSING

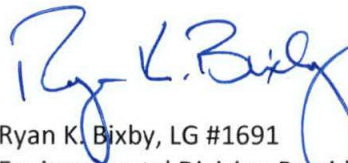
SoundEarth appreciates the opportunity to work with you on this project. Please contact the undersigned at (206) 306-1900 if you have any questions or require additional information.

Respectfully,

SoundEarth Strategies, Inc.



Deborah H. Gardner, LG #1243  
Associate Geologist

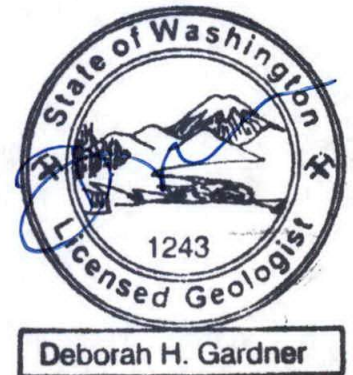


Ryan K. Bixby, LG #1691  
Environmental Division President

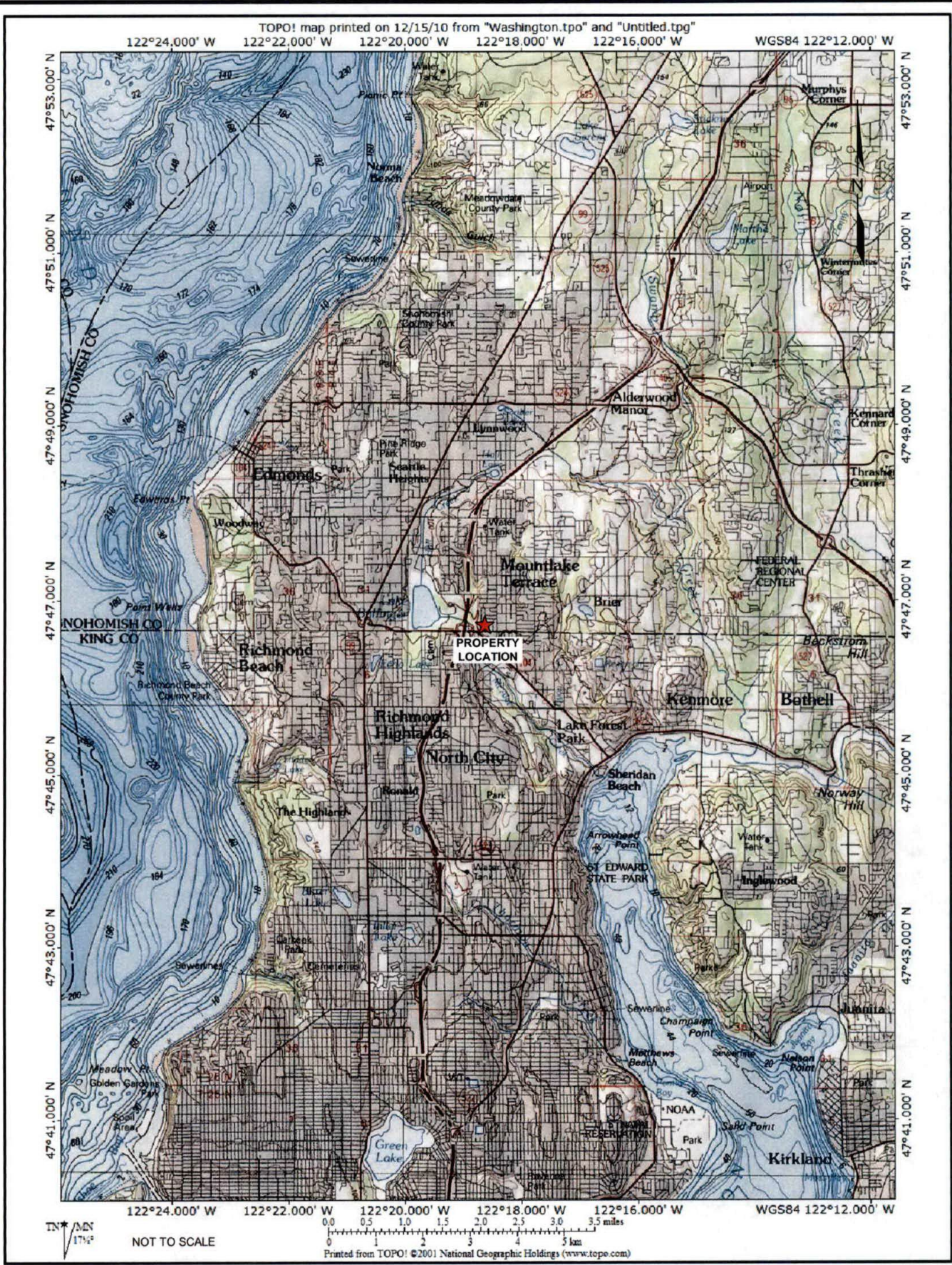
- Attachments:
- Figure 1, Physiographic Setting
  - Figure 2, Property Location Map
  - Figure 3, Exploration Location Map
  - Figure 4.1, Groundwater Contour Map, Shallow Zone, December 3, 2012
  - Figure 4.2, Groundwater Contour Map, Intermediate Zone, December 3, 2012
  - Figure 4.3, Groundwater Contour Map, Deep Zone, December 3, 2012
  - Figure 5.1, Limited Distribution of GRPH in Intermediate Zone Groundwater, December 3-5, 2012
  - Figure 5.2, Limited Distribution of Benzene in Intermediate Zone Groundwater, December 3-5, 2012
  - Table 1, Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone
  - Table 2, Summary of Historical Groundwater Analytical Results, June 1992 through December 2012
  - Table 3, Summary of Groundwater Analytical Results, Eight Common Fuel Additives
  - Table 4, Summary of Quality Assurance/Quality Control Analytical Results, Fourth Quarter 2012
  - A, Preparation of GRPH and Benzene Distribution Figures
  - B, Laboratory Analytical Reports
    - Friedman & Bruya, Inc. #212098
    - Friedman & Bruya, Inc. #212099
    - Friedman & Bruya, Inc. #212100
    - Friedman & Bruya, Inc. #212101
    - Friedman & Bruya, Inc. #212102

cc: Louise Bardy, Washington State Department of Ecology, Northwest Region

DHG/RKB:mdb/amr



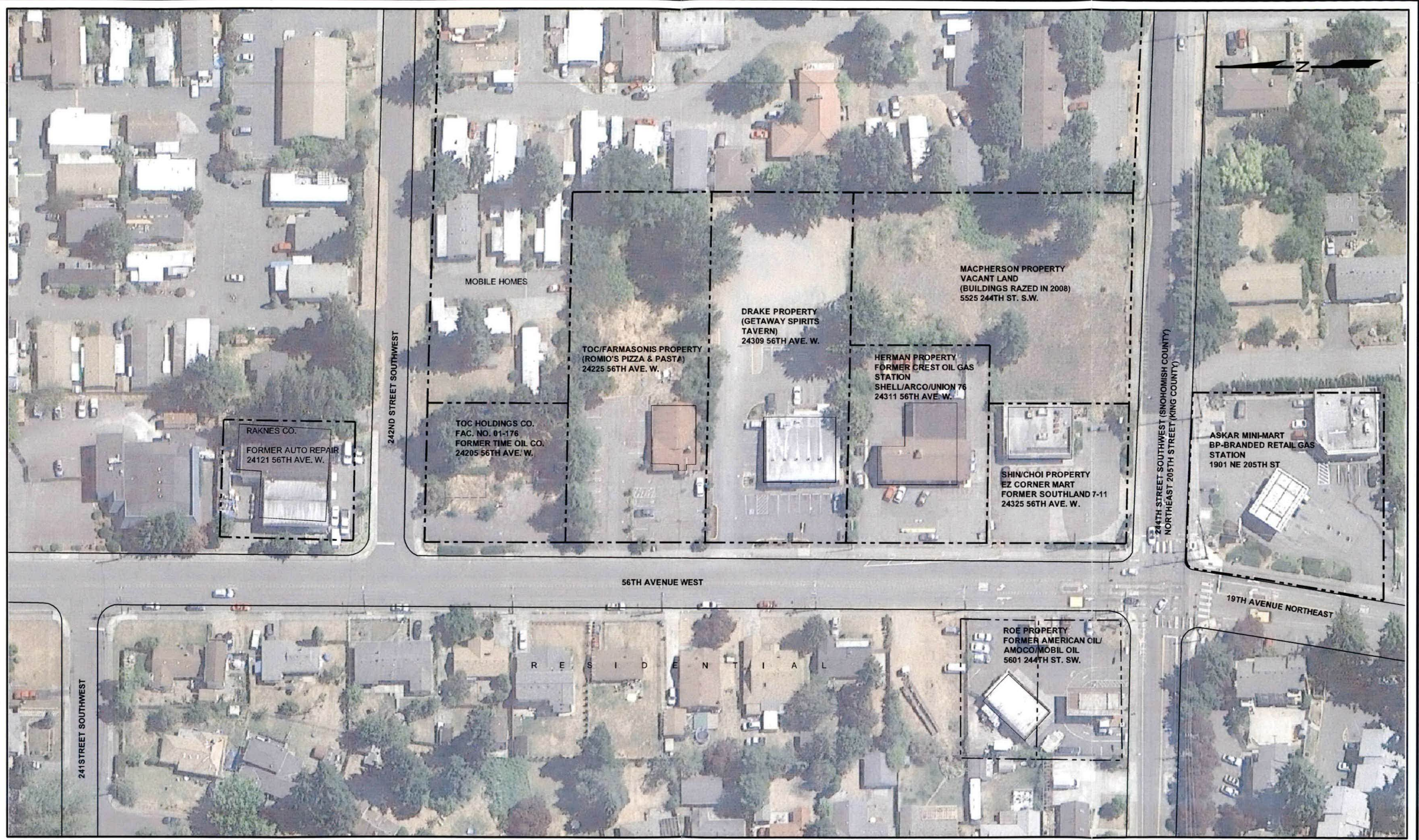
## FIGURES



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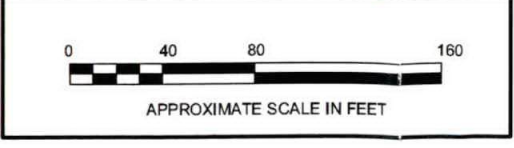
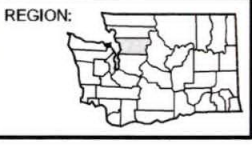
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 CITY, STATE: ..... MOUNTLAKE TERRACE, WASHINGTON

**FIGURE 1**  
 PHYSIOGRAPHIC SETTING



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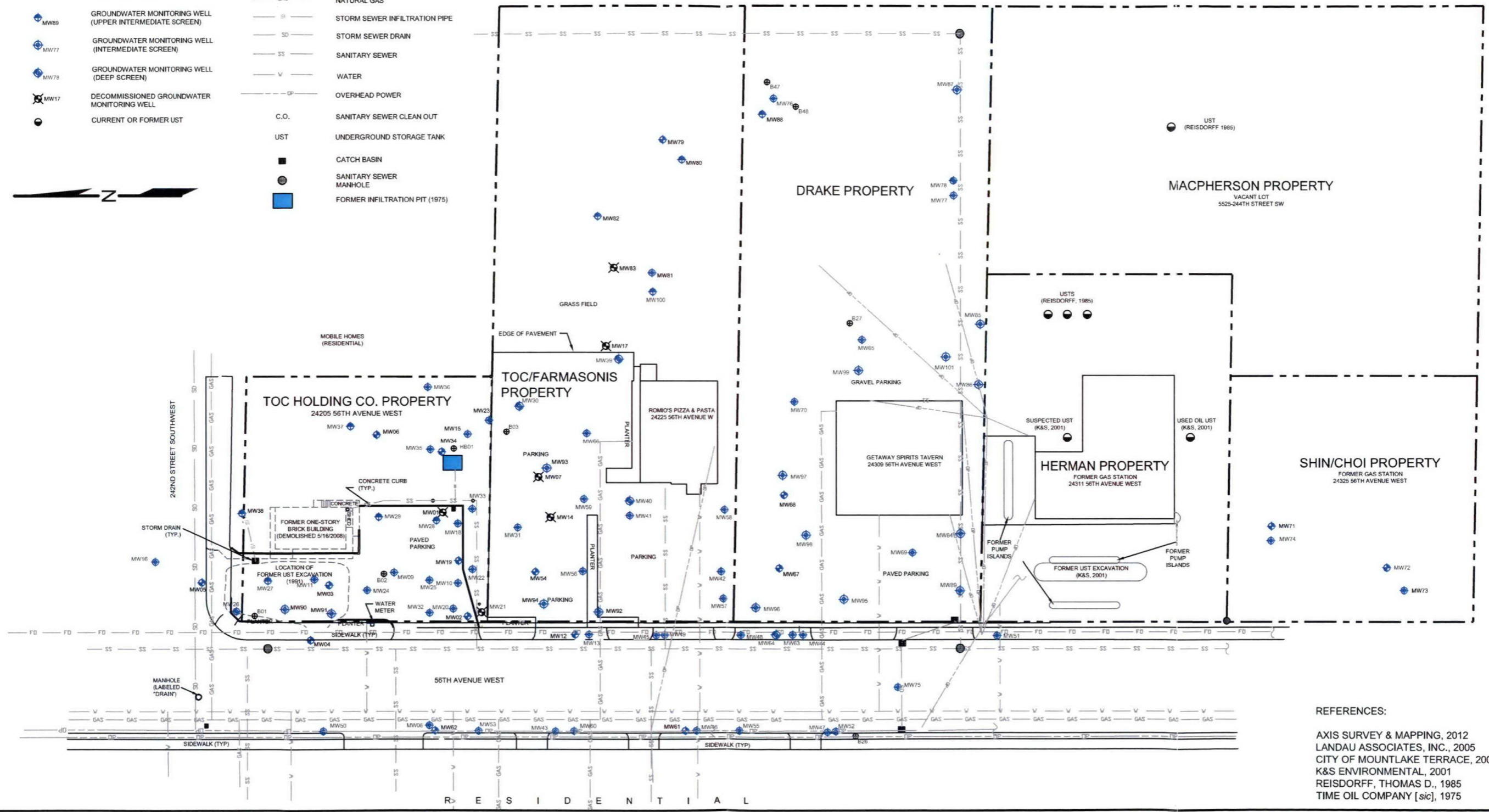
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**FIGURE 2**  
PROPERTY LOCATION MAP

LEGEND

	SOIL BORING (NO WELL INSTALLED)		PROPERTY BOUNDARY
	GROUNDWATER MONITORING WELL (SHALLOW SCREEN)		FIBER OPTIC
	GROUNDWATER MONITORING WELL (UPPER INTERMEDIATE SCREEN)		NATURAL GAS
	GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)		STORM SEWER INFILTRATION PIPE
	GROUNDWATER MONITORING WELL (DEEP SCREEN)		STORM SEWER DRAIN
	DECOMMISSIONED GROUNDWATER MONITORING WELL		SANITARY SEWER
	CURRENT OR FORMER UST		WATER
			OVERHEAD POWER
			SANITARY SEWER CLEAN OUT
			UNDERGROUND STORAGE TANK
			CATCH BASIN
			SANITARY SEWER MANHOLE
			FORMER INFILTRATION PIT (1975)

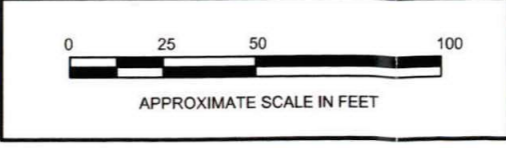
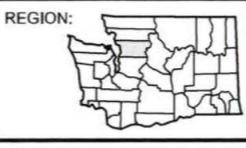


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 K&S ENVIRONMENTAL, 2001  
 REISDORFF, THOMAS D., 1985  
 TIME OIL COMPANY [sic], 1975



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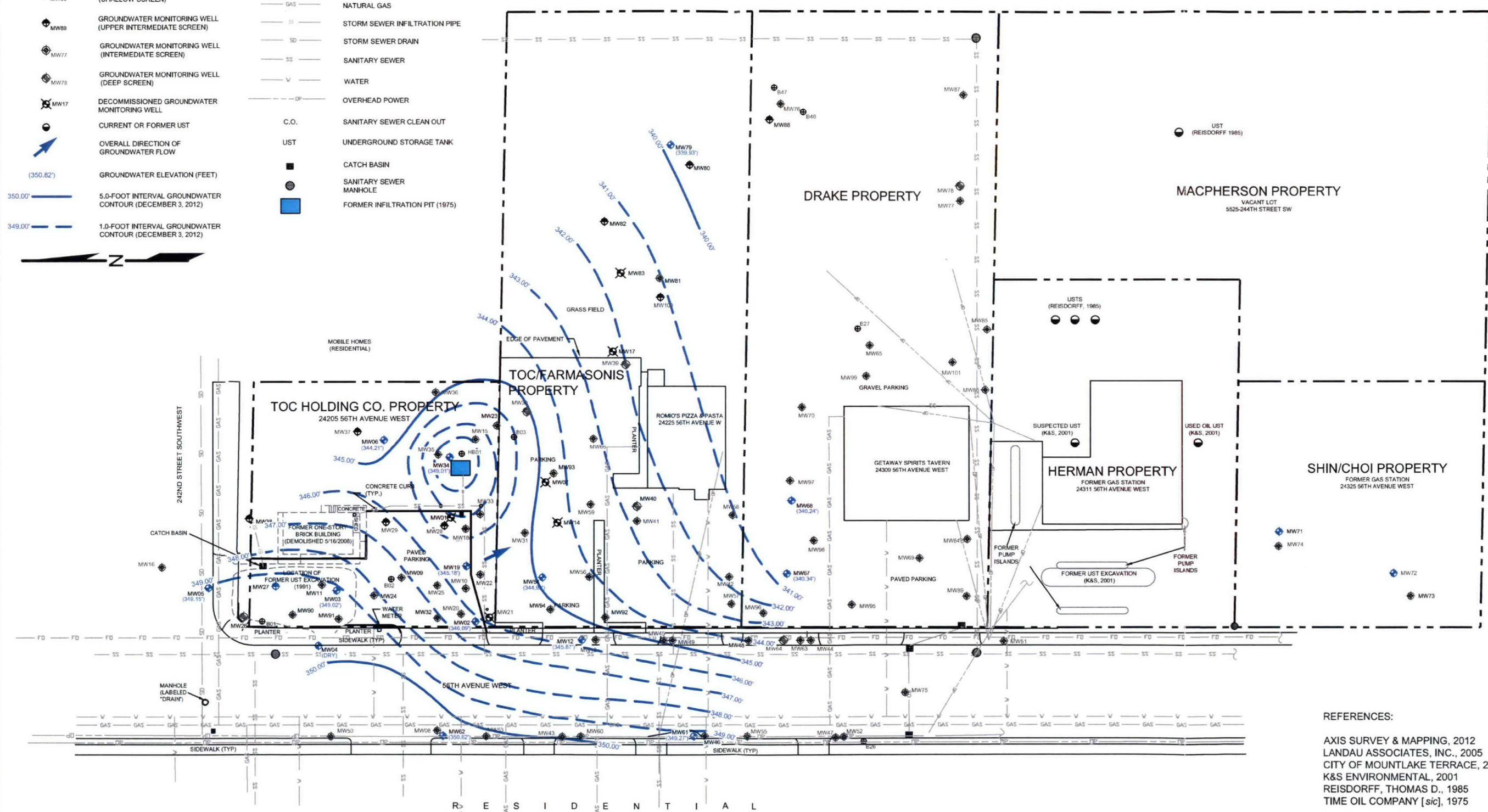
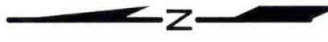
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**FIGURE 3**  
 EXPLORATION LOCATION MAP

LEGEND

- SOIL BORING (NO WELL INSTALLED)
- GROUNDWATER MONITORING WELL (SHALLOW SCREEN)
- GROUNDWATER MONITORING WELL (UPPER INTERMEDIATE SCREEN)
- GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)
- GROUNDWATER MONITORING WELL (DEEP SCREEN)
- DECOMMISSIONED GROUNDWATER MONITORING WELL
- CURRENT OR FORMER UST
- OVERALL DIRECTION OF GROUNDWATER FLOW
- GROUNDWATER ELEVATION (FEET)
- 5.0-FOOT INTERVAL GROUNDWATER CONTOUR (DECEMBER 3, 2012)
- 1.0-FOOT INTERVAL GROUNDWATER CONTOUR (DECEMBER 3, 2012)
- PROPERTY BOUNDARY
- FIBER OPTIC
- NATURAL GAS
- STORM SEWER INFILTRATION PIPE
- STORM SEWER DRAIN
- SANITARY SEWER
- WATER
- OVERHEAD POWER
- S.C.O.
- UST
- CATCH BASIN
- SANITARY SEWER MANHOLE
- FORMER INFILTRATION PIT (1975)

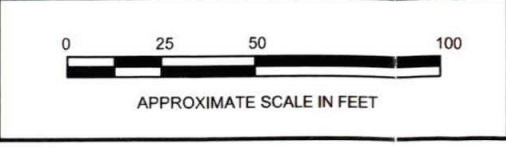
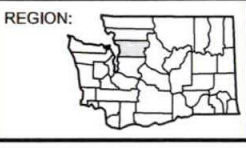


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  - REISDORFF, THOMAS D., 1985
  - TIME OIL COMPANY [sic], 1975



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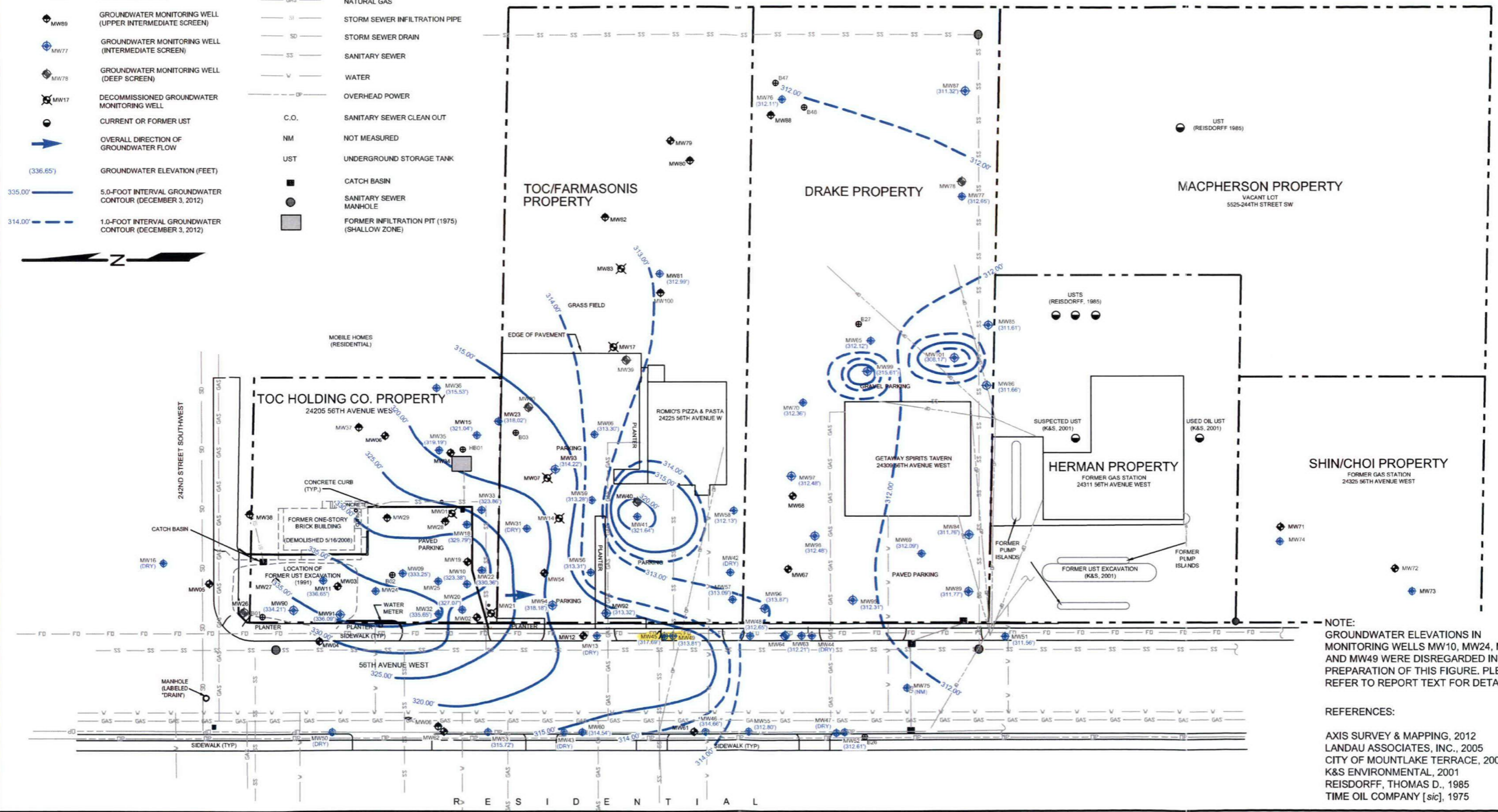


**FIGURE 4.1**  
 GROUNDWATER CONTOUR MAP  
 SHALLOW ZONE  
 DECEMBER 3, 2012

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**LEGEND**

	SOIL BORING (NO WELL INSTALLED)		PROPERTY BOUNDARY
	GROUNDWATER MONITORING WELL (SHALLOW SCREEN)		FIBER OPTIC
	GROUNDWATER MONITORING WELL (UPPER INTERMEDIATE SCREEN)		NATURAL GAS
	GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)		STORM SEWER INFILTRATION PIPE
	GROUNDWATER MONITORING WELL (DEEP SCREEN)		STORM SEWER DRAIN
	DECOMMISSIONED GROUNDWATER MONITORING WELL		SANITARY SEWER
	CURRENT OR FORMER UST		WATER
	OVERALL DIRECTION OF GROUNDWATER FLOW		OVERHEAD POWER
	GROUNDWATER ELEVATION (FEET)		SANITARY SEWER CLEAN OUT
	5.0-FOOT INTERVAL GROUNDWATER CONTOUR (DECEMBER 3, 2012)		NOT MEASURED
	1.0-FOOT INTERVAL GROUNDWATER CONTOUR (DECEMBER 3, 2012)		UNDERGRADUATE STORAGE TANK
			CATCH BASIN
			SANITARY SEWER MANHOLE
			FORMER INFILTRATION PIT (1975) (SHALLOW ZONE)



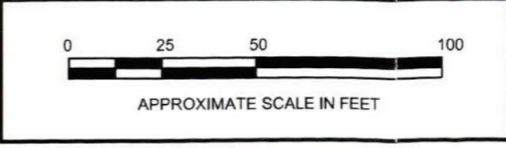
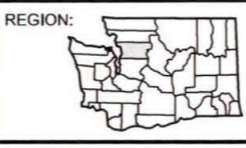
**NOTE:**  
GROUNDWATER ELEVATIONS IN MONITORING WELLS MW10, MW24, MW25, AND MW49 WERE DISREGARDED IN THE PREPARATION OF THIS FIGURE. PLEASE REFER TO REPORT TEXT FOR DETAILS.

**REFERENCES:**  
 AXIS SURVEY & MAPPING, 2012  
 LANDAU ASSOCIATES, INC., 2005  
 CITY OF MOUNTLAKE TERRACE, 2005  
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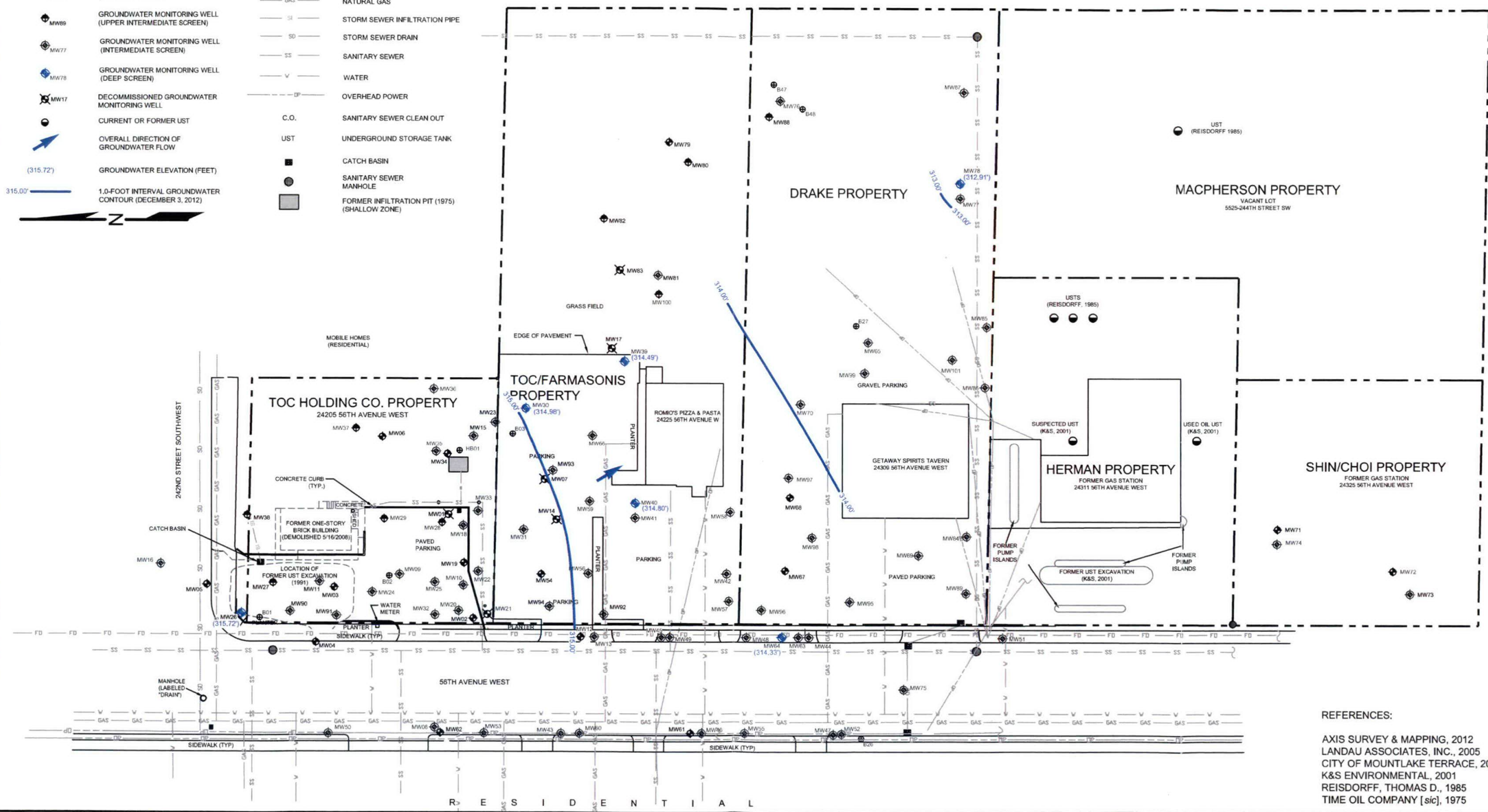
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**FIGURE 4.2**  
 GROUNDWATER CONTOUR MAP  
 INTERMEDIATE ZONE  
 DECEMBER 3, 2012

LEGEND

	SOIL BORING (NO WELL INSTALLED)		PROPERTY BOUNDARY
	GROUNDWATER MONITORING WELL (SHALLOW SCREEN)		FIBER OPTIC
	GROUNDWATER MONITORING WELL (UPPER INTERMEDIATE SCREEN)		NATURAL GAS
	GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)		STORM SEWER INFILTRATION PIPE
	GROUNDWATER MONITORING WELL (DEEP SCREEN)		STORM SEWER DRAIN
	DECOMMISSIONED GROUNDWATER MONITORING WELL		SANITARY SEWER
	CURRENT OR FORMER UST		WATER
	OVERALL DIRECTION OF GROUNDWATER FLOW		OVERHEAD POWER
	GROUNDWATER ELEVATION (FEET)		SANITARY SEWER CLEAN OUT
	1.0-FOOT INTERVAL GROUNDWATER CONTOUR (DECEMBER 3, 2012)		UNDERGROUND STORAGE TANK
			CATCH BASIN
			SANITARY SEWER MANHOLE
			FORMER INFILTRATION PIT (1975) (SHALLOW ZONE)

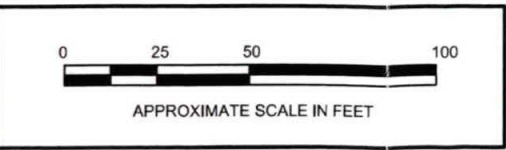
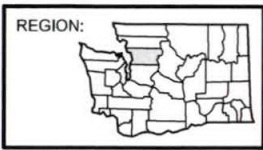


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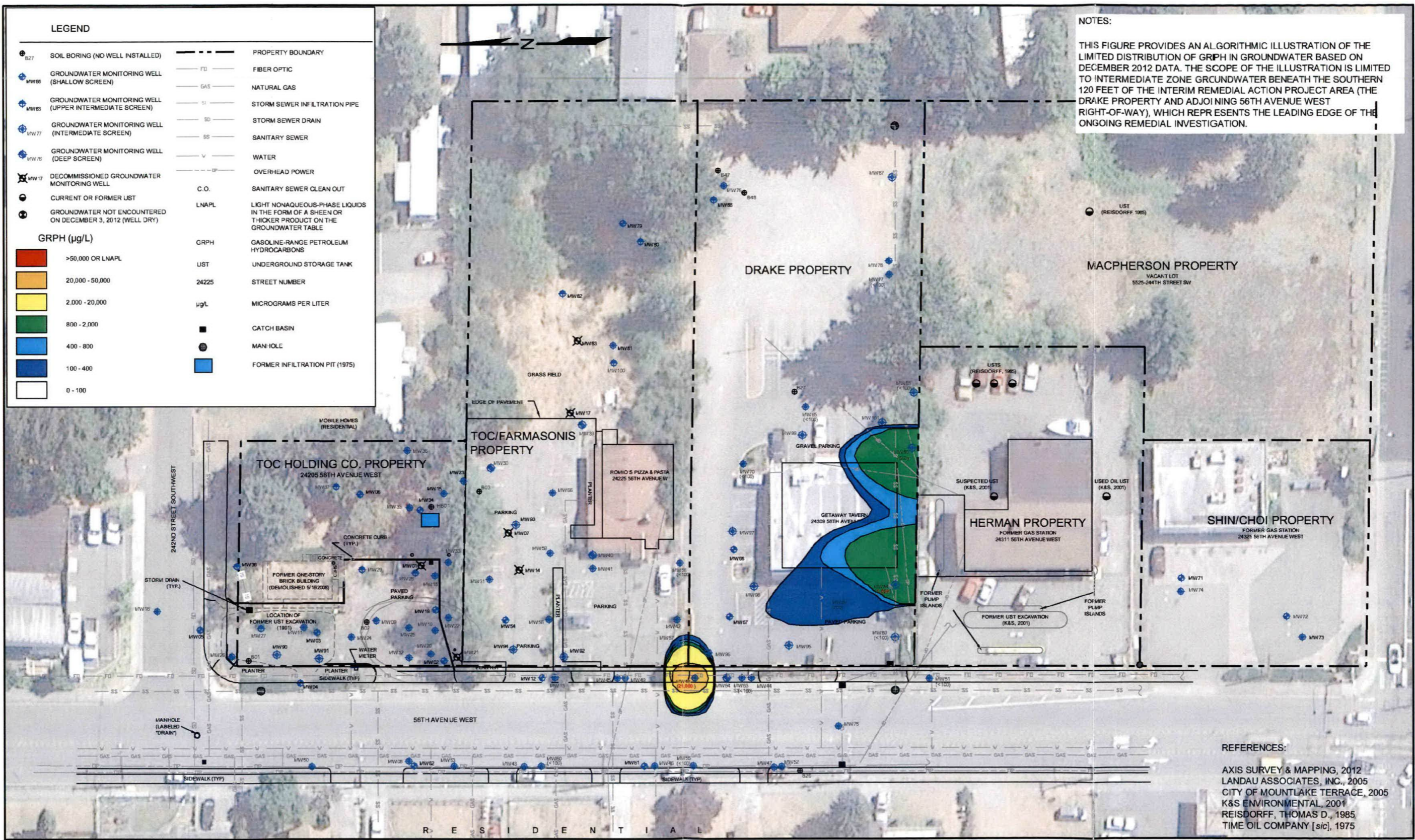
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 STREET ADDRESS: 24205 56TH AVENUE WEST  
 CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON



**FIGURE 4.3**  
 GROUNDWATER CONTOUR MAP  
 DEEP ZONE  
 DECEMBER 3, 2012





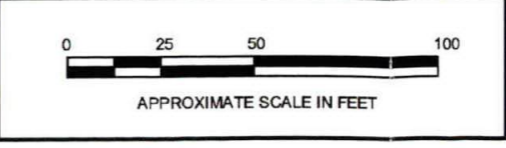
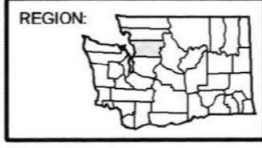
**NOTES:**  
 THIS FIGURE PROVIDES AN ALGORITHMIC ILLUSTRATION OF THE LIMITED DISTRIBUTION OF GRPH IN GROUNDWATER BASED ON DECEMBER 2012 DATA. THE SCOPE OF THE ILLUSTRATION IS LIMITED TO INTERMEDIATE ZONE GROUNDWATER BENEATH THE SOUTHERN 120 FEET OF THE INTERIM REMEDIAL ACTION PROJECT AREA (THE DRAKE PROPERTY AND ADJOINING 56TH AVENUE WEST RIGHT-OF-WAY), WHICH REPRESENTS THE LEADING EDGE OF THE ONGOING REMEDIAL INVESTIGATION.

