Groundwater Monitoring Report, Second Quarter 2013

TOC Holdings Co.
Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, WA 98043

Prepared for:
TOC Holdings Co.
2737 West Commodore Way
Seattle, WA 98199

Prepared by:
Stantec Consulting Services Inc.
19101 36th Avenue West, Ste. 203
Lynnwood, WA 98036
Phone: 425.977.4994

February 11, 2015

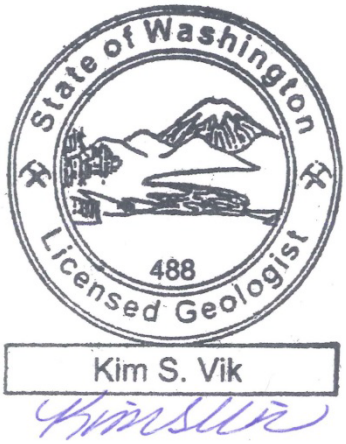
Sign-off Sheet

This document entitled, ***Groundwater Monitoring Report, Second Quarter 2013***, was prepared by **Stantec Consulting Services Inc. (Stantec)** on behalf of **TOC Holdings Co. (TOC)** for specific application to TOC Facility No. 01-176 in Mountlake Terrace, Washington. Services conducted by Stantec for this project were conducted in accordance with the Environmental Services Contract between **HydroCon Environmental, LLC (HydroCon)** and Stantec. Any reliance on this document by a third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and HydroCon. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

This document was prepared under the supervision and direction of the key staff identified below.

Prepared by:

Kim Vik, LG
Project Geologist



Prepared by:

Andrea Pedersen
Senior Project Coordinator

Reviewed by:

Rebekah Brooks, LG, LHg
Manager - Hydrogeology / Project Manager

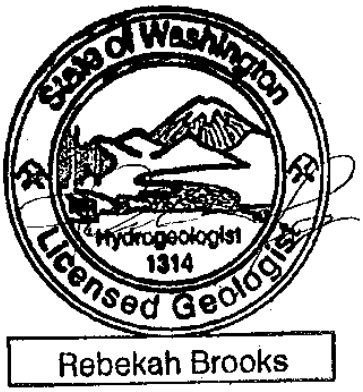


Table of Contents

Table of Contents

List of Tables

List of Figures

List of Appendices

Acronyms & Abbreviations

2Q2013	Second Quarter 2013
3Q2013	Third Quarter 2013
AO	Agreed Order
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CSM	conceptual site model
DPE	dual-phase extraction
DRPH	diesel-range petroleum hydrocarbons
Ecology	Washington State Department of Ecology
EDB	ethylene dibromide (1,2-dibromoethane)
EDC	ethylene dichloride (1,2-dicholoroethane)
EPA	U.S. Environmental Protection Agency
Friedman & Bruya	Friedman & Bruya, Inc.
FS	Feasibility Study
GRPH	gasoline-range petroleum hydrocarbons
IRA	Interim Remedial Action
IRAWP	Interim Remedial Action Work Plan
LNAPL	light non-aqueous phase liquid
MDL	method detection limit
mL/min	milliliters per minute
MPE	multi-phase extraction
MRL	method reporting limit
MTBE	methyl tert-butyl ether
MTCA	Model Toxics Control Act
NWTPH-Dx	Northwest Total Petroleum Hydrocarbon - Diesel Range Organics
NWTPH-Gx	Northwest Total Petroleum Hydrocarbon - Gasoline Range Organics
ORPH	other petroleum-related hydrocarbons
PACE	PACE Engineers, Inc.
QA/QC	Quality Assurance / Quality Control
RI	Remedial Investigation
ROW	right-of-way
SES	SoundEarth Strategies, Inc.
Stantec	Stantec Consulting Services Inc.
SVE	soil vapor extraction
TOC	TOC Holdings Co.
UST	underground storage tank
VOC	volatile organic compound

List of Properties

TOC Property	24205 56th Avenue West; Mountlake Terrace, WA
TOC/Farmasonis Property	24225 56th Avenue West; Mountlake Terrace, WA
Drake Property	24309 56th Avenue West; Mountlake Terrace, WA
Herman Property	24311 56th Avenue West; Mountlake Terrace, WA
Shin/Choi Property	24325 56th Avenue West; Mountlake Terrace, WA

1.0 INTRODUCTION

This report presents the results of the Second Quarter 2013 (2Q2013) groundwater performance monitoring event for the interim remedial action (IRA) conducted at Facility No. 01-176 located in Mountlake Terrace, Washington. Field activities were performed by SoundEarth Strategies, Inc. (SES) and are reported by Stantec Consulting Services Inc. (Stantec) on behalf of TOC Holdings Co. (TOC). Ongoing groundwater monitoring is conducted under Agreed Order (AO) No. DE 8661 (entered in October 2011 between Washington Department of Ecology [Ecology] and TOC). The scope of work is defined in the Interim Remedial Action Work Plan (IRAWP; SES 2011) included as Exhibit C of the AO.