**REFERENCES:**  
 AXIS SURVEY & MAPPING, 2012  
 LANDAU ASSOCIATES, INC., 2005  
 CITY OF MOUNTLAKE TERRACE, 2005  
 K&S ENVIRONMENTAL, 2001  
 REISDORFF, THOMAS D., 1985  
 TIME OIL COMPANY [sic], 1975

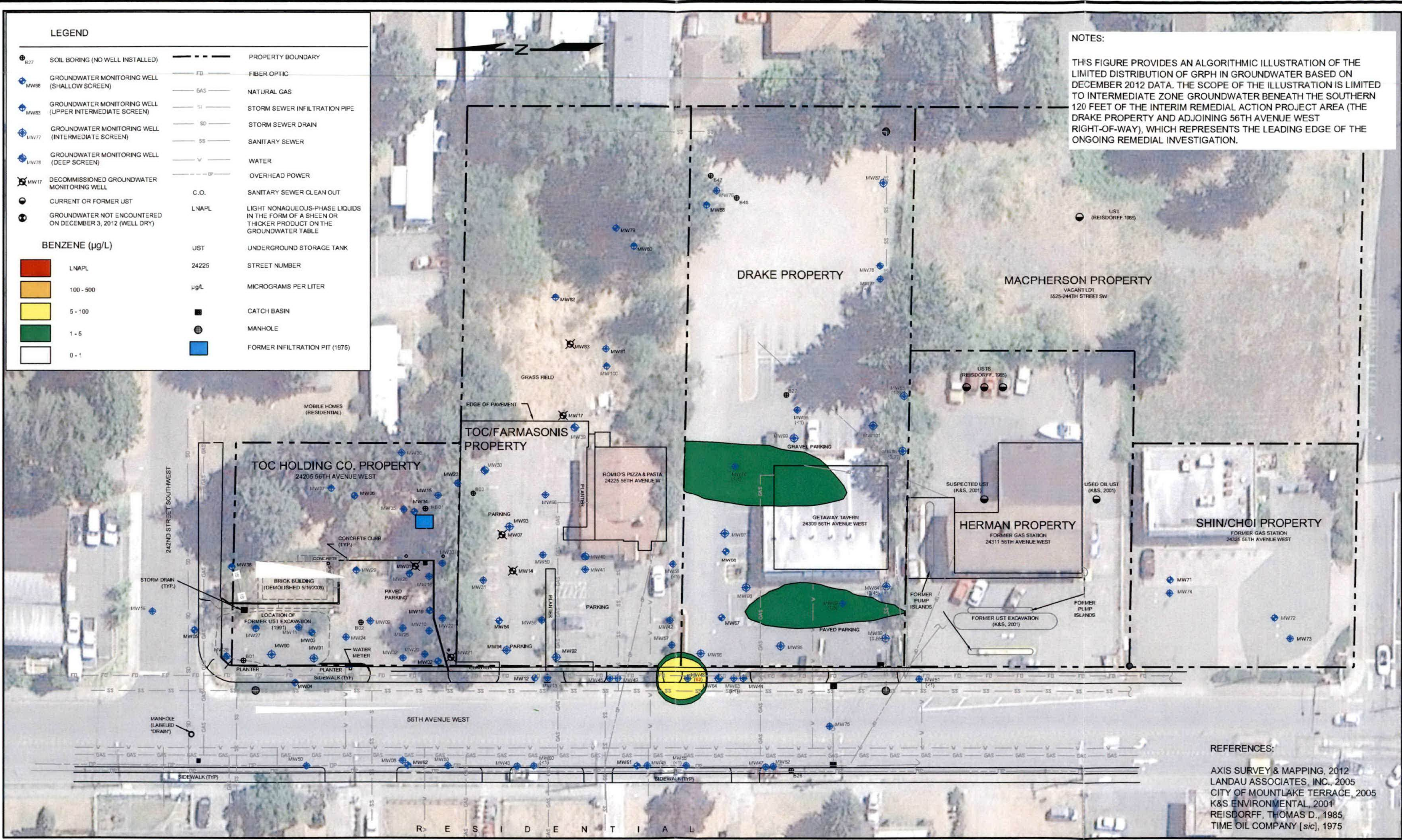


DATE: 12/26/2012  
 DRAWN BY: BLR  
 CHECKED BY: DHG  
 CAD FILE: 01-176\_2012Q4\_F5-1\_GRP

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176  
 PROJECT NUMBER: 0440-030  
 STREET ADDRESS: 24205 56TH AVENUE WEST  
 CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

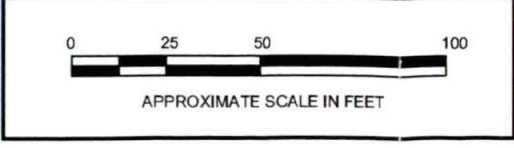
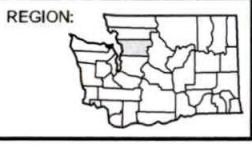


**FIGURE 5.1**  
 LIMITED DISTRIBUTION OF GRPH IN INTERMEDIATE ZONE GROUNDWATER  
 DECEMBER 3-5 2012



DATE: 12/26/2012  
 DRAWN BY: BLR  
 CHECKED BY: DHG  
 CAD FILE: 01-176\_2012Q4\_F5-2\_BENZ

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176  
 PROJECT NUMBER: 0440-030  
 STREET ADDRESS: 24205 56TH AVENUE WEST  
 CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON



**FIGURE 5.2**  
 LIMITED DISTRIBUTION OF BENZENE IN INTERMEDIATE ZONE GROUNDWATER DECEMBER 3-5 2012

## **TABLES**



**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
<b>SHALLOW WATER-BEARING ZONE (0 TO 20 FEET BGS)</b>													
MW02	TOC	03/08/12	Peristaltic Pump	346.04	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	347.51	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	345.05	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	346.09	--	--	--	--	--	--	--	--	--
MW03	TOC	03/08/12	Peristaltic Pump	348.79	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	350.28	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	347.24	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	349.02	--	--	--	--	--	--	--	--	--
MW04	ROW (56th)	03/07/12	Peristaltic Pump	347.68	<100	<1	<1	1.5	<3	--	--	--	--
		06/04/12	Not Sampled	351.61	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	347.71	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
MW05	ROW (242nd)	03/08/12	Peristaltic Pump	351.31	<100	<1	<1	<1	12	--	--	--	--
		06/04/12	Not Sampled	353.37	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	349.26	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	349.15	--	--	--	--	--	--	--	--	--
MW06	TOC	03/08/12	Peristaltic Pump	345.99	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	347.04	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	344.17	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	344.21	--	--	--	--	--	--	--	--	--
MW12	ROW (56th)	03/08/12	Peristaltic Pump	346.05	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	347.52	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	344.97	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	345.87	--	--	--	--	--	--	--	--	--
MW19	TOC	03/09/12	Peristaltic Pump	345.34	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	345.75	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	343.25	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	345.18	--	--	--	--	--	--	--	--	--
MW34	TOC	03/09/12	Peristaltic Pump	345.56	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	346.40	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	342.43	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	349.01	--	--	--	--	--	--	--	--	--
MW54	TOC/Farmasonis	03/07/12	Peristaltic Pump	345.25	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	346.54	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	344.32	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	344.99	--	--	--	--	--	--	--	--	--
MW61	ROW (56th)	03/08/12	Peristaltic Pump	346.68	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	347.18	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	345.13	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	349.27	--	--	--	--	--	--	--	--	--
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>6</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>



**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
<b>SHALLOW WATER-BEARING ZONE (0 TO 20 FEET BGS)</b>													
MW62	ROW (56th)	03/08/12	Peristaltic Pump	348.50	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	349.73	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	345.96	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	350.82	--	--	--	--	--	--	--	--	--
MW67	Drake	03/06/12	Peristaltic Pump	341.33	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	343.12	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	340.54	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	340.34	--	--	--	--	--	--	--	--	--
MW68	Drake	03/06/12	Peristaltic Pump	341.04	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	342.83	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	340.23	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	340.24	--	--	--	--	--	--	--	--	--
MW79	TOC/Farmasonis	03/07/12	Peristaltic Pump	340.64	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	341.25	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	337.12	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	339.93	--	--	--	--	--	--	--	--	--
<b>INTERMEDIATE ZONE WELLS THAT INTERSECT SHALLOW ZONE CONDITIONS</b>													
MW08	ROW (56th)	03/08/12	Peristaltic Pump	344.93	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	347.73	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	338.85	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	339.91	--	--	--	--	--	--	--	--	--
MW24	TOC	03/09/12	Peristaltic Pump	340.84	4,400	7.3	39	39	770	--	--	--	--
		06/04/12	Not Sampled	347.67	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	336.66	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	337.40	--	--	--	--	--	--	--	--	--
MW25	TOC	03/05/12	Not Sampled	--	Well head Inaccessible								
		06/04/12	Not Sampled	340.02	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	330.73	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	328.61	--	--	--	--	--	--	--	--	--
MW27	TOC	03/09/12	Peristaltic Pump	343.24	23,000	8.5	94	620	3,900	--	--	--	--
		06/05/12	Peristaltic Pump	345.38	23,000	7.3	110	720	4,600	--	--	--	--
		09/10/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
		12/05/12	Pneumatic Pump	343.50	11,000	5.8	69	220	2,800	--	--	--	--
MW28	TOC	03/05/12	Not Sampled	--	Well head Inaccessible								
		06/04/12	Not Sampled	331.36	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	330.72	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	330.56	--	--	--	--	--	--	--	--	--
MW29	TOC	03/09/12	Peristaltic Pump	345.21	6,700	1.5	2.7	220	840	--	--	--	--
		06/04/12	Not Sampled	346.50	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	340.67	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	345.17	--	--	--	--	--	--	--	--	--
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>9</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>



**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
<b>INTERMEDIATE ZONE WELLS THAT INTERSECT SHALLOW ZONE CONDITIONS</b>													
MW37	TOC	03/09/12	Peristaltic Pump	339.56	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	342.06	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	334.97	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	336.69	--	--	--	--	--	--	--	--	--
MW38	TOC	03/08/12	Peristaltic Pump	345.17	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	346.88	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	341.71	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	343.08	--	--	--	--	--	--	--	--	--
<b>UPPER INTERMEDIATE WATER-BEARING ZONE (20 TO 30 FEET BGS)</b>													
MW80	TOC/Farmasonis	03/07/12	Peristaltic Pump	339.58	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	340.46	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	336.60	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	338.47	--	--	--	--	--	--	--	--	--
MW82	TOC/Farmasonis	03/07/12	Peristaltic Pump	327.07	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	326.66	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	326.02	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	326.14	--	--	--	--	--	--	--	--	--
MW88	Drake	03/06/12	Peristaltic Pump	336.76	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	336.54	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	331.62	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	332.63	--	--	--	--	--	--	--	--	--
MW100	TOC/Farmasonis	03/06/12	Bailer	340.08	<100	<1	<1	<1	<3	--	--	50.6	1.15
		06/04/12	Not Sampled	340.20	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	336.63	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	338.33	--	--	--	--	--	--	--	--	--
<b>INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS)</b>													
MW09	TOC	03/07/12	Peristaltic Pump	336.97	11,000	30	76	370	2,400	--	--	--	--
		06/06/12	Peristaltic Pump	338.91	6,400	6.4	22	180	1,000	--	--	--	--
		09/11/12	Peristaltic Pump	333.28	3,300	21	21	130	750	--	--	--	--
		12/04/12	Bladder Pump	333.25	5,500	28	25	73	720	--	--	--	--
MW10	TOC	03/07/12	Peristaltic Pump	330.52	1,400	62	7.3	27	89	--	--	--	--
		06/06/12	Peristaltic Pump	331.50	830	11	5.1	28	84	--	--	--	--
		09/11/12	Peristaltic Pump	329.71	1,500	38	<10	110	86	--	--	--	--
		12/05/12	Bailer	323.38	4,900	4.6	<1	19	63	--	--	--	--
MW11	TOC	03/07/12	Not Sampled	Dry	--	--	--	--	D r y	--	--	--	--
		06/06/12	Not Sampled	339.39	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	337.25	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	336.65	--	--	--	--	--	--	--	--	--
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>7</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>



**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
<b>INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED</b>													
MW13	ROW (56th)	03/05/12	Not Sampled	Dry									
		06/04/12	Not Sampled	Dry									
		09/10/12	Not Sampled	Dry									
		12/03/12	Not Sampled	Dry									
MW15	TOC	03/08/12	Peristaltic Pump	324.38	8,200	<5	<5	88	480	--	--	--	--
		06/04/12	Peristaltic Pump	323.81									
		09/12/12	Pneumatic Pump	321.39	2,300	3.23	<5	14	330	--	--	--	--
		12/05/12	Pneumatic Pump	321.04	300	<1	1.8	<1	9.7	--	--	--	--
MW16	ROW (242nd)	03/05/12	Not Sampled	Dry									
		06/04/12	Not Sampled	319.94	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	317.85	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	Dry									
MW18	TOC	03/07/12	Peristaltic Pump	329.12	5,900	43	<10	110	720	--	--	--	--
		06/04/12	Not Sampled	324.46	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	324.57	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	329.79	--	--	--	--	--	--	--	--	--
MW20	TOC	03/09/12	Peristaltic Pump	330.63	5,800	200	57	310	480	--	--	--	--
		06/06/12	Peristaltic Pump	332.07	7,800	220	250	300	910	--	--	--	--
		09/11/12	Peristaltic Pump	329.34	5,000	100	21	210	450	--	--	--	--
		12/05/12	Bailer	327.07	840	<1	3	5.9	14	--	--	--	--
MW22	TOC	03/05/12	Not Sampled	--									
		06/06/12	Peristaltic Pump	328.54	<100	<1	<1	<1	<3	--	--	--	--
		09/11/12	Peristaltic Pump	329.01	<100	<1	<1	<1	<3	--	--	--	--
		12/04/12	Peristaltic Pump	330.36	<100	<1	<1	<1	<3	--	--	--	--
MW23	TOC	03/05/12	Not Sampled	318.25									
		06/04/12	Not Sampled	318.49	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	317.98	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	318.02	--	--	--	--	--	--	--	--	--
MW31	TOC/Farmasonis	03/07/12	Bailer	320.74	2,800	7.2	5.2	23	400	<1	<1	26.5	24.6
		06/05/12	Bailer	322.64	8,400	21	8.3	18	880	--	--	--	--
		09/10/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
MW32	TOC	03/09/12	Peristaltic Pump	337.16	120	3.1	11	1.1	16	--	--	--	--
		06/06/12	Peristaltic Pump	338.29	4,300	14	160	87	650	--	--	--	--
		09/11/12	Pneumatic Pump	335.86	16,000	170	330	470	3,000	--	--	--	--
		12/05/12	Pneumatic Pump	335.65	33,000	29	790	920	6,900	--	--	--	--
MW33	TOC	03/05/12	Not Sampled	323.94									
		06/04/12	Not Sampled	324.02									
		09/10/12	Not Sampled	323.80									
		12/03/12	Not Sampled	323.86									
MW35	TOC	03/05/12	Not Sampled	Dry									
		06/04/12	Not Sampled	Dry									
		09/10/12	Not Sampled	Dry									
		12/03/12	Not Sampled	319.19									
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>6</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>



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 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethylbenzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
<b>INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED</b>														
MW36	TOC	03/09/12	Bailer	316.38	<100	<1	<1	<1	<3	--	--	--	--	
		06/04/12	Not Sampled	316.48	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	315.19	--	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	315.53	--	--	--	--	--	--	--	--	--	
MW41	TOC/Farmasonis	03/05/12	Not Sampled	316.13	Insufficient water for sampling.									
		06/04/12	Not Sampled	316.24	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	Dry	D r y									
		12/03/12	Not Sampled	321.64	--	--	--	--	--	--	--	--	--	
MW42	TOC/Farmasonis	03/05/12	Not Sampled	Dry	D r y									
		06/04/12	Not Sampled	Dry	D r y									
		09/10/12	Not Sampled	316.58	Not sampled; just gauged.									
		12/03/12	Not Sampled	Dry	D r y									
MW43	ROW (56th)	03/05/12	Not Sampled	Dry	D r y									
		06/04/12	Not Sampled	Dry	D r y									
		09/10/12	Not Sampled	Dry	D r y									
		12/03/12	Not Sampled	Dry	D r y									
MW44	ROW (56th)	03/05/12	Not Sampled	Dry	D r y									
		06/04/12	Not Sampled	Dry	D r y									
		09/10/12	Not Sampled	Dry	D r y									
		12/03/12	Not Sampled	Dry	D r y									
MW45	ROW (56th)	03/05/12	Not Sampled	318.47	Insufficient water for sampling.									
		06/06/12	Bailer	320.06	6,900	33	7.6	95	1,300	--	--	--	--	
		09/11/12	Bailer	319.05	4,700	10	5.7	<1	540	--	--	--	--	
		12/03/12	Not Sampled	317.69	Insufficient water for sampling.									
MW46	ROW (56th)	03/05/12	Not Sampled	314.12	Insufficient water for sampling.									
		06/04/12	Not Sampled	316.14	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	315.05	--	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	314.66	--	--	--	--	--	--	--	--	--	
MW47	ROW (56th)	03/05/12	Not Sampled	Dry	D r y									
		06/04/12	Not Sampled	314.34	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	Dry	D r y									
		12/03/12	Not Sampled	Dry	D r y									
MW48	ROW (56th)	03/08/12	Bailer	311.86	37,000	220	140	770	5,400 <sup>98</sup>	--	--	--	--	
		06/05/12	Bailer	314.60	14,000	<5	13	210	1,900	--	--	--	--	
		09/11/12	Bailer	312.94	24,000	300	130	550	4,300	--	--	--	--	
		12/04/12	Bailer	312.65	21,000	62	<40	390	3,000	--	--	--	--	
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>3</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>	





**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
<b>INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED</b>														
MW49	ROW (56th)	03/08/12	Bladder Pump	313.01	<100	<1	<1	<1	<3	--	--	--	--	
		06/05/12	Bailer	315.68	<100	<1	<1	<1	<3	--	--	--	--	
		09/11/12	Bailer	313.96	<100	1.2	<1	<1	<3	--	--	--	--	
		12/04/12	Bailer	313.81	<100	<1	<1	<1	<3	--	--	--	--	
MW50	ROW (56th)	03/08/12	Bailer	327.08	<100	<1	<1	<1	<3	--	--	--	--	
		06/05/12	Bailer	329.06	<100	<1	<1	<1	<3	--	--	--	--	
		09/11/12	Bailer	326.45	<100	<1	<1	<1	<3	--	--	--	--	
		12/03/12	Not Sampled	Dry										
MW51	ROW (56th)	03/08/12	Bailer	310.89	<100	<1	<1	<1	<3	--	--	--	--	
		06/05/12	Bailer	312.85	<100	<1	<1	<1	<3	--	--	--	--	
		09/11/12	Bailer	311.36	<100	<1	<1	<1	<3	--	--	--	--	
		12/04/12	Bailer	311.56	<100	<1	<1	<1	<3	--	--	--	--	
MW52	ROW (56th)	03/05/12	Not Sampled	Dry										
		06/06/12	Bailer	314.17	<100	<1	<1	<1	<3	--	--	--	--	
		09/10/12	Not Sampled	312.49										
		12/03/12	Not Sampled	312.61										
MW53	ROW (56th)	03/07/12	Bailer	316.30	<100	<1	<1	<1	<3	--	--	--	--	
		06/05/12	Bailer	318.73	<100	<1	<1	<1	<3	--	--	--	--	
		09/11/12	Bailer	316.78	<100	<1	<1	<1	<3	--	--	--	--	
		12/04/12	Bailer	315.72	<100	<1	<1	<1	<3	--	--	--	--	
MW55	ROW (56th)	03/08/12	Bladder Pump	312.40	<100	<1	<1	<1	<3	--	--	--	--	
		06/06/12	Bladder Pump	315.82	<100	<1	<1	<1	<3	--	--	--	--	
		09/12/12	Bladder Pump	313.48	<100	<1	<1	<1	<3	--	--	--	--	
		12/05/12	Bladder Pump	312.80	<100	<1	<1	<1	<3	--	--	--	--	
MW56	TOC/Farmasonis	03/06/12	Bladder Pump	312.92	<100	<1	<1	<1	<3	--	--	--	--	
		06/05/12	Bladder Pump	315.30	<100	<1	<1	<1	<3	--	--	--	--	
		09/12/12	Bladder Pump	313.73	<100	<1	<1	<1	<3	--	--	--	--	
		12/05/12	Bladder Pump	313.31	<100	<1	<1	<1	<3	--	--	--	--	
MW57	TOC/Farmasonis	03/07/12	Bailer	311.96	2,100	9.7	2.3	87	160	--	--	--	--	
		06/04/12	Not Sampled	314.46	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	312.83	--	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	313.09	--	--	--	--	--	--	--	--	--	
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>8</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>	



**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
**TOC Holdings Co. Facility No. 01-176**  
**24205 56th Avenue West**  
**Mountlake Terrace, Washington**

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
<b>INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED</b>													
MW58	TOC/Farmasonis	03/07/12	Bladder Pump	311.69	<100	<1	<1	<1	<3	--	--	--	--
		06/05/12	Bladder Pump	314.10	<100	<1	<1	<1	<3	--	--	--	--
		09/11/12	Bladder Pump	312.54	<100	<1	<1	<1	<3	--	--	--	--
		12/05/12	Bladder Pump	312.13	<100	<1	<1	<1	<3	--	--	--	--
MW59	TOC/Farmasonis	03/06/12	Bladder Pump	312.86	<100	<1	<1	<1	<3	--	--	--	--
		06/05/12	Bladder Pump	315.23	<100	<1	<1	<1	<3	--	--	--	--
		09/12/12	Bladder Pump	313.66	<100	<1	<1	<1	<3	--	--	--	--
		12/05/12	Bladder Pump	313.28	<100	<1	<1	<1	<3	--	--	--	--
MW60	ROW (56th)	03/08/12	Bladder Pump	314.58	<100	<1	<1	<1	<3	--	--	<1	<1
		06/06/12	Bladder Pump	316.83	<100	<1	<1	<1	<3	--	--	--	--
		09/12/12	Bladder Pump	315.42	<100	<1	<1	<1	<3	--	--	--	--
		12/05/12	Bladder Pump	314.54	<100	<1	<1	<1	<3	--	--	--	--
MW63	ROW (56th)	03/08/12	Bladder Pump	311.80	<100	<1	<1	<1	<3	--	--	--	--
		06/05/12	Bladder Pump	314.21	<100	<1	<1	<1	<3	--	--	--	--
		09/11/12	Bladder Pump	312.55	<100	<1	<1	<1	<3	--	--	--	--
		12/04/12	Bladder Pump	312.21	<100	<1	<1	<1	<3	--	--	--	--
MW65	Drake	03/07/12	Bladder Pump	310.98	<100	<1	<1	<1	<3	<1	<1	--	--
		06/05/12	Bailer	313.36	<100	<1	<1	<1	<3	<1	--	--	--
		09/11/12	Bladder Pump	311.49	<100	<1	<1	<1	<3	<1	--	--	--
		12/05/12	Bladder Pump	312.12	<100	<0.35	<1	<1	<3	<1	<1	--	--
MW66	TOC/Farmasonis	03/07/12	Bladder Pump	312.85	<100	<1	<1	<1	<3	--	--	--	--
		06/05/12	Bailer	315.21	<100	<1	<1	<1	<3	--	--	--	--
		09/11/12	Bailer	313.66	<100	<1	<1	<1	<3	--	--	--	--
		12/04/12	Bailer	313.30	<100	<1	<1	<1	<3	--	--	--	--
MW69	Drake	03/06/12	Bailer	310.88	5,400	1.5	<1	100	440	<1	<1	--	--
		06/05/12	Bailer	313.43	9,700	2.6	15	220	900	<1	--	--	--
		09/12/12	Pneumatic Pump	312.01	7,900	7.2	13	170	750	<1	--	--	--
		12/04/12	Pneumatic Pump	312.09	200	1.5	<1	<1	2.8	<1	<1	--	--
MW70	Drake	03/06/12	Bailer	311.37	280	7.6	<1	<1	4.1	<1	<1	--	--
		06/05/12	Bailer	313.66	<100	2.3	<1	<1	<3	<1	--	--	--
		09/12/12	Pneumatic Pump	312.18	<100	2.1	<1	<1	<3	<1	--	--	--
		12/04/12	Pneumatic Pump	312.36	<100	1.5	<1	<1	<3	<1	<1	--	--
MW75	ROW (56th)	03/07/12	Bladder Pump	311.37	<100	<1	<1	<1	<3	--	--	<1	<1
MW76	Drake	03/06/12	Bailer	311.50	<100	<1	<1	<1	<3	<1	<1	--	--
		06/04/12	Not Sampled	313.85	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	311.94	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	312.11	--	--	--	--	--	--	--	--	--
MW77	Drake	03/06/12	Bailer	310.78	<100	<1	<1	<1	<3	<1	<1	--	--
		06/05/12	Bailer	312.94	<100	<1	<1	<1	<3	<1	--	--	--
		09/11/12	Bailer	311.33	<100	<1	<1	<1	<3	<1	--	--	--
		12/04/12	Bailer	312.65	<100	<0.35	<1	<1	<3	<1	<1	--	--
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>6</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>



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Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
<b>INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED</b>														
MW81	TOC/Farmasonis	03/06/12	Bailer	312.44	<100	<1	<1	<1	<3	--	--	--	--	
		06/04/12	Not Sampled	314.93	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	313.17	--	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	312.99	--	--	--	--	--	--	--	--	--	
MW84	Drake	03/07/12	Bladder Pump	311.01	680	<1	1.6	5.0	14	<1	<1	--	--	
		06/05/12	Bladder Pump	312.89	990	<1	2.5	11.0	28	<1	--	--	--	
		09/12/12	Pneumatic Pump	311.69	1,200	2.0	2.9	8.5	28	<1	--	--	--	
		12/05/12	Pneumatic Pump	311.76	1,000	0.45	<1	17	41	<1	<1	--	--	
MW85	Drake	03/06/12	Bladder Pump	310.86	<100	3.1	<1	<1	<3	<1	<1	<1	<1	
		06/05/12	Bladder Pump	313.09	<100	1.8	<1	<1	<3	<1	--	--	--	
		09/11/12	Bladder Pump	311.51	<100	1.4	<1	<1	<3	<1	--	--	--	
		12/04/12	Bladder Pump	311.61	<100	<0.35	<1	<1	<3	<1	<1	--	--	
MW86	Drake	03/06/12	Bladder Pump	310.76	140	3.8	<1	<1	<3	<1	<1	--	--	
		06/05/12	Bladder Pump	313.04	130	1.2	<1	<1	<3	<1	--	--	--	
		09/11/12	Bladder Pump	311.54	1,600	2.6	5.8	2.9	3.4	<1	--	--	--	
		12/04/12	Bladder Pump	311.66	860	0.77	<1	1.7	4.6	<1	<1	<1	--	
MW87	Drake	03/06/12	Bailer	310.89	<100	<1	<1	<1	<3	<1	<1	--	--	
		06/04/12	Not Sampled	312.86	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	311.25	--	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	311.32	--	--	--	--	--	--	--	--	--	
MW89	Drake	03/06/12	Bladder Pump	311.00	<100	<1	<1	<1	<3	<1	<1	--	--	
		06/05/12	Bladder Pump	313.38	<100	<1	<1	<1	<3	<1	--	--	--	
		09/11/12	Bladder Pump	311.81	<100	<1	<1	<1	<3	<1	--	--	--	
		12/04/12	Bladder Pump	311.77	<100	<0.35	<1	<1	<3	<1	<1	--	--	
MW90	TOC	03/05/12	Not Sampled	338.03	LNAPL (0.09 FEET)									
		06/04/12	Not Sampled	340.49	LNAPL (0.14 FEET)									
		09/10/12	Not Sampled	338.02	LNAPL (0.38 FEET)									
		12/03/12	Not Sampled	334.21	--	--	--	--	--	--	--	--	--	
MW91	TOC	03/08/12	Bailer	337.71	15,000	36	95	410	3,100	--	--	15.9	<1	
		06/04/12	Not Sampled	339.09	LNAPL (0.01 FEET)									
		09/10/12	Not Sampled	336.40	LNAPL (0.19 FEET)									
		12/03/12	Not Sampled	336.09	--	--	--	--	--	--	--	--	--	
MW92	TOC/Farmasonis	03/06/12	Bailer	312.87	<100	<1	<1	<1	<3	--	--	4.19	<1	
		06/04/12	Not Sampled	315.37	--	--	--	--	--	--	--	--	--	
		09/10/12	Not Sampled	317.20	--	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	313.32	--	--	--	--	--	--	--	--	--	
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>7</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>	



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INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED													
MW93	TOC/Farmasonis	03/06/12	Bailer	312.73	<100	<1	<1	<1	<3	--	--	5.60	<1
		06/04/12	Not Sampled	315.09	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
MW94	TOC/Farmasonis	12/03/12	Not Sampled	314.22	--	--	--	--	--	--	--	--	--
		03/06/12	Bailer	313.11	<100	<1	<1	<1	<3	--	--	<1	<1
		06/04/12	Not Sampled	315.02	--	--	--	--	--	--	--	--	--
MW95	Drake	09/10/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	318.18	--	--	--	--	--	--	--	--	--
		03/07/12	Bailer	311.47	<100	<1	<1	<1	<3	<1	<1	2.74	<1
MW96	Drake	06/04/12	Not Sampled	313.86	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	312.03	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	312.31	--	--	--	--	--	--	--	--	--
MW97	Drake	03/07/12	Bailer	311.82	<100	<1	<1	<1	<3	<1	<1	11.4	<1
		06/04/12	Not Sampled	314.39	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	310.56	--	--	--	--	--	--	--	--	--
MW98	Drake	12/03/12	Not Sampled	313.87	--	--	--	--	--	--	--	--	--
		03/07/12	Bailer	311.46	420	9.4	<1	<1	3.4	<1	<1	2.07	<1
		06/04/12	Not Sampled	313.85	--	--	--	--	--	--	--	--	--
MW99	Drake	09/10/12	Not Sampled	312.25	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	312.48	--	--	--	--	--	--	--	--	--
		03/08/12	Bailer	311.45	3,800	13	4.6	56	130	<1	<1	1.87	<1
MW101	Drake	06/04/12	Not Sampled	313.76	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	311.45	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	312.48	--	--	--	--	--	--	--	--	--
MW101	Drake	03/06/12	Bailer	310.95	<100	2.1	<1	<1	<3	<1	<1	1.08	<1
		06/04/12	Not Sampled	312.97	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	Dry	--	--	--	--	--	--	--	--	--
MW101	Drake	12/03/12	Not Sampled	315.61	--	--	--	--	--	--	--	--	--
		03/06/12	Bailer	311.02	<100	<1	<1	<1	<3	<1	<1	22.6	<1
		06/04/12	Not Sampled	312.93	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	311.58	--	--	--	--	--	--	--	--	
		12/03/12	Not Sampled	308.17	--	--	--	--	--	--	--	--	
MTCA Method A Cleanup Level <sup>6</sup>					1,000/800 <sup>6</sup>	5	1,000	700	1,000	20	5	15	NE



**Table 1**  
**Summary of 2012 Groundwater Analytical Results Sorted by Water-Bearing Zone**  
**TOC Holdings Co. Facility No. 01-176**  
**24205 56th Avenue West**  
**Mountlake Terrace, Washington**

Well ID	Property Owner	Date	Sample Method	Groundwater Elevation (feet) <sup>1</sup>	GRPH <sup>2</sup>	Benzene <sup>3</sup>	Toluene <sup>3</sup>	Ethyl-benzene <sup>3</sup>	Total Xylenes <sup>3</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
<b>DEEP WATER-BEARING ZONE (OVER 60 FEET BGS)</b>													
MW26	TOC	03/07/12	Bailer	316.38	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	316.16	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	316.87	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	315.72	--	--	--	--	--	--	--	--	--
MW30	TOC/Farmasonis	03/07/12	Bailer	315.36	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	317.66	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	315.78	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	314.98	--	--	--	--	--	--	--	--	--
MW39	TOC/Farmasonis	03/07/12	Bailer	314.80	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	316.80	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	315.08	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	314.49	--	--	--	--	--	--	--	--	--
MW40	TOC/Farmasonis	03/07/12	Bailer	315.16	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	317.26	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	315.59	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	314.80	--	--	--	--	--	--	--	--	--
MW64	ROW (56th)	03/08/12	Bailer	314.63	<100	<1	<1	<1	<3	--	--	--	--
		06/04/12	Not Sampled	316.74	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	315.02	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	314.33	--	--	--	--	--	--	--	--	--
MW78	Drake	03/06/12	Bailer	313.09	<100	<1	<1	<1	<3	<1	<1	--	--
		06/04/12	Not Sampled	314.91	--	--	--	--	--	--	--	--	--
		09/10/12	Not Sampled	313.24	--	--	--	--	--	--	--	--	--
		12/03/12	Not Sampled	312.91	--	--	--	--	--	--	--	--	--
<b>MTCA Method A Cleanup Level<sup>6</sup></b>					<b>1,000/800<sup>8</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>NE</b>

**NOTES:**

Results measured in µg/L.

Red denotes concentration exceeds MTCA Method A Cleanup Levels for groundwater.

Samples analyzed by Friedman & Bruya, Inc. of Seattle, Washington.

<sup>1</sup>Elevations in feet above sea level (NAVD88 Datum) by Axis Survey & Mapping, April 2012.

<sup>2</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

<sup>3</sup>Analyzed by EPA Method 8021B.

<sup>4</sup>Analyzed by EPA Method 8260C.

<sup>5</sup>Analyzed by EPA Method 200.8.

<sup>6</sup>MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

<sup>7</sup>1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

**Laboratory Notes:**

<sup>\*\*</sup>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.

-- = not sampled/not analyzed

< = not detected at concentration exceeding the value of the laboratory reporting limit

µg/L = micrograms per liter

bgs = below ground surface

Drake = Property at 24309 56th Avenue West

Dry = groundwater not encountered in well

EDC = 1,2-Dichloroethane

EPA = U.S. Environmental Protection Agency

GRPH = gasoline-range petroleum hydrocarbons

LNAPL = light non-aqueous phase liquid

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NE = cleanup level not established

ROW (242nd) = 242nd Street Southwest right-of-way

ROW (56th) = 56th Avenue West right-of-way

TOC = Property at 24205 56th Avenue West (TOC Holdings Co. Facility No. 01-176)

TOC/Farmasonis = Property at 24225 56th Avenue West

Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRN <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethylbenzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW01 <sup>1</sup>	06/15/92	—	6.01	—	348.86	33,000	2,300	1,700	1,400	9,200	—	—	—	—	—
TOC:	07/30/92	—	8.07	—	346.80	—	29	4.6	28	140	—	—	—	—	—
	01/11/94	—	12.65	—	342.22	1,600	—	<0.5	15	46	—	—	—	—	—
	09/11/96	—	11.71	—	343.05	320	2.6	<0.5	0.6	<1.5	—	—	—	—	—
TOC:	03/11/97	—	4.93	—	349.83	<100	<0.5	<0.5	1.99	13.4	—	—	—	—	—
	09/11/97	—	12.32	—	342.44	76.7	0.595	2.9	1.99	13.4	—	—	—	—	—
	03/16/98	—	6.93	—	347.83	490	1.15	<0.5	7.38	18.2	—	—	—	—	—
	09/08/98	—	17.88	—	336.88	930	42.5	998	346	1,550	—	—	—	—	—
	03/19/99	—	2.00	—	352.76	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/17/99	—	11.02	—	343.74	910	<0.5	1.07	4.39	5.57	—	—	—	—	—
	03/23/00	—	5.72	—	349.04	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/28/00	—	16.52	—	338.24	163	0.610	1.31	1.95	38.3	—	—	—	—	—
	04/03/01	—	11.03	—	343.73	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	10/11/01	—	16.62	—	338.14	191	<0.5	1.41	13.4	54.7	—	—	—	—	—
	03/27/02	—	6.18	—	348.58	142	<0.5	0.741	4.84	33.3	—	—	—	—	—
	09/26/02	—	14.22	—	340.54	544	1.15	<0.5	8.38	11.2	—	—	—	—	—
	03/27/03	—	9.12	—	345.64	78.9	<0.5	<0.5	0.634	<1.00	—	—	—	—	—
	10/09/03	—	15.94	—	338.82	160	0.548	<0.5	2.84	11.3	—	—	—	—	—
	03/09/05	—	9.79	—	344.97	<50.0	<1.00	<1.00	<1.00	<3.00	—	—	—	—	—
	09/26/05	—	11.33	—	343.43	<50.0	<1.00	<1.00	<1.00	<3.00	—	—	—	—	—
	12/20/05	—	11.63	—	343.13	<100	<1	<1	<1	<3	—	—	—	—	—
	02/24/06	—	6.52	—	348.24	<100	<1	<1	<1	<3	—	—	—	—	—
	06/01/06	—	8.90	—	345.86	<100	<1	<1	<1	<3	—	—	—	—	—
	08/24/06	—	13.23	—	341.53	<100	<1	<1	<1	<3	—	—	—	—	—
	11/16/06	—	11.53	—	343.23	<50	<1	<1	<1	<3	—	—	—	—	—
	02/21/07	—	9.86	—	344.90	<100	<1	<1	<1	<3	—	—	—	—	—
	05/24/07	—	11.51	—	343.25	<100	<1	<1	<1	<3	—	—	—	—	—
	07/31/07	—	15.02	—	339.74	<100	<1	<1	<1	<3	—	—	—	—	—
	02/12/08	—	10.48	—	344.28	<100	<1	<1	<1	<3	—	—	—	—	—
	10/02/09	—	—	—	—	<100	<1	<1	<1	<3	—	—	—	—	—

MTCA Method A Cleanup Levels for Groundwater<sup>6</sup>





Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW03 <sup>†</sup>	06/15/92	—	4.83	—	354.33	92,000	5,800	22,000	1,900	16,000	—	—	—	—	—
TOC: 359.16	07/30/92	—	8.05	—	351.11	—	—	—	—	—	—	—	—	—	—
	01/11/94	—	14.34	—	344.82	110,000	6,200	21,000	1,600	13,000	—	—	—	—	—
TOC: 358.40	09/11/96	13.12	13.17	0.05	345.23	—	—	—	—	—	—	—	—	—	—
	03/11/97	—	7.02	Trace	351.38	—	—	—	—	—	—	—	—	—	—
	09/17/97	—	15.82	—	342.58	80,500	836	8,740	839	10,800	—	—	—	—	—
	03/16/98	—	8.75	Trace	349.65	—	—	—	—	—	—	—	—	—	—
	09/08/98	—	17.44	—	340.96	63,900	303	3,700	1,030	11,800	—	—	—	—	—
	03/19/99	—	4.66	—	353.74	8,130	13.5	502	50.6	1,150	—	—	—	—	—
	09/17/99	—	13.30	—	345.10	15,700	27.1	2,010	240	4,270	—	—	—	—	—
	03/23/00	—	8.14	—	350.26	25,000	88.2	2,050	434	4,280	—	—	—	—	—
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	15.16	—	343.24	9,120	15.4	829	124	2,230	—	—	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	8.63	—	349.77	1,960	2.99	88.9	31.6	404	—	—	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	12.00	—	346.40	<50.0	0.663	<0.50	<0.50	<1.0	—	—	—	—	—
	10/09/03	—	14.86	—	343.54	5,040	6.79	166	170	1,760	—	—	—	—	—
	03/09/05	—	9.77	—	349.39	730	2.00	2.00	15.0	98.0	<3.00	—	—	—	—
	09/27/05	—	9.35	—	349.81	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	—	—
	12/22/05	—	11.01	—	348.15	<100	<1	<1	<1	<3	—	—	—	2.28	—
	02/22/06	—	5.73	—	353.43	<100	<1	<1	<1	<3	<1	—	—	—	—
	05/31/06	—	7.33	—	351.83	<100	<1	<1	<1	<3	—	—	—	—	—
	08/23/06	—	13.49	—	345.67	1,000	<1	1.1	35	188.4	<1	—	—	—	—
	11/14/06	—	17.61	—	340.79	—	—	—	—	—	—	—	—	—	—
	02/20/07	—	10.30	—	348.10	<100	<1	<1	<1	<3	—	—	—	—	—
	05/22/07	—	11.78	—	346.62	<100	<1	<1	<1	<3	—	—	—	—	—
	08/01/07	—	14.08	—	344.32	330	<1	<1	6	31	—	—	—	—	—
	02/13/08	—	12.49	—	345.91	<100	<1	<1	1	5	—	—	—	—	—
	03/04/10	—	9.61	—	348.79	<100	<1	<1	<1	<3	<1	<1	<1	—	—
TOC: 361.87	03/08/12	—	13.08	—	348.79	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	11.59	—	350.28	—	—	—	—	—	—	—	—	—	—
	09/10/12	—	14.63	—	347.24	—	—	—	—	—	—	—	—	—	—
	12/03/12	—	12.85	—	349.02	—	—	—	—	—	—	—	—	—	—
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE





Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
MW04 TOC: 358.51	07/30/92	—	7.19	—	351.32	100,000	470	15,000	2,500	18,000	—	—	—	—	—	
	01/11/94	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	09/11/96	—	12.65	—	345.86	22,000	77	480	600	4,800	—	—	—	—	—	
	03/11/97	—	6.08	—	352.43	7,200	3.2	220	170	1,400	—	—	—	—	—	
	09/17/97	—	14.76	—	343.75	17,400	30.1	92.9	78.4	846	—	—	—	—	—	
	03/16/98	—	7.95	—	350.56	37,200	44.3	3,760	804	5,970	—	—	—	—	—	
	09/08/98	—	18.03	—	340.48	22,200	77.9	1,390	199	3,520	—	—	—	—	—	
	03/19/99	—	3.97	—	354.54	22,900	32.7	1,300	334	3,440	—	—	—	—	—	
	09/17/99	—	12.86	—	345.65	—	—	—	—	—	—	—	—	—	—	
	03/23/00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	09/28/00	—	16.95	—	341.56	1,010	<10.5	34.8	243	829	—	—	—	—	—	
	04/03/01	—	16.03	—	342.48	12,900	<25	102	538	2,870	—	—	—	—	—	
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	03/27/02	—	6.26	—	352.25	3,900	2.95	181	89.1	714	—	—	—	—	—	
	09/26/02	—	15.30	—	343.21	1,000	1.85	5.97	112	135	—	—	—	—	—	
	03/27/03	—	11.92	—	346.59	38,100	<50.0	3,890	1,270	7,840	—	—	—	—	—	
	10/09/03	—	15.47	—	343.04	24,900	<100.0	1,760	1,020	7,220	—	—	—	—	—	
	03/09/05	—	9.35	—	349.16	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—	
	09/26/05	9.20	9.20	0.00	349.31	LNAPL; not sampled due to heavy sheen										
	12/22/05	—	11.11	—	347.40	<100	<1	<1	<1	<1	<3	<1	—	—	<1	—
02/22/06	—	4.25	—	354.26	<100	<1	<1	<1	<1	<3	<1	—	—	—	—	
05/31/06	—	5.00	—	353.51	<100	<1	<1	<1	<1	<3	—	—	—	—	—	
08/23/06	—	12.76	—	345.75	<100	<1	<1	<1	<1	<3	<1	—	—	—	—	
11/14/06	Not gauged or sampled; inaccessible due to road construction activity															
02/21/07	—	8.97	—	349.54	<100	<1	<1	<1	<1	<3	—	—	—	—	—	
05/22/07	—	10.84	—	347.67	<100	<1	<1	<1	<1	<3	—	—	—	—	—	
08/01/07	—	13.62	—	344.89	<100	<1	<1	<1	<1	<3	—	—	—	—	—	
02/13/08	—	11.51	—	347.00	<100	<1	<1	<1	<1	4	—	—	—	—	—	
03/02/10	—	8.53	—	349.98	<100	<1	<1	<1	<1	<3	<1	<1	<1	—	—	
03/07/12	—	14.34	—	347.68	<100	<1	<1	<1	1.5	<3	—	—	—	—	—	
06/04/12	—	10.41	—	351.61	Not sampled; just gauged											
09/10/12	—	14.31	—	347.71	Not sampled; just gauged											
12/03/12	—	Dry	—	—	Not included in scope of sampling; just gauged											
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW05 TOC: 360.25	07/30/92	—	9.10	—	351.15	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—	—	—
	01/11/94	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	09/11/96	—	13.33	—	346.92	88.0	<0.5	0.53	1.1	6.4	—	—	—	—	—
	03/11/97	—	6.15	—	354.10	<100	<0.5	<0.5	<0.5	<1.5	—	—	—	—	—
	09/17/97	—	13.79	—	346.46	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/16/98	—	7.86	—	352.39	<50.0	<0.5	<0.5	<0.5	<2.0	—	—	—	—	—
	09/08/98	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/19/99	—	4.75	—	355.50	<50.0	<0.5	<0.5	<0.5	1.07	—	—	—	—	—
	09/17/99	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/23/00	—	7.35	—	352.90	<50.0	<0.5	1.64	0.501	3.43	—	—	—	—	—
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	13.39	—	346.86	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	6.41	—	353.84	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	10.80	—	349.45	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	10/09/03	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/09/05	—	11.57	—	348.68	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—
	09/27/05	—	12.57	—	347.68	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	—	—
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	02/22/06	—	6.76	—	353.49	<100	<1	<1	<1	<3	<1	—	—	—	—
	05/31/06	—	8.42	—	351.83	<100	<1	<1	<1	<3	—	—	—	—	—
	08/23/06	—	14.10	—	346.15	Not sampled; insufficient water to fill sample containers									
11/14/06	—	14.75	—	345.50	Not sampled; insufficient water to fill sample containers										
02/20/07	—	9.50	—	350.75	<100	<1	<1	<1	<3	—	—	—	—	—	—
05/22/07	—	11.35	—	348.90	<100	<1	<1	<1	<3	—	—	—	—	—	—
08/03/07	—	14.36	—	345.89	<100	<1	<1	<1	<3	—	—	—	—	—	—
02/13/08	—	11.68	—	348.57	<100	<1	<1	<1	<3	—	—	—	—	—	—
03/02/12	—	11.68	—	348.57	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
03/08/12	—	12.45	—	351.31	<100	<1	<1	<1	<1	12	—	—	—	—	
06/04/12	—	10.39	—	353.37	Not sampled; just gauged										
09/10/12	—	14.50	—	349.26	Not sampled; just gauged										
12/03/12	—	14.61	—	349.15	Not sampled; just gauged										
<b>MTCA Method A Cleanup Levels for Groundwater<sup>6</sup></b>						<b>1,000/800<sup>b</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>0.01</b>	<b>5</b>	<b>15</b>	<b>NE</b>

Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>3</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>6</sup>
MW06 TOC: 355.37	07/30/92	—	8.66	—	346.71	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—	—	—
	01/11/94	—	12.92	—	342.45	<50.0	<0.5	2	<0.5	2.6	—	—	—	—	—
	09/11/96	—	12.26	—	343.11	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—	—	—
	03/11/97	—	4.96	—	350.41	<100	<0.5	<0.5	<0.5	<1.5	—	—	—	—	—
	09/17/97	—	12.83	—	342.54	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/16/98	—	6.77	—	348.60	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/08/98	—	15.00	—	340.37	868	1.92	73.0	21.3	172	—	—	—	—	—
	03/19/99	—	3.95	—	351.42	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/17/99	—	12.53	—	342.84	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/23/00	—	7.97	—	347.40	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	11.64	—	343.73	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	6.06	—	349.31	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	8.10	—	347.27	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	10/09/03	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	03/09/05	—	9.30	—	346.07	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—
	09/26/05	—	12.26	—	343.11	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	—	—
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
02/22/06	—	5.93	—	349.44	<100	<1	<1	<1	<3	<1	—	—	—	—	
05/31/06	—	9.88	—	345.49	<100	<1	<1	<1	<3	<1	—	—	—	—	
08/22/06	—	14.68	—	340.69	—	—	—	—	—	—	—	—	—	—	
11/14/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
02/21/07	—	10.05	—	345.32	<100	<1	<1	<1	<3	<3	—	—	—	—	
05/22/07	—	12.79	—	342.58	<100	<1	<1	<1	<3	<3	—	—	—	—	
07/31/07	—	14.71	—	340.66	—	—	—	—	—	—	—	—	—	—	
02/13/08	—	10.96	—	344.41	<100	<1	<1	<1	<3	<3	—	—	—	—	
03/04/10	—	9.42	—	345.95	<100	<1	<1	<1	<3	<3	<1	<1	—	—	
07/08/10	—	12.49	—	342.88	—	—	—	—	—	—	—	—	—	—	
03/08/12	—	12.87	—	345.99	<100	<1	<1	<1	<3	<3	—	—	—	—	
06/04/12	—	11.82	—	347.04	—	—	—	—	—	—	—	—	—	—	
09/10/12	—	14.69	—	344.17	—	—	—	—	—	—	—	—	—	—	
12/03/12	—	14.65	—	344.21	—	—	—	—	—	—	—	—	—	—	
07/30/92	—	8.40	—	344.58	<50.0	<0.5	<0.5	<0.5	<0.5	<0.5	—	—	—	—	
01/11/94	—	12.93	—	340.05	<50.0	<0.5	<0.59	<0.5	<1.0	<1.0	—	—	—	—	
09/11/96	—	11.95	—	341.03	<50.0	<0.5	<0.5	<0.5	<0.5	<0.5	—	—	—	—	
03/11/97	—	5.63	—	347.35	<100	<0.5	<0.5	<0.5	<1.5	<1.5	—	—	—	—	
09/17/97	—	12.00	—	340.98	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
03/16/98	—	7.70	—	345.28	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
09/08/98	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
03/19/99	—	2.91	—	350.07	<50.0	<0.5	1.07	<0.5	2.66	<1.0	—	—	—	—	
09/17/99	—	11.77	—	341.21	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
03/23/00	—	6.80	—	346.18	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
09/28/00	—	13.92	—	339.06	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
04/03/01	—	12.51	—	340.47	604	<0.5	<0.5	<0.5	3.17	<1.0	—	—	—	—	
10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
03/27/02	—	7.05	—	345.93	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
09/26/02	—	13.52	—	339.46	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
05/27/03	—	11.22	—	341.76	<50.0	<0.5	1.41	0.745	4.08	<1.0	—	—	—	—	
10/09/03	—	14.31	—	338.67	<50.0	<0.5	<0.5	<0.5	<1.0	<1.0	—	—	—	—	
11/08/04	—	12.27	—	340.71	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—	
11/29/04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
D E C O M I S I O N E D															
MITCA Method A Cleanup Levels for Groundwater <sup>6</sup>															
						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE

Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	ETHY-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW08 TOC: 356.92	01/11/94	—	24.86	—	332.06	290	0.53	0.54	<0.5	<1.0	—	—	—	—	—
	09/11/96	—	22.30	—	334.62	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/11/97	—	9.68	—	347.24	<100	<0.5	<0.5	<1.5	<1.5	—	—	—	—	—
	09/17/97	—	24.18	—	332.74	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/16/98	—	12.53	—	344.39	<50.0	<0.5	<0.5	<1.0	<1.0	—	—	—	—	—
	09/08/98	—	25.59	—	331.33	60.0	<0.5	2.33	1.21	10.5	—	—	—	—	—
	03/19/99	—	3.23	—	353.69	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/17/99	—	9.30	—	347.62	<50.0	<0.5	0.508	<0.5	1.30	—	—	—	—	—
	03/23/00	—	7.57	—	349.35	<50.0	<0.5	<0.5	<1.0	<1.0	—	—	—	—	—
	09/28/00	—	25.70	—	331.22	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	04/03/01	—	24.35	—	332.57	<50.0	<0.5	<0.5	1.53	7.92	—	—	—	—	—
	10/11/01	—	26.61	—	330.31	<50.0	<0.5	<0.5	<1.0	<1.0	—	—	—	—	—
03/27/02	—	8.08	—	348.84	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—	
09/26/02	—	24.66	—	332.26	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—	
03/27/03	—	15.13	—	341.79	<50.0	<0.5	<0.5	<1.0	<1.0	—	—	—	—	—	
10/09/03	—	25.82	—	331.10	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—	
03/09/05	—	12.46	—	344.46	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—	
09/26/05	—	12.87	—	344.05	<100	<1	<1	<1	<1	<3.6	—	—	—	<1	
12/22/05	—	11.30	—	345.62	<100	<1	<1	<1	<1	<3	<1	—	—	—	
02/22/06	—	4.36	—	352.56	<100	<1	<1	<1	<1	<3	<1	—	—	—	
05/31/06	—	6.41	—	350.51	<100	<1	<1	<1	<1	<3	<1	—	—	—	
08/23/06	—	17.30	—	339.62	<100	<1	<1	<1	<1	<3	<1	—	—	—	
11/14/06	—	23.77	—	333.15	<50	<1	<1	<1	<1	<3	—	—	—	—	
02/21/07	—	10.91	—	346.01	<100	<1	<1	<1	<1	<3	—	—	—	—	
05/22/07	—	14.09	—	342.83	<100	<1	<1	<1	<1	<3	—	—	—	—	
08/02/07	—	21.83	—	335.09	<100	<1	<1	<1	<1	<3	—	—	—	—	
02/12/08	—	12.56	—	344.36	<100	<1	<1	<1	<1	<3	<1	—	—	—	
03/02/10	—	9.61	—	347.31	<100	<1	<1	<1	<1	<3	<1	—	<1	—	
03/08/12	—	15.47	—	344.93	<100	<1	<1	<1	<1	<3	<1	—	—	—	
06/04/12	—	12.67	—	347.73	<100	<1	<1	<1	<1	<3	<1	—	—	—	
09/10/12	—	21.55	—	338.85	<100	<1	<1	<1	<1	<3	<1	—	—	—	
12/03/12	—	20.49	—	339.91	<100/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NI	

MTCA Method A Cleanup Levels for Groundwater<sup>5</sup>

Not sampled; just gauged

Not sampled; just gauged

Not sampled; just gauged

Not sampled; just gauged



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW09 <sup>4</sup>	01/11/94	—	30.27	—	327.57	94,000	16,000	26,000	1,800	13,000	—	—	—	—	—
TOC: 357.84	09/11/96	26.70	28.41	1.71	328.45	LNAPL									
TOC: 356.86	03/11/97	—	21.42	—	335.44	LNAPL; not sampled due to sheen									
	09/17/97	—	29.90	—	326.96	17,200	157	82.8	<10	2,690	—	—	—	—	—
	03/16/98	21.96	21.97	0.01	334.89	LNAPL									
	09/08/98	31.83	31.84	0.01	325.02	LNAPL									
	03/19/99	16.97	16.98	0.01	339.88	LNAPL									
	09/17/99	25.05	25.06	0.01	331.80	LNAPL									
	03/23/00	—	20.25	—	336.61	LNAPL; not sampled due to sheen									
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	28.64	—	328.22	LNAPL; not sampled due to sheen									
	10/11/01	—	29.71	—	327.15	18,400	495	904	270	5,110	—	—	—	—	—
	03/27/02	—	19.27	—	337.59	14,000	131	1,370	190	4,000	—	—	—	—	—
	09/26/02	—	27.47	—	329.39	26,500	740	1,940	669	5,790	—	—	—	—	—
	03/27/03	—	24.82	—	332.04	42,700	264	3,040	777	9,500	—	—	—	—	—
	10/09/03	—	27.54	—	329.32	1,400	33.2	119	41.8	386	—	—	—	—	—
	03/09/05	—	16.75	—	340.11	15,000	94.0	160	120	2,200	<30.0	—	—	—	—
	09/27/05	Unable to gauge; probe diameter too large				2,320	<1.00	6.21	41.8	575	<5.00	<1.00	<1.00	—	—
	12/22/05	—	22.33	—	334.53	2,200	<1	10	26	990	—	—	—	1.07	—
	02/22/06	—	11.51	—	345.35	660	<1	<1	11	147	<1	—	—	—	—
	06/01/06	—	14.34	—	342.52	1,500	1,500	4	40	450	—	—	—	—	—
	08/24/06	—	25.79	—	331.07	24,000	330	420	550	4,800	<1	—	—	—	—
	11/15/06	—	34.12	—	322.74	3,800	360	150	68	1,820	—	—	—	—	—
	02/20/07	—	19.79	—	337.07	4,100	5	32	83	1,100	—	—	—	—	—
	05/23/07	—	23.19	—	333.67	13,000	91	270	330	3,100	—	—	—	—	—
	08/01/07	—	26.98	—	329.88	4,800	59	120	100	1,200	—	—	—	—	—
	02/12/08	—	23.30	—	333.56	5,900	23	100	96	1,500	—	—	—	—	—
	03/04/10	—	17.50	—	339.36	5,000	<1	4	45	980	<1	<1	<1	—	—
TOC: 360.32	03/07/12	—	23.35	—	336.97	11,000	30	76	370	2,400	—	—	—	—	—
	06/06/12	—	21.41	—	338.91	6,400	6.4	22	180	1,000	—	—	—	—	—
	09/11/12	—	27.04	—	333.28	3,400	21	21	130	750	—	—	—	—	—
	12/04/12	—	27.07	—	333.25	5,500	28	25	73	720	—	—	—	—	—
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE



Table 2  
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 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
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Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW10 <sup>a</sup> TOC: 354.43	11/20/95	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	09/11/96	33.36	33.63	0.27	320.80	—	—	—	—	—	—	—	—	—	—
	03/11/97	28.41	28.50	0.09	325.93	—	—	—	—	—	—	—	—	—	—
	09/17/97	—	35.20	Trace	319.23	34,500	1,430	2,710	188	5,720	—	—	—	—	—
	03/16/98	—	26.67	—	327.76	—	—	—	—	—	—	—	—	—	—
	09/08/98	—	35.12	—	319.31	18,400	1,470	1,050	283	3,990	—	—	—	—	—
	03/19/99	24.39	24.43	0.04	330.00	—	—	—	—	—	—	—	—	—	—
	09/17/99	—	32.43	—	322.00	26,000	1,090	2,130	621	6,180	—	—	—	—	—
	03/23/00	—	—	—	—	33,200	1,290	3,650	903	7,130	—	—	—	—	—
	09/28/00	—	33.02	Trace	321.41	11,900	608	645	54.0	3,270	—	—	—	—	—
	04/03/01	—	—	—	—	19,600	979	1,360	532	414	—	—	—	—	—
	10/11/01	—	32.73	—	321.70	9,110	342	478	94.5	2,050	—	—	—	—	—
	03/27/02	—	25.09	—	329.34	39,600	548	1,950	419	2,480	—	—	—	—	—
	09/26/02	—	27.90	—	326.53	72,800	5,130	8,260	1,640	11,800	—	—	—	—	—
	03/27/03	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10/09/03	—	—	—	—	26,500	2,390	2,870	948	6,670	—	—	—	—	—
	03/09/05	—	26.04	—	328.39	15,000	580	820	320	2,100	<150	—	—	—	—
	09/26/05	—	25.56	—	328.87	1,440	38.4	79.2	24.9	150.4	<5.00	<1.00	<1.00	—	—
	12/20/05	—	28.40	—	326.03	15,000	960	670	560	3,700	<1	<1	<1	9.39	—
	02/24/06	—	22.68	—	331.75	830	20	89	22	141	<1	—	—	—	—
	06/01/06	—	24.09	—	330.34	2,600	19	67	28	360	—	—	—	—	—
	08/24/06	—	27.64	—	326.79	4,800	150	98	110	1,010	<1	—	—	—	—
	11/14/06	—	34.02	—	320.41	Not sampled; too deep for peristaltic pump and bailer obstructed by packer									
02/20/07	25.16	25.21	0.05	329.26	—	—	—	—	—	—	—	—	—	—	—
05/22/07	27.10	27.18	0.08	327.31	—	—	—	—	—	—	—	—	—	—	—
08/02/07	—	37.89	—	316.54	7,700	200	100	92	780	—	—	—	—	—	
02/13/08	—	26.64	—	327.79	1,700	66	29	17	160	—	—	—	—	—	
03/04/10	—	25.23	—	329.20	320	3	<1	<1	7	<1	<1	<1	—	—	
03/07/12	—	27.45	—	330.52	1,400	62	7.3	27	89	—	—	—	—	—	
06/06/12	—	26.47	—	331.50	830	11	5.1	28	84	—	—	—	—	—	
09/11/12	—	28.26	—	329.71	1,500	38	<10	110	86	—	—	—	—	—	
12/05/12	—	34.59	—	323.38	4,900	4.6	<1	19	63	—	—	—	—	—	
<b>MTCA Method A Cleanup Levels for Groundwater<sup>6</sup></b>						<b>1,000/800<sup>b</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>0.01</b>	<b>5</b>	<b>15</b>	<b>NE</b>

Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GNP <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethylbenzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW11 <sup>1</sup> TOC: 358.12	11/20/95	27.33	27.33	—	330.79	15,000	1,000	3,800	570	3,300	—	—	—	—	—
	09/11/96	34.29	34.56	0.27	323.56	—	—	—	—	—	—	—	—	—	—
	03/11/97	—	19.83	Trace	338.29	17,800	393	2,030	67.4	2,480	—	—	—	—	—
	09/17/97	—	25.24	—	332.88	—	—	—	—	—	—	—	—	—	—
	03/16/98	—	20.61	Trace	337.51	—	—	—	—	—	—	—	—	—	—
	09/08/98	—	25.41	—	332.71	6,220	189	461	12.5	1,380	—	—	—	—	—
	03/19/99	19.39	19.40	0.01	338.72	—	—	—	—	—	—	—	—	—	—
	09/17/99	—	24.89	—	333.23	11,200	120	1,250	152	2,790	—	—	—	—	—
	03/23/00	—	20.64	Trace	337.48	—	—	—	—	—	—	—	—	—	—
	09/28/00	26.22	26.23	0.01	331.89	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	25.14	—	332.98	38,700	403	4,950	1,530	9,860	—	—	—	—	—
	10/16/01	—	28.49	Trace	329.63	—	—	—	—	—	—	—	—	—	—
	04/02/02	20.18	20.20	0.02	337.92	15,400	120	556	420	3,500	—	—	—	—	—
	09/26/02	—	25.19	—	332.93	72,900	88.2	5,330	2,100	16,900	—	—	—	—	—
	03/27/03	—	22.84	—	335.28	21,100	109	1,430	625	7,020	—	—	—	—	—
10/09/03	—	26.25	—	331.87	—	—	—	—	—	—	—	—	—	—	
03/09/05	22.00	22.01	0.01	336.11	—	—	—	—	—	—	—	—	—	—	
09/27/05	—	21.86	—	336.26	50,300	22.2	2,710	2,050	14,930	—	—	—	—	—	
12/21/05	—	22.69	—	335.43	44,000	32	2,200	2,700	17,600	—	—	—	—	—	
02/22/06	—	18.42	—	339.70	45,000	12	1,200	2,200	13,600	—	—	—	—	—	
05/31/06	—	16.85	—	341.27	48,000	55	1,700	2,500	14,000	—	—	—	—	—	
08/23/06	—	23.53	—	334.59	53,000	24	2,000	2,200	15,200	—	—	—	—	—	
11/14/06	26.90	27.02	0.12	331.20	—	—	—	—	—	—	—	—	—	—	
02/20/07	—	20.58	—	337.54	48,000	68	800	2,000	12,000	LNAPL	—	—	—	—	
05/22/07	22.40	22.41	0.01	335.72	45,000	64	1,100	1,800	12,000	—	—	—	—	—	
08/01/07	—	24.22	—	333.90	48,000	41	640	1,700	14,000	—	—	—	—	—	
02/12/08	—	21.71	—	336.41	44,000	22	350	1,400	8,400	—	—	—	—	—	
03/04/10	—	19.74	—	338.38	—	—	—	—	—	—	—	—	—	—	
TOC: 362.25	03/05/12	—	Dry	—	—	—	—	—	—	—	—	—	—	—	
TOC: 362.40	06/06/12	—	22.86	—	339.39	—	—	—	—	—	—	—	—	—	
	09/10/12	—	25.15	—	337.25	—	—	—	—	—	—	—	—	—	
	12/09/12	—	25.75	—	336.65	—	—	—	—	—	—	—	—	—	
MW12 TOC: 354.19	10/11/01	—	16.34	—	337.85	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/27/02	—	7.01	—	347.18	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	09/26/02	—	13.60	—	340.59	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—	—	—
	03/27/03	—	11.20	—	342.99	<50.0	<0.5	1.00	0.556	2.29	—	—	—	—	—
	10/09/03	—	15.10	—	339.09	<50.0	<0.5	<0.5	<1.0	<1.0	—	—	—	—	—
	03/09/05	—	11.06	—	343.13	<50.0	<1.00	<1.00	<1.00	<3.00	—	—	—	—	—
	09/26/05	—	12.97	—	341.22	<50.0	<1.00	<1.00	<1.00	<3.00	—	—	—	—	—
	12/22/05	—	13.37	—	340.82	<100	<1	<1	<1	<3	—	—	—	—	—
	02/22/06	—	6.34	—	347.85	<100	<1	<1	<1	<3	—	—	—	—	—
	05/31/06	—	8.65	—	345.54	<100	<1	<1	<1	<3	—	—	—	—	—
	08/23/06	—	12.12	—	342.07	<100	<1	<1	<1	<3	—	—	—	—	—
	11/16/06	—	15.61	—	338.58	<50	<1	<1	<1	<3	—	—	—	—	—
	02/21/07	—	9.66	—	344.53	<100	<1	<1	<1	<3	—	—	—	—	—
	05/23/07	—	10.80	—	343.39	<100	<1	<1	<1	<3	—	—	—	—	—
	08/02/07	—	13.02	—	341.17	<100	<1	<1	<1	<3	—	—	—	—	—
02/13/07	—	10.59	—	343.60	<100	<1	<1	<1	<3	—	—	—	—	—	
05/14/08	—	10.30	—	343.89	<100	<1	<1	<1	<3	Not sampled; just gauged	—	—	—	—	
03/02/10	—	9.03	—	345.16	<100	<1	<1	<1	<3	Not sampled; just gauged	—	—	—	—	
03/08/12	—	11.64	—	346.05	<100	<1	<1	<1	<3	Not sampled; just gauged	—	—	—	—	
06/04/12	—	10.17	—	347.52	<100	<1	<1	<1	<3	Not sampled; just gauged	—	—	—	—	
09/10/12	—	12.72	—	344.97	<100/800 <sup>6</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	
12/03/12	—	11.82	—	345.87	<100/800 <sup>6</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	

MTCM Method A Cleanup Levels for Groundwater<sup>6</sup>



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
MW13 TOC: 353.87	10/11/01	—	Dry	—	Dry	—	—	—	—	—	—	—	—	—	—	
	03/27/02	—	40.57	—	313.30	11,300	1,450	<25.0	1,210	1,470	—	—	—	—	—	
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	03/27/03	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	10/09/03	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	03/09/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	09/26/05	—	41.69	—	312.18	NA <sup>7</sup>	NA <sup>7</sup>	NA <sup>7</sup>	NA <sup>7</sup>	NA <sup>7</sup>	NA <sup>7</sup>	—	—	—	—	
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	02/02/06	—	41.59	—	312.28	8,400	520	9.4	680	1,239	<1	<1	3.5	—	—	
	02/22/06	—	41.36	—	312.51	—	—	—	—	—	—	—	—	—	—	
	05/31/06	—	41.29	—	312.58	6,700	340	22	520	810	—	—	—	—	—	
	08/23/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	11/14/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	02/20/07	—	41.21	—	312.66	Not sampled; insufficient water to fill sample containers										
	05/22/07	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	—
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/13/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	05/14/08	—	Dry	—	—	Not sampled; just gauged										
	TOC: 357.39	03/04/10	—	41.23	—	312.64	1,700	60	17	94	150	<1	<1	1.7	—	—
		03/05/12	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
06/04/12		—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
09/10/12		—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
12/03/12		—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
MW14	11/29/04	D E C O M M I S S I O N E D														
MW15 TOC: 354.39	10/29/04	—	36.37	—	318.02	5,400	<10.0	46.0	270	880	—	—	—	—	—	
	03/09/05	33.12	33.16	0.04	321.23	—	—	—	—	—	—	—	—	—	—	
	09/26/05	32.32	32.67	0.35	322.00	LNAPL										
	12/22/05	32.64	32.89	0.25	321.70	LNAPL										
	02/22/06	—	29.47	—	324.92	Not sampled; absorbent socks in well										
	06/01/06	—	30.55	—	323.84	12,000	28	23	470	1,700	—	—	—	—	—	
	08/23/06	—	37.29	—	317.10	LNAPL										
	11/14/06	36.65	36.68	0.03	317.73	LNAPL										
	02/20/07	—	—	—	—	Not measured; LNAPL, absorbent socks in well.										
	05/22/07	33.00	33.00	0.00	321.39	LNAPL										
	08/01/07	—	34.31	—	320.08	Not sampled; absorbent socks in well										
	02/11/08	34.60	34.62	0.02	319.79	LNAPL										
	03/01/10	31.95	32.12	0.17	322.41	LNAPL										
	12/06/10	36.29	36.46	0.17	318.07	Not sampled; just gauged for LNAPL recovery										
	TOC: 357.50	03/08/12	—	33.12	—	324.38	8,200	<5	<5	88	480	—	—	—	—	—
06/04/12		33.69	33.69	Heavy Sheen	323.81	LNAPL										
TOC: 357.54	09/12/12	—	36.15	—	321.39	2,300	3.23 <sup>f</sup>	<5	14	330	—	—	—	—	—	
	12/05/12	—	36.50	—	321.04	300	<1	1.8	<1	9.7	—	—	—	—	—	
MW16 TOC: 361.89	03/09/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	09/26/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	02/22/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	06/01/06	—	45.05	—	316.84	<100	<1	<1	<1	<3	—	—	—	—	—	
	08/23/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	11/14/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	02/20/07	—	46.30	—	315.59	<100	<1	<1	<1	<3	—	—	—	—	—	
	05/23/07	—	46.06	—	315.83	<100	<1	<1	<1	<3	—	—	—	—	—	
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/11/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	TOC: 365.24	03/02/10	—	45.54	—	316.35	<100	<1	<1	<1	<3	<1	<1	<1	—	—
		03/05/12	—	Dry	—	—	Dry									
06/04/12		—	45.30	—	319.94	Not sampled, just gauged										
09/10/12		—	47.39	—	317.85	Not sampled, just gauged										
12/03/12		—	Dry	—	—	Not included in scope of sampling; just gauged										
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	