As specified in the AO and IRAWP, the "TOC Site" encompasses the following properties:

- TOC Property - located at 24205 56th Avenue West;
- TOC/Farmasonis Property - located at 24225 56th Avenue West;
- Drake Property - located at 24309 56th Avenue West; and
- portions of the 56th Avenue West Right-of-Way (ROW).

The groundwater monitoring scope of work specified in the IRAWP encompasses the four properties identified as the "TOC Site" as well as the following three adjacent properties:

- Herman Property – located downgradient of the TOC Site at 24311 56th Avenue West;
- Shin/Choi Property – located downgradient of the TOC Site at 24325 56th Avenue West; and
- portions of the 242nd Street Southwest ROW located along the northern boundary of the TOC Site.

Quarterly groundwater monitoring is conducted to monitor and evaluate the performance and efficacy of the three multi-phase extraction (MPE) remediation systems (located on the TOC, TOC/Farmasonis and Drake Properties) and their effect on groundwater quality. The scope of work defined in the IRAWP for the second, third and fourth quarter monitoring events includes collecting depth-to-groundwater/light non-aqueous phase liquid (LNAPL) level measurements for all active monitoring wells (excluding MW71 through 74 located on the Shin/Choi Property and MW75 located in the 56th Ave ROW) and collecting groundwater samples from 30 active monitoring wells located on the TOC, TOC/Farmasonis and Drake properties. The scope of work for the annual monitoring event (performed during the first quarter of each year) includes measuring groundwater levels and collecting groundwater samples from all active monitoring wells (excluding MW71 through MW74 located on the Shin/Choi Property). It should be noted that at the time the IRAWP was completed in 2011, there were 84 active and five decommissioned monitoring wells located on the TOC Site, 242nd Street ROW and downgradient Shin/Choi Property. Since October 2011, 18 wells have been installed and two wells have been decommissioned. Currently, 101 active and six decommissioned monitoring wells are located on the TOC Site, 242nd Street ROW and downgradient Herman and Shin/Choi properties. Therefore, the scope of work for the quarterly and annual groundwater monitoring events has been updated to include the selected monitoring wells installed by SES from 2011 to 2013.

This report presents a description of 2Q2013 groundwater monitoring activities performed by SES in June and July 2013 and an evaluation of the field data and analytical results. Groundwater monitoring activities performed by SES included collecting depth-to-groundwater/LNAPL level measurements for all active wells (excluding MW71 through 74 and MW75 noted above) and collecting groundwater samples from 37 active wells. A *Groundwater Monitoring, Second Quarter 2013 Draft Report* was prepared by SES but never submitted to Ecology. Since that time, Stantec has been hired by TOC to take over environmental consulting responsibilities for the project. The results presented in this report have been re-evaluated by Stantec to accurately represent the data collected; however, data quality evaluations conducted by SES have not been reviewed/modified by Stantec. Additionally, during preparation of this report and during updates to the Conceptual Site Model (CSM), Stantec discovered that well monuments on several wells had been damaged and different survey datum had been used by SES. As a result of these findings, Stantec procured PACE Engineers, Inc. (PACE) to conduct a survey in April and May 2014 for all of the wells and site features using a single datum. The updated survey information has been used to revise previous groundwater elevation tables prepared by SES. Additionally, because of inconsistencies observed between the laboratory reports, draft data tables and information entered into the database by SES, a thorough quality control/quality assurance (QA/QC) review was performed for the data tables included in this report.

It should be noted that MW102 through MW107 were installed by SES on the Herman Property (located downgradient of the TOC Site) in June 2013 and developed in July 2013. Since well development occurred following the scheduled 2Q2013 field event (completed June 24-26, 2013), the wells were sampled on July 12, 2013. Monitoring of the Herman Property wells was originally scheduled for the Third Quarter 2013 (3Q2013) field event performed by SES in September 2013. However, because groundwater conditions were more similar to the 2Q2013 event than to the 3Q2013 event, and because of the close proximity of the sampling date to the 2Q2013 event, the results of the July 2013 sampling event for the wells located on the Herman Property are included herein.

Groundwater monitoring for MW84 (a remediation well located on the Drake Property and connected to a remediation system located on the TOC/Farmasonis Property) was scheduled for the 2Q2013 field event but could not be performed during June 2013 field activities because the remediation system was offline for repairs and MW84 was inactive. Therefore, groundwater monitoring for MW84 was performed at the same time as the Herman Property wells on July 12, 2013. Due to the close proximity of the sampling date to the 2Q2013 event, the results of the July 2013 sampling event for MW84 are also included herein.

2.0 DESCRIPTION & BACKGROUND

2.1 Description of TOC Site

As described in Section 1.0, the TOC Site encompasses three adjacent properties and a portion of the 56th Avenue West ROW in Mountlake Terrace, Washington. As shown on **Figures 1 and 2**, the TOC Site is located in a mixed residential and commercial area and surface topography slopes gently toward the south. The TOC Site is bordered by 242nd Street Southwest and commercial properties to the north; by residential properties to the east and west; and by the Herman Property and vacant Mountlake Senior Property to the south. A description of each property included within the TOC Site is provided below.

- **TOC Property:** The vacant TOC Property consists of vegetated land with the exception of an asphalt area and graveled and fenced area housing a MPE remediation system (described in Section 2.3).
- **TOC/Farmasonis Property:** The TOC/Farmasonis Property consists of one commercial building (operating as a restaurant at the time of the 2Q2013 field and currently vacant), an asphalt parking area, vegetated land, and a graveled and fenced area housing two MPE remediation systems (discussed in Section 2.3).
- **Drake Property:** The Drake Property consists of one commercial building (currently occupied by Getaway Tavern) and asphalt and gravel parking areas.
- **56th Avenue West ROW:** The portion of the 56th Avenue ROW included in the TOC Site is adjacent to the TOC, TOC/Farmasonis and Drake properties.

2.2 Description of Adjacent Properties

In addition to the TOC Site, the scope of work (described in Section 1.0) includes a portion of the 242nd Street ROW (located directly north of the TOC Site) and two downgradient properties (the Herman and Shin/Choi properties located directly south of the TOC Site). As shown on **Figure 2**, The Herman Property is bordered by the TOC Site to the north and the Shin/Choi Property is directly south of the Herman Property. The Herman and Shin/Choi properties are bordered by the Mountlake Senior Property (currently vacant vegetated land) and residential properties to the east; 56th Avenue West (the southern portion of the street not included within TOC Site) and residential properties to the west; and 244th Street Southwest/205th Street Northeast to the south. The Snohomish County boundary is defined by 244th Street and the King County boundary is defined by 205th Street.

A description of the properties adjacent to the TOC Site and included in the scope of work for groundwater monitoring is provided below.

- **Herman Property:** The Herman Property consists of one commercial building (currently occupied by Dave's Auto Service), an asphalt parking area and vegetated land.
- **Shin/Choi Property:** The Shin/Choi Property consists of one building (currently occupied by the EZ Corner Mart) and an asphalt parking area.
- **242nd Street Southwest ROW:** The portion of the 242nd Avenue ROW included in the scope of work is adjacent to the north boundary of the TOC Property.

2.3 Site Background

TOC operated a retail gasoline station on the TOC Property between 1968 and 1990. The facility included three underground storage tanks (USTs), six fuel dispensers and associated product delivery lines. One 8,000-gallon and two 6,000-gallon USTs and ancillary equipment were removed from the TOC Property in 1991 and petroleum constituents in the form of gasoline-range petroleum hydrocarbons (GRPH), benzene, and total xylenes were observed in soil and groundwater in excess of the applicable Model Toxics Control Act (MTCA) Method A Cleanup Levels. Between 1992 and 2013, site investigations were conducted to determine the extent of petroleum contamination and 107 monitoring wells (six of which have been decommissioned) were installed in three groundwater zones (defined as Shallow, Intermediate, and Deep and further described in Section 3.0) on the TOC Site and three adjacent properties (described in Sections 2.1 and 2.2).