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 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
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Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW17	07/27/04	—	43.18	—	309.47	<80	<0.5	<0.5	<0.5	<1.5	—	—	—	—	—
TOC: 352.65	11/29/04	D E C O M M I S S I O N E D													
MW18	03/09/05	35.18	35.33	0.15	319.49	—	—	—	—	—	—	—	—	—	—
TOC: 354.82	09/26/05	12.94	13.15	0.21	341.84	LNAPL									
	12/22/05	35.72	35.72	0.00	319.10	LNAPL									
	02/22/06	Not gauged or sampled; vehicle parked over vault lid.													
	06/01/06	—	29.65	—	325.17	32,000	290	340	1,100	7,000	—	—	—	—	—
	08/22/06	LNAPL; absorbent socks in well													
	11/14/06	LNAPL; absorbent socks in well													
	02/20/07	Not sampled; truck parked over well-head													
	05/22/07	—	36.00	—	318.82	22,000	96	63	440	4,200	—	—	—	—	—
	07/31/07	—	37.01	—	317.81	LNAPL; absorbent socks in well									
	02/14/08	—	35.58	—	319.24	13,000	98	28	<10	2,200	—	—	—	—	—
	03/04/10	—	32.35	—	322.47	12,000	96	28	270	1,600	<1	<1	<1	—	—
TOC: 357.86	03/07/12	—	28.74	—	329.12	5,900	43	<10	110	720	—	—	—	—	—
	06/04/12	—	33.40	—	324.46	Not sampled; just gauged									
TOC: 357.97	09/10/12	—	33.40	—	324.57	Not sampled; just gauged									
	12/03/12	—	28.18	—	329.79	Not sampled; just gauged									
MW19	03/09/05	—	11.25	—	344.17	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—
TOC: 355.42	09/26/05	11.29	11.30	0.01	344.13	LNAPL									
	12/21/05	—	13.13	—	342.29	<100	<1	<1	<1	<3	<1	—	—	<1	—
	02/22/06	—	7.96	—	347.46	<100	<1	<1	<1	<3	<1	—	—	<1	—
	06/01/06	—	9.91	—	345.51	<100	<1	<1	<1	<3	—	—	—	—	—
	08/24/06	—	14.12	—	341.30	<100	<1	<1	<1	<3	<1	—	—	—	—
	11/15/06	—	18.19	—	337.23	<50	<1	<1	<1	<3	—	—	—	—	—
	02/20/07	—	12.47	—	342.95	<100	<1	<1	<1	<3	—	—	—	—	—
	05/24/07	—	13.63	—	341.79	<100	<1	<1	<1	<3	—	—	—	—	—
	08/01/07	—	14.89	—	340.53	<100	<1	<1	<1	<3	—	—	—	—	—
	02/12/08	—	13.64	—	341.78	<100	<1	<1	<1	<3	—	—	—	—	—
	03/04/10	—	11.98	—	343.44	<100	<1	<1	<1	<3	<1	<1	<1	—	—
TOC: 358.90	03/09/12	—	13.56	—	345.34	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	13.15	—	345.75	Not sampled; just gauged									
	09/10/12	—	15.65	—	343.25	Not sampled; just gauged									
	12/03/12	—	13.72	—	345.18	Not sampled; just gauged									
MW20	03/09/05	27.86	27.88	0.02	328.59	LNAPL									
TOC: 356.47	09/26/05	26.16	28.25	2.09	329.89	LNAPL									
	12/20/05	—	29.08	—	327.39	13,000	740	640	330	2,790	<1	—	—	4.69	—
	02/22/06	—	24.60	—	331.87	25,000	710	1,800	710	5,100	<1	—	—	—	—
	05/31/06	26.30	26.41	0.11	330.15	LNAPL									
	08/22/06	29.71	29.73	0.02	326.76	LNAPL; absorbent socks in well									
	11/14/06	36.00	36.00	0.00	320.47	LNAPL; absorbent socks in well									
	02/20/07	27.19	27.22	0.03	329.27	LNAPL									
	05/22/07	28.82	28.94	0.12	327.63	LNAPL; absorbent socks in well									
	07/31/07	—	31.01	—	325.46	Not sampled; absorbent socks in well									
	02/13/08	—	28.65	—	327.82	20,000	450	990	450	3,600	—	—	—	—	—
	03/04/10	—	27.16	—	329.31	11,000	390	1,100	390	1,700	<1	<1	<5	—	—
TOC: 359.98	03/09/12	—	29.35	—	330.63	5,800	200	57	310	480	—	—	—	—	—
	06/06/12	—	27.99	—	331.99	7,800	220	250	300	910	—	—	—	—	—
	09/11/12	—	30.64	—	329.34	5,000	100	21	210	450	—	—	—	—	—
	12/05/12	—	32.91	—	327.07	840	<1	2.5	5.9	14	—	—	—	—	—
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
MW21 <sup>+</sup> TOC: 356.41	10/29/04	—	29.90	—	326.51	4,800	200	140	9.00	470	—	—	—	—	—	
	03/09/05	—	28.35	—	328.06	1,600	92.0	64.0	39.0	170	<3.00	—	—	—	—	
	09/26/05	Unable to gauge; probe diameter too large					<50.0	<1.00	1.76	<1.00	<3.59	<5.00	<1.00	<1.00	—	—
	12/20/05	—	29.63	—	326.78	1,700	61	320	42	249	<1	<1	<1	4.52	—	
	02/22/06	—	25.00	—	331.41	130	1.9	6.8	3.4	14.8	<1	—	—	—	—	
	05/31/06	—	26.58	—	329.83	130	2	11	2	20	—	—	—	—	—	
	08/23/06	—	30.31	—	326.10	340	38	25	8.2	100	<1	—	—	—	—	
	11/14/06	—	39.35	—	317.06	Not sampled; insufficient water to fill sample containers										
	02/21/07	—	27.75	—	328.66	310	3	30	6.5	47	—	—	—	—	—	—
	05/23/07	—	29.69	—	326.72	<100	2	1	<1	5	—	—	—	—	—	—
	08/02/07	—	31.69	—	324.72	2,500	140	17	65	550	—	—	—	—	—	—
	02/13/08	—	29.50	—	326.91	940	2	6	6	78	—	—	—	—	—	—
	05/14/08	—	29.38	—	327.03	Not sampled; just gauged										
	03/04/10	—	28.65	—	327.76	370	<1	5	3	32	<1	<1	<1	—	—	
	03/05/12	—	—	—	—	Wellhead inaccessible										
	04/16/12	D E C O M M I S S I O N E D														
MW22 <sup>+</sup> TOC: 355.61	10/29/04	—	30.27	—	325.34	130	4.00	<1.00	<1.00	19.0	—	—	—	—	—	
	03/09/05	—	26.98	—	328.63	<50.0	1.00	<1.00	<1.00	<3.00	<3.00	—	—	—	—	
	09/26/05	Unable to gauge; probe diameter too large					<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	<1.00	—	—
	12/20/05	—	28.27	—	327.34	<100	<1	<1	<1	<3	<1	<1	<1	<1	—	
	02/22/06	—	23.02	—	332.59	<100	<1	<1	<1	<3	<1	—	—	—	—	
	06/01/06	—	25.14	—	330.47	<100	<1	<1	<1	<3	—	—	—	—	—	
	08/24/06	—	28.25	—	327.36	<100	<1	<1	<1	<3	<1	—	—	—	—	
	11/15/06	—	37.62	—	317.99	550	5.1	<1	<1	<3	—	—	—	—	—	
	02/20/07	—	26.45	—	329.16	<100	<1	<1	<1	<3	—	—	—	—	—	
	05/24/07	—	28.20	—	327.41	<100	<1	<1	<1	<3	—	—	—	—	—	
	08/02/07	—	30.72	—	324.89	<100	<1	<1	<1	<3	—	—	—	—	—	
	02/13/08	—	27.82	—	327.79	<100	<1	<1	<1	<3	—	—	—	—	—	
	03/04/10	—	26.55	—	329.06	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
	03/05/12	—	—	—	—	Wellhead inaccessible										
	06/06/12	—	27.07	—	331.49	<100	<1	<1	<1	<3	—	—	—	—	—	
	09/11/12	—	29.55	—	329.01	<100	<1	<1	<1	<3	—	—	—	—	—	
12/04/12	—	28.20	—	330.36	<100	<1	<1	<1	<3	—	—	—	—	—		
MW23 TOC: 356.61	10/29/04	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	03/09/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	09/26/05	—	39.12	—	317.49	Not sampled; insufficient water to fill sample containers										
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	02/22/06	—	38.05	—	318.56	1,100	4.9	<1	65	7.8	<1	—	—	—	—	
	06/01/06	—	38.79	—	317.82	760	3	2.1	18	22	—	—	—	—	—	
	08/22/06	—	39.12	—	317.49	Not sampled; insufficient water to fill sample containers										
	11/14/06	—	39.38	—	317.23	Not sampled; insufficient water to fill sample containers										
	02/21/07	—	38.12	—	318.49	<100	<1	<1	<1	<3	—	—	—	—	—	
	05/24/07	—	38.88	—	317.73	330	1	<1	<1	<3	—	—	—	—	—	
	07/31/07	—	39.10	—	317.51	Not sampled; insufficient water to fill sample containers										
	02/11/08	—	38.55	—	318.06	<100	<1	<1	<1	<3	—	—	—	—	—	
	03/04/10	—	38.46	—	318.15	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
	03/05/12	—	38.88	—	318.25	Not sampled; insufficient water to fill sample containers										
	06/04/12	—	38.64	—	318.49	Not sampled; just gauged										
	09/10/12	—	39.15	—	317.98	Not sampled; just gauged										
12/03/12	—	39.11	—	318.02	Not sampled; just gauged											
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
MW24 <sup>a</sup> TOC: 359.25	10/29/04	—	26.61	—	332.64	45,000	440	2,300	570	7,800	—	—	—	—	—	
	03/09/05	—	15.85	—	343.40	19,000	74.0	210	98.0	2,700	<30.0	—	—	—	—	
	09/27/05	Unable to gauge; probe diameter too large					478	<1.00	1.08	4.19	82.9	<5.00	<1.00	<1.00	—	—
	12/22/05	—	11.01	—	348.24	<100	<1	<1	1.0	11.8	<1	—	—	<1	—	
	02/22/06	—	8.91	—	350.34	<100	<1	<1	<1	4.8	<1	—	—	—	—	
	06/01/06	—	9.98	—	349.27	<100	<1	<1	<1	6	—	—	—	—	—	
	08/23/06	—	20.21	—	339.04	8,400	<1	32	98	1,930	<1	—	—	—	—	
	11/15/06	—	36.05	—	323.20	16,000	77	250	240	2,870	—	—	—	—	—	
	02/21/07	—	14.24	—	345.01	460	<1	2	6	78	—	—	—	—	—	
	05/22/07	—	16.73	—	342.52	5,700	2	29	41	1,000	—	—	—	—	—	
	08/01/07	—	25.59	—	333.66	9,000	39	140	97	2,400	—	—	—	—	—	
	02/12/08	—	19.68	—	339.57	1,800	<1	4	4	140	—	—	—	—	—	
	02/04/09	—	21.94	—	337.31	11,000	27	190	180	2,290	<1	—	—	—	—	
	07/30/09	26.82	26.82	0.00	332.43	15,000	130	230 ve	<1	3,400	<1	<1	<1	—	—	
	03/04/10	—	13.43	0.00	345.82	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
TOC: 361.85	03/09/12	—	21.01	—	340.84	4,400	7.3	39	39	770	—	—	—	—	—	
TOC: 362.00	06/04/12	—	14.18	—	347.67	Not sampled; just gauged										
	09/10/12	—	25.34	—	336.66	Not sampled; just gauged										
	12/03/12	—	24.60	—	337.40	Not sampled; just gauged										
MW25 <sup>a</sup> TOC: 356.31	10/29/04	—	29.40	—	326.91	57,000	860	6,700	810	8,700	—	—	—	—	—	
	03/09/05	—	27.61	—	328.70	38,000	670	2,700	750	6,500	<150	—	—	—	—	
	09/27/05	Unable to gauge; probe diameter too large					20,800	378	1,070	106	4,390	<5.00	<1.00	<1.00	—	—
	12/21/05	—	28.20	—	328.11	25,000	670	2,600	830	6,700	<1	<1	<5	8.47	—	
	02/22/06	—	23.68	—	332.63	24,000	420	2,300	510	5,400	<1	—	—	—	—	
	06/01/06	—	25.56	—	330.75	25,000	390	2,100	750	6,300	—	—	—	—	—	
	08/24/06	—	28.97	—	327.34	21,000	320	840	890	7,300	<1	—	—	—	—	
	11/15/06	—	36.08	—	320.23	32,000	66	<50	<50	6,800	—	—	—	—	—	
	02/22/07	—	26.41	—	329.90	27,000	370	2,100	730	6,500	—	—	—	—	—	
	05/23/07	—	27.94	—	328.37	26,000	220	1,400	630	5,800	—	—	—	—	—	
	08/02/07	—	29.75	—	326.56	24,000	280	770	730	5,200	—	—	—	—	—	
	02/12/08	—	27.80	—	328.51	22,000	260	1,400	380	4,500	—	—	—	—	—	
	03/04/10	—	26.11	—	330.20	7,600	30	310	90	1,700	<1	<1	<1	—	—	
	TOC: 359.01	03/05/12	—	—	—	—	Wellhead inaccessible									
		06/04/12	—	18.99	—	340.02	Not sampled; just gauged									
	09/10/12	—	28.28	—	330.73	Not sampled; just gauged										
	12/03/12	—	30.40	—	328.61	Not sampled; just gauged										
MW26 TOC: 361.40	12/21/05	—	50.15	—	311.25	120	1.5	38	1.0	5.5	<1	<1	<1	5.27	—	
	02/22/06	—	47.67	—	313.73	<100	<1	<1	<1	<3	<1	—	—	—	—	
	06/01/06	—	45.62	—	315.78	<100	<1	<1	<1	<3	—	—	—	—	—	
	08/24/06	—	47.37	—	314.03	<100	<1	<1	<1	<3	<1	—	—	—	—	
	11/16/06	—	49.43	—	311.97	<50	<1	<1	<1	<3	—	—	—	—	—	
	02/21/07	—	46.69	—	314.71	<100	<1	<1	<1	<3	—	—	—	—	—	
	05/24/07	—	45.76	—	315.64	<100	<1	<1	<1	<3	—	—	—	—	—	
	08/03/07	—	47.19	—	314.21	<100	<1	<1	<1	<3	—	—	—	—	—	
	02/11/08	—	47.87	—	313.53	<100	<1	<1	<1	<3	—	—	—	—	—	
	03/04/10	—	45.00	—	316.40	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
	TOC: 363.86	03/07/12	—	47.48	—	316.38	<100	<1	<1	<1	<3	—	—	—	—	—
		06/04/12	—	45.24	—	318.62	Not sampled; just gauged									
		09/10/12	—	46.99	—	316.87	Not sampled; just gauged									
		12/03/12	—	48.14	—	315.72	Not sampled; just gauged									
	MW27 TOC: 360.59	12/21/05	—	20.23	—	336.08	34,000	15	190	2,300	13,600	<1	<1	<1	4.08	—
02/22/06		—	15.18	—	345.41	48,000	18	430	2,400	12,600	<1	—	—	—	—	
06/01/06		—	17.00	—	343.59	41,000	30	580	1,900	11,000	—	—	—	—	—	
08/22/06		21.81	21.82	0.00	338.77	LNAPL										
11/14/06		25.55	25.55	0.00	335.04	LNAPL; absorbent socks in well										
02/20/07		—	17.49	—	343.10	LNAPL; absorbent socks in well										
05/22/07		19.86	19.86	0.00	340.73	LNAPL; absorbent socks in well										
08/01/07		—	22.38	—	338.21	Not sampled; absorbent socks in well										
02/11/08		18.93	19.00	0.07	341.59	LNAPL; absorbent socks in well										
03/04/10		—	16.06	—	344.53	26,000	<10	290	870	4,800	<1	<1	<1	—	—	
TOC: 362.40		03/09/12	—	19.16	—	343.24	23,000	8.5	94	620	3,900	—	—	—	—	—
		06/05/12	—	17.02	—	345.38	23,000	7.3	110	720	4,600	—	—	—	—	—
TOC: 362.64		09/10/12	—	—	—	—	Not sampled; insufficient water above pump intake									
		12/05/12	—	19.14	—	343.50	11,000	5.8	69	220	2,800	—	—	—	—	—
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	



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 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
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Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
MW28 TOC: 358.02	12/20/05	—	27.11	—	330.91	20,000	5.7	98	670	6,500	<1	<1	<1	10.7	—	
	02/22/06	—	23.40	—	334.62	14,000	3.1	13	390	2,380	<1	—	—	—	—	
	06/01/06	24.57	24.60	0.03	333.44	8,100	4	17	160	1,300	—	—	—	—	—	
	08/22/06	—	—	—	—	LNAPL										
	11/14/06	28.54	28.54	0.00	329.48	LNAPL; absorbent socks in well										
	02/20/07	—	—	—	—	LNAPL; absorbent socks in well										
	05/22/07	26.91	26.91	0.00	331.11	LNAPL; absorbent socks in well										
	08/01/07	—	27.79	—	330.23	LNAPL; absorbent socks in well										
	02/11/08	26.85	26.86	0.01	331.16	LNAPL; absorbent socks in well										
	03/04/10	—	25.56	—	332.46	7,900	<5	<5	300	970	<1	<1	<1	—	—	
TOC: 358.42	03/05/12	—	—	—	—	Wellhead inaccessible										
	06/04/12	—	26.66	—	331.76	Not sampled; just gauged										
	09/10/12	—	27.70	—	330.72	Not sampled; just gauged										
	12/03/12	—	27.86	—	330.56	Not sampled; just gauged										
MW29 TOC: 354.09	12/20/05	18.40	18.61	0.21	335.65	LNAPL										
	02/23/06	—	9.35	—	344.74	1,400	<1	<1	19	82	<1	<1	<1	—	—	
	06/02/06	—	10.11	—	343.98	320	<1	2	3	7	—	—	—	—	—	
	08/22/06	17.81	18.18	0.37	336.21	LNAPL										
	11/14/06	22.27	22.27	0.00	331.82	LNAPL; absorbent socks in well										
	02/20/07	12.14	12.15	0.01	341.95	LNAPL										
	05/22/07	—	14.67	—	339.42	8,100	<1	3	250	760	—	—	—	—	—	
	08/01/07	—	18.29	—	335.80	20,000	260	16	820	3,100	—	—	—	—	—	
	02/12/08	—	15.85	—	338.24	11,000	81	<10	310	1,200	—	—	—	—	—	
	03/04/10	—	12.00	—	342.09	550	<1	<1	7	9	<1	<1	<1	—	—	
TOC: 358.89	03/09/12	—	13.68	—	345.21	6,700	1.5	2.7	220	840	—	—	—	—	—	
	06/04/12	—	12.39	—	346.50	Not sampled; just gauged										
TOC: 359.02	09/10/12	—	18.35	—	340.67	Not sampled; just gauged										
	12/03/12	—	13.85	—	345.17	Not sampled; just gauged										
MW30 TOC: 354.12	12/15/05	—	43.66	—	310.46	350	6.9	13	15	96	<1	—	—	4.74	—	
	02/22/06	—	40.25	—	313.87	<100	<1	<1	<1	<3	<1	—	—	—	—	
	05/31/06	—	38.43	—	315.69	<100	<1	<1	<1	<3	—	—	—	—	—	
	08/24/06	—	41.59	—	312.53	<100	<1	<1	<1	<3	<1	—	—	—	—	
	11/14/06	—	43.41	—	310.71	<50	<1	<1	<1	<3	—	—	—	—	—	
	02/22/07	—	39.19	—	314.93	<100	<1	<1	<1	<3	—	—	—	—	—	
	05/23/07	—	39.69	—	314.43	<100	<1	<1	<1	<3	—	—	—	<1	<1	
	08/02/07	—	41.16	—	312.96	<100	<1	<1	<1	<3	—	—	—	<1	<1	
	02/14/08	—	41.29	—	312.83	<100	<1	<1	<1	<3	—	—	—	<1	<1	
	05/14/08	—	39.86	—	314.26	Not sampled; just gauged										
	03/03/10	—	38.71	—	315.41	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
	TOC: 356.51	03/07/12	—	41.15	—	315.36	<100	<1	<1	<1	<3	—	—	—	—	—
		06/04/12	—	38.85	—	317.66	Not sampled; just gauged									
		09/10/12	—	40.73	—	315.78	Not sampled; just gauged									
		12/03/12	—	41.53	—	314.98	Not sampled; just gauged									
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW31 TOC: 355.22	12/15/05	—	31.04	—	324.18	51,000	420	260	1,200	7,200	<20	—	—	12.2	—
	02/22/06	—	29.92	—	325.30	18,000	160	88	440	2,930	<1	—	—	—	—
	05/31/06	—	29.76	—	325.46	16,000	180	160	580	3,700	—	—	—	3.51	—
	08/24/06	—	30.63	—	324.59	22,000	240	170	500	3,470	<1	—	—	6.39	—
	11/14/06	—	38.48	—	316.74	Not sampled; insufficient water to fill sample containers									
	02/21/07	—	30.18	—	325.04	15,000	270	130	490	2,800	—	—	—	9.65	—
	05/22/07	—	30.68	—	324.54	20,000	210	100	500	3,400	—	—	—	9.48	—
	08/03/07	—	34.76	—	320.46	30,000	390	160	810	6,600	—	—	—	14.4	13.9
	02/13/08	—	34.73	—	320.49	30,000	100	92	730	5,500	—	—	—	44.4	39.9
	05/14/08	—	33.88	—	321.34	Not sampled; just gauged									
TOC: 357.52	07/29/09	—	35.01	—	320.21	1,900	45	1.6	7.9	440 <sup>ve</sup>	<1	<1	1.7	—	—
	03/03/10	—	32.76	—	322.46	15,000	160	68	160	2,800	<1	<1	<1	15.1	15.1
	03/07/12	—	36.78	—	320.74	2,800	7.2	5.2	23	400	<1	—	<1	26.5	24.6
TOC: 357.25	06/05/12	—	34.88	—	322.64	8,200	19	7.7	17	880	—	—	—	—	—
	09/10/12	—	—	—	—	Not sampled; insufficient water above pump intake									
12/03/12	—	32.87	—	—	Not sampled; insufficient water above pump intake										
MW32 TOC: 358.05	12/20/05	—	23.05	—	334.98	40,000	270	8,000	1,000	9,500	<1	<1	<1	17.5	—
	02/23/06	—	19.93	—	338.12	24,000	67	1,700	580	5,000	<1	—	—	—	—
	05/31/06	20.98	21.07	0.09	337.05	LNAPL									
	08/22/06	24.40	24.42	0.02	333.65	LNAPL									
	11/14/06	27.15	27.15	0.00	330.90	LNAPL; absorbent socks in well									
	02/20/07	—	21.56	—	336.49	LNAPL; absorbent socks in well									
	05/22/07	—	23.29	—	334.76	LNAPL; absorbent socks in well									
	07/31/07	—	24.86	—	333.19	Not sampled; absorbent socks in well									
	02/12/08	—	22.42	—	335.63	20,000	59	870	410	4,600	—	—	—	—	—
	03/04/10	—	20.71	—	337.34	14,000	16	270	320	2,400	<1	<1	<1	—	—
TOC: 359.87	03/09/12	—	22.71	—	337.16	120	3.1	11	1.1	16	—	—	—	—	—
	06/06/12	—	21.58	—	338.29	4,300	14	160	87	650	—	—	—	—	—
TOC: 359.98	09/11/12	—	24.12	—	335.86	16,000	170	330	470	3,000	—	—	—	—	—
	12/05/12	—	24.33	—	335.65	33,000	29	790	920	6,900	—	—	—	—	—
MW33 TOC: 355.42	12/20/05	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—
	02/10/06	—	32.73	—	322.69	14,000	190	140	670	3,220	<1	<1	<1	7.44	—
	05/31/06	—	33.78	—	321.64	Not sampled; insufficient water to fill sample containers									
	08/22/06	—	34.24	—	321.18	Not sampled; insufficient water to fill sample containers									
	11/14/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	02/20/07	—	—	—	—	LNAPL; absorbent socks in well									
	05/22/07	—	34.24	—	321.18	LNAPL; absorbent socks in well									
	07/31/07	—	34.33	—	321.09	Not sampled; absorbent socks in well									
	02/14/08	—	32.45	—	322.97	17,000	81	23	210	2,800	—	—	—	—	—
	03/04/10	—	32.50	—	322.92	11,000	18	14	300	1,300	<1	<1	<1	—	—
TOC: 358.29	03/05/12	—	34.35	—	323.94	Not sampled; insufficient water to fill sample containers									
	06/04/12	—	34.27	—	324.02	Not sampled; insufficient water to fill sample containers									
	09/10/12	—	34.49	—	323.80	Not sampled; insufficient water to fill sample containers									
	12/03/12	—	34.43	—	323.86	Not sampled; insufficient water to fill sample containers									
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW34	01/27/06	—	7.05	—	348.54	2,500	<1	<1	22	90	<1	<1	<1	23.7	—
TOC: 355.59	02/10/06	—	4.22	—	351.37	First Quarter sample collected January 27, 2006									
	06/02/06	—	10.06	—	345.53	1,400	<1	3	21	29	—	—	—	4.17	—
	08/23/06	—	13.96	—	341.63	260	<1	3	<1	<3	<1	—	—	NA <sup>7</sup>	NA <sup>7</sup>
	11/14/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	02/20/07	—	10.22	—	345.37	<100	<1	<1	<1	<3	—	—	—	<1	<1
	05/22/07	—	12.40	—	343.19	<100	<1	<1	<1	<3	—	—	—	<1	<1
	07/31/07	—	14.95	—	340.64	Not sampled; insufficient water to fill sample containers									
	02/13/08	—	10.79	—	344.80	<100	<1	<1	<1	<3	—	—	—	—	—
	03/04/10	—	9.83	—	345.76	<100	<1	<1	<1	<3	<1	<1	<1	—	—
TOC: 357.95	07/08/10	—	12.00	—	343.59	Not sampled; just gauged									
	03/09/12	—	12.39	—	345.56	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	11.55	—	346.40	Not sampled; just gauged									
	09/10/12	—	15.52	—	342.43	Not sampled; just gauged									
	12/03/12	—	8.94	—	349.01	Not sampled; just gauged									
MW35	01/27/06	—	38.18	—	317.97	<100	<1	<1	<1	<3	<1	<1	<1	59.6	—
TOC: 356.15	02/22/06	—	38.54	—	317.61	First Quarter sample collected January 27, 2006									
	05/31/06	—	39.62	—	316.53	Not sampled; insufficient water to fill sample containers									
	08/22/06	—	39.64	—	316.51	Not sampled; insufficient water to fill sample containers									
	11/14/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	02/20/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	05/22/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	02/11/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
TOC: 358.51	03/04/10	—	38.86	—	317.29	Not sampled; well did not recharge after purging									
	03/05/12	—	Dry	—	—	Dry									
	06/04/12	—	Dry	—	—	Dry									
	09/10/12	—	Dry	—	—	Dry									
	12/03/12	—	39.32	—	319.19	Not sampled; just gauged									
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE





Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW39	02/02/06	—	41.41	—	312.15	<100	<1	<1	<1	<3	<1	<1	<1	<3.55	—
TOC: 353.56	02/22/06	—	40.18	—	313.38	First Quarter sample collected February 2, 2006									
	05/31/06	—	39.52	—	314.04	<100	<1	<1	<1	<3	—	—	—	—	—
	08/24/06	—	40.56	—	313.00	<100	<1	<1	<1	<3	<1	—	—	—	—
	11/15/06	—	43.40	—	310.16	<100	<1	<1	<1	<3	—	—	—	—	—
	02/22/07	—	39.26	—	314.30	<100	<1	<1	<1	<3	—	—	—	—	—
	05/23/07	—	39.80	—	313.76	<100	<1	<1	<1	<3	—	—	—	—	—
	08/03/07	—	41.22	—	312.34	<100	<1	<1	<1	<3	—	—	—	—	—
	02/14/08	—	41.22	—	312.34	<100	<1	<1	<1	<3	—	—	—	—	—
TOC: 355.94	02/03/09	—	42.11	—	311.45	Not sampled; just gauged									
	03/03/10	—	38.76	—	314.80	<100	<1	<1	<1	<3	<1	<1	<1	—	—
	03/07/12	—	41.14	—	314.80	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	39.14	—	316.80	Not sampled; just gauged									
	09/10/12	—	40.86	—	315.08	Not sampled; just gauged									
MW40	02/03/06	—	41.71	—	312.28	<100	<1	<1	<1	<3	<1	—	—	123	—
TOC: 353.99	02/22/06	—	40.29	—	313.70	First Quarter sample collected February 3, 2006									
	06/01/06	—	39.46	—	314.53	<100	<1	<1	<1	<3	—	—	—	<1	—
	08/24/06	—	41.55	—	312.44	<100	<1	<1	<1	<3	<1	—	—	—	—
	11/14/06	—	43.45	—	310.54	<100	<1	<1	<1	<3	—	—	—	<1	—
	02/21/07	—	39.22	—	314.77	<100	<1	<1	<1	<3	—	—	—	—	—
	05/24/07	—	38.75	—	315.24	<100	<1	<1	<1	<3	—	—	—	—	—
	08/03/07	—	41.21	—	312.78	<100	<1	<1	<1	<3	—	—	—	<1	<1
	02/14/08	—	41.30	—	312.69	<100	<1	<1	<1	<3	—	—	—	<1	<1
TOC: 356.37	03/03/10	—	38.77	—	315.22	<100	<1	<1	<1	<3	<1	<1	<1	—	—
	03/07/12	—	41.21	—	315.16	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	39.11	—	317.26	Not sampled; just gauged									
	09/10/12	—	40.78	—	315.59	Not sampled; just gauged									
MW41	02/04/06	—	Dry	—	Not sampled; insufficient water to fill sample containers										
TOC: 354.02	02/22/06	—	40.35	—	313.67	Not sampled; insufficient water to fill sample containers									
	05/31/06	—	40.22	—	313.80	Not sampled; insufficient water to fill sample containers									
	08/22/06	—	40.22	—	313.80	Not sampled; insufficient water to fill sample containers									
	11/14/06	—	40.22	—	313.80	Not sampled; insufficient water to fill sample containers									
	02/20/07	—	40.23	—	313.79	Not sampled; insufficient water to fill sample containers									
	05/22/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	02/11/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
TOC: 356.02	03/04/10	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	03/05/12	—	39.89	—	316.13	Dry									
TOC: 356.18	06/04/12	—	39.78	—	316.24	Not sampled; just gauged									
	09/10/12	—	Dry	—	—	Not sampled; just gauged									
MW42	02/04/06	—	Dry	—	Not sampled; insufficient water to fill sample containers										
TOC: 354.08	02/22/06	—	39.75	—	314.33	Not sampled; insufficient water to fill sample containers									
	05/31/06	—	39.63	—	314.45	Not sampled; insufficient water to fill sample containers									
	08/22/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	11/14/06	—	39.71	—	314.37	Not sampled; insufficient water to fill sample containers									
	02/20/07	—	39.67	—	314.41	Not sampled; insufficient water to fill sample containers									
	05/22/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
TOC: 356.42	03/04/10	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
	03/05/12	—	Dry	—	—	Dry									
	06/04/12	—	Dry	—	—	Dry									
	09/10/12	—	39.84	—	316.58	Not sampled; just gauged.									
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE





Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>	
MW43 TOC: 356.58	05/31/06	—	37.43	—	319.15	Not sampled; insufficient water to fill sample containers										
	08/22/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	11/14/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/20/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	05/22/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	03/04/10	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	TOC: 358.89	03/05/12	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
		06/04/12	—	Dry	—	—	Dry									
		09/10/12	—	Dry	—	—	Dry									
12/03/12		—	Dry	—	—	Dry										
MW44 TOC: 352.64	05/31/06	—	38.56	—	314.08	Not sampled; insufficient water to fill sample containers										
	08/22/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	11/14/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/20/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	05/22/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	03/04/10	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	TOC: 354.96	03/05/12	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
		06/04/12	—	Dry	—	—	Dry									
		09/10/12	—	Dry	—	—	Dry									
12/03/12		—	Dry	—	—	Dry										
MW45 TOC: 354.24	05/31/06	—	Dry	—	—	—	—	—	—	—	—	—	—	—	—	
	08/24/06	—	37.86	—	316.38	57,000	920	180	1,900	13,700	<1	—	—	—	—	
	11/14/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/21/07	—	37.22	—	317.02	39,000	700	150	870	10,000	—	—	—	—	—	
	05/24/07	—	37.59	—	316.65	39,000	470	120	760	9,800	—	—	—	—	—	
	08/02/07	—	38.25	—	315.99	40,000	430	67	270	11,000	—	—	—	—	—	
	02/11/08	—	37.90	—	316.34	45,000	76	36	430	8,900	—	—	—	—	—	
	05/14/08	—	37.82	—	316.42	Not sampled; just gauged										
	07/29/09	—	38.06	—	316.18	Not sampled; just gauged										
	03/02/10	—	37.16	—	317.08	23,000	54	23	310	3,700	<1	<1	<1	—	—	
	TOC: 357.06	03/05/12	—	38.59	—	318.47	Not sampled; insufficient water to fill sample containers									
		06/06/12	—	37.00	—	320.06	6,900	33	7.6	95	1,300	—	—	—	—	—
		09/11/12	—	38.01	—	319.05	4,700	10	5.7	<1	540	—	—	—	—	—
		12/03/12	—	39.37	—	317.69	Not sampled; insufficient water to fill sample containers									
MW46 TOC: 354.64	12/13/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/21/07	—	39.98	—	314.66	1,100	14	7	13	23	—	—	—	—	—	
	05/24/07	—	40.60	—	314.04	120	<1	<1	<1	4	—	—	—	—	—	
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/11/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	03/03/10	—	40.31	—	314.33	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
	TOC: 356.54	03/05/12	—	42.42	—	314.12	Not sampled; insufficient water to fill sample containers									
		06/04/12	—	40.40	—	316.14	Not sampled; just gauged									
		09/10/12	—	41.49	—	315.05	Not sampled; just gauged									
		12/03/12	—	41.88	—	314.66	Not sampled; just gauged									
MW47 TOC: 352.96	12/13/06	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/20/07	—	41.50	—	311.46	Not sampled; insufficient water to fill sample containers										
	05/22/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	02/11/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers										
	03/04/10	—	41.00	—	311.96	<100	<1	<1	<1	<3	<1	<1	<1	—	—	
	TOC: 355.51	03/05/12	—	Dry	—	—	Not sampled; insufficient water to fill sample containers									
		06/04/12	—	41.17	—	314.34	Not sampled; just gauged									
		09/10/12	—	Dry	—	—	Not sampled; just gauged									
		12/03/12	—	Dry	—	—	Not sampled; just gauged									
MTC Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE	



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 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW48	12/13/06	45.28	46.61	1.33	307.42										
	02/20/07	40.61	41.98	1.37	312.09										
	05/22/07	40.75	42.39	1.64	311.89										
	07/31/07	42.42	43.88	1.46	310.26										
	02/11/08	42.98	43.97	0.99	309.79										
	05/06/08	41.21	41.97	0.76	311.61										
	05/08/08	40.98	41.00	0.02	311.99										
	08/19/08	42.60	43.41	0.81	310.21										
	09/12/08	42.98	43.41	0.43	309.90										
	09/18/08	43.34	43.85	0.51	309.53										
	10/03/08	43.63	43.81	0.18	309.30										
	10/09/08	—	43.91	—	309.06										
	11/07/08	44.25	45.46	1.21	308.48										
	11/21/08	44.39	45.48	1.09	308.36										
	12/10/08	44.66	45.73	1.07	308.10										
	12/16/08	44.74	45.65	0.91	308.05										
	12/28/08	44.82	45.54	0.72	308.01										
	12/31/08	44.88	45.23	0.35	308.02										
	01/23/09	44.33	45.29	0.96	308.45										
	01/30/09	44.12	44.69	0.57	308.74										
	02/10/09	44.01	44.30	0.29	308.90										
	02/24/09	43.85	44.04	0.19	309.08										
	03/10/09	43.69	44.00	0.31	309.22										
03/11/09	43.78	43.81	0.03	309.18											
03/12/09	43.70	43.71	0.01	309.27											
03/13/09	43.50	43.51	0.01	309.47											
04/10/09	43.20	43.21	0.01	309.77											
04/30/09	—	43.44	—	309.53											
06/12/09	42.57	42.58	0.01	310.40											
08/25/09	43.77	44.09	0.32	309.14											
09/29/09	44.48	45.11	0.63	308.36											
10/15/09	44.90	45.59	0.69	307.93											
11/24/09	44.48	44.68	0.20	308.45											
01/18/10	42.35	42.45	0.10	310.60											
02/26/10	40.50	40.63	0.13	312.44											
03/01/10	40.43	40.56	0.13	312.51											
04/12/10	39.69	39.80	0.11	313.26											
05/07/10	39.72	39.83	0.11	313.23											
06/21/10	40.33	40.64	0.31	312.58											
07/02/10	—	—	0.04	—											
08/30/10	42.01	42.30	0.29	310.90											
09/10/10	42.28	42.42	0.14	310.66											
10/11/10	43.00	43.30	0.30	309.91											
11/11/10	43.52	43.87	0.35	309.38											
12/06/10	43.73	44.00	0.27	309.19											
12/15/10	—	—	—	—											
03/18/11	—	39.04	—	313.93											
05/02/11	—	37.91	—	315.06											
TOC: 355.45	03/08/12	—	43.59	—	311.86	37,000	220	140	770	5,400 <sup>ve</sup>	—	—	—	—	—
	06/05/12	—	40.85	—	314.60	14,000	<5	13	210	1,900	—	—	—	—	—
	09/11/12	—	42.51	—	312.94	24,000	300	130	550	4,300	—	—	—	—	—
	12/04/12	—	42.80	—	312.65	21,000	62	<40	390	3,000	—	—	—	—	—
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE



Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>2</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPP <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethylbenzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MMW55 TOC: 354.17	08/03/07	—	43.55	—	310.62	<100	<1	<1	<1	<3	—	—	—	2.99	<1
	02/13/08	—	44.02	—	310.15	<100	<1	<1	<1	<3	—	—	—	—	—
	03/04/10	—	40.62	—	313.55	<100	<1	<1	<1	<3	<1	<1	—	—	—
	03/08/12	—	44.18	—	312.40	<100	<1	<1	<1	<3	—	—	—	—	—
TOC: 356.58	06/06/12	—	40.76	—	315.82	<100	<1	<1	<1	<3	—	—	—	—	—
	09/12/12	—	43.10	—	313.48	<100	<1	<1	<1	<3	—	—	—	—	—
	12/05/12	—	43.78	—	312.80	<100	<1	<1	<1	<3	—	—	—	—	—
	08/03/07	—	44.19	—	310.93	<100	4	<1	<1	<3	—	—	—	<1	—
MMW56 TOC: 355.12	02/14/08	—	44.52	—	310.60	<100	<1	<1	<1	<3	—	—	—	—	—
	05/14/08	—	43.00	—	312.12	<100	<1	<1	<1	<3	—	—	—	—	—
	02/03/09	—	45.40	—	309.72	<100	<1	<1	<1	<2	<1	—	—	—	—
	03/03/10	—	41.88	—	313.24	<100	<1	<1	<1	<3	<1	<1	—	—	—
TOC: 357.55	03/06/12	—	44.63	—	312.92	<100	<1	<1	<1	<3	—	—	—	—	—
	06/06/12	—	42.25	—	315.30	<100	<1	<1	<1	<3	—	—	—	—	—
	09/12/12	—	43.82	—	313.73	<100	<1	<1	<1	<3	—	—	—	—	—
	12/05/12	—	44.24	—	313.31	<100	<1	<1	<1	<3	—	—	—	—	—
MMW57 TOC: 354.35	08/03/07	—	44.16	—	310.19	18,000	360	37	320	3,900	—	—	—	3.17	3.33
	02/13/08	—	44.59	—	309.76	10,000	150	21	370	1,700	—	—	—	—	—
	05/14/08	—	42.87	—	311.48	14,000	240	51	610	3,600	<1	<1	2.9	—	—
	03/03/10	—	41.80	—	312.55	14,000	240	51	610	3,600	<1	<1	2.9	—	—
TOC: 356.34	10/12/10	—	44.50	—	309.85	2,100	9.7	2.3	87	160	—	—	—	—	—
	03/07/12	—	44.38	—	311.96	2,100	9.7	2.3	87	160	—	—	—	—	—
	06/04/12	—	41.88	—	314.46	2,100	9.7	2.3	87	160	—	—	—	—	—
	09/10/12	—	43.60	—	312.83	2,100	9.7	2.3	87	160	—	—	—	—	—
TOC: 356.43	12/03/12	—	43.34	—	313.09	2,100	9.7	2.3	87	160	—	—	—	—	—
	08/02/07	—	43.25	—	309.76	<100	2	<1	4	3	—	—	—	1.37	<1
	02/13/08	—	43.55	—	309.46	360	5	1	13	12	—	—	—	—	—
	05/14/08	—	41.93	—	311.08	<100	<1	<1	<1	<3	<1	<1	2.4	—	—
TOC: 355.43	03/03/10	—	40.88	—	312.13	<100	<1	<1	<1	<3	<1	<1	—	—	—
	10/12/10	—	43.52	—	309.49	<100	<1	<1	<1	<3	<1	<1	—	—	—
	03/07/12	—	43.74	—	311.69	<100	<1	<1	<1	<3	—	—	—	—	—
	06/06/12	—	41.33	—	314.10	<100	<1	<1	<1	<3	—	—	—	—	—
MMW59 TOC: 354.13	09/11/12	—	42.89	—	312.54	<100	<1	<1	<1	<3	—	—	—	—	—
	12/05/12	—	43.30	—	312.13	<100	<1	<1	<1	<3	—	—	—	—	—
	08/02/07	—	43.26	—	310.87	140	<1	<1	<1	<3	—	—	—	3.04	<1
	02/14/08	—	43.66	—	310.47	<100	<1	<1	<1	<3	—	—	—	—	—
TOC: 356.56	05/14/08	—	42.01	—	312.12	<100	<1	<1	<1	<2	<1	—	—	—	—
	02/03/09	—	45.51	—	308.62	<100	<1	<1	<1	<2	<1	—	—	—	—
	03/03/10	—	40.85	—	313.28	<100	<1	<1	<1	<3	<1	<1	—	—	—
	03/06/12	—	43.70	—	312.86	<100	<1	<1	<1	<3	—	—	—	—	—
MMW60 TOC: 356.21	06/06/12	—	41.33	—	315.23	<100	<1	<1	<1	<3	—	—	—	—	—
	09/12/12	—	42.90	—	313.66	<100	<1	<1	<1	<3	—	—	—	—	—
	12/05/12	—	43.28	—	313.28	<100	<1	<1	<1	<3	—	—	—	—	—
	08/03/07	—	43.52	—	312.69	<100	<1	<1	<1	<3	—	—	—	20.5	1.94
TOC: 358.61	02/14/08	—	43.88	—	312.33	<100	<1	<1	<1	<3	—	—	—	<1	<1
	03/04/10	—	41.64	—	314.57	<100	<1	<1	<1	<3	<1	<1	1.1	—	—
	03/08/12	—	44.03	—	314.58	<100	<1	<1	<1	<3	—	—	—	<1	<1
	06/06/12	—	41.78	—	316.83	<100	<1	<1	<1	<3	—	—	—	—	—
MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>	09/12/12	—	43.19	—	315.42	<100	<1	<1	<1	<3	—	—	—	—	—
	12/05/12	—	44.07	—	314.54	<100	<1	<1	<1	<3	—	—	—	—	—
						1,000/800 <sup>6</sup>	5	1,000	700	1,000	20	0.01	5	15	NE

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 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethylbenzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW61 TOC: 354.83	08/03/07	—	13.18	—	341.65	<100	<1	<1	<1	<3	—	—	—	1.34	<1
	02/12/08	—	9.65	—	345.18	<100	<1	<1	<1	<3	—	—	—	—	—
	03/04/10	—	8.21	—	346.62	<100	<1	<1	<1	<3	<1	<1	—	—	—
TOC: 357.24	03/08/12	—	10.56	—	346.68	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	10.06	—	347.18	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	09/10/12	—	12.11	—	345.13	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
MW62 TOC: 358.12	12/03/12	—	7.97	—	349.27	<100	<1	<1	<1	<3	—	—	—	<1	<1
	08/03/07	—	14.47	—	343.65	<100	<1	<1	<1	<3	—	—	—	—	<1
	02/12/08	—	10.19	—	347.93	<100	<1	<1	<1	<3	—	—	—	—	—
TOC: 360.55	03/03/10	—	8.64	—	349.48	<100	<1	<1	<1	<3	<1	<1	—	—	—
	03/08/12	—	12.05	—	348.50	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	10.82	—	349.73	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
09/10/12	—	—	14.59	—	345.96	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	12/03/12	—	9.73	—	350.82	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	08/03/07	—	42.85	—	309.88	190	9	<1	8	14	—	—	—	8.21	2.08
MW63 TOC: 352.73	02/13/08	—	43.11	—	309.62	240	5	<1	9	11	—	—	—	—	—
	05/14/08	—	41.56	—	311.17	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	02/03/09	—	44.13	—	308.60	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
TOC: 355.14	03/02/10	—	40.51	—	312.22	<100	<1	<1	<1	<3	<1	<1	—	—	—
	10/12/10	—	43.14	—	309.59	<100	<1	<1	<1	<3	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	03/08/12	—	43.34	—	311.80	<100	<1	<1	<1	<3	—	—	—	—	—
06/05/12	—	—	40.93	—	314.21	<100	<1	<1	<1	<3	—	—	—	—	—
	09/11/12	—	42.59	—	312.55	<100	<1	<1	<1	<3	—	—	—	—	—
	12/04/12	—	42.93	—	312.21	<100	<1	<1	<1	<3	—	—	—	<1	<1
MW64 TOC: 352.82	08/02/07	—	40.51	—	312.31	<100	<1	<1	<1	<3	—	—	—	—	<1
	02/13/08	—	40.39	—	312.43	<100	<1	<1	<1	<3	—	—	—	—	—
	05/14/08	—	39.34	—	313.48	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
02/03/09	—	—	41.59	—	311.23	<100	<1	<1	<1	<3	<1	<1	—	—	—
	03/02/10	—	38.09	—	314.73	<100	<1	<1	<1	<3	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	10/12/10	—	40.76	—	312.06	<100	<1	<1	<1	<3	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
TOC: 355.22	03/08/12	—	40.59	—	314.63	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	38.48	—	316.74	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	09/10/12	—	40.20	—	315.02	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
12/03/12	—	—	40.89	—	314.33	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	05/14/08	—	40.37	—	310.37	<100	8.6	<1	<1	<1	<3	—	—	2.69	<1
	02/03/09	—	42.89	—	307.85	<100	6.1	<1	<1	<2	<1	<1	—	—	—
TOC: 350.74	03/02/10	—	39.32	—	311.42	<100	5	5	1	6	<1	<1	<1	—	—
	07/08/10	—	39.65	—	311.09	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	10/12/10	—	41.92	—	308.82	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
TOC: 353.12	03/07/12	—	42.14	—	310.98	<100	<1	<1	<1	<3	<1	<1	—	—	—
	06/05/12	—	39.76	—	313.36	<100	<1	<1	<1	<3	<1	<1	—	—	—
	09/11/12	—	41.63	—	311.49	<100	<1	<1	<1	<3	<1	<1	—	—	—
MW66 TOC: 353.42	12/05/12	—	41.00	—	312.12	<100	<0.35	<1	<1	<3	<1	<1	<1	—	—
	05/14/08	—	41.27	—	312.15	<100	<1	<1	<1	<3	<1	<1	<1	2.00	<1
	03/03/10	—	40.16	—	313.26	<100	<1	<1	<1	<3	<1	<1	—	—	—
TOC: 355.82	07/08/10	—	40.50	—	312.92	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged	Not sampled; just gauged
	03/07/12	—	42.97	—	312.85	<100	<1	<1	<1	<3	—	—	—	—	—
	06/05/12	—	40.61	—	315.21	<100	<1	<1	<1	<3	—	—	—	—	—
12/04/12	—	—	42.16	—	313.66	<100	<1	<1	<1	<3	—	—	—	—	—
	09/11/12	—	42.52	—	313.30	<100	<1	<1	<1	<3	—	—	—	—	—
	MTCA Method A Cleanup Levels for Groundwater <sup>6</sup>	—	—	—	—	1,000/800 <sup>b</sup>	<1	1,000	700	1,000	20	0.01	5	15	NE





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 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
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Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW77	02/03/09	—	40.09	—	307.53	<100	<1	<1	<1	<2	<1	—	—	5.21	<1
TOC: 347.62	03/01/10	—	36.51	—	311.11	<100	<1	<1	<1	<3	<1	<1	<1	—	—
TOC: 349.98	07/08/10	—	36.91	—	313.07	Not sampled; just gauged									
	10/12/10	—	39.22	—	310.76	<100	<1	<1	<1	<2	<1	<1	<1	<1	<1
	03/06/12	—	39.20	—	310.78	<100	<1	<1	<1	<3	<1	—	<1	—	—
	06/05/12	—	37.04	—	312.94	<100	<1	<1	<1	<3	<1	—	—	—	—
	09/11/12	—	38.65	—	311.33	<100	<1	<1	<1	<3	<1	—	—	—	—
	12/04/12	—	37.33	—	312.65	<100	<0.35	<1	<1	<3	<1	—	<1	—	—
MW78	02/03/09	—	37.32	—	310.26	<100	<1	<1	<1	<2	<1	—	—	2.61	<1
TOC: 347.58	03/01/10	—	34.57	—	313.01	<100	<1	<1	<1	<3	<1	<1	<1	—	—
TOC: 349.97	10/12/10	—	37.30	—	312.67	Not sampled; just gauged									
	03/06/12	—	36.88	—	313.09	<100	<1	<1	<1	<3	<1	—	<1	—	—
	06/04/12	—	35.06	—	314.91	Not sampled; just gauged									
	09/10/12	—	36.73	—	313.24	Not sampled; just gauged									
	12/03/12	—	37.06	—	312.91	Not sampled; just gauged									
MW79	07/08/10	—	13.41	—	340.62	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	<1
TOC: 354.03	03/07/12	—	13.39	—	340.64	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	12.78	—	341.25	Not sampled; just gauged									
	09/10/12	—	16.91	—	337.12	Not sampled; just gauged									
	12/03/12	—	14.10	—	339.93	Not sampled; just gauged									
MW80	07/08/10	—	14.22	—	339.66	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	<1
TOC: 353.88	10/12/10	—	18.69	—	335.19	Not sampled; just gauged									
	03/07/12	—	14.30	—	339.58	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	13.42	—	340.46	Not sampled; just gauged									
	09/10/12	—	17.28	—	336.60	Not sampled; just gauged									
	12/03/12	—	15.41	—	338.47	Not sampled; just gauged									
MW81	07/08/10	—	40.78	—	314.88	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	<1
TOC: 355.66	10/12/10	—	43.02	—	312.64	Not sampled; just gauged									
	03/06/12	—	43.22	—	312.44	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	40.73	—	314.93	Not sampled; just gauged									
	09/10/12	—	42.49	—	313.17	Not sampled; just gauged									
	12/03/12	—	42.67	—	312.99	Not sampled; just gauged									
MW82	07/08/10	—	26.74	—	328.91	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	<1
TOC: 355.65	10/12/10	—	29.64	—	326.01	Not sampled; just gauged									
	03/07/12	—	28.58	—	327.07	<100	<1	<1	<1	<3	—	—	—	—	—
	06/04/12	—	28.99	—	326.66	Not sampled; just gauged									
	09/10/12	—	29.63	—	326.02	Not sampled; just gauged									
	12/03/12	—	29.51	—	326.14	Not sampled; just gauged									
MW83	07/08/10	—	19.56	—	334.02	<100	<0.35	<1	<1	<2	<1	<1	<1	16.1	<1
TOC: 353.58	10/12/10	—	28.74	—	324.84	Not sampled; just gauged									
	11/21/11	DECOMMISSIONED (REPLACED WITH MW100)													
MW84	10/12/10	—	44.29	—	309.38	1,900	0.71	<1	17	48	<1	<1	<1	<1	<1
TOC: 353.67	03/07/12	—	42.66	—	311.01	680	<1	1.6	5	14	<1	—	<1	—	—
	06/05/12	—	40.78	—	312.89	990	<1	2.5	11	28	<1	—	—	—	—
TOC: 353.78	09/12/12	—	42.09	—	311.69	1,200	2.0	2.9	8.5	28	<1	—	—	—	—
	12/05/12	—	42.02	—	311.76	1,000	0.45	<1	17	41	<1	—	<1	—	—
MW85	10/11/10	WELL DAMAGED DURING INSTALLATION, REPAIRED ON NOVEMBER 28, 2011													
TOC: 351.34	03/06/12	—	40.48	—	310.86	<100	3.1	<1	<1	<3	<1	—	<1	<1	<1
	06/05/12	—	38.25	—	313.09	<100	1.8	<1	<1	<3	<1	—	—	—	—
	09/11/12	—	39.83	—	311.51	<100	1.4	<1	<1	<3	<1	—	—	—	—
	12/04/12	—	39.73	—	311.61	<100	<0.35	<1	<1	<3	<1	—	<1	—	—
MTC Method A Cleanup Levels for Groundwater <sup>6</sup>						1,000/800 <sup>6</sup>	5	1,000	700	1,000	20	0.01	5	15	NE

Table 2  
 Summary of Historical Groundwater Analytical Results  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>6</sup>	
MW86 TOC: 352.78	10/12/10	—	41.89	—	310.89	1,100	1.9	<1	<1	<2	<1	<1	<1	<1	
	03/06/12	—	42.02	—	310.76	140	3.8	<1	<1	<3	<1	<1	—	—	
	06/05/12	—	39.74	—	313.04	130	1.1	<1	<1	<3	<1	—	—	—	
	09/11/12	—	41.24	—	311.54	1,600	2.6	5.8	3.1	4.5	<1	—	—	—	
MW87 TOC: 349.78	12/04/12	—	41.12	—	311.66	860	0.77	<1	1.7	4.6	<1	<1	—	—	
	10/12/10	—	39.03	—	310.75	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	
	03/06/12	—	38.89	—	310.89	<100	<1	<1	<1	<3	<1	<1	—	—	
	06/04/12	—	36.92	—	312.86	—	—	—	—	Not sampled; just gauged	—	—	—	—	
MW88 TOC: 351.67	09/10/12	—	38.53	—	311.25	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	38.46	—	311.32	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	10/12/10	—	22.11	—	329.56	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	
	03/06/12	—	14.91	—	336.76	<100	<1	<1	<1	<3	—	—	—	—	
MW89 TOC: 353.89	06/04/12	—	15.13	—	336.54	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	09/10/12	—	20.05	—	331.62	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	19.04	—	332.63	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	10/12/10	—	42.66	—	311.23	<100	<0.35	<1	<1	<2	<1	<1	<1	<1	
MW90 TOC: 362.71 TOC: 362.90	03/06/12	—	42.89	—	311.00	<100	<1	<1	<1	<3	<1	<1	—	—	
	06/05/12	—	40.51	—	313.38	<100	<1	<1	<1	<3	<1	—	—	—	
	09/11/12	—	42.08	—	311.81	<100	<1	<1	<1	<3	<1	—	—	—	
	12/04/12	—	42.12	—	311.77	<100	<0.35	<1	<1	<3	<1	<1	—	—	
MW91 TOC: 362.58 TOC: 362.73	03/05/12	24.66	24.75	0.09	338.03	—	—	—	—	LNAPL	—	—	—	—	
	06/04/12	22.19	22.33	0.14	340.49	—	—	—	—	LNAPL	—	—	—	—	
	09/10/12	24.80	25.18	0.38	338.02	—	—	—	—	LNAPL	—	—	—	—	
	12/03/12	—	28.69	—	334.21	—	—	—	—	Not sampled; just gauged	—	—	15.9	<1	
MW92 TOC: 358.32 TOC: 357.93	03/06/12	—	24.87	—	337.71	15,000	36	95	410	3,100	—	—	—	<1	
	06/04/12	23.49	23.50	0.01	339.09	—	—	—	—	LNAPL	—	—	—	—	
	09/10/12	26.29	26.48	0.19	336.40	—	—	—	—	LNAPL	—	—	—	—	
	12/03/12	—	26.64	—	336.09	—	—	—	—	Not sampled; just gauged	—	—	—	—	
MW93 TOC: 355.73 TOC: 356.05	03/06/12	—	45.45	—	312.87	<100	<1	<1	<1	<3	—	—	—	<1	
	06/04/12	—	42.95	—	315.37	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	09/10/12	—	41.12	—	317.20	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	44.61	—	313.32	—	—	—	—	Not sampled; just gauged	—	—	—	—	
MW94 TOC: 358.24 TOC: 358.01	03/06/12	—	43.00	—	312.73	<100	<1	<1	<1	<3	—	—	—	<1	
	06/04/12	—	40.64	—	315.09	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	09/10/12	—	Dry	—	—	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	41.83	—	314.22	<100	<1	<1	<1	<3	—	—	—	<1	
MW95 TOC: 354.42 TOC: 354.73	03/06/12	—	45.13	—	313.11	<100	<1	<1	<1	<3	—	—	—	<1	
	06/04/12	—	43.22	—	315.02	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	09/10/12	—	Dry	—	—	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	39.83	—	318.18	<100	<1	<1	<1	<3	<1	<1	2.74	<1	
MW96 TOC: 355.83 TOC: 356.06	03/07/12	—	42.95	—	311.47	<100	<1	<1	<1	<3	<1	<1	—	<1	
	06/04/12	—	40.56	—	313.86	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	09/10/12	—	42.70	—	312.03	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	42.42	—	312.31	<100	<1	<1	<1	<3	<1	<1	11.4	<1	
MW97 TOC: 354.64 TOC: 354.31	03/07/12	—	44.01	—	311.82	<100	<1	<1	<1	<3	<1	<1	—	<1	
	06/04/12	—	41.44	—	314.39	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	09/10/12	—	45.50	—	310.56	—	—	—	—	Not sampled; just gauged	—	—	—	—	
	12/03/12	—	42.19	—	313.87	420	9.4	<1	<1	3.4	<1	<1	2.07	<1	
MTCA Method A Cleanup Levels for Groundwater <sup>8</sup>															
						1,000/800 <sup>b</sup>	5	1,000	700	1,000	20	0.01	5	15	NE





**Table 2**  
**Summary of Historical Groundwater Analytical Results**  
 June 1992 through December 2012  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL <sup>1</sup> (feet)	Depth to Groundwater <sup>1</sup> (feet)	LNAPL Thickness (feet)	Groundwater Elevation <sup>2</sup> (feet)	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethyl-benzene <sup>4</sup>	Total Xylenes <sup>4</sup>	MTBE <sup>4</sup>	EDB <sup>4</sup>	EDC <sup>4</sup>	Total Lead <sup>5</sup>	Dissolved Lead <sup>5</sup>
MW98	03/08/11	—	43.04	—	311.45	3,800	13	4.6	56	130	<1	—	<1	1.87	<1
TOC:	354.49	06/04/12	—	40.73	313.76	Not sampled; just gauged									
TOC:	354.75	09/10/12	—	43.30	311.45	Not sampled; just gauged									
		12/03/12	—	42.27	312.48	Not sampled; just gauged									
MW99	03/06/12	—	42.47	—	310.95	<100	2.1	<1	<1	<3	<1	—	<1	1.08	<1
TOC:	353.42	06/04/12	—	40.45	312.97	Not sampled; just gauged									
TOC:	353.65	09/10/12	—	Dry	—	Not sampled; just gauged									
		12/03/12	—	38.04	315.61	Not sampled; just gauged									
MW100	03/06/12	—	15.73	—	340.08	<100	<1	<1	<1	<3	—	—	—	50.6	1.15
TOC:	355.81	06/04/12	—	15.61	340.20	Not sampled; just gauged									
		09/10/12	—	19.18	336.63	Not sampled; just gauged									
		12/03/12	—	17.48	338.33	Not sampled; just gauged									
MW101	03/06/12	—	40.90	—	311.02	<100	<1	<1	<1	<3	<1	—	<1	22.6	<1
TOC:	351.92	06/04/12	—	38.99	312.93	Not sampled; just gauged									
TOC:	352.12	09/10/12	—	40.54	311.58	Not sampled; just gauged									
		12/03/12	—	43.95	308.17	Not sampled; just gauged									
<b>MTCA Method A Cleanup Levels for Groundwater<sup>6</sup></b>						<b>1,000/800<sup>b</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>0.01</b>	<b>5</b>	<b>15</b>	<b>NE</b>

**NOTES:**

Results measured in µg/L.  
 Red denotes concentration exceeds MTCA Method A cleanup level.  
 Data collected since December 2005 analyzed by Friedman & Bruya, Inc. of Seattle, Washington. Data collected from September through December 2005 analyzed by North Creek Analytical, Inc., of Bothell, Washington. Data collected prior to 7/8/05 provided by previous consultants.  
<sup>1</sup>Depth to water and LNAPL as measured from a fixed spot on the well casing rim.  
<sup>2</sup>Groundwater elevation measured relative to a temporary benchmark (data from previous consultants). Since July 2005, groundwater elevations corrected for LNAPL thickness, assuming specific gravities of 0.80 for a mixture of gasoline and diesel, and 1.0 for groundwater.  
<sup>3</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.  
<sup>4</sup>Analyzed by EPA Method 8260B, 8021B, or 8260C.  
<sup>5</sup>Analyzed by EPA Method 200.8.  
<sup>6</sup>MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.  
<sup>7</sup>Insufficient recharge to fill specified sample container.  
<sup>8</sup>Monitoring well converted to a remediation well; TOC elevation change presented where appropriate.  
<sup>9</sup>1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

**LABORATORY NOTES:**

<sup>1</sup>The pattern of peaks present is not indicative of diesel. The result is due to overlap from the gasoline range.  
<sup>2</sup>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.  
<sup>3</sup>The result is below normal reporting limits. The value reported is an estimate.

**ABBREVIATIONS:**

— = not measured/not applicable  
 < = not detected at concentration exceeding the laboratory reporting limit  
 µg/L = micrograms per liter  
 Dry = groundwater not encountered in well  
 EDB = 1,2-dibromoethane  
 EDC = 1,2-dichloroethane  
 EPA = U.S. Environmental Protection Agency  
 GRPH = gasoline-range petroleum hydrocarbons  
 LNAPL = light non-aqueous phase liquid  
 MTBE = methyl tertiary-butyl ether  
 MTCA = Washington State Model Toxics Control Act  
 NA = not applicable per referenced footnote number  
 NE = Cleanup level not established for indicated compound  
 Sheen = iridescence on water surface indicative of LNAPL  
 TOC = top of casing (elevations for monitoring wells MW01 through MW25 from previous consultants)  
 Trace = less than 0.01 of measurable LNAPL





Table 3  
 Summary of Groundwater Analytical Results  
 Eight Common Fuel Additives  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Sample Location	Property Owner	Sample Date	Oxygenates							Lead Scavengers		
			Ethanol <sup>1</sup>	TBA <sup>1</sup>	MTBE <sup>1</sup>	ETBE <sup>1</sup>	TAME <sup>1</sup>	DPE <sup>1</sup>	EDB <sup>1</sup>	EDC <sup>1</sup>		
MW21	TOC	09/26/05	<150	<50.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
		12/20/05	<1,000	<200	<1	<1	<1	<1	<1	<1	<1	
		02/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW22	TOC	08/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		09/26/05	<150	<50.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW23	TOC	12/20/05	<1,000	<200	<1	<1	<1	<1	<1	<1	<1	
		02/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW24	TOC	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		02/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		09/27/05	<150	<50.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00		
MW25	TOC	02/22/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		08/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW26	TOC	02/03/09	—	—	<1	—	—	—	—	—	—	
		07/30/09	—	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW27	TOC	09/27/05	<150	<50.0	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
		12/21/05	<1,000	<200	<1	<1	<1	<1	<1	<1	<1	
		02/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW28	TOC	08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		02/22/06	<1,000	<200	<1	<1	<1	<1	<1	<1	<1	
MW29	TOC	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		12/15/05	<1,000	<200	<1	<1	<1	<1	<1	<1	<1	
		02/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW30	TOC/Farmasolis	08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		12/15/05	<20,000	<4,000	<20	<20	<20	<20	<20	<20	<1	
MW31	TOC/Farmasolis	02/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		07/29/09	—	<50	<1	<1	<1	<1	<1	<1	1.7	
MW32	TOC	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		12/20/05	<1,000	<200	<1	<1	<1	<1	<1	<1	<1	
		02/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW33	TOC	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		02/10/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW34	TOC	01/27/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		08/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW35	TOC	01/27/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	—	—	—	—	—	—	—	—	—	
		01/27/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW36	TOC	01/27/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MPCA Method A <sup>2</sup>			NE	NE	20	NE	NE	NE	NE	NE	0.01	5



Table 3  
 Summary of Groundwater Analytical Results  
 Eight Common Fuel Additives  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Sample Location	Property Owner	Sample Date	Oxygenates							Lead Scavengers	
			Ethanol <sup>1</sup>	TBA <sup>1</sup>	MTBE <sup>1</sup>	ETBE <sup>1</sup>	TAME <sup>1</sup>	DtPE <sup>1</sup>	EDB <sup>1</sup>	EDC <sup>1</sup>	
MW37	TOC	01/27/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	—	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW38	TOC	01/27/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		08/23/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW39	TOC/Farmasolis	02/02/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	—	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW40	TOC/Farmasolis	08/24/06	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW41	TOC/Farmasolis	03/04/10	—	—	<1	—	—	—	—	—	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW42	TOC/Farmasolis	03/04/10	—	—	<1	—	—	—	—	—	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW43	ROW	03/04/10	—	—	<1	—	—	—	—	—	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW44	ROW	03/04/10	—	—	<1	—	—	—	—	—	<1
		08/24/06	<1,000	<50	<1	<1	<1	<1	<1	—	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW45	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW46	ROW	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW47	ROW	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW48	ROW	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW49	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW50	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW51	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW52	ROW	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW53	ROW	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW54	TOC/Farmasolis	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		02/03/09	—	—	<1	—	—	—	—	—	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW55	ROW	02/03/09	—	—	<1	—	—	—	—	—	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW56	TOC/Farmasolis	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW57	TOC/Farmasolis	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		02/03/09	—	—	<1	—	—	—	—	—	2.4
MW58	TOC/Farmasolis	02/03/09	—	—	<1	—	—	—	—	—	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW59	TOC/Farmasolis	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW60	ROW	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW61	ROW	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW62	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW63	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW64	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		02/03/09	—	—	<1	—	—	—	—	—	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW65	Drake	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		06/05/12	—	—	<1	—	—	—	—	—	<1
MW66	TOC/Farmasolis	09/11/12	—	—	<1	—	—	—	—	—	<1
		12/05/12	—	—	<1	—	—	—	—	—	<1
		03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW67	Drake	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
		02/03/09	—	—	<1	—	—	—	—	—	<1
MW68	Drake	02/03/09	—	—	<1	—	—	—	—	—	<1
		07/30/09	—	<50	<1	<1	<1	<1	<1	<1	<1
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1
MW69	Drake	03/06/12	—	—	<1	—	—	—	—	—	<1
		06/05/12	—	—	<1	—	—	—	—	—	<1
		09/12/12	—	—	<1	—	—	—	—	—	<1
MTCA Method A <sup>2</sup>		12/04/12	—	—	<1	—	—	—	—	—	<1
			NE	NE	20	NE	NE	NE	NE	0.01	5

Table 3  
 Summary of Groundwater Analytical Results  
 Eight Common Fuel Additives  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Avenue West  
 Mountlake Terrace, Washington

Sample Location	Property Owner	Sample Date	Oxygenates						Lead Scavengers			
			Ethanol <sup>1</sup>	TBA <sup>1</sup>	MTBE <sup>1</sup>	ETBE <sup>1</sup>	TAME <sup>1</sup>	DPE <sup>1</sup>	EDB <sup>1</sup>	EDC <sup>1</sup>		
MW70	Drake	02/03/09	—	—	<1	—	—	—	—	<1	—	
		03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/06/12	—	—	<1	—	—	—	—	—	<1	
		06/05/12	—	—	<1	—	—	—	—	—	—	
MW71	Shin/Choi	09/12/12	—	—	<1	—	—	—	—	—	<1	
		12/04/12	—	—	<1	—	—	—	—	—	—	
MW72	Shin/Choi	10/9/2008	<10,000	<500	<10	<10	<10	<10	<10	<10	<10	
		07/29/09	—	<50	<1	<1	<1	<1	<1	<1	<1	
		03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		10/9/2008	<10,000	<500	190	<10	<10	<10	<10	<10	<10	
MW73	Shin/Choi	07/29/09	—	<50	71	<1	<1	<1	<1	<1	<1	
		03/01/10	<1,000	<50	120	<1	<1	<1	<1	<1	<1	
MW74	Shin/Choi	03/01/10	<1,000	130	770	<1	<1	<1	<1	<1	<1	
		11/07/08	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW75	ROW	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		02/03/09	—	—	<1	—	—	—	—	—	—	
MW76	Drake	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/06/12	—	—	<1	—	—	—	—	—	<1	
		02/03/09	—	—	<1	—	—	—	—	—	—	
		03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW77	Drake	02/03/09	—	—	<1	—	—	—	—	—	—	
		03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/06/12	—	—	<1	—	—	—	—	—	<1	
MW78	Drake	09/11/12	—	—	<1	—	—	—	—	—	—	
		12/04/12	—	—	<1	—	—	—	—	—	<1	
		02/03/09	—	—	<1	—	—	—	—	—	—	
		03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW79	TOC/Farmasolis	03/06/12	—	—	<1	—	—	—	—	—	<1	
		07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW80	TOC/Farmasolis	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW81	TOC/Farmasolis	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW82	TOC/Farmasolis	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW83	TOC/Farmasolis	11/21/11	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW84	Drake	03/07/12	—	—	<1	—	—	—	—	—	<1	
		06/05/12	—	—	<1	—	—	—	—	—	<1	
		09/12/12	—	—	<1	—	—	—	—	—	—	
		12/05/12	—	—	<1	—	—	—	—	—	<1	
MW85	Drake	WELL DAMAGED DURING INSTALLATION, REPAIRED ON 11/28/2011										
		03/06/12	—	—	<1	—	—	—	—	—	—	<1
		06/05/12	—	—	<1	—	—	—	—	—	—	—
		09/11/12	—	—	<1	—	—	—	—	—	—	—
		12/04/12	—	—	<1	—	—	—	—	—	—	<1
		10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/06/12	—	—	<1	—	—	—	—	—	—	<1
		06/05/12	—	—	<1	—	—	—	—	—	—	—
		09/11/12	—	—	<1	—	—	—	—	—	—	—
		12/04/12	—	—	<1	—	—	—	—	—	—	<1
		10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/06/12	—	—	<1	—	—	—	—	—	—	<1
MW87	Drake	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		03/06/12	—	—	<1	—	—	—	—	—	<1	
MW88	Drake	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
		10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1	<1	
MW89	Drake	03/06/12	—	—	<1	—	—	—	—	—	<1	
		06/05/12	—	—	<1	—	—	—	—	—	—	
		09/11/12	—	—	<1	—	—	—	—	—	—	
		12/04/12	—	—	<1	—	—	—	—	—	<1	
MTC Method A <sup>2</sup>			NE	NE	20	NE	NE	NE	NE	0.01	5	



**Table 3**  
**Summary of Groundwater Analytical Results**  
**Eight Common Fuel Additives**  
**TOC Holdings Co. Facility No. 01-176**  
**24205 56th Avenue West**  
**Mountlake Terrace, Washington**

Sample Location	Property Owner	Sample Date	Oxygenates						Lead Scavengers	
			Ethanol <sup>1</sup>	TBA <sup>1</sup>	MTBE <sup>1</sup>	ETBE <sup>1</sup>	TAME <sup>1</sup>	DIPE <sup>1</sup>	EDB <sup>1</sup>	EDC <sup>1</sup>
MW95	Drake	03/07/12	—	—	<1	—	—	—	—	<1
MW96	Drake	03/07/12	—	—	<1	—	—	—	—	<1
MW97	Drake	03/07/12	—	—	<1	—	—	—	—	<1
MW98	Drake	03/08/12	—	—	<1	—	—	—	—	<1
MW99	Drake	03/06/12	—	—	<1	—	—	—	—	<1
MW101	Drake	03/06/12	—	—	<1	—	—	—	—	<1
<b>MTCA Method A<sup>2</sup></b>			<b>NE</b>	<b>NE</b>	<b>20</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>0.01</b>	<b>5</b>

**NOTES:**

Results measured in µg/L.

Red denotes concentration exceeds MTCA Method A cleanup level.

Samples analyzed by North Creek Analytical, Inc., of Bothell, Washington. Data collected prior to 7/8/05 provided by previous consultants. Data collected since December 2005 analyzed by Friedman & Bruya of Seattle, Washington.

<sup>1</sup>Analyzed by U.S. Environmental Protection Agency Method 8260C.

<sup>2</sup>MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

- = not sampled/not analyzed
- < = not detected at concentration exceeding the laboratory reporting limit
- DIPE = diisopropyl ether
- Drake = Property at 24309 56th Avenue West
- Dry = groundwater not encountered in well
- EDB = 1,2-dibromoethane
- EDC = 1,2-dichloroethane
- ETBE = ethyl tertiary-butyl ether
- LNAPL = light non-aqueous phase liquid
- MTBE = methyl tertiary-butyl ether
- MTCA = Washington State Model Toxics Control Act
- NE = cleanup level not established
- ROW = right-of-way
- Shin/Choi = Property at 24325 56th Avenue West
- TAME = tertiary amyl methyl ether
- TBA = tertiary butyl alcohol
- TOC = Property at 24205 56th Avenue West (TOC Holdings Co. Facility No. 01-176)
- TOC/Farmasonis = Property at 24225 56th Avenue West



**Table 4**  
**Summary of Quality Assurance/Quality Control Analytical Results**  
**Fourth Quarter 2012**  
**TOC Holdings Co. Facility No. 01-176**  
**24205 56th Avenue West**  
**Mountlake Terrace, Washington**

Well ID / Type of Blank Sample	Sample ID	Property Identification	Sample Date	Sample Method	GRPH <sup>1</sup>	Benzene <sup>2</sup>	Toluene <sup>2</sup>	Ethyl-benzene <sup>2</sup>	Total Xylenes <sup>2</sup>	MTBE <sup>3</sup>	EDB <sup>3</sup>	EDC <sup>3</sup>
MW09	MW09-20121204-BL	TOC	12/04/12	Bladder Pump	5,500	28	25	73	720	--	--	--
MW09	MW09-20121205-PE	TOC	12/05/12	Peristaltic Pump	3,100	16	11	18	390	--	--	--
MW09	MW999-20121205-PE	TOC	12/05/12	Peristaltic Pump	3,000	15	10	18	380	--	--	--
MW09	MW09-20121205-BA	TOC	12/05/12	Bailer	2,100	11	5.1	8.4	110	--	--	--
MW32	MW32-20121205-PN	TOC	12/05/12	Pneumatic Pump	33,000	30	800	930	6,700	--	--	--
MW32	MW32-20121205-PN2	TOC	12/05/12	Pneumatic Pump	33,000	29	790	920	6,900	--	--	--
MW86	MW86-20121204-BL	Drake	12/04/12	Bladder Pump	860	0.77	<1	1.7	4.6	<1	--	<1
MW86	MW86-20121204-BL2	Drake	12/04/12	Bladder Pump	850	0.65	<1	1.5	4.2	<1	--	<1
Rinsate Blank	01176-20121203-R1	NA	12/03/12	NA	<100	<0.35	<1	<1	<3	<1	--	<1
Trip Blank	Trip Blank	TOC	11/30/12	NA	<100	<1	<1	<1	<3	--	--	--
Trip Blank	Trip Blank	TOC/Farmasonis	11/30/12	NA	--	--	--	--	--	--	--	--
Trip Blank	Trip Blank	ROW	11/30/12	NA	--	--	--	--	--	--	--	--
Trip Blank	Trip Blank	Drake	11/30/12	NA	<100	<0.35	<1	<1	<3	<1	--	<1
<b>MTCA Method A Cleanup Level<sup>4</sup></b>					<b>1,000/800<sup>a</sup></b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>1,000</b>	<b>20</b>	<b>0.01</b>	<b>5</b>

**NOTES:**

Results measured in µg/L.

Red denotes concentration exceeds MTCA Method A Cleanup Levels for groundwater.

Gray shading signifies QA/QC sample and results.

Samples analyzed by Friedman & Bruya, Inc. of Seattle, Washington.

<sup>1</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

<sup>2</sup>Analyzed by EPA Method 8021B or 8260C.

<sup>3</sup>Analyzed by EPA Method 8260C.

<sup>4</sup>MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

<sup>a</sup>1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

-- = not sampled/not analyzed

< = not detected at concentration exceeding the value of the laboratory reporting limit

µg/L = micrograms per liter

Drake = Property at 24309 56th Avenue West

EDB = 1,2-dibromoethane

EDC = 1,2-Dichloroethane

EPA = U.S. Environmental Protection Agency

GRPH = gasoline-range petroleum hydrocarbons

ID = identification

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NA = not applicable

ROW = right-of-way

TOC = Property at 24205 56th Avenue West (TOC Holdings Co. Facility No. 01-176)

TOC/Farmasonis = Property at 24225 56th Avenue West

**ATTACHMENT A**  
**PREPARATION OF GRPH AND BENZENE DISTRIBUTION FIGURES**



**Attachment A**  
**PREPARATION OF GRPH AND BENZENE DISTRIBUTION FIGURES**

---

**PREPARATION OF GRPH AND BENZENE DISTRIBUTION FIGURES**

SoundEarth prepared Figures 5.1 and 5.2 using RockWare, Inc. Surfer software (version 8.2) to illustrate subsurface conditions according to the methods described below:

- The base map for Figures 5.1 and 5.2 is based on a professional survey of the TOC Property, the TOC/Farmasonis Property, the Drake Property, and adjoining rights-of-way by Axis Survey & Mapping of Kirkland, Washington (Axis 2012) and supplemented by drawings by others (Time Oil Co. 1975, Reisdorff 1985, and K&S 2001). The property boundaries shown south of the Drake Property are approximate and are based on the parcel layout shown on county tax lot maps (Snohomish County Assessor's Office 2010). The backdrop photograph used for Figures 5.1 and 5.2 is an aerial photograph (USGS 2002), which has been scaled approximately to align with the base map in a manner that relates subsurface interpretations to surface features. Minor discrepancies between the survey and the aerial photograph are the result of photographic lens distortion.
- The GRPH and benzene distributions shown on Figures 5.1 and 5.2 were prepared using an inverse distance-weighted algorithm on the natural log value of the GRPH or benzene concentration. The natural log value was used because of the large variation in magnitude of the concentrations. This minimized the bias on the high concentration zones, "hot spots", by distributing the contours and color ramp on a logarithmic scale rather than a linear scale where there would be no contours on the lower side and all values would be biased high. The inverse distance-weighted algorithm scales concentration values proportional to the distance between data points. In other words, influence of values decreases with distance. The weighting can be increased or decreased by adjusting the power value in the equation. The higher the power, the more value is placed on close data points. SoundEarth used a low power value (power of 2) to leverage the effect of data at greater distances, especially between the two apparently separate plumes. Therefore, the shapes of the plumes are derivative of the configuration of the monitoring well network, the distances between individual monitoring wells, and interpolation of concentrations between data points. SoundEarth applied a linear drift of 90 degrees to preferentially connect data points in the north-south direction, rather than the default east-west setting, consistent with the overall direction of groundwater flow at the Interim Remedial Action Work Area. The linear drift algorithm interpolates data using an anisotropic ratio of 2 to limit the search neighborhood ellipse setting, such that concentrations appear to attenuate across shorter distances along the east-west axis than along the north-south axis between each pair of data points.
- In cases where LNAPL conditions were encountered, SoundEarth assigned values of 50,000 µg/L for GRPH and 500 µg/L for benzene concentrations, compared to a maximum dissolved GRPH concentration at the Interim Remedial Action Work Area of 37,000 µg/L (monitoring well MW48) and a maximum dissolved benzene concentration at the Interim Remedial Action Project Area of 220 µg/L (monitoring well MW48).

- In cases where concentrations of GRPH were not detected above the standard laboratory reporting limit of 100 µg/L, SoundEarth assigned a value of 0.00001 µg/L to each data point.
- In cases where concentrations of benzene were not detected above the standard laboratory reporting limit of 1 µg/L, SoundEarth assigned a value of 0.00001 µg/L to each data point. In the case where the benzene reporting limit was elevated due to sample dilution, SoundEarth assigned a value equal to one-half the elevated detection limit, 2.5 µg/L for monitoring well MW48.

Actual concentrations may vary from those illustrated on Figures 5.1 and 5.2 due to lithology, stratigraphy, well screen interval depths, and/or spacing between individual monitoring wells.