In 1996, a dual-phase extraction (DPE) remediation system was installed at the TOC Property to remediate Shallow Zone groundwater impacted by petroleum hydrocarbons and remove LNAPL. The DPE system operated from February 1997 to June 2005 and was later removed following confirmation that the system effectively remediated Shallow Zone Groundwater (SES 2013b). In 2006, groundwater monitoring results collected by SES confirmed gasoline-related contamination extended downgradient of the TOC Property to the south and west.

As described in Section 1.0, TOC and Ecology entered into an AO in October 2011. In accordance with the AO, SES initiated a remedial investigation (RI) at the TOC Site and three MPE remediation systems (further discussed in Section 4.0) were installed between November 2011 and August 2012 to remediate residual petroleum-contaminated groundwater, soil vapor and LNAPL (if present) in the Intermediate Zone beneath and downgradient of the TOC Site. As shown on **Figure 3**, the MPE remediation systems are located within fenced enclosures on the TOC Property and TOC/Farmasonis Property and are served by remediation wells installed on the TOC, TOC/Farmasonis and Drake properties.

Available information regarding historical operations on the TOC/Farmasonis and Drake properties do not indicate the presence of USTs. Historical operations on the downgradient Herman and Shin/Choi properties indicate three USTs were removed from the Shin/Choi Property in 1991 and two USTs were removed from the Herman Property in 2001; however five additional USTs may still exist on the Herman Property. Available information on the locations of historical or current USTs and associated equipment downgradient properties is shown on **Figure 3.**

3.0 HYDROGEOLOGIC FRAMEWORK

In the *Draft Remedial Investigation Report* (SES 2013b), three separate groundwater zones were identified at the TOC Site, based on the lithology, well screen intervals, and groundwater level measurements. Stantec has re-evaluated the data as part of updates and revisions to the CSM, as required by Ecology, based on comments provided to SES on the *Draft Remedial Investigation Report* (SES 2013b). The results of the revised CSM will be provided to Ecology in a separate deliverable and will be incorporated into the final RI report prepared by Stantec.

Stantec agrees that three groundwater zones can be identified at the TOC Site; however, these zones do not appear to be separate, but are interconnected, as evidenced by the geology, groundwater elevations and contaminant distribution data. Since first-hand observations were not possible, Stantec's conceptualization of the hydrogeology is based on geologic field interpretations (e.g., boring logs) provided by SES and other consultants that previously managed the project.

Based on re-evaluation of the available data by Stantec, the three groundwater zones are defined as follows:

Shallow Water-Bearing Zone (or Shallow Zone): The Shallow Zone is a perched zone in the artificial fill or upper portion of the glacial till, at depths between approximately 5 to 20 feet below ground surface (bgs) throughout the TOC Site, depending on seasonal fluctuations of the water table. The saturation in these horizons can be seasonally discontinuous, as evidenced by some monitoring wells that are seasonally dry (e.g., MW04 during the December 2012 event), while others in the same season contain water. The primary source of recharge to the Shallow Zone is infiltration of natural precipitation through emplaced fill and native soil in unpaved areas. Other potential sources of recharge to the Shallow Zone reportedly included a former topographically closed depression, where surface runoff previously ponded, and a former stormwater infiltration pit, both of which were located in the southeast portion of the TOC Property (**Figure 3**). According to a 1975 TOC blueprint, the stormwater infiltration pit is located in proximity to MW18 and MW33; measures 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 asphalt area formerly discharged into the stormwater infiltration pit via a 6-inch-diameter drain pipe, which has been capped. Stantec was unable to confirm the location of the closed depression or the stormwater infiltration pit on the TOC Property during March 2014 site work.

Intermediate Water-Bearing Zone (or Intermediate Zone): The Intermediate Zone is an unconfined groundwater zone that is observed at depths between approximately 20 and 60 feet bgs. As reported by SES (2013b), this zone consists of glacial till deposits between approximately 20 and 40 feet bgs and discontinuous sand and/or gravel-rich glacial deposits within the lower portion of the glacial till between approximately 40 and 60 feet bgs. As discussed further in Section 6.1, groundwater elevations in the Intermediate Zone of the TOC Property appear to be mounded such that the upper boundary of the Intermediate Zone appears closer to the base of the Shallow Zone in the vicinity of the UST excavation fill area and former stormwater infiltration pit. Explanations for the observed groundwater mounding are likely