**ATTACHMENT B  
LABORATORY ANALYTICAL REPORTS**

***Friedman & Bruya, Inc. #212098***

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

December 14, 2012

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 6, 2012 from the TOC\_01-176\_20121206 WORFDB6, F&BI 212098 project. There are 5 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  
c: Suzy Stumpf  
SOU1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 6, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20121206 WORFDB6, F&BI 212098 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
212098-01	MW09-20121205-PE
212098-02	MW09-20121204-BL
212098-03	MW09-20121205-BA
212098-04	MW10-20121205-BA
212098-05	MW15-20121205-PN
212098-06	MW20-20121205-BA
212098-07	MW22-20121204-PE
212098-08	MW27-20121205-PN
212098-09	MW32-20121205-PN
212098-10	MW32-20121205-PN2
212098-11	MW999-20121205-PE
212098-12	Trip Blank-

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12  
 Date Received: 12/06/12  
 Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212098  
 Date Extracted: 12/07/12  
 Date Analyzed: 12/07/12 and 12/11/12

**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)
MW09-20121205-PE 212098-01 1/5	16	11	18	390	3,100	94
MW09-20121204-BL 212098-02 1/5	28	25	73	720	5,500	97
MW09-20121205-BA 212098-03	11	5.1	8.4	110	2,100	103
MW10-20121205-BA 212098-04	4.6	<1	19	63	4,900	120
MW15-20121205-PN 212098-05	<1	1.8	<1	9.7	300	95
MW20-20121205-BA 212098-06	<1	2.5	5.9	14	840	100
MW22-20121204-PE 212098-07	<1	<1	<1	<3	<100	98
MW27-20121205-PN 212098-08	5.8	69	220	2,800	11,000	102
MW32-20121205-PN 212098-09 1/20	30	800	930	6,700	33,000	103
MW32-20121205-PN2 212098-10 1/20	29	790	920	6,900	33,000	103
MW999-20121205-PE 212098-11 1/5	15	10	18	380	3,000	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212098

Date Extracted: 12/07/12

Date Analyzed: 12/07/12 and 12/11/12

**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)
Trip Blank 212098-12	<1	<1	<1	<3	<100	96
Method Blank 02-2256 MB	<1	<1	<1	<3	<100	95



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212098

**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: 212098-07 (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	88	65-118
Toluene	ug/L (ppb)	50	95	72-122
Ethylbenzene	ug/L (ppb)	50	95	73-126
Xylenes	ug/L (ppb)	150	94	74-118
Gasoline	ug/L (ppb)	1,000	100	69-134

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

212098

**SAMPLE CHAIN OF CUSTODY - TOC -**

ME 12/06/12 V4

Send Report To Dee Gardner / Suzy Stumpf  
 Company Sound Earth Strategies  
 Address 2811 Fairview Avenue East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <u>L. Namba, W. Camarada, T. Zandi, D. Naylor</u>	
PROJECT NAME/NO. <u>TOC Holdings - Mountlake Terrace</u> <u>0448 - 030-18</u> <u>01-176</u>	PO #
REMARKS <u>Trip Blank supplied by Laboratory</u>	GEMS Y / N

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED							Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals				
MW09- 20121205-PE	MW09	31	01A	12/05/12	1538	Water	3		✓	✓							
MW09- 20121204-BL	MW09	29	02	12/04/12	1647	Water	3		✓	✓							
MW09- 20121205-BA	MW09		03	12/05/12	1720	Water	3		✓	✓							
MW10- 20121205-BA	MW10		04	12/05/12	1430	Water	3		✓	✓							
MW15- 20121205-PN	MW15		05	12/05/12	1650	Water	3		✓	✓							
MW20- 20121205-BA	MW20		06	12/05/12	1437	Water	3		✓	✓							
MW22- 20121204-PE	MW22	31	07	12/04/12	1543	Water	3		✓	✓							
MW27- 20121205-PN	MW27		08	12/05/12	1700	Water	3		✓	✓							
MW32- 20121205-PN	MW32		09	12/05/12	1710	Water	3		✓	✓							
MW32- 20121205-PHZ	MW32		10	12/05/12	1715	Water	3		✓	✓							
MW999- 20121205-PE	MW999		11	12/05/12	1538	Water	3		✓	✓							
Trip Blank	TB		12A	12/1/12		Water	2		✓	✓							Hold

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Larry Namba</u>	<u>SES</u>	<u>12/06/12</u>	<u>15:35</u>
Received by: <u>[Signature]</u>	<u>HONG NGUYEN</u>	<u>FBI</u>	<u>✓</u>	<u>✓</u>
Relinquished by:				
Received by:				

***Friedman & Bruya, Inc. #212099***

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

December 12, 2012

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 6, 2012 from the TOC\_01-176\_20121206 WORFDB6, F&BI 212099 project. There are 4 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

c: Audrey Hackett, Beau Johnson, Suzy Stumpf  
SOU1212R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 6, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20121206 WORFDB6, F&BI 212099 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
212099-01	MW56-20121205-BL
212099-02	MW58-20121205-BL
212099-03	MW59-20121205-BL
212099-04	MW66-20121204-BA
212099-05	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212099

Date Extracted: 12/07/12

Date Analyzed: 12/07/12

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)
MW56-20121205-BL 212099-01	<1	<1	<1	<3	<100	96
MW58-20121205-BL 212099-02	<1	<1	<1	<3	<100	98
MW59-20121205-BL 212099-03	<1	<1	<1	<3	<100	97
MW66-20121204-BA 212099-04	<1	<1	<1	<3	<100	94
Method Blank 02-2256 MB	<1	<1	<1	<3	<100	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212099

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-G<sub>x</sub>**

Laboratory Code: 212098-07 (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	88	65-118
Toluene	ug/L (ppb)	50	95	72-122
Ethylbenzene	ug/L (ppb)	50	95	73-126
Xylenes	ug/L (ppb)	150	94	74-118
Gasoline	ug/L (ppb)	1,000	100	69-134



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

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

212099

SAMPLE CHAIN OF CUSTODY - Ramio's - ME 12/06/12 V3

Send Report To Dee Gardner / Suzy Stumpf  
 Company Sound Earth Strategies  
 Address 2811 Fairview Avenue East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <u>L. Narba, W. Camarda, T. Zandi, D. Naylor</u>	
PROJECT NAME/NO. <u>TOC Holdings - Mountlake Terrace</u> <u>0440-030-18</u> <u>01-176</u>	PO #
REMARKS <u>Trip Blank supplied by laboratory</u>	GEMS Y / N

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED						Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals		
<sup>MW56-</sup> 2012-12-05-BL	MW56	47.5	01A	12/05/12	1226	Water	3		✓	✓					
<sup>MW58-</sup> 2012-12-05-BL	MW58	46.5	02	12/05/12	1100	Water	3		✓	✓					
<sup>MW59-</sup> 2012-12-05-BL	MW59	47	03	12/05/12	1140	Water	3		✓	✓					
<sup>MW66-</sup> 2012-12-04-BA	MW66		04	12/04/12	1228	Water	3		✓	✓					
Trip Blank	TB		05A	12/30/12		Water	2		✓	✓					Hold

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Larry Narba	SES	12/06/12	15:35
Received by: <u>[Signature]</u>	HONG NGUYEN	PAI	✓	✓
Relinquished by:				
Received by:				

***Friedman & Bruya, Inc. #212100***

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

December 14, 2012

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 6, 2012 from the TOC\_01-176\_20121206 WORFDB6, F&BI 212100 project. There are 7 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

c: Audrey Hackett, Beau Johnson, Suzy Stumpf  
SOU1214R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 6, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20121206 WORFDB6, F&BI 212100 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
212100-01	01176-20121203-R1

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212100

Date Extracted: 12/10/12

Date Analyzed: 12/10/12

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
01176-20121203-R1 212100-01	<100	99
Method Blank 02-2258 MB	<100	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	01176-20121203-R1	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/10/12	Lab ID:	212100-01
Date Analyzed:	12/10/12	Data File:	121008.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
1,2-Dichloroethane (EDC)	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/10/12	Lab ID:	02-2243 mb
Date Analyzed:	12/10/12	Data File:	121007.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
1,2-Dichloroethane (EDC)	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212100

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 212125-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	99	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212100

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

Laboratory Code: 212125-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	74-127
Benzene	ug/L (ppb)	50	<0.35	101	76-125
Toluene	ug/L (ppb)	50	<1	96	76-122
Ethylbenzene	ug/L (ppb)	50	<1	97	69-135
m,p-Xylene	ug/L (ppb)	100	3.6	100	69-135
o-Xylene	ug/L (ppb)	50	<1	97	68-137
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	99	69-133

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	100	99	64-147	1
Benzene	ug/L (ppb)	50	97	97	69-134	0
Toluene	ug/L (ppb)	50	96	96	72-122	0
Ethylbenzene	ug/L (ppb)	50	98	97	77-124	1
m,p-Xylene	ug/L (ppb)	100	96	96	83-125	0
o-Xylene	ug/L (ppb)	50	96	97	86-121	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	101	73-132	1

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

212100

**A FILE CHAIN OF CUSTODY**

ME 12/06/12

Send Report To Dee Gardner / Suzy Stumpf  
 Company Sound Earth Strategies  
 Address 2811 Fairview Avenue East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

<b>SAMPLERS (signature)</b> <u>L. Namba, W. Camarada, T. Zandi, D. Naylor</u>	
<b>PROJECT NAME/NO.</b> <u>TOC Holdings - Mountlake Terrace</u> <u>0440-030-18</u> <u>01-176</u>	<b>PO #</b> 
<b>REMARKS</b> 	<b>GEMS Y / N</b> 

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED								Notes			
								NWTPH-DX	NWTPH-GX	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-9 Metals	BTEX, MIBET, ETC by 8260C					
01176-20121283-R1	Equipment Inside		011E	12/03/12	1545	Water	3		/										

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Larry Namba</u>	<u>SES</u>	<u>12/06/12</u>	<u>15:35</u>
Received by: <u>[Signature]</u>	<u>HONG NGUYEN</u>	<u>FBI</u>	<u>✓</u>	<u>✓</u>
Relinquished by:				
Received by:				

***Friedman & Bruya, Inc. #212101***

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

December 12, 2012

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 6, 2012 from the TOC\_01-176\_20121206 WORFDB6, F&BI 212101 project. There are 4 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

c: Audrey Hackett, Beau Johnson, Suzy Stumpf  
SOU1212R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 6, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20121206 WORFDB6, F&BI 212101 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
212101-01	MW48-20121204-BA
212101-02	MW49-20121204-BA
212101-03	MW51-20121204-BA
212101-04	MW53-20121204-BA
212101-05	MW55-20121205-BL
212101-06	MW60-20121205-BL
212101-07	MW63-20121204-BL
212101-08	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/12  
 Date Received: 12/06/12  
 Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212101  
 Date Extracted: 12/07/12  
 Date Analyzed: 12/07/12

**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 50-150)
MW48-20121204-BA 212101-01 1/40	62	<40	390	3,000	21,000	102
MW49-20121204-BA 212101-02	<1	<1	<1	<3	<100	101
MW51-20121204-BA 212101-03	<1	<1	<1	<3	<100	92
MW53-20121204-BA 212101-04	<1	<1	<1	<3	<100	93
MW55-20121205-BL 212101-05	<1	<1	<1	<3	<100	90
MW60-20121205-BL 212101-06	<1	<1	<1	<3	<100	80
MW63-20121204-BL 212101-07	<1	<1	<1	<3	<100	86
Method Blank 02-2255 MB	<1	<1	<1	<3	<100	96



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212101

**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: 212075-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<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	98	65-118
Toluene	ug/L (ppb)	50	96	72-122
Ethylbenzene	ug/L (ppb)	50	95	73-126
Xylenes	ug/L (ppb)	150	94	74-118
Gasoline	ug/L (ppb)	1,000	100	69-134

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.
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- 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.

212101

**SAMPLE CHAIN OF CUSTODY - ROW - HE 12/06/12**

V2

Send Report To Dee Gardner / Suzy Stumpf  
 Company Sound Earth Strategies  
 Address 2811 Fairview Avenue East, Suite 2000  
 City, State, ZIP Seattle WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1967

SAMPLERS (signature) <u>L. Namba, W. Camarillo, T. Zandi, D. Naylor</u>	
PROJECT NAME/NO. <u>TCC Holdings - Mountlake Terrace</u> <u>0446-030-18</u> <u>01-176</u>	PO #
REMARKS <u>Trip Blank supplied by laboratory.</u>	GEMS Y / N

Page # 1 of 1

**TURNAROUND TIME**  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by:

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED						Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals		
<u>MW48-20121204-BA</u> <u>MW48</u>	<u>MW48</u>		<u>01 A</u>	<u>12/04/12</u>	<u>1255</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>20121204-BA</u> <u>MW49</u>	<u>MW49</u>		<u>02</u>	<u>12/04/12</u>	<u>1533</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>20121204-BA</u> <u>MW51</u>	<u>MW51</u>		<u>03</u>	<u>12/04/12</u>	<u>1456</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>20121204-BA</u> <u>MW53</u>	<u>MW53</u>		<u>04</u>	<u>12/04/12</u>	<u>1510</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>20121205-BL</u> <u>MW55</u>	<u>MW55</u>		<u>05</u>	<u>12/05/12</u>	<u>1426</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>20121205-BL</u> <u>MW60</u>	<u>MW60</u>		<u>06</u>	<u>12/05/12</u>	<u>1551</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>20121204-BL</u> <u>MW63</u>	<u>MW63</u>		<u>07</u>	<u>12/04/12</u>	<u>1547</u>	<u>Water</u>	<u>3</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>Trip Blank</u>	<u>TB</u>		<u>08 B</u>	<u>11/30/12</u>	<u>-</u>	<u>Water</u>	<u>2</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<u>Hold</u>

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Larry Namba</u>	<u>SES</u>	<u>12/06/12</u>	<u>15:35</u>
Received by: <u>[Signature]</u>	<u>HONG NZ-UYEN</u>	<u>FPII</u>	<u>✓</u>	<u>✓</u>
Relinquished by:				
Received by:				

***Friedman & Bruya, Inc. #212102***

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

December 14, 2012

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 6, 2012 from the TOC\_01-176\_20121206 WORFDB6, F&BI 212102 project. There are 16 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

c: Audrey Hackett, Beau Johnson, Suzy Stumpf  
SOU1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 6, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20121206 WORFDB6, F&BI 212102 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
212102-01	MW65-20121205-BL
212102-02	MW69-20121204-PN
212102-03	MW70-20121204-PN
212102-04	MW77-20121204-BA
212102-05	MW84-20121205-PN
212102-06	MW85-20121204-BL
212102-07	MW86-20121204-BL
212102-08	MW86-20121204-BL2
212102-09	MW89-20121204-BL
212102-10	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12  
Date Received: 12/06/12  
Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212102  
Date Extracted: 12/10/12  
Date Analyzed: 12/10/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 51-134)
MW65-20121205-BL 212102-01	<100	99
MW69-20121204-PN 212102-02	200	100
MW70-20121204-PN 212102-03	<100	100
MW77-20121204-BA 212102-04	<100	102
MW84-20121205-PN 212102-05	1,000	93
MW85-20121204-BL 212102-06	<100	101
MW86-20121204-BL 212102-07	860	105
MW86-20121204-BL2 212102-08	850	105
MW89-20121204-BL 212102-09	<100	98
Trip Blank 212102-10	<100	99
Method Blank 02-2258 MB	<100	100

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW65-20121205-BL	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-01
Date Analyzed:	12/07/12	Data File:	120716.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW69-20121204-PN	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-02
Date Analyzed:	12/07/12	Data File:	120725.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	1.5
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	2.8
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW70-20121204-PN	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-03
Date Analyzed:	12/07/12	Data File:	120717.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	1.5
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW77-20121204-BA	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-04
Date Analyzed:	12/07/12	Data File:	120718.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW84-20121205-PN	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-05
Date Analyzed:	12/07/12	Data File:	120719.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	0.45
Toluene	<1
Ethylbenzene	17
m,p-Xylene	40
o-Xylene	1.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW85-20121204-BL	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-06
Date Analyzed:	12/07/12	Data File:	120720.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW86-20121204-BL	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-07
Date Analyzed:	12/07/12	Data File:	120721.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	0.77
Toluene	<1
Ethylbenzene	1.7
m,p-Xylene	4.6
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW86-20121204-BL2	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-08
Date Analyzed:	12/07/12	Data File:	120722.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	0.65
Toluene	<1
Ethylbenzene	1.5
m,p-Xylene	4.2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW89-20121204-BL	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-09
Date Analyzed:	12/07/12	Data File:	120723.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank	Client:	SoundEarth Strategies
Date Received:	12/06/12	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	212102-10
Date Analyzed:	12/07/12	Data File:	120724.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20121206 WORFDB6
Date Extracted:	12/07/12	Lab ID:	02-2242 mb
Date Analyzed:	12/07/12	Data File:	120706.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212102

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 212125-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	99	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/14/12

Date Received: 12/06/12

Project: TOC\_01-176\_20121206 WORFDB6, F&BI 212102

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

Laboratory Code: 212092-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	74-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	95	69-133
Benzene	ug/L (ppb)	50	<0.35	94	76-125
Toluene	ug/L (ppb)	50	<1	95	76-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
m,p-Xylene	ug/L (ppb)	100	<2	95	69-135
o-Xylene	ug/L (ppb)	50	<1	94	68-137

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	95	85	64-147	11
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	89	73-132	5
Benzene	ug/L (ppb)	50	93	88	69-134	6
Toluene	ug/L (ppb)	50	95	89	72-122	7
Ethylbenzene	ug/L (ppb)	50	95	90	77-124	5
m,p-Xylene	ug/L (ppb)	100	95	90	83-125	5
o-Xylene	ug/L (ppb)	50	94	88	86-121	7

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

212102

**SAMPLE CHAIN OF CUSTODY**

**- Drake -**

ME 12/06/12 V3

Page # 1 of 1

Send Report To Dee Gardner / Suzy Stumpf  
 Company Sound Earth Strategies  
 Address 2811 Fairview Avenue East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <u>L. Namba, W. Camarda, T. Zandi, D. Naylor</u>	
PROJECT NAME/NO. <u>TOC Holdings - Mountlake Terrace</u> <u>0448-030-18</u> <u>01-176</u>	PO #
REMARKS <u>Trip Blank supplied by Laboratory</u>	GEMS Y / N

<b>TURNAROUND TIME</b>	
<input checked="" type="checkbox"/> Standard (2 Weeks)	
<input type="checkbox"/> RUSH	
Rush charges authorized by:	
<b>SAMPLE DISPOSAL</b>	
<input checked="" type="checkbox"/> Dispose after 30 days	
<input type="checkbox"/> Return samples	
<input type="checkbox"/> Will call with instructions	

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED							Notes		
								NW1PH-Dx	NW1PH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals	BTEX, MTBE, etc. by EPA 8240C			
<u>MW65-20121205-BL</u>	<u>MW65</u>	<u>45</u>	<u>01A</u>	<u>12/05/12</u>	<u>1639</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW69-20121204-PN</u>	<u>MW69</u>		<u>02</u>	<u>12/04/12</u>	<u>1626</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW70-20121204-PN</u>	<u>MW70</u>		<u>03</u>	<u>12/04/12</u>	<u>1655</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW77-20121204-BA</u>	<u>MW77</u>		<u>04</u>	<u>12/04/12</u>	<u>1033</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW84-20121205-PN</u>	<u>MW84</u>		<u>05</u>	<u>12/05/12</u>	<u>1440</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW85-20121204-BL</u>	<u>MW85</u>		<u>06</u>	<u>12/04/12</u>	<u>1425</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW86-20121204-BL</u>	<u>MW86</u>		<u>07</u>	<u>12/04/12</u>	<u>1309</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW86-20121204-BLZ</u>	<u>MW86</u>		<u>08</u>	<u>12/04/12</u>	<u>1401</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>MW89-20121204-BL</u>	<u>MW89</u>		<u>09</u>	<u>12/04/12</u>	<u>1658</u>	<u>Water</u>	<u>4</u>		<input checked="" type="checkbox"/>								
<u>Trip Blank</u>	<u>MW TB</u>		<u>10</u>	<u>11/30/12</u>		<u>Water</u>	<u>2</u>		<input checked="" type="checkbox"/>								

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Larry Namba</u>	<u>SES</u>	<u>12/06/12</u>	<u>15:35</u>
Received by: <u>[Signature]</u>	<u>HONG NGUYEN</u>	<u>FBI</u>	<u>✓</u>	<u>✓</u>
Relinquished by:				
Received by:				



SoundEarth Strategies, Inc.  
2811 Fairview Avenue East, Suite 2000  
Seattle, Washington 98102

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## OPERATION AND MAINTENANCE REPORT

---

FIRST QUARTER 2013



**Property:**

TOC Holdings Co. Facility No. 01-176  
24205 56<sup>th</sup> Avenue West  
Mountlake Terrace, Washington

**Prepared for:**

TOC Holdings Co.  
2737 West Commodore Way  
Seattle, Washington

**Report Date:**

June 27, 2013

**DRAFT – ISSUED FOR ECOLOGY REVIEW**

## Operation and Maintenance Report, First Quarter 2013

*Prepared for:*

**TOC Holdings Co.**  
2737 West Commodore Way  
Seattle, Washington 98199

TOC Holdings Co.  
24205 56<sup>th</sup> Avenue West  
Mountlake Terrace, Washington 98043

Project No.: 0440-030

*Prepared by:*

**DRAFT**

---

Timothy S. Murphy, PE  
Principal Engineer

*Reviewed by:*

**DRAFT**

---

Deborah H. Gardner, LG, LHG, LEG  
Project Manager

June 27, 2013





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Laboratory Analytical Reports for Vapor

- Friedman & Bruya, Inc. #301077*
- Friedman & Bruya, Inc. #301078*
- Friedman & Bruya, Inc. #301079*
- Friedman & Bruya, Inc. #302045*
- Friedman & Bruya, Inc. #302046*
- Friedman & Bruya, Inc. #302047*
- Friedman & Bruya, Inc. #303034*
- Friedman & Bruya, Inc. #303035*
- Friedman & Bruya, Inc. #303036*

Laboratory Analytical Reports for Water

- Friedman & Bruya, Inc. #301080*
- Friedman & Bruya, Inc. #302048*
- Friedman & Bruya, Inc. #303037*
- Friedman & Bruya, Inc. #301082*
- Friedman & Bruya, Inc. #302050*
- Friedman & Bruya, Inc. #303184*
- Friedman & Bruya, Inc. #301081*
- Friedman & Bruya, Inc. #302049*
- Friedman & Bruya, Inc. #303039*

### ACRONYMS AND ABBREVIATIONS

lb/day	pounds per day
mg/m <sup>3</sup>	milligrams per cubic meter
µg/L	micrograms per liter
Agreed Order	Agreed Order No. DE 8661
AWS	air/water separator
BTEX	benzene, toluene, ethylbenzene, and total xylenes
DMR	Discharge Monitoring Report
Drake Property	24309 56 <sup>TH</sup> Avenue West in Mountlake Terrace, Washington
Ecology	Washington State Department of Ecology
former DPE system	a dual-phase extraction remediation system installed at the TOC Property in 1996 and operated until October 2004
GAC	granular-activated carbon
gallons/day	gallons per day
GRPH	gasoline-range petroleum hydrocarbons
LNAPL	light nonaqueous-phase liquid
MPE	multi-phase extraction
NOC	Notice of Construction
O&M	operation and maintenance
OWS	oil/water separator
PCC	pump cycle counter
ppmv	parts per million vapor
PSCAA	Puget Sound Clean Air Agency
ROW	right-of-way
SoundEarth	SoundEarth Strategies, Inc.

**TABLE OF CONTENTS (CONTINUED)**

SVE	soil vapor extraction
TOC	TOC Holdings Co.
TOC Property	24205 56 <sup>th</sup> Avenue West in Mountlake Terrace, Washington
TOC/Farmasonis Property	24225 56 <sup>th</sup> Avenue West in Mountlake Terrace, Washington
TPH-G	total petroleum hydrocarbons – gasoline

## **EXECUTIVE SUMMARY**

This report documents the First Quarter 2013 operation and maintenance activities associated with interim remedial action implemented at TOC Holdings Co. Facility No. 01-176 located at 24205 56<sup>th</sup> Avenue West in Mountlake Terrace, Washington (TOC Property). Interim remedial actions have been implemented at the Interim Remedial Action Project Area, which encompasses the TOC Property, the property located at 24225 56<sup>th</sup> Avenue West (TOC/Farmasonis Property), the property located at 24309 56<sup>th</sup> Avenue West (Drake Property), and portions of the 56<sup>th</sup> Avenue West right-of-way, as defined in Agreed Order No. DE 8661.

Three multi-phase extraction systems have been installed at the Interim Remedial Action Project Area. This report includes a description of the multi-phase extraction systems, permit compliance, performance, and optimization efforts. A summary of First Quarter 2013 multi-phase extraction system performance is provided below:

- A combined total of 55.9 pounds of vapor-phase hydrocarbons was removed during this reporting period, and a cumulative total of 1,481.7 pounds since startup. In addition, a volume of 56,683 gallons groundwater was extracted, treated, and discharged during this period. The total volume of water processed since system startup is approximately 175,910 gallons.
- System optimization activities during this reporting period focused on investigating the back pressures observed at the granular-activated carbon canisters. Evaluation of the installation of bag filters to minimize back pressure issues is underway. The back pressure causes the oil/water separator to high level and this shuts down the systems.
- The air compressor at the TOC Property has been having issues with a motor starter tripping. Investigation as to the cause of the compressor issue is currently underway.
- Installation of pump cycle counters continued during this quarter. The pump cycle counters will provide data used to balance the systems and monitor the performance of the pumps.
- Installation of flow meters required by the City of Mountlake Terrace (the City) to monitor the volume of water discharged to the sewer. These meters were equipped with telemetry compatible with the City's remote meter monitoring system.
- The granular-activated carbon canisters with pin hole leaks were replaced, and the new canisters were placed on drum platforms to eliminate electrolysis/corrosion which was assumed to be the cause of the leaks. All process water was contained in secondary containment (spill pans) and then processed through the system.

## **1.0 INTRODUCTION**

This report documents the First Quarter 2013 operation and maintenance (O&M) activities associated with interim remedial action implemented at TOC Holdings Co. (TOC) Facility No. 01-176 located at 24205 56<sup>th</sup> Avenue West in Mountlake Terrace, Washington (TOC Property). Interim remedial actions have been implemented at the Interim Remedial Action Project Area, which encompasses the TOC Property, the property located at 24225 56<sup>th</sup> Avenue West (TOC/Farmasonis Property), the property located at 24309 56<sup>th</sup> Avenue West (Drake Property), and portions of the 56<sup>th</sup> Avenue West right-of-way (ROW), as defined in Agreed Order No. DE 8661 (Agreed Order).

This report includes descriptions of the remediation systems, permit compliance, system performance, and system optimization efforts.

## **2.0 SYSTEM DESCRIPTION**

The following is a brief description of the remedial system history, current system configurations, and a description of system modifications.

### **2.1 SYSTEM BACKGROUND**

Time Oil Co. (currently TOC Holdings Co.) formerly operated a retail gasoline station on the TOC Property, which is currently vacant. One 8,000-gallon and two 6,000-gallon underground storage tanks were removed from the TOC Property in 1991. A dual-phase extraction remediation system (former DPE system) was installed at the TOC Property in 1996 and operated until October 2004. Since August 2005, SoundEarth Strategies Inc. (SoundEarth) has conducted groundwater monitoring and resumed remedial investigations to the south and west of the TOC Property. In 2006, SoundEarth confirmed the gasoline contamination extends off the TOC Property to the south and west. The former DPE system was removed and three multi-phase extraction (MPE) systems were installed between November 2011 and August 2012. The three MPE systems began operating in October 2012.

MPE is an in situ remedial technology that simultaneously extracts multiple fluid phases from remediation wells. The phases generally include vapor-phase, dissolved-phase, and light nonaqueous-phase petroleum hydrocarbons (LNAPL).

### **2.2 CURRENT SYSTEM**

Each MPE system consists of a self-contained, aboveground equipment enclosure. The MPE system for the TOC Property is located within a fenced enclosure on the TOC Property. The MPE systems for the TOC/Farmasonis and Drake Properties are co-located together within a fenced enclosure located on the eastern half of the TOC/Farmasonis Property. The three MPE systems are basically identical to each other, with the exception of their orientation, mirror-image layouts, and the number of remediation wells serving each MPE system. A total of 24 remediation wells serve the three MPE systems: 9 wells at the TOC Property, 6 wells at the TOC/Farmasonis Property, and 9 wells at the Drake Property (Figure 1). The individual MPE equipment enclosures were custom fabricated in accordance with the Washington State Department of Labor and Industry requirements for factory assembled structures.

Each of the remediation wells is equipped with a down-hole pneumatic pump to extract petroleum-impacted groundwater (dissolved-phase petroleum hydrocarbons) and recoverable LNAPL. In addition, each MPE system is equipped with a soil vapor extraction (SVE) blower. The SVE blowers are intended to extract soil vapors (vapor-phase petroleum hydrocarbons) from the remediation wells. Process piping is utilized to convey recovered fluids (groundwater, LNAPL, and vapor) from the remediation wells to the MPE system enclosures. The piping and instrumentation diagram presented on Figure 2 illustrates the process flow and major mechanical equipment associated with treatment systems.

Extracted groundwater is conveyed to each MPE system for phase separation, treatment, and permitted discharge to sanitary sewer in accordance with Washington State Department of Ecology (Ecology), State Waste Discharge Permit No. ST0007384. The extracted groundwater is processed through an oil/water separator (OWS) which is designed to process up to 10 gallons per minute. The effluent from the OWS is pumped through three 55-gallon granular-activated carbon (GAC) canisters to remove dissolved-phase volatile organic compounds prior to being discharged to the sanitary sewer. LNAPL recovered with the OWS will be temporarily stored in a 55-gallon product drum prior to disposal or recycling.

The SVE blower(s) creates the vacuum pressure necessary to extract soil vapors from the remediation wells. The extracted soil vapors are processed through an air/water separator (AWS) and a catalytic oxidizer. The AWS removes particulate and liquids from the air stream to prevent damage to the SVE blower and ancillary equipment. The vapors are thermally treated by the catalytic oxidizer prior to being discharged to the atmosphere, in accordance with the Puget Sound Clean Air Agency (PSCCA) Notice of Construction (NOC) No. 10384.

### **2.3 SYSTEM MODIFICATIONS**

Totalizing flow meters and modifications to the GAC spill pan were performed during the First Quarter of 2013.

The City of Mountlake Terrace (the City) required the installation of flow meters to monitor volume of water discharged to the sewer. These meters were equipped with telemetry compatible with the City's remote meter monitoring system. The flow meters were installed on the exterior of the remedial system enclosures. Heat trace and insulation were added to the piping and meter to provide freeze protection.

The GAC spill pans were modified to lift the GAC canisters above the floor of the spill pan to prevent electrolysis, which was assumed to be causing pin hole leaks in the canisters. This will be an ongoing modification to the spill pans until all GAC canisters are lifted and placed on a non-conductive, nonmetal drum platform.

### **3.0 PERMITS**

State, regional, and local permit requirements apply to the interim remedial action. Pursuant to the Revised Code of Washington 70.105D.090(1), TOC's interim remedial actions under the Agreed Order are exempt from the procedural requirements of any laws requiring or authorizing local government permits or approvals; however, TOC must comply with the substantive requirements of such permits or approvals.

Local requirements for clearing, grading, and erosion control activities were addressed through review under the State Environmental Policy Act, which included public comment period through September 26, 2011. State and regional permit requirements beyond the jurisdiction of the Agreed Order are discussed in Sections 3.1 (State Waste Discharge Permit), 3.2 (PSCAA Order of Approval), and 3.3 (Special Use Permit).

### **3.1 STATE WASTE DISCHARGE PERMIT**

State Waste Discharge Permit ST0007384 authorizes and regulates operation of and discharges from the three MPE systems on the premises, effective July 2, 2012, through June 19, 2017. The three MPE systems discharge to one of two outfalls on the premises. The MPE system situated at the TOC Property discharges to Outfall 001, and the two MPE systems situated at the TOC/Farmasonis Property discharge to Outfall 002. Ecology's Water Quality Program administers the wastewater discharge permit, wastewater compliance sampling, record-keeping, and submittal schedule. Discharge Monitoring Reports (DMRs) are submitted to Ecology monthly. The DMR is a summary report which presents the monitoring data obtained during the reporting period. A summary of the maximum daily effluent limits established by the permit are summarized below:

- The maximum daily volumes of water to be discharged to Outfalls 001 and 002 are 7,000 and 14,000 gallons per day (gallons/day), respectively.
- pH shall be between 6 and 10 standard units.
- Benzene concentrations shall not exceed 5 micrograms per liter ( $\mu\text{g/L}$ ).
- Benzene, toluene, ethylbenzene, and total xylene (BTEX) cumulative concentration shall not exceed 100  $\mu\text{g/L}$ .
- Total petroleum hydrocarbons, gasoline range (TPH-G) shall not exceed 1,000  $\mu\text{g/L}$ .
- Total lead shall not exceed 1,090  $\mu\text{g/L}$ .

### **3.2 PSCAA ORDER OF APPROVAL**

PSCAA issued an Order of Approval for NOC 10384 on May 13, 2012, which establishes the conditions and restrictions for the operation of the catalytic oxidizers. The key conditions and restrictions are summarized below:

- All emissions from each of the three SVE blowers shall be routed through their associated catalytic oxidizer.
- The flow through each catalytic oxidizer shall not exceed 350 standard cubic feet per minute. The flow rate shall be monitored monthly.
- The temperature of the vapor entering the catalytic bed shall be at least 240 degrees Celsius (464 degrees Fahrenheit), and the temperature of the vapor exiting the oxidizer bed shall not exceed 620 degrees Celsius (1148 degrees Fahrenheit).
- The destruction and removal efficiency of the TPH-G flowing into and out of the catalytic oxidizer shall be 95 percent unless the concentration of TPH-G in the vapor exiting the catalytic oxidizer does not exceed 50 parts per million vapor (ppmv).



- The catalytic oxidizers may be removed and SVE emissions can be vented directly to the atmosphere through a stack provided the benzene and TPH-G concentrations remain below 0.5 and 50 ppmv, respectively, for a period of 3 consecutive months. The catalytic oxidizer shall be reactivated if concentrations of benzene or TPH-G exceed 0.5 or 50 ppmv, respectively.

### **3.3 SPECIAL USE PERMIT**

The Special Use Permit executed between TOC and the City addresses interim remedial activities that extend into city ROWs. Specifically, the Special Use Permit (1) allows the discharge of treated wastewater to the City sanitary sewer network for conveyance to the City of Edmonds publicly owned treatment works under the State Waste Discharge Permit and (2) retroactively administers the installation, maintenance, repair and/or decommissioning of Interim Remedial Action Project Area monitoring wells that are located in city ROWs.

### **4.0 SYSTEM PERFORMANCE**

Prior to system startup, concentrations of BTEX and/or gasoline-range petroleum hydrocarbons (GRPH) in groundwater exceeded their respective Washington State Model Toxics Control Act Method A cleanup levels in 17 out of 68 Intermediate Zone wells (including Intermediate Zone wells that intersect Shallow Zone conditions) situated within the Interim Remedial Action Project Area, including 13 of the 24 Intermediate Zone wells that are connected to one of the three remediation systems.

#### **4.1 TOC PROPERTY**

The following is a summary of the First Quarter 2013 system O&M at the TOC Property:

- The MPE run time this quarter was approximately 40 percent (Table 1A). System down time is attributed to installation of a new flow meter, a GAC canister fouling and taking the canister offline to clean it out, oil/water separator high level alarms, and shutdowns from the air compressor motor starter.
- The vapor-phase hydrocarbon mass removal associated with the SVE system was approximately 42.1 pounds, and aqueous-phase hydrocarbon removal associated with the GAC treatment process was approximately 1 pound for this reporting period. The cumulative vapor-phase and aqueous-phase hydrocarbon removal to date is approximately 963.3 pounds (Tables 1A, 2A, and 3A).
- The volume of groundwater extracted during this reporting period was 7,655.9 gallons (Table 1A and 3A). The average flow rate of groundwater recovery was 86.0 gallons/day (Table 1A and 3A).
- The SVE cumulative mass removed increased at a fairly low rate during the quarter. The daily mass removal rate ranged from 0.46 to 1.3 (lb/day) during this quarter (Table 2A).
- The effluent concentration of GRPH exiting the catalytic oxidizer was not detected at concentrations above the laboratory's lower reporting limit of 10 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ; 2.329 ppmv; Table 4A).
- All system operations were in compliance with Ecology's Water Quality Program and PSCAA permits (Tables 4A and 5A).

#### 4.2 TOC/FARMASONIS PROPERTY

The following is a summary of the First Quarter 2013 system O&M at the TOC/Farmasonis Property:

- The MPE run time this quarter was approximately 59 percent (Table 1B). System down time is attributed to maintenance on the GAC canisters due to fouling, replacement of two out of three GAC canisters due to leaks, and installation of a new flow meter.
- The vapor-phase hydrocarbon mass removal associated with the SVE system was approximately 9.1 pounds, and aqueous-phase hydrocarbon removal associated with the GAC treatment process was less than 0.01 pounds for this reporting period. The cumulative vapor-phase and aqueous-phase hydrocarbon removal to date is approximately 486.5 pounds (Tables 1B, 2B, and 3B).
- The volume of groundwater extracted during this reporting period was approximately 18,758 gallons (Table 1B and 3B). The average flow rate of groundwater recovery was 211 gallons/day (Table 1B and 3B).
- The daily vapor mass removal rate ranged from 0.07 to 0.19 lb/day during this quarter (Table 2B).
- The effluent concentration of GRPH exiting the catalytic oxidizer was not detected at concentrations above the laboratory's lower reporting limit of 10 mg/m<sup>3</sup> (2.329 ppmv; Table 4B).
- All system operations were in compliance with Ecology's Water Quality Program and PSCAA permits (Tables 4B and 5B).

#### 4.3 DRAKE PROPERTY

The following is a summary of the First Quarter 2013 system O&M at the Drake Property:

- The MPE run time this quarter was approximately 82 percent (Table 1C). System down time was attributed to installation of flow meters and GAC canister maintenance due to fouling.
- The vapor-phase hydrocarbon mass removal associated with the SVE system was approximately 4.7 pounds, and aqueous-phase hydrocarbon removal associated with the GAC treatment process was approximately 0.26 pounds for this reporting period. The cumulative vapor-phase and aqueous-phase hydrocarbon removal to date is approximately 35.6 pounds (Tables 1C, 2C, and 3C).
- The volume of groundwater extracted during this reporting period was approximately 30,268.8 gallons (Table 1C and 3C). The average flow rate of groundwater recovery was 340 gallons/day (Table 1C and 3C).
- The SVE cumulative mass removed has been slowly increasing since the system was started. The average daily vapor mass removal rate was 0.1 lb/day during this quarter (Table 2C).
- The effluent concentration of GRPH exiting the catalytic oxidizer was not detected at concentrations above the laboratory's lower reporting limit of 10 mg/m<sup>3</sup> (2.329 ppmv; Table 4C).
- All system operations were in compliance with Ecology's Water Quality Program and PSCAA permits (Tables 4C and 5C).

## **5.0 SYSTEM OPTIMIZATION AND FUTURE RECOMENDATIONS**

The following is a summary of the First Quarter 2013 system optimization and future recommendations for each of the MPE systems.

The MPE remediation systems will continue to operate until the terms and conditions of the Agreed Order have been satisfied in accordance with Section IX (Satisfaction of Order), or until the work to be performed has been amended in accordance with Section VIII.L (Amendment of Order). Specifically, “the provisions of [the] Order shall be deemed satisfied upon TOC’s receipt of written notification from Ecology that TOC has completed the remedial activity required by [the] Order, as amended by any modifications, and that TOC has complied with all other provisions of [the Agreed] Order.”

System optimization activities during this reporting period focused on observing full-scale operational conditions and investigating increasing back pressure at the GAC canisters. Additional optimization activities consisted of removing condensate liquids (water) from the SVE process piping, adjusting vacuum pressures on some of the wells to enhance vapor recovery, and continuing the installation of pump cycle counters (PCC) at each well. These activities are described in more detail below.

Condensate liquids are generated during SVE activities. The moist soil vapor air typically condenses in the below-ground process pipes and collects at the lowest point in the piping (SVE manifold). The condensate liquids typically restrict the volume of air extracted from the wells by slowly choking off the pipe. A double diaphragm pneumatic pump was used to extract condensate liquids from each of the SVE process pipes at the SVE Manifold. The extracted liquids were processed through the OWS and GAC canisters prior to discharge to the sanitary sewer. Between 1 and 5 gallons of condensate were removed from each manifold during maintenance activities.

The installation of PCCs continued during this quarter. The PCCs will provide information on the relative volume of water recovered from each well. This information will be used in the future to balance the system and monitor the performance of the pumps.

Some minor leaks and back pressure issues associated with the GAC canisters were encountered during this quarter. The leaking canisters were replaced. The new GAC canisters were placed upon drum platforms to prevent electrolysis/corrosion, which was assumed to be the cause of the pin hole leaks. Possible cause of the back pressure may be siltation within the lead GAC canister. The back pressure on the GAC canisters restricts the wastewater discharge flow rate resulting in water accumulating in the OWS and shutting down the system due to high level alarms. The installation of bag filters prior to the GAC canisters is currently being evaluated.

The City required the installation of a City-approved flow meter to record the amount of water discharged to the City’s sanitary sewers. The City flow meters were installed on the exterior of the remedial system enclosure.

## **6.0 LIMITATIONS**

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services

were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

**FIGURES**





**TABLES**





**Table 1A**  
**Summary of System Performance**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Ave West  
 Mountlake Terrace, Washington

*Draft - Issued for Ecology Review*

Reporting Period		Duration of Reporting Period (days)	System Run Time (days)	System Run Time (%)	Volume of Treated Groundwater Discharged (gallons)	Average Groundwater Recovered Flow Rate (gallons/day)	GRPH Aqueous-Phase Removal (lb)	GRPH Vapor-Phase Removal (lb)
Start Date	End Date							
10/02/12	12/05/12	64	30	46%	35,204.9	550.1	2.522	917.8
12/05/12	03/04/13	89	36	40%	7,655.9	86.0	0.918	42.1
<b>Average</b>				<b>43%</b>				
<b>Totals</b>		<b>153</b>	<b>65</b>		<b>42,860.8</b>		<b>3.439</b>	<b>959.9</b>

**NOTES:**

% = percent

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)



**Table 1B**  
**Summary of System Performance**  
**TOC Holdings Co. Facility No. 01-176**  
**24225 56th Ave West**  
**Mountlake Terrace, Washington**

*Draft - Issued for Ecology Review*

Reporting Period		Duration of Reporting Period (days)	System Run Time (days)	System Run Time (%)	Volume of Groundwater Discharged (gallons)	Average Groundwater Recovered Flow Rate (gallons/day)	GRPH Aqueous-Phase Removal (lb)	GRPH Vapor-Phase Removal (lb)
Start Date	End Date							
10/03/12	12/05/12	63.0	51.7	82%	12,858	204	0.005	477.4
12/05/12	03/04/13	89.0	52.5	59%	18,758	211	0.002	9.1
<b>Average</b>				<b>69%</b>				
<b>Totals</b>		<b>152</b>	<b>104</b>		<b>31,616.4</b>		<b>0.01</b>	<b>486.5</b>

NOTES:

% = percent

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)



Table 1C  
 Summary of System Performance  
 TOC Holdings Co. Facility No. 01-176  
 24309 56th Ave West  
 Mountlake Terrace, Washington

Draft - Issued for Ecology Review

Reporting Period		Duration of Reporting Period (days)	System Run Time (days)	System Run Time (%)	Volume of Groundwater Discharged (gallons)	Average Groundwater Recovered Flow Rate (gallons/day)	GRPH Aqueous-Phase Removal (lb)	GRPH Vapor-Phase Removal (lb)
Start Date	End Date							
10/02/12	12/05/12	64.0	58.6	92%	71,160	1,112	0.029	30.7
12/05/12	03/04/13	89.0	73.3	82%	30,268.8	340	0.258	4.7
<b>Average</b>				<b>86%</b>				
<b>Totals</b>		<b>153</b>	<b>132</b>		<b>101,429.0</b>		<b>0.288</b>	<b>35.3</b>

NOTES:

% = percent

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)



**Table 2A**  
**Vapor Stream - System Performance Monitoring Data**  
**TOC Holdings Co. Facility No. 01-176**  
**24205 56th Ave West**  
**Mountlake Terrace, Washington**

*Draft - Issued for Ecology Review*

Site Visit	Run Time		SVE Parameters		Catalytic Oxidizer		GRPH Removal		
	SVE Hour Meter	Total Time in Operation	SVE Pre-Filter Vacuum	Air Flow Rate <sup>(1)</sup>	Catalyst Entrance Temp.	Catalyst Exit Temp.	Influent Concentration <sup>(2)</sup>	Daily Mass Recovery Rate <sup>(3) (4)</sup>	Cumulative Recovered <sup>(5)</sup>
Date	(hours)	(days)	(iow)	(scfm)	(°C)	(°C)	(mg/m <sup>3</sup> )	(lb/day)	(lb)
10/02/12	5.0	0.21	70.0	146.8	330	380	1,600	21.1	0.000
10/10/12	70.2	2.93	69.0	149.2	330	419	2,600	27.9	75.906
10/17/12	237.7	9.90	69.0	149.2	330	410	3,400	40.2	356.743
10/24/12	406.9	16.95	68.0	144.4	330	385	2,400	38.3	626.562
11/07/12	638.2	26.59	73.0	140.7	330	384	1,700	26.3	879.751
12/05/12	714.2	29.76	67.0	148.0	330	344	150	12.0	917.763
01/08/13	1,482.9	61.79	65.0	153.8	330	342	35	1.3	957.955
01/17/13	1,533.7	63.90	76.0	153.0	330	350	--	--	--
02/05/13	1,537.6	64.07	64.0	148.6	330	342	53	0.6	959.318
03/04/13	1,569.4	65.39	27.0	173.0	330	342	<10	0.4	959.873
<b>PSCAA NOC-10384 Restrictions and Conditions</b>				<b>max. 350</b>	<b>min. 240</b>	<b>max. 620</b>			

**NOTES:**

<sup>(1)</sup>Air flow rates calculated using an averaging flow sensor (Dwyer Model DS).

<sup>(2)</sup>Influent vapor-phase samples collected from SVE sample port prior to air treatment.

<sup>(3)</sup>Daily removal rate (lb/day) = average concentration (mg/m<sup>3</sup>) x average flow rate (scfm) x conversion (8.99x10<sup>-5</sup> lb-m<sup>3</sup>-min/mg-ft<sup>3</sup>-day).

<sup>(4)</sup>Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.

<sup>(5)</sup>Cumulative mass of GRPH removed (lb) = daily removal rate (lb/day) x time in operation (days) + previous cumulative total (lb).

-- not analyzed, measured, or calculated

° C = degrees Celsius

GRPH = gasoline-range petroleum hydrocarbons

ft = feet

iow = inches of water

lb = pounds

lb/day = pounds per day

m<sup>3</sup> = cubic meter

max. = maximum

mg = milligrams

min. = minimum

NOC = Notice of Construction

PSCAA = Puget Sound Clean Air Agency

scfm = standard cubic feet per meter

SVE = soil vapor extraction

Temp. = temperature



**Table 2B**  
**Vapor Stream - System Performance Monitoring Data**  
**TOC Holdings Co. Facility No. 01-176**  
**24225 56th Ave West**  
**Mountlake Terrace, Washington**

Draft - Issued for Ecology Review

Site Visit	Run Time		SVE Parameters		Catalytic Oxidizer		GRPH Removal		
	SVE Hour Meter	Total Time in Operation	SVE Pre-Filter Vacuum	Air Flow Rate <sup>(1)</sup>	Catalyst Entrance Temp.	Catalyst Exit Temp.	Influent Concentration <sup>(2)</sup>	Daily Mass Recovery Rate <sup>(3) (4)</sup>	Cumulative Recovered <sup>(5)</sup>
Date	(hours)	(days)	(iow)	(scfm)	(°C)	(°C)	(mg/m <sup>3</sup> )	(lb/day)	(lb)
10/03/12	15.6	0.7	68	149.1	330	350	340	4.56	0.00
10/10/12	73.7	3.1	86	134.1	330	363	1,300	10.44	25.26
10/17/12	242.0	10.1	76	135.8	330	376	1,300	15.77	135.86
10/24/12	410.7	17.1	72	137.2	330	355	1,100	14.73	239.37
10/25/12	434.7	18.1	73	139.2	330	354	--	--	--
11/06/12	722.8	30.1	74	137.8	330	358	--	--	--
11/07/12	748.2	31.2	74	138.6	330	352	660	10.91	392.78
12/05/12	1,257.4	52.4	74	124.3	330	338	15	3.99	477.40
12/06/12	1,266.4	52.8	75	135.6	--	--	--	--	--
01/08/13	1,989.7	82.9	27	164.7	330	344	15	0.19	483.35
01/09/13	2,012.1	83.8	32	163.5	330	336	--	--	--
01/17/13	2,037.9	84.9	27	166.5	331	336	--	--	--
02/05/13	2,490.2	103.8	33	159.5	330	335	<10	0.15	486.39
02/06/13	2,514.5	104.8	38	157.5	330	335	--	--	--
03/04/13	2,517.2	104.9	31	162.9	330	335	<10	0.07	486.47
<b>PSCAA NOC-10384 Restrictions and Conditions</b>				<b>max. 350</b>	<b>min. 240</b>	<b>max. 620</b>			

**NOTES:**

<sup>(1)</sup> Air flow rates calculated using an averaging flow sensor (Dwyer Model DS).

<sup>(2)</sup> Influent vapor-phase samples collected from SVE sample port prior to air treatment.

<sup>(3)</sup> Daily removal rate (lb/day) = average concentration (mg/m<sup>3</sup>) x average flow rate (scfm) x conversion (8.99x10<sup>-5</sup> lb-m<sup>3</sup>-min/mg-ft<sup>3</sup>-day).

<sup>(4)</sup> Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.

<sup>(5)</sup> Cumulative mass of GRPH removed (lb) = daily removal rate (lb/day) x time in operation (days) + previous cumulative total (lb).

-- = not analyzed, measured, or calculated

\* C = degrees Celsius

ft = feet

GRPH = gasoline-range petroleum hydrocarbons

iow = inches of water

lb = pounds

lb/day = pounds per day

m<sup>3</sup> = cubic meter

max. = maximum

mg = milligrams

min. = minimum

NOC = Notice of Construction

PSCAA = Puget Sound Clean Air Agency

scfm = standard cubic feet per meter

SVE = soil vapor extraction

Temp. = temperature



**Table 2C**  
**Vapor Stream - System Performance Monitoring Data**  
**TOC Holdings Co. Facility No. 01-176**  
**24309 56th Ave West**  
**Mountlake Terrace, Washington**

Draft - Issued for Ecology Review

Site Visit	Run Time		SVE Parameters		Catalytic Oxidizer		GRPH Removal		
	SVE Hour Meter	Total Time in Operation	SVE Pre-Filter Vacuum	Air Flow Rate <sup>(1)</sup>	Catalyst Entrance Temp.	Catalyst Exit Temp.	Influent Concentration <sup>(2)</sup>	Daily Mass Recovery Rate <sup>(3) (4)</sup>	Cumulative Recovered <sup>(5)</sup>
Date	(hours)	(days)	(iow)	(scfm)	(°C)	(°C)	(mg/m <sup>3</sup> )	(lb/day)	(lb)
10/02/12	11.2	0.47	70.0	143.8	330	340	13.0	0.2	0.00
10/10/12	75.7	3.15	73.0	140.4	330	338	12.0	0.2	0.43
10/17/12	243.7	10.15	74.0	141.7	330	337	<10	0.1	1.18
10/24/12	411.9	17.16	74.0	139.9	330	338	<10	0.1	1.63
10/25/12	436.7	18.20	74.0	142.8	330	338	--	--	--
11/06/12	724.8	30.20	77.0	137.6	330	337	--	--	--
11/07/12	750.3	31.3	76	139.1	330	338	<10	0.1	1.69
12/05/12	1,417.6	59.1	76	141.9	330	340	160.0	1.0	30.67
01/08/13	2,231.8	93.0	83	137.3	330	337	<10	0.1	32.80
02/05/13	2,731.0	113.8	70	144.2	330	337	<10	0.1	34.11
03/04/13	3,177.5	132.4	71	144.6	330	338	<10	0.1	35.32
<b>PSCAA NOC-10384 Restrictions and Conditions</b>				<b>max. 350</b>	<b>min. 240</b>	<b>max. 620</b>			

**NOTES:**

<sup>(1)</sup>Air flow rates calculated using an averaging flow sensor (Dwyer Model DS).

<sup>(2)</sup>Influent vapor-phase samples collected from SVE sample port prior to air treatment.

<sup>(3)</sup>Daily removal rate (lb/day) = average concentration (mg/m<sup>3</sup>) x average flow rate (scfm) x conversion (8.99x10<sup>-5</sup> lb-m<sup>3</sup>-min/mg-ft<sup>3</sup>-day).

<sup>(4)</sup>Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.

<sup>(5)</sup>Cumulative mass of GRPH removed (lb) = daily removal rate (lb/day) x time in operation (days) + previous cumulative total (lb).

< = not detected at a concentration exceeding the laboratory reporting limit

-- = not analyzed/not tested

\* C = degrees Celsius

ft = feet

GRPH = gasoline-range petroleum hydrocarbons

iow = inches of water

lb = pounds

lb/day = pounds per day

m<sup>3</sup> = cubic meter

max. = maximum

mg = milligrams

min. = minimum

NOC = Notice of Construction

PSCAA = Puget Sound Clean Air Agency

scfm = standard cubic feet per meter

SVE = soil vapor extraction

Temp. = temperature



**Table 3A**  
**Liquid Stream - System Performance Monitoring Data**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Ave West  
 Mountlake Terrace, Washington

*Draft - Issued for Ecology Review*

Site Visit  Date	Extracted Groundwater			Hydrocarbon Recovery - Aqueous-Phase		
	Flow Totalizer (gallons)	Treated Between Visits (gallons)	Average Flow Rate (gallons/day)	Influent GRPH Concentration (µg/L)	GRPH Removed <sup>(1) (2) (3)</sup> (lb)	Cumulative GRPH Removed <sup>(3) (4)</sup> (lb)
10/02/12	636.3	0	0	--	--	--
10/10/12	5,761.0	5,124.7	641	18,000	0.770	0.770
10/17/12	14,898.1	9,137.1	1,305	--	--	--
10/24/12	21,888.4	6,990.3	999	--	--	--
11/07/12	31,361.8	9,473.4	677	6,100	1.303	2.073
12/05/12	35,204.9	3,843.1	137	14,000	0.449	2.522
01/08/13	38,076.5	2,871.6	84	19,000	0.455	2.977
01/17/13	40,712.0	2,635.5	293	--	--	--
02/05/13	41,363.4	651.4	34	8,200	0.225	3.202
03/04/13	42,860.8	1,497.4	55	19,000	0.237	3.439
<b>State Waste Discharge Permit Number ST0007384 Maximum Daily Limits</b>			<b>7,000</b>			

**NOTES:**

- <sup>(1)</sup>Influent samples collected prior to discharging to the City of Mountlake Terrace sanitary sewer.
  - <sup>(2)</sup> Mass removal weight (lb) = gallons recovered x concentration (µg/L) x conversion factor (8.344E-9 lb-L/µg-gallon).
  - <sup>(3)</sup> Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.
  - <sup>(4)</sup> Cumulative mass of GRPH removed (lb) = GRPH mass removal between sampling visits (lb) + previous cumulative total (lb).
- = not analyzed, measured, or calculated
- µg/L = micrograms per liter
- µg-gallon = micrograms - gallon conversion
- gallons/day = gallons per day
- GRPH = gasoline-range petroleum hydrocarbons
- lb = pound(s)
- lb-L = pounds - liter conversion



**Table 3B**  
**Liquid Stream - System Performance Monitoring Data**  
 TOC Holdings Co. Facility No. 01-176  
 24225 56th Ave West  
 Mountlake Terrace, Washington

*Draft - Issued for Ecology Review*

Site Visit  Date	Extracted Groundwater			Hydrocarbon Recovery - Aqueous-Phase		
	Flow Totalizer (gallons)	Treated Between Visits (gallons)	Average Flow Rate (gallons/day)	Influent GRPH Concentration (µg/L)	GRPH Removed <sup>(1) (2) (3)</sup> (lb)	Cumulative GRPH Removed <sup>(3) (4)</sup> (lb)
10/03/12	397.8	0	0	--	--	--
10/10/12	562.6	164.8	24	<100	0.000	0.000
10/17/12	5,392.6	4,830.0	690	--	--	--
10/24/12	8,170.9	2,778.3	397	--	--	--
10/25/12	8,580.4	409.5	410	--	--	--
11/06/12	10,624.2	2,043.8	170	--	--	--
11/07/12	10,630.5	6.3	6	<100	0.004	0.004
12/05/12	12,858.4	2,227.9	80	<100	0.001	0.005
12/06/12	14,221.5	1,363.1	1,363	--	--	--
01/08/13	18,643.2	4,421.7	134	<100	0.002	0.008
01/09/13	18,651.6	8.4	8	--	--	--
01/17/13	18,753.9	102.3	13	--	--	--
02/05/13	18,753.9	0.0	0	<100	0.000	0.008
03/13/13	18,758.0	4.1	0	1,100	0.000	0.008
<b>State Waste Discharge Permit Number ST0007384 Maximum Daily Limits</b>			<b>7,000</b>			

**NOTES:**

<sup>(1)</sup>Effluent samples collected prior to discharging to the City of Mountlake Terrace sanitary sewer.

<sup>(2)</sup>Mass removal weight (lb) = gallons recovered x concentration (µg/L) x conversion factor (8.344E-9 lb-L/µg-gallon).

<sup>(3)</sup>Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.

<sup>(4)</sup>Cumulative mass of GRPH removed (lb) = GRPH mass removal between sampling visits (lb) + previous cumulative total (lb).

-- = not analyzed, measured, or calculated

< = not detected at concentration exceeding the laboratory lower reporting limit

µg/L = micrograms per liter

µg-gallon = micrograms - gallon conversion

GRPH = gasoline-range petroleum hydrocarbons

gallons/day = gallons per day

lb = pound(s)

lb-L = pounds - liter conversion





**Table 3C**  
**Liquid Stream - System Performance Monitoring Data**  
**TOC Holdings Co. Facility No. 01-176**  
**24309 56th Ave West**  
**Mountlake Terrace, Washington**

*Draft - Issued for Ecology Review*

Site Visit  Date	Extracted Groundwater			Hydrocarbon Recovery - Aqueous-Phase		
	Flow Totalizer (gallons)	Treated Between Visits (gallons)	Average Flow Rate (gallons/day)	Influent GRPH Concentration (µg/L)	GRPH Removed <sup>(1) (2) (3)</sup> (lb)	Cumulative GRPH Removed <sup>(3) (4)</sup> (lb)
10/02/12	1,178.0	--	--	--	--	--
10/10/12	5,075.9	3,897.9	487	<100	0.002	0.002
10/17/12	15,755.8	10,679.9	1,526	--	--	--
10/24/12	27,288.0	11,532.2	1,647	--	--	--
10/25/12	28,809.6	1,521.6	1,522	--	--	--
11/06/12	36,398.8	7,589.2	632	--	--	--
11/07/12	38,565.1	2,166.3	2,166	<100	0.014	0.016
12/05/12	71,160.2	32,595.1	1,164	<100	0.014	0.029
01/08/13	71,627.1	466.9	14	<100	0.000	0.029
02/06/13	84,429.4	12,802.4	441	160	0.017	0.046
03/04/13	101,429.0	16,999.6	654	1,700	0.241	0.288
<b>State Waste Discharge Permit Number</b> <b>ST0007384 Maximum Daily Limits</b>			<b>7,000</b>			

**NOTES:**

<sup>(1)</sup>Effluent samples collected prior to discharging to the City of Mountlake Terrace sanitary sewer.

<sup>(2)</sup> Mass removal weight (lb) = gallons recovered x concentration (µg/L) x conversion factor (8.344E-9 lb-L/µg-gallon).

<sup>(3)</sup>Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.

<sup>(4)</sup>Cumulative mass of GRPH removed (lb) = GRPH mass removal between sampling visits (lb) + previous cumulative total (lb).

-- = not analyzed, measured, or calculated

< = not detected at concentration exceeding the laboratory lower reporting limit

µg/L = micrograms per liter

µg-gallon = micrograms - gallon conversion

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)

lb-L = pounds - liter conversion



**Table 4A**  
**Vapor Stream Analytical Results**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Ave West  
 Mountlake Terrace, Washington

Draft - Issued for Ecology Review

Sample Date	Analytical Results (mg/m <sup>3</sup> )										GRPH DRE <sup>(5)</sup> %
	Influent Vapor Samples <sup>(1)</sup>					Effluent Vapor Samples <sup>(2)</sup>					
	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (μg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (μg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	
10/02/12	1,600	2.0	10	5.5	26	<10	<0.1	<0.1	<0.1	<0.3	99.7
10/10/12	2,600	2.3	13	8.7	37	<10	<0.1	0.20	<0.1	<0.3	99.8
10/17/12	3,400	3.0	9.4	11	42	<10	<0.1	<0.1	<0.1	<0.3	99.9
10/24/12	2,400	1.5	7.0	9.4	39	<10	<0.1	<0.1	<0.1	<0.3	99.8
11/07/12	1,700	<0.5	7.0	7.3	37	<10	<0.1	<0.1	<0.1	<0.3	99.7
12/05/12	150	<0.1	0.23	<0.1	3.5	<10	<0.1	<0.1	<0.1	<0.3	96.7
01/08/13	35	<0.1	0.19	0.18	0.86	<10	<0.1	0.16	<0.1	<0.3	85.7
02/05/13	53	<0.1	0.30	0.13	0.78	<10	<0.1	<0.1	<0.1	<0.3	90.6
03/04/13	<10	<0.1	0.10	0.10	0.69	<10	<0.1	<0.1	<0.1	<0.3	0.0
<b>PSCAA NOC-10384 Restrictions and Conditions</b>						<b>min. 214.7 <sup>(5)</sup></b>				<b>95% <sup>(5) (6)</sup></b>	

**NOTES:**

- <sup>(1)</sup>Influent vapor-phase samples collected from SVE sample port on the pressure side of the blower.
- <sup>(2)</sup>Effluent vapor-phase samples collected from sample port on the effluent stack.
- <sup>(3)</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.
- <sup>(4)</sup>Analyzed by U.S. Environmental Protection Agency Method 8021B.
- <sup>(5)</sup>DRE shall be at least 95% unless effluent GRPH vapor leaving the catox does not exceed 50 ppmv (214.7 mg/m<sup>3</sup> assuming a molecular weight of 105).
- <sup>(6)</sup>DRE =  $(1 - (\text{GRPH}_{\text{influent}} / \text{GRPH}_{\text{effluent}})) \times 100$ ; non-detected influent concentrations assumed to be 50% of the laboratory's reporting limit. DRE % based on this assumption are shown in *italics*.

μg/m<sup>3</sup> = micrograms per cubic meter  
 < = not detected at concentration above the laboratory's lower reporting limit  
 % = percent  
 DRE = destruction and removal efficiency  
 GRPH = gasoline-range petroleum hydrocarbons  
 mg/m<sup>3</sup> = milligrams per cubic meter  
 min. = minimum  
 NOC = Notice of Construction  
 ppmv = part per million volume  
 PSCAA = Puget Sound Clean Air Agency  
 SVE = soil vapor extraction



**Table 4B**  
**Vapor Stream Analytical Results**  
 TOC Holdings Co. Facility No. 01-176  
 24225 56th Ave West  
 Mountlake Terrace, Washington

Draft - Issued for Ecology Review

Sample Date	Analytical Results (mg/m <sup>3</sup> )										GRPH DRE <sup>(5)</sup> %
	Influent Vapor Samples <sup>(1)</sup>					Effluent Vapor Samples <sup>(2)</sup>					
	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (µg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (µg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	
10/03/12	340	0.44	1.6	0.96	1.7	<10	<0.1	0.17	<0.1	<0.3	98.5
10/10/12	1,300	0.77	<0.5	4.0	9.6	<10	<0.1	0.21	<0.1	<0.3	99.6
10/17/12	1,300	0.55	<0.5	3.7	7.9	<10	<0.1	<0.1	<0.1	<0.3	99.6
10/24/12	1,100	0.50	3.1	<0.1	11	<10	<0.1	<0.1	<0.1	<0.3	99.5
11/07/12	660	<0.1	2.7	<0.1	7.1	<10	<0.1	<0.1	<0.1	<0.3	99.2
12/05/12	15	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	66.7
01/08/13	15	<0.1	<0.1	<0.1	<0.3	<10	<0.1	0.10	<0.1	<0.3	66.7
02/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
03/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
<b>PSCAA NOC-10384 Restrictions and Conditions</b>						<b>min. 214.7<sup>(5)</sup></b>				<b>95%<sup>(5) (6)</sup></b>	

**NOTES:**

<sup>(1)</sup>Influent vapor-phase samples collected from SVE sample port on the pressure side of the blower.

<sup>(2)</sup>Effluent vapor-phase samples collected from sample port on the effluent stack.

<sup>(3)</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

<sup>(4)</sup>Analyzed by U.S. Environmental Protection Agency Method 8021B.

<sup>(5)</sup>DRE shall be at least 95% unless effluent GRPH vapor leaving the catox does not exceed 50 ppmv (214.7 mg/m<sup>3</sup> assuming a molecular weight of 105).

<sup>(6)</sup>DRE =  $(1 - (\text{GRPH}_{\text{influent}} / \text{GRPH}_{\text{effluent}})) \times 100$ ; non-detected influent concentrations assumed to be 50% of the laboratory's reporting limit. DRE % based on this assumption are shown in *italics*.

< = not detected at concentration above the laboratory's lower reporting limit

µg/m<sup>3</sup> = micrograms per cubic meter

DRE = destruction and removal efficiency

GRPH = gasoline-range petroleum hydrocarbons

mg/m<sup>3</sup> = milligrams per cubic meter

min. = minimum

NOC = Notice of Construction

ppmv = part per million volume

PSCAA = Puget Sound Clean Air Agency



Table 4C  
 Vapor Stream Analytical Results  
 TOC Holdings Co. Facility No. 01-176  
 24309 56th Ave West  
 Mountlake Terrace, Washington

Draft - Issued for Ecology Review

Sample Date	Analytical Results (mg/m <sup>3</sup> )										GRPH DRE <sup>(5)</sup> %
	Influent Vapor Samples <sup>1</sup>					Effluent Vapor Samples <sup>2</sup>					
	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (µg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (µg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	
10/02/12	13	<0.1	0.13	0.12	0.35	<10	<0.1	<0.1	<0.1	<0.3	61.5
10/10/12	12	<0.1	0.10	<0.1	<0.3	<10	<0.1	0.18	<0.1	<0.3	58.3
10/17/12	<10	<0.1	0.17	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
10/24/12	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
11/07/12	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
12/05/12	160	<0.1	<0.1	1.50	0.99	<10	<0.1	<0.1	<0.1	<0.3	96.9
01/08/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	0.12	<0.1	<0.3	0.0
02/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
03/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
<b>PSCAA NOC-10384 Restrictions and Conditions</b>						<b>min. 214.7<sup>(5)</sup></b>					<b>95%<sup>(5) (6)</sup></b>

NOTES:

<sup>(1)</sup>Influent vapor-phase samples collected from SVE sample port on the pressure side of the blower.

<sup>(2)</sup>Effluent vapor-phase samples collected from sample port on the effluent stack.

<sup>(3)</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

<sup>(4)</sup>Analyzed by U.S. Environmental Protection Agency Method 8021B.

<sup>(5)</sup>DRE shall be at least 95% unless effluent GRPH vapor leaving the catox does not exceed 50 ppmv (214.7 mg/m<sup>3</sup> assuming a molecular weight of 105).

<sup>(6)</sup>DRE =  $(1 - (\text{GRPH}_{\text{influent}} / \text{GRPH}_{\text{effluent}})) \times 100$ ; non-detected influent concentrations assumed to be 50% of the laboratory's reporting limit. DRE % based on this assumption are shown in *italics*.

µg/m<sup>3</sup> = micrograms per cubic meter

< = not detected at concentration above the laboratory's lower reporting limit

DRE = destruction and removal efficiency

GRPH = gasoline-range petroleum hydrocarbons

mg/m<sup>3</sup> = milligrams per cubic meter

min. = minimum

NOC = Notice of Construction

ppmv = part per million volume

PSCAA = Puget Sound Clean Air Agency

SVE = soil vapor extraction



**Table 5A**  
**Liquid Stream Analytical Results**  
 TOC Holdings Co. Facility No. 01-176  
 24205 56th Ave West  
 Mountlake Terrace, Washington

Draft - issued for Ecology Review

Sample Date	Groundwater Influent - Pre GAC Treatment (µg/L)					Groundwater Influent - Mid GAC Treatment (µg/L)					Groundwater Effluent - Post GAC Treatment (µg/L)							
	GAC-1 Influent Sample <sup>(1)</sup>					GAC-2 Influent Sample <sup>(2)</sup>					Effluent Discharge Sample <sup>(3)</sup>							
	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	BTEX	Total Lead <sup>(6)</sup>	pH <sup>(7)</sup>
10/10/12	18,000	25	370	280	4,500	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.59
11/07/12	6,100	8.4	99	24	1,200	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.61
12/05/12	14,000	12	250	200	2,700	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	19.4	7.19
01/08/13	19,000	60	400	520	3,600	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.71
02/05/13	8,200	11	83	61	1,200	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.86
03/04/13	19,000	20	200	460	3,900	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.88
<b>State Waste Discharge Permit Number ST0007384 Effluent Limits</b>											<b>1,000</b>	<b>5</b>				<b>100</b>	<b>1,090</b>	<b>6 to 10</b>

**NOTES:**

<sup>(1)</sup>Influent samples collected prior to first GAC canister.

<sup>(2)</sup>Influent samples collected prior to second GAC canister.

<sup>(3)</sup>Effluent samples collected prior to sewer discharge.

<sup>(4)</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

<sup>(5)</sup>Analyzed by EPA Method 8021B.

<sup>(6)</sup>Analyzed by EPA Method 200.8.

<sup>(7)</sup>Field measured.

< = not detected at a concentration exceeding the laboratory reporting limit

-- = not analyzed/not tested

µg/L = micrograms per liter

BTEX = Total sum of benzene, toluene, ethylbenzene, and total xylenes

EPA = U.S. Environmental Protection Agency

GAC = granular activated carbon

GRPH = gasoline-range petroleum hydrocarbons



**Table 5B**  
**Liquid Stream Analytical Results**  
 TOC Holdings Co. Facility No. 01-176  
 24225 56th Ave West  
 Mountlake Terrace, Washington

Draft - Issued for Ecology Review

Sample Date	Groundwater Influent - Pre GAC Treatment (µg/L)					Groundwater Influent - Mid GAC Treatment (µg/L)					Groundwater Effluent - Post GAC Treatment (µg/L)							
	GAC-1 Influent Sample <sup>(1)</sup>					GAC-2 Influent Sample <sup>(2)</sup>					Effluent Discharge Sample <sup>(3)</sup>							
	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	BTEX	Total Lead <sup>(6)</sup>	pH <sup>(7)</sup>
10/10/12	<100	<1	<1	<1	3.1	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.59
11/07/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.71
12/05/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	76.5	8.05
01/08/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.29
02/05/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.31
03/13/13	1,100	2.9	<1	14	27	--	--	--	--	--	<100	<1	<1	<1	<3	<6	--	7.59
<b>State Waste Discharge Permit Number ST0007384 Effluent Limits</b>											<b>1,000</b>	<b>5</b>				<b>100</b>	<b>1,090</b>	<b>6 to 10</b>

**NOTES:**

<sup>(1)</sup>influent samples collected prior to first GAC canister.

<sup>(2)</sup>influent samples collected prior to second GAC canister.

<sup>(3)</sup>Effluent samples collected prior to sewer discharge.

<sup>(4)</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

<sup>(5)</sup>Analyzed by EPA Method 8021B.

<sup>(6)</sup>Analyzed by EPA Method 200.8.

<sup>(7)</sup>Field measured.

< = not detected at a concentration exceeding the laboratory reporting limit

-- = not analyzed/not tested

µg/L = micrograms per liter

BTEX = Total sum of benzene, toluene, ethylbenzene, and total xylenes

EPA = U.S. Environmental Protection Agency

GAC = granular activated carbon

GRPH = gasoline-range petroleum hydrocarbons



Table 5C  
 Liquid Stream Influent Analytical Results  
 TOC Holdings Co. Facility No. 01-176  
 24309 56th Ave West  
 Mountlake Terrace, Washington

Draft - Issued for Ecology Review

Sample Date	Groundwater Influent - Pre GAC Treatment (µg/L)					Groundwater Influent - Mid GAC Treatment (µg/L)					Groundwater Effluent - Post GAC Treatment (µg/L)							
	GAC-1 Influent Sample <sup>(1)</sup>					GAC-2 Influent Sample <sup>(2)</sup>					Effluent Discharge Sample <sup>(3)</sup>							
	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	BTEX	Total Lead <sup>(6)</sup>	pH <sup>(7)</sup>
10/10/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.87
11/07/12	<100	1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.83
12/05/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	4.05	7.84
01/08/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.06
02/05/13	160	<1	<1	1.8	5.8	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.02
03/04/13	1,700	<1	1.4	24	160	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.64
<b>State Waste Discharge Permit Number ST0007384 Effluent Limits</b>											<b>1,000</b>	<b>5</b>				<b>100</b>	<b>1,090</b>	<b>6 to 10</b>

NOTES:

- <sup>(1)</sup>Influent samples collected prior to first GAC canister.
- <sup>(2)</sup>Influent samples collected prior to second GAC canister.
- <sup>(3)</sup>Effluent samples collected prior to sewer discharge.
- <sup>(4)</sup>Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.
- <sup>(5)</sup>Analyzed by EPA Method 8021B.
- <sup>(6)</sup>Analyzed by EPA Method 200.8.
- <sup>(7)</sup>Field measured.

< = not detected at a concentration exceeding the laboratory reporting limit  
 -- = not analyzed/not tested  
 µg/L = micrograms per liter  
 BTEX = Total sum of benzene, toluene, ethylbenzene, and total xylenes  
 EPA = U.S. Environmental Protection Agency  
 GAC = granular activated carbon  
 GRPH = gasoline-range petroleum hydrocarbons

*Draft – Issued for Ecology Review*

## **LABORATORY ANALYTICAL REPORTS**



**LABORATORY ANALYTICAL REPORTS FOR VAPOR**

***Friedman & Bruya, Inc. #301077***

***Friedman & Bruya, Inc. #301078***

***Friedman & Bruya, Inc. #301079***

***Friedman & Bruya, Inc. #302045***

***Friedman & Bruya, Inc. #302046***

***Friedman & Bruya, Inc. #302047***

***Friedman & Bruya, Inc. #303034***

***Friedman & Bruya, Inc. #303035***

***Friedman & Bruya, Inc. #303036***

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

January 14, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on January 8, 2013 from the TOC\_01-176\_20130108 WORFDB7, F&BI 301077 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0114R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130108 WORFDB7, F&BI 301077 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
301077-01	Ve-24309-20130108
301077-02	Vi-24309-20130108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301077

Date Extracted: 01/10/13

Date Analyzed: 01/10/13

RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED EPA METHOD 8021B AND NWTPH-Gx  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Ve-24309-20130108 301077-01	<0.1	0.12	<0.1	<0.3	<10	96
Vi-24309-20130108 301077-02	<0.1	<0.1	<0.1	<0.3	<10	97
Method Blank 03-0040 MB	<0.1	<0.1	<0.1	<0.3	<10	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301077

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

Laboratory Code: 301077-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	0.12	0.12	3
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	95	70-130
Toluene	mg/m <sup>3</sup>	5.0	95	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	97	70-130
Xylenes	mg/m <sup>3</sup>	15	97	70-130
Gasoline	mg/m <sup>3</sup>	100	94	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

January 14, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on January 8, 2013 from the TOC\_01-176\_20130108 WORFDB7, F&BI 301078 project. There are 4 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  
c: Audrey Hackett, Beau Johnson  
SOU0114R.DOC



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130108 WORFDB7, F&BI 301078 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
301078-01	Ve-24205-20130108
301078-02	Vi-24205-20130108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301078

Date Extracted: 01/10/13

Date Analyzed: 01/10/13

**RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED EPA METHOD 8021B AND NWTPH-Gx**  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Ve-24205-20130108 301078-01	<0.1	0.16	<0.1	<0.3	<10	82
Vi-24205-20130108 301078-02	<0.1	0.19	0.18	0.86	35	78
Method Blank 03-0040 MB	<0.1	<0.1	<0.1	<0.3	<10	97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301078

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

Laboratory Code: 301077-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	0.12	0.12	3
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	95	70-130
Toluene	mg/m <sup>3</sup>	5.0	95	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	97	70-130
Xylenes	mg/m <sup>3</sup>	15	97	70-130
Gasoline	mg/m <sup>3</sup>	100	94	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

301078

SAMPLE CHAIN OF CUSTODY

ME 01-98-13

Send Report To Dee Gardner

Company SoundEarth Strategies

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) 	
PROJECT NAME/NO.  TOC Holdings # 01-176 24205	PO #
REMARKS	GEMS Y / N

Page # 1 of 1

**TURNAROUND TIME**  
Standard (2 Weeks) [ X ]  
RUSH \_\_\_\_\_  
Rush charges authorized by: \_\_\_\_\_

**SAMPLE DISPOSAL**  
Dispose after 30 days [ X ]  
Return samples [ ]  
Will call with instructions [ ]

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED										Notes						
							NWTPH-Gx	BTEX by 8021B															
Ve-24205-2 013 01 09	Efluent	01A-B	1-8-13	10:45	AIR	2	X	X															
VI-24205-2 013 01 09	Influent	02A-B	1-9-13	10:35	AIR	2	X	X															

Samples received at 18 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Ashley Elliott	SoundEarth Strategies	1/8/13	14:10
	Ethan Marks	SES	1-8-13	19:10
	Ethan Marks	SES	1-8-13	16:40
	HONG NGUYEN	FBI	✓	16:50

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

January 14, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on January 8, 2013 from the TOC\_01-176\_20130108 WORFDB7, F&BI 301079 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0114R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130108 WORFDB7, F&BI 301079 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
301079-01	Ve-24225-20130108
301079-02	Vi-24225-20130108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301079

Date Extracted: 01/10/13

Date Analyzed: 01/10/13

**RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED EPA METHOD 8021B AND NWTPH-Gx**  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Ve-24225-20130108 301079-01	<0.1	0.10	<0.1	<0.3	<10	94
Vi-24225-20130108 301079-02	<0.1	<0.1	<0.1	<0.3	15	76
Method Blank 03-0040 MB	<0.1	<0.1	<0.1	<0.3	<10	97



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301079

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

Laboratory Code: 301077-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	0.12	0.12	3
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	95	70-130
Toluene	mg/m <sup>3</sup>	5.0	95	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	97	70-130
Xylenes	mg/m <sup>3</sup>	15	97	70-130
Gasoline	mg/m <sup>3</sup>	100	94	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

301079

SAMPLE CHAIN OF CUSTODY

ME 01-08-13


Send Report To Dee Gardner

Company SoundEarth Strategies

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES Signature 	
PROJECT NAME/NO.  TOC Holdings # 01-176.24225	PO #
REMARKS	GEMS Y / N

Page # 1 of 1




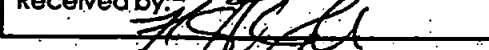
TURNAROUND TIME  
Standard (2 Weeks) [ X ]  
RUSH \_\_\_\_\_  
Rush charges authorized by: \_\_\_\_\_

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

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED										Notes						
							NWTPH-Gx	BTEX by 8021B															
VI-24225-20130107	Effluent	01AB	1-8-13	1105	AIR	2	X	X															
VI-24225-20130107	Influent	02AB	1-8-13	1050	AIR	2	X	X															

Samples received at 18 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Arden A. Elliott	SoundEarth Strategies	1/8/13	1400
	Ethan Marks	" "	1-8-13	1400
	Ethan Marks	" "	1-8-13	1640
	HONG NGUYEN	FMS	1/8/13	16:50

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

February 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on February 6, 2013 from the TOC\_01-176F\_20130206 WORFDB7, F&BI 302045 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0208R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20130206 WORFDB7, F&BI 302045 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
302045 -01	Vi_24225_20130205
302045 -02	Ve_24225_20130205

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176F\_20130206 WORFDB7, F&BI 302045

Date Extracted: 02/06/13

Date Analyzed: 02/06/13

RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED METHODS 8021B AND NWTPH-Gx  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Vi_24225_20130205 302045-01	<0.1	<0.1	<0.1	<0.3	<10	97
Ve_24225_20130205 302045-02	<0.1	<0.1	<0.1	<0.3	<10	98
Method Blank 03-0224 MB	<0.1	<0.1	<0.1	<0.3	<10	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176F\_20130206 WORFDB7, F&BI 302045

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

Laboratory Code: 302045-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	99	70-130
Toluene	mg/m <sup>3</sup>	5.0	99	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	105	70-130
Xylenes	mg/m <sup>3</sup>	15	104	70-130
Gasoline	mg/m <sup>3</sup>	100	105	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

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



302045

**SAMPLE CHAIN OF CUSTODY**

ME 02/06/13

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS/signature <i>[Signature]</i>		Page # <u>1</u> of <u>1</u>
PROJECT NAME/NO. TOC Holdings 01-176F 24225 Property	PO # 1	<b>TURNAROUND TIME</b> <input checked="" type="checkbox"/> Standard (2 Weeks) <input type="checkbox"/> RUSH Rush charges authorized by: _____ <hr/> <b>SAMPLE DISPOSAL</b> <input checked="" type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions
REMARKS	GEMS Y / N	

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED						Notes	
								NWTPH-DX	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals		
VI_24225_20130205			01A-B	2/5/13	1125	Air	2		X	X					
Ve_24225_20130205			02A-B	2/5/13	1130	Air	2		X	X					

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Ashley Elliott	SES	2/6/13	0340
<i>[Signature]</i>	Phan Phan	FEBI	2/6/13	0840
Relinquished by:				
Received by:				

Samples received at 17 °C

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

February 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on February 6, 2013 from the TOC\_01-176T\_20130206 WORFDB7, F&BI 302046 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0208R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20130206 WORFDB7, F&BI 302046 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
302046 -01	Vi_24205_20130205
302046 -02	Ve_24205_20130205

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176T\_20130206 WORFDB7, F&BI 302046

Date Extracted: 02/06/13

Date Analyzed: 02/06/13

RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED METHODS 8021B AND NWTPH-Gx  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Vi_24205_20130205 302046-01	<0.1	0.30	0.13	0.78	53	101
Ve_24205_20130205 302046-02	<0.1	<0.1	<0.1	<0.3	<10	102
Method Blank 03-0224 MB	<0.1	<0.1	<0.1	<0.3	<10	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176T\_20130206 WORFDB7, F&BI 302046

Da

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

Laboratory Code: 302045-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	99	70-130
Toluene	mg/m <sup>3</sup>	5.0	99	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	105	70-130
Xylenes	mg/m <sup>3</sup>	15	104	70-130
Gasoline	mg/m <sup>3</sup>	100	105	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

302046

SAMPLE CHAIN OF CUSTODY

HE 02/06/13

Send Report To Dee Gardner  
 Company SoundEarth Strategies Inc.  
 Address 2811 Fairview Ave East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLER'S (signature) [Signature]  
 PROJECT NAME/NO. TOC Holdings 01-176T PO # 1  
24205 Property  
 REMARKS GEMS Y / N

Page # 1 of 1  
 TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH \_\_\_\_\_  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED						Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals		
VI_24205_20130205			01A-B	2/5/13	1240	Air	2		X	X					
Ve_24205_20130205			02A-B	2/5/13	1255	Air	2		X	X					

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Ashley Elist	SES	2/6/13	0844
<u>[Signature]</u>	Rohan Khan	FEB I	2/6/13	0840
Relinquished by:				
Received by:				

Samples received at 17 °C

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

February 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on February 6, 2013 from the TOC\_01-176D\_20130206 WORFDB7, F&BI 302047 project. There are 4 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  
c: Audrey Hackett, Beau Johnson  
SOU0208R.DOC



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20130206 WORFDB7, F&BI 302047 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
302047 -01	Vi_24309_20130205
302047 -02	Ve_24309_20130205

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176D\_20130206 WORFDB7, F&BI 302047

Date Extracted: 02/06/13

Date Analyzed: 02/06/13

RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED METHODS 8021B AND NWTPH-Gx  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Vi_24309_20130205 302047-01	<0.1	<0.1	<0.1	<0.3	<10	101
Ve_24309_20130205 302047-02	<0.1	<0.1	<0.1	<0.3	<10	98
Method Blank 03-0224 MB	<0.1	<0.1	<0.1	<0.3	<10	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176D\_20130206 WORFDB7, F&BI 302047

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

Laboratory Code: 302045-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	99	70-130
Toluene	mg/m <sup>3</sup>	5.0	99	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	105	70-130
Xylenes	mg/m <sup>3</sup>	15	104	70-130
Gasoline	mg/m <sup>3</sup>	100	105	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

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

302047

SAMPLE CHAIN OF CUSTODY

ME 02/06/13


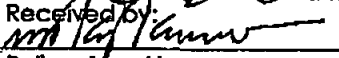
Send Report To Dee Gardner  
 Company SoundEarth Strategies Inc.  
 Address 2811 Fairview Ave East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (SIGNATURES) 		Page # <u>1</u> of <u>1</u>
PROJECT NAME/NO. TOC Holdings 01-176D 24309 Property		PO #
REMARKS	GEMS Y / N	

TURNAROUND TIME <input checked="" type="checkbox"/> Standard (2 Weeks) <input type="checkbox"/> RUSH Rush charges authorized by:
SAMPLE DISPOSAL <input checked="" type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED							Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals				
VL_24309_20130205			01A-B	2/5/13	1140	Air	2		X	X							
Ve_24309_20130205			02A-B	2/5/13	1150	Air	2		X	X							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Ashley Elliott	SES	2/6/13	0840
	Nhan Phan	FEBI	2/6/13	0840
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

March 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on March 4, 2013 from the TOC\_01-176F\_20130304 WORFDB7, F&BI 303034 project. There are 4 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  
c: Audrey Hackett, Beau Johnson  
SOU0308R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 4, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20130304 WORFDB7, F&BI 303034 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
303034-01	Vi-24225-20130304
303034-02	Ve-24225-20130304

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176F\_20130304 WORFDB7, F&BI 303034

Date Extracted: 03/06/13

Date Analyzed: 03/06/13

RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED METHODS 8021B AND NWTPH-Gx  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Vi-24225-20130304 303034-01	<0.1	<0.1	<0.1	<0.3	<10	90
Ve-24225-20130304 303034-02	<0.1	<0.1	<0.1	<0.3	<10	88
Method Blank 03-0375 MB	<0.1	<0.1	<0.1	<0.3	<10	88



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176F\_20130304 WORFDB7, F&BI 303034

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

Laboratory Code: 303034-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	89	70-130
Toluene	mg/m <sup>3</sup>	5.0	87	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	90	70-130
Xylenes	mg/m <sup>3</sup>	15	90	70-130
Gasoline	mg/m <sup>3</sup>	100	106	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

303034

**SAMPLE CHAIN OF CUSTODY**

ME 3/4/13

Send report to Dee Gardner  
 Company SoundEarth Strategies Inc  
 Address 2811 Fairview Ave East Site 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <i>[Signature]</i>	
PROJECT NAME/NO. 01-176F	PO #
REMARKS	GEMS Y / N

Page 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED						Notes	
								NWTPH-Dx	NWTPH-Ox	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals		
Nr. 24225-20130304			01AB	3/4/13	1340	AIR	2		X	X					
Nr. 24275-20130304			02AB	3/4/13	1335	AIR	2		X	X					

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Ashley Elliott	SES	3/4/13	1545
Received by: <i>[Signature]</i>	Liz Korb	SES	3-4-13	1545
Relinquished by: <i>[Signature]</i>	Liz Korb	SES	3-7-13	1630
Received by: <i>[Signature]</i>	Walt Langdon	FBI	3/4/13	1630

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

March 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on March 4, 2013 from the TOC\_01-176D\_20130304 WORFDB7, F&BI 303035 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0308R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 4, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20130304 WORFDB7, F&BI 303035 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
303035-01	Vi-24309-20130304
303035-02	Ve-24309-20130304

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176D\_20130304 WORFDB7, F&BI 303035

Date Extracted: 03/06/13

Date Analyzed: 03/06/13

RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED METHODS 8021B AND NWTPH-Gx  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Vi-24309-20130304 303035-01	<0.1	<0.1	<0.1	<0.3	<10	91
Ve-24309-20130304 303035-02	<0.1	<0.1	<0.1	<0.3	<10	92
Method Blank 03-0375 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176D\_20130304 WORFDB7, F&BI 303035

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

Laboratory Code: 303034-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	89	70-130
Toluene	mg/m <sup>3</sup>	5.0	87	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	90	70-130
Xylenes	mg/m <sup>3</sup>	15	90	70-130
Gasoline	mg/m <sup>3</sup>	100	106	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.
- AI - 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.



303035

SAMPLE CHAIN OF CUSTODY

ME 3/4/13

Send Report To Dee Gardner  
 Company SoundEarth Strategies Inc.  
 Address 2811 Fairview Ave East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) [Signature]

PROJECT NAME/NO. 01-176D PO # \_\_\_\_\_

REMARKS \_\_\_\_\_ GEMS Y / N

Page 1 of 4

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED						Notes	
								NWTFH-Dx	NWTFH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals		
NL-24309-20130304			01 AB	3/4/13	1330	AIR	2		X	X					
Ve-24309-20130304			02 AB	3/4/13	1345	AIR	2		X	X					

Friedman & Bruja, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Achley Elliott	SES	3/4/13	1545
Received by: <u>[Signature]</u>	Liz Korb	SET	3-4-13	1545
Relinquished by: <u>[Signature]</u>	Liz Korb	SET	3-4-13	1630
Received by: <u>[Signature]</u>	Matthew Houghton	FBRec	3/4/13	1630

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

March 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on March 4, 2013 from the TOC\_01-176T\_20130304 WORFDB7, F&BI 303036 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0308R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 4, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20130304 WORFDB7, F&BI 303036 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
303036-01	Vi-24205-20130304
303036-02	Ve-24205-20130304

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176T\_20130304 WORFDB7, F&BI 303036

Date Extracted: 03/06/13

Date Analyzed: 03/06/13

**RESULTS FROM THE ANALYSIS OF VAPOR SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING MODIFIED METHODS 8021B AND NWTPH-Gx**  
Results Reported as mg/m<sup>3</sup>

<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 50-150)
Vi-24205-20130304 303036-01	<0.1	0.10	0.10	0.69	<10	88
Ve-24205-20130304 303036-02	<0.1	<0.1	<0.1	<0.3	<10	89
Method Blank 03-0375 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176T\_20130304 WORFDB7, F&BI 303036

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

Laboratory Code: 303034-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Toluene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Ethylbenzene	mg/m <sup>3</sup>	<0.1	<0.1	nm
Xylenes	mg/m <sup>3</sup>	<0.3	<0.3	nm
Gasoline	mg/m <sup>3</sup>	<10	<10	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	89	70-130
Toluene	mg/m <sup>3</sup>	5.0	87	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	90	70-130
Xylenes	mg/m <sup>3</sup>	15	90	70-130
Gasoline	mg/m <sup>3</sup>	100	106	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.
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- 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.

303036

SAMPLE CHAIN OF CUSTODY

ME 3/4/13

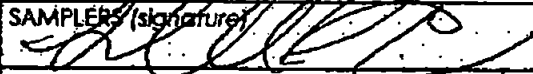
Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES (signature) 

PROJECT NAME/NO. TOC Holdings 01-176T PO # \_\_\_\_\_

REMARKS \_\_\_\_\_ GEMS Y / N \_\_\_\_\_

Page # \_\_\_\_\_ of \_\_\_\_\_


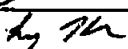
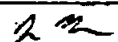
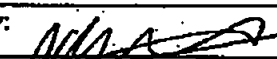
**TURNAROUND TIME**  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED							Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	ECRA-6 Metals			
N. 24205-20130304			02 AB	3/4/13	1425	AIR	2		X	X						
N. 24205-20130304			02 AB	3/4/13	1428	AIR	2		X	X						

Samples received at 19 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Ashley A Elliott	SES	3/4/13	1545
Received by: 	Liz Korb	SET	3-4-13	1545
Relinquished by: 	Liz Korb	SET	3-4-13	1630
Received by: 	Walt Langstoes	ETHE	3/4/13	1630

**LABORATORY ANALYTICAL REPORTS FOR WATER**

***Friedman & Bruya, Inc. #303080***

***Friedman & Bruya, Inc. #302048***

***Friedman & Bruya, Inc. #303037***

***Friedman & Bruya, Inc. #301082***

***Friedman & Bruya, Inc. #302050***

***Friedman & Bruya, Inc. #303184***

***Friedman & Bruya, Inc. #301081***

***Friedman & Bruya, Inc. #302049***

***Friedman & Bruya, Inc. #303039***



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

January 14, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on January 8, 2013 from the TOC\_01-176\_20130108 WORFDB7, F&BI 301080 project. There are 4 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  
c: Audrey Hackett, Beau Johnson  
SOU0114R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130108 WORFDB7, F&BI 301080 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
301080-01	We-24205-20130108
301080-02	GAC1i-24205-20130108
301080-03	GAC2i-24205-20130108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301080

Date Extracted: 01/09/13

Date Analyzed: 01/09/13 and 01/10/13

**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)
We-24205-20130108 301080-01	<1	<1	<1	<3	<100	99
GAC1i-24205-20130108 301080-02 1/20	60	400	520	3,600	19,000	98
GAC2i-24205-20130108 301080-03	<1	<1	<1	<3	<100	97
Method Blank 03-0039 MB	<1	<1	<1	<3	<100	91

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/14/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301080

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: 301076-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	1.2	1.0	16
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	93	72-119
Toluene	ug/L (ppb)	50	92	71-113
Ethylbenzene	ug/L (ppb)	50	93	72-114
Xylenes	ug/L (ppb)	150	90	72-113
Gasoline	ug/L (ppb)	1,000	96	70-119

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

301080

SAMPLE CHAIN OF CUSTODY

ME 01-08-13

V2


Send Report To Dee Gardner

Company SoundEarth Strategies

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) 

PROJECT NAME/NO. \_\_\_\_\_ PO # \_\_\_\_\_

TOC Holdings # 01-176 24205

REMARKS \_\_\_\_\_ GEMS Y / N \_\_\_\_\_


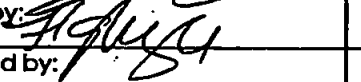
Page # 1 of 1

TURNAROUND TIME  
Standard (2 Weeks) [ X ]  
RUSH \_\_\_\_\_  
Rush charges authorized by: \_\_\_\_\_

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

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED					Notes
							NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8			
We-24205-20130108	Effluent	01 AC	01-08-13		WATER	3	X	X	✓			
GAC11-24205-20130108	Influent	02	01-08-13		WATER	3	X	X	✓			
GAC21-24205-20130108	Mid C1	03	01-08-13		WATER	3	X	X	✓			
GAC31-24205	Mid C2				WATER							AK

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	ESHAN MATHIAS	SoundEarth Strategies	1-8-13	16:40
	HONG NGUYEN	EME	✓	16:45
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

February 12, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on February 6, 2013 from the TOC\_01-176T\_20130206 WORFDB7, F&BI 302048 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0212R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20130206 WORFDB7, F&BI 302048 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
302048 -01	We_24205_20130205
302048 -02	GAC1i_24205_20130205
302048 -03	GAC2i_24205_20130205

All quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/12/13

Date Received: 02/06/13

Project: TOC\_01-176T\_20130206 WORFDB7, F&BI 302048

Date Extracted: 02/06/13

Date Analyzed: 02/06/13 and 02/07/13

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 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)
We_24205_20130205 302048-01	<1	<1	<1	<3	<100	99
GAC1i_24205_20130205 302048-02 1/5	11	83	61	1,200	8,200	113
GAC2i_24205_20130205 302048-03	<1	<1	<1	<3	<100	102
Method Blank 03-0225 MB	<1	<1	<1	<3	<100	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/12/13

Date Received: 02/06/13

Project: TOC\_01-176T\_20130206 WORFDB7, F&BI 302048

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

Laboratory Code: 302049-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<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	95	65-118
Toluene	ug/L (ppb)	50	96	72-122
Ethylbenzene	ug/L (ppb)	50	101	73-126
Xylenes	ug/L (ppb)	150	98	74-118
Gasoline	ug/L (ppb)	1,000	103	69-134

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

302048

SAMPLE CHAIN OF CUSTODY

ME 02/06/13

V1

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <i>[Signature]</i>	
PROJECT NAME/NO. TOC Holdings 01-176T 24205 Property	PO #
REMARKS	GEMS Y / N

Page # <u>1</u> of <u>1</u>
TURNAROUND TIME (x) Standard (2 Weeks) ( ) RUSH Rush charges authorized by:
SAMPLE DISPOSAL (x) Dispose after 30 days ( ) Return samples ( ) Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED					Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8			
We_24205_20130205			01A-C	2/5/13	1310	Water	3		X	X				
GAC1\24205_20130205			02A-C	2/5/13	1320	Water	3		X	X				
GAC2\24205_20130205			03A-C	2/5/13	1325	Water	3		X	X				

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Ashley Elliott	SES	2/6/13	0840
<i>[Signature]</i>	Nhan Phan	FcBI	2/6/13	0840
Relinquished by:				
Received by:				

Samples received at 5 <sup>00</sup>

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

March 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on March 4, 2013 from the TOC\_01-176\_20130304 WORFDB7, F&BI 303037 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0308R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 4, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130304 WORFDB7, F&BI 303037 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
303037-01	We-24205-20130304
303037-02	GAC1i-24205-20130304
303037-03	GAC2i-24205-20130304

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176\_20130304 WORFDB7, F&BI 303037

Date Extracted: 03/05/13

Date Analyzed: 03/05/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 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 50-150)
We-24205- 20130304 303037-01	<1	<1	<1	<3	<100	89
GAC1i-24205- 20130304 303037-02 1/20	20	200	460	3,900	19,000	91
GAC2i-24205- 20130304 303037-03	<1	<1	<1	<3	<100	90
Method Blank 03-0372 MB	<1	<1	<1	<3	<100	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176\_20130304 WORFDB7, F&BI 303037

**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: 303030-07 (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	72-119
Toluene	ug/L (ppb)	50	93	71-113
Ethylbenzene	ug/L (ppb)	50	95	72-114
Xylenes	ug/L (ppb)	150	93	72-113
Gasoline	ug/L (ppb)	1,000	98	70-119



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

303037

SAMPLE CHAIN OF CUSTODY

ME 03/04/13

VI

Send Report To Dee Gardner

Company SoundEarth Strategies

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <i>ly 7/11</i>	
PROJECT NAME/NO. TOC Holdings # 01-176 24205	PO #
REMARKS	GEMS Y / N

Page # 1 of 1

TURNAROUND TIME  
Standard (2 Weeks) [ X ]  
RUSH \_\_\_\_\_  
Rush charges authorized by: \_\_\_\_\_

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

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED				Notes
							NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8		
We-24205-20130304	Effluent	01 A-C	3-7-13	1430	WATER	3	X	X			
GAC11-24205-20130304	Influent	02	3-7-13	1415	WATER	3	X	X			
GAC21-24205-20130304	Mid C1	03 ↓	3-7-13	1420	WATER	3	X	X			
GAC31-24205-	Mid C2				WATER						

Samples received at 12 = e

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>ly 7/11</i>	Liz Kab	SoundEarth Strategies	3-7-13	1630
<i>[Signature]</i>	Jeff Langston	FBI	3/4/13	1630

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

January 11, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on January 8, 2013 from the TOC\_01-176\_20130108 WORFDB7, F&BI 301082 project. There are 4 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  
c: Audrey Hackett, Beau Johnson  
SOU0111R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130108 WORFDB7, F&BI 301082 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
301082-01	We-24225-20130108
301082-02	GAC1i-24225-20130108
301082-03	GAC2i-24225-20130108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/11/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301082

Date Extracted: 01/09/13

Date Analyzed: 01/09/13

**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)
We-24225-20130108 301082-01	<1	<1	<1	<3	<100	97
GAC1i-24225-20130108 301082-02	<1	<1	<1	<3	<100	96
GAC2i-24225-20130108 301082-03	<1	<1	<1	<3	<100	100
Method Blank 03-0039 MB	<1	<1	<1	<3	<100	91

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/11/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301082

**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: 301076-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	1.2	1.0	16
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	93	72-119
Toluene	ug/L (ppb)	50	92	71-113
Ethylbenzene	ug/L (ppb)	50	93	72-114
Xylenes	ug/L (ppb)	150	90	72-113
Gasoline	ug/L (ppb)	1,000	96	70-119

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

301082

SAMPLE CHAIN OF CUSTODY

ME 01-08-13

V2

Send Report To Dee Gardner  
 Company SoundEarth Strategies  
 Address 2811 Fairview Ave East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLER'S (signature) [Signature]  
 PROJECT NAME/NO. TOC Holdings # 01-176 24225 PO #  
 REMARKS GEMS Y / N

Page # 1 of 1  
 TURNAROUND TIME  
 Standard (2 Weeks) [ X ]  
 RUSH  
 Rush charges authorized by:  
 SAMPLE DISPOSAL  
 Dispose after 30 days [ X ]  
 Return samples [ ]  
 Will call with instructions [ ]

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED					Notes
							NWTPH-GX	BTEX by 8021B	Total Lead by 6020/200.8			
We-24225-20130108	Effluent	BAC	01-08-13	1300	WATER	3	X	X				
GAC11-24225-20130108	Influent	02	01-08-13	1202	WATER	3	X	X				
GAC21-24225-20130108	Mid C1	03	01-08-13	1305	WATER	3	X	X				
GAC31-24225	Mid C2				WATER							

Samples received at 1200

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Ashley Elliot	SoundEarth Strategies	1/8/13	14:10
<u>[Signature]</u>	Ethan Marks	SES	1-8-13	14:15
<u>[Signature]</u>	Ethan Marks	SES	1-8-13	14:15
<u>[Signature]</u>	HONG NEUMEN	FPS	1/8/13	16:45



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

February 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on February 6, 2013 from the TOC\_01-176F\_20130206 WORFDB7, F&BI 302050 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0208R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20130206 WORFDB7, F&BI 302050 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
302050 -01	We_24225_20130205
302050 -02	GAC1i_24225_20130205
302050 -03	GAC2i_24225_20130205

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176F\_20130206 WORFDB7, F&BI 302050

Date Extracted: 02/06/13

Date Analyzed: 02/06/13

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 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)
We_24225_20130205 302050-01	<1	<1	<1	<3	<100	100
GAC1i_24225_20130205 302050-02	<1	<1	<1	<3	<100	98
GAC2i_24225_20130205 302050-03	<1	<1	<1	<3	<100	102
Method Blank 03-0225 MB	<1	<1	<1	<3	<100	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176F\_20130206 WORFDB7, F&BI 302050

**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: 302049-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<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	95	65-118
Toluene	ug/L (ppb)	50	96	72-122
Ethylbenzene	ug/L (ppb)	50	101	73-126
Xylenes	ug/L (ppb)	150	98	74-118
Gasoline	ug/L (ppb)	1,000	103	69-134

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

302050

SAMPLE CHAIN OF CUSTODY

ME 02/06/13

11

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) <i>[Signature]</i>	
PROJECT NAME/NO. TOC Holdings 01-176F 24225 Property	PO #
REMARKS	GEMS Y / N

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED					Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8			
Wa_24225_20130205			01A-C	2/5/13	1350	Water	3		X	X				
GAC1L_24225_20130205			02A-C	2/5/13	1355	Water	3		X	X				
GAC2L_24225_20130205			03A-B	2/5/13	1405	Water	2		X	X				

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Ashley Elliott	JES	2/6/13	0840
<i>[Signature]</i>	Nhan Phan	FeBI	2/6/13	0840
Relinquished by:				
Received by:				

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

March 19, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on March 13, 2013 from the TOC\_01-176\_20130313 WORFDB7, F&BI 303184 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0319R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 13, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130313 WORFDB7, F&BI 303184 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID

303184 -01

303184 -02

SoundEarth Strategies

We-24225-20130313

GAC1i-24225-20130313

All quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/19/13

Date Received: 03/13/13

Project: TOC\_01-176\_20130313 WORFDB7, F&BI 303184

Date Extracted: 03/14/13

Date Analyzed: 03/14/13

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 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 50-150)
We-24225-20130313 303184-01	<1	<1	<1	<3	<100	100
GAC1i-24225 -20130313 303184-02	2.9	<1	14	27	1,100	98
Method Blank 03-0434 MB	<1	<1	<1	<3	<100	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/19/13

Date Received: 03/13/13

Project: TOC\_01-176\_20130313 WORFDB7, F&BI 303184

**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: 303184-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<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	72-119
Toluene	ug/L (ppb)	50	97	71-113
Ethylbenzene	ug/L (ppb)	50	97	72-114
Xylenes	ug/L (ppb)	150	92	72-113
Gasoline	ug/L (ppb)	1,000	90	70-119

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

303184

SAMPLE CHAIN OF CUSTODY

ME 03/13/13

V1

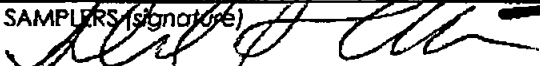
Send Report To Dee Gardner

Company SoundEarth Strategies

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907





SAMPLERS (signature) 	
PROJECT NAME/NO. TOC Holdings # 01-176 24225	PO #
REMARKS	GEMS Y / N

Page # <u>1</u> of <u>1</u>
TURNAROUND TIME Standard (2 Weeks) [ X ] RUSH _____ Rush charges authorized by: _____
SAMPLE DISPOSAL Dispose after 30 days [ X ] Return samples [ ] Will call with instructions [ ]

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED				Notes
							NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8		
We-24225-20130313	Effluent	01A-C	3/13/13	1415	WATER	3	X	X			
GAC11-24225-20130313	Influent	02A-C	3/13/13	1420	WATER	3	X	X			
<del>GAC21-24225-</del>	<del>Mid C1</del>				<del>WATER</del>		<del>X</del>	<del>X</del>			
GAC31-24225-	Mid C2			<del>1420</del>	WATER						

Samples received at 4 <sup>00</sup>

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Ashley ELLIST	SoundEarth Strategies	03/13/13	1445
	Ethan Marks	SES	3/13/13	1445
	Ethan Marks	SES	3/13/13	1702
	Dee Gardner	FBI	3/13/13	07:02

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

January 11, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on January 8, 2013 from the TOC\_01-176\_20130108 WORFDB7, F&BI 301081 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0111R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130108 WORFDB7, F&BI 301081 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
301081-01	We-24309-20130108
301081-02	GAC1i-24309-20130108
301081-03	GAC2i-24309-20130108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/11/13  
Date Received: 01/08/13  
Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301081  
Date Extracted: 01/09/13  
Date Analyzed: 01/09/13

**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)
We-24309-20130108 301081-01	<1	<1	<1	<3	<100	94
GAC1i-24309-20130108 301081-02	<1	<1	<1	<3	<100	96
GAC2i-24309-20130108 301081-03	<1	<1	<1	<3	<100	92
Method Blank 03-0039 MB	<1	<1	<1	<3	<100	91

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/11/13

Date Received: 01/08/13

Project: TOC\_01-176\_20130108 WORFDB7, F&BI 301081

**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: 301076-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	1.2	1.0	16
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	93	72-119
Toluene	ug/L (ppb)	50	92	71-113
Ethylbenzene	ug/L (ppb)	50	93	72-114
Xylenes	ug/L (ppb)	150	90	72-113
Gasoline	ug/L (ppb)	1,000	96	70-119



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

301081

SAMPLE CHAIN OF CUSTODY

ME 01-08-13

U2

Send Report To Dee Gardner

Company SoundEarth Strategies

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) [Signature]

PROJECT NAME/NO. TOC Holdings # 01-176 24309	PO #
REMARKS	GEMSY / N

Page # 1 of 1

TURNAROUND TIME  
Standard (2 Weeks) [ X ]  
RUSH \_\_\_\_\_  
Rush charges authorized by: \_\_\_\_\_

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

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED					Notes
							NWTPH-Gx	BTEX by 80218	Total Lead by 6020/200.8			
<del>We-24309-20130108</del>	Effluent	01A-C	01-08-13	1210	WATER	3	X	X	-24			
GAC1F-24309-20130108	Influent	02	01-08-13	1130	WATER	3	X	X	-24			
GAC2F-24309-20130108	Mid C1	03	01-08-13	1205	WATER	3	X	X	-24			
GAC3F-24309-	Mid C2				WATER							

Samples received at 12°C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Liz Korb	SoundEarth Strategies	1-8-13	14:15
<u>[Signature]</u>	Ethan Marks	" "	1-8-13	14:15
<u>[Signature]</u>	Ethan Marks	" "	1-8-13	16:10
<u>[Signature]</u>	HONG NGUYEN	FBI	1/8/13	16:45

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

February 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on February 6, 2013 from the TOC\_01-176D\_20130206 WORFDB7, F&BI 302049 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0208R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20130206 WORFDB7, F&BI 302049 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
302049 -01	We_24309_20130205
302049 -02	GAC1i_24309_20130205
302049 -03	GAC2i_24309_20130205

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176D\_20130206 WORFDB7, F&BI 302049

Date Extracted: 02/06/13

Date Analyzed: 02/06/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 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)
We_24309_20130205 302049-01	<1	<1	<1	<3	<100	101
GAC1i_24309_20130205 302049-02	<1	<1	1.8	5.8	160	101
GAC2i_24309_20130205 302049-03	<1	<1	<1	<3	<100	98
Method Blank 03-0225 MB	<1	<1	<1	<3	<100	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/08/13

Date Received: 02/06/13

Project: TOC\_01-176D\_20130206 WORFDB7, F&BI 302049

**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: 302049-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<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	95	65-118
Toluene	ug/L (ppb)	50	96	72-122
Ethylbenzene	ug/L (ppb)	50	101	73-126
Xylenes	ug/L (ppb)	150	98	74-118
Gasoline	ug/L (ppb)	1,000	103	69-134

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

302049

SAMPLE CHAIN OF CUSTODY

ME 02/06/13

V1

Send Report To Dee Gardner  
 Company SoundEarth Strategies Inc.  
 Address 2811 Fairview Ave East, Suite 2000  
 City, State, ZIP Seattle, WA 98102  
 Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES (signature) [Signature] Page # 1 of 1

PROJECT NAME/NO. TOC Holdings 01-176D PO #  
24309 Property

REMARKS GEMS Y / N

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED				Notes
								NWTPH-DX	NWTPH-GX	BTEX by 8021B	Total Lead by 6020/200.8	
We_24309_20130205			08A <	2/5/13	1210	Water	3		X	X		
GAC1L_24309_20130205			08A <	2/5/13	1215	Water	3		X	X		
GAC2L_24309_20130205			08A <	2/5/13	1200	Water	3		X	X		

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Ashley Elliott	SES	2/6/13	0840
<u>[Signature]</u>	Nhan Phan	FeBI	2/6/13	0840
Relinquished by:				
Received by:				

Samples received at 5 °C



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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  
e-mail: fbi@isomedia.com

March 8, 2013

Dee Gardner, Project Manager  
SoundEarth Strategies  
2811 Fairview Ave. East, Suite 2000  
Seattle, WA 98102

Dear Ms. Gardner:

Included are the results from the testing of material submitted on March 4, 2013 from the TOC\_01-176\_20130304 WORFDB7, F&BI 303039 project. There are 4 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

c: Audrey Hackett, Beau Johnson  
SOU0308R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 4, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20130304 WORFDB7, F&BI 303039 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
303039-01	We-24309-20130304
303039-02	GAC1i-24309-20130304
303039-03	GAC2i-24309-20130304

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176\_20130304 WORFDB7, F&BI 303039

Date Extracted: 03/05/13

Date Analyzed: 03/05/13

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 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 50-150)
We-24309- 20130304 303039-01	<1	<1	<1	<3	<100	89
GAC1i-24309- 20130304 303039-02	<1	1.4	24	160	1,700	99
GAC2i-24309- 20130304 303039-03	<1	<1	<1	<3	<100	86
Method Blank 03-0372 MB	<1	<1	<1	<3	<100	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/13

Date Received: 03/04/13

Project: TOC\_01-176\_20130304 WORFDB7, F&BI 303039

**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: 303030-07 (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	72-119
Toluene	ug/L (ppb)	50	93	71-113
Ethylbenzene	ug/L (ppb)	50	95	72-114
Xylenes	ug/L (ppb)	150	93	72-113
Gasoline	ug/L (ppb)	1,000	98	70-119

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### 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.

303039

SAMPLE CHAIN OF CUSTODY

ME 03/04/13

V1

Send Report To: Dee Gardner  
 Company: SoundEarth Strategies  
 Address: 2811 Fairview Ave East, Suite 2000  
 City, State, ZIP: Seattle, WA 98102  
 Phone #: 206.306.1900 Fax #: 206.306.1907

SAMPLERS (signature) [Signature] # 1 of 1

PROJECT NAME/NO. TOC Holdings # 01-176 24309 PO #

REMARKS  GEMS Y / N

TURNAROUND TIME  
 Standard (2 Weeks) [ X ]  
 RUSH   
 Rush charges authorized by:

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

Sample ID	Sample Location	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED					Notes
							NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8			
We-24309-20130304	Effluent	01 AC	3-4-13	1400	WATER	3	X	X				
GAC1F-24309-20130304	Influent	02	3-4-13	1350	WATER	3	X	X				
GAC2I-24309-20130304	Mid C1	03	3-4-13	1335	WATER	3	X	X				
GAC3I-24309	Mid C2				WATER							

Samples received at 12:00

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Liz Korb</u>	<u>SoundEarth Strategies</u>	<u>3-4-13</u>	<u>1600</u>
Received by: <u>[Signature]</u>	<u>Matthew Cassman</u>	<u>FBPEC</u>	<u>3/4/13</u>	<u>1620</u>
Relinquished by:				
Received by:				