related to artificial recharge within the backfill of the former UST cavity, depression, and infiltration pit; the presence of low permeable deposits near the downgradient edge of the property; and/or from localized influence of the vacuum from the soil vapor extraction (SVE) system for the remediation system located on the TOC Property (see Section 4.0). The low permeable deposits in the upper portion of the intermediate groundwater bearing zone impede the vertical percolation of water into the deeper groundwater zones and decrease the horizontal flux of the groundwater in the immediate vicinity. The prevalence of low permeable deposits correlates with the location of steeper horizontal hydraulic gradients in this area (see Section 6.0). In downgradient areas where the Intermediate Zone consists primarily of higher permeability units (i.e., sands and gravels), the thickness of unsaturated materials and the distance between the Shallow and Intermediate Zones increase. The higher permeable deposits contribute to a flattening of the horizontal hydraulic gradient. The Intermediate Zone appears to receive recharge from natural precipitation via the Shallow Zone. A comparison of groundwater elevations and analytical data suggests that the Intermediate Zone is considered to be the current primary contaminant transport pathway at the TOC Site.

Deep Water-Bearing Zone (or Deep Zone): The Deep Zone consists of glacial sand and gravel located at depths greater than 60 feet bgs, based on deep well screen intervals. Within and in the vicinity of the artificial recharge area on the TOC Property, the groundwater elevation data indicate that downward vertical gradients appear to exist between all three zones. In downgradient areas, the groundwater elevation data suggest that vertical gradients shift from downward (between the Shallow and Intermediate Zones) to neutral or slightly upward (between the Intermediate and Deep Zones). Based on these observations and the presence of fully saturated well screens, these groundwater level conditions could be a reflection of a higher permeability zone at the base of a single groundwater unit that includes both the Intermediate and Deep Zones or could represent semi-confined conditions in a separate, but interconnected groundwater zone; however, the presence of a low permeability confining unit between the two zones is not obvious in the available data. The presence of upward vertical gradients between the Deep and Intermediate Zones appear to be effective in inhibiting downward migration of contamination in downgradient areas and effectively bounding the extent of vertical contamination.

4.0 REMEDIATION SYSTEM STATUS

As described in Section 1.0, TOC and Ecology entered into an AO in October 2011. In accordance with the AO, SES initiated a RI at the TOC Site and three MPE remediation systems were installed between November 2011 and August 2012 to remediate residual petroleum-contaminated groundwater, soil vapor and LNAPL (if present) in the Intermediate Zone beneath and downgradient of the TOC Site. As shown on **Figure 3**, the MPE remediation systems are located within fenced enclosures on the TOC Property and TOC/Farmasonis Property and are served by remediation wells installed on the TOC, TOC/Farmasonis and Drake properties.

At the time of 2Q2013 field event, 24 remediation wells served the remediation systems. Operation of all three MPE remediation systems is ongoing. The table below identifies the remediation wells connected to each system and their location.

Wells Serving MPE Remediation Systems

System Name	System Location	Remediation Well ID	Remediation Well Location
Unit 1	TOC Property	• MW11 • MW29 • MW15 • MW32 • MW18 • MW90 • MW24 • MW91 • MW27	TOC Property
Unit 2	TOC/Farmasonis Property	• MW31 • MW92 • MW41 • MW93 • MW57 • MW94	TOC/Farmasonis Property
Unit 3	TOC/Farmasonis Property	• MW69 • MW97 • MW70 • MW98 • MW84* • MW99 • MW95 • MW101 • MW96	Drake Property

**The pump was removed from MW84 following the 2Q2013 field event. Therefore, the MW84 is currently used as a monitoring well and no longer serves as a remediation well connected to Unit 3.*

Additional information describing the operation and performance of the MPE remediation systems was provided in the *Draft Operation and Maintenance Report, Second Quarter 2013* (SES 2013a).

5.0 GROUNDWATER MONITORING SCOPE OF WORK & PROTOCOLS

The 2Q2013 groundwater monitoring event was conducted by SES from June 24-26, 2013, in accordance with the scope of work defined in the IRAWP. As previously discussed in Section 1.0, monitoring wells MW102 through MW107 were installed on the Herman Property in June 2013 and developed in July 2013. Since well development occurred following the 2Q2013 field event, SES sampled the wells on July 12, 2013. Monitoring of the Herman Property wells was originally scheduled for the 3Q2013 field event performed by SES in September. However, because groundwater conditions were more similar to the 2Q2013 event than to the 3Q2013 event, and because of the close proximity of the sampling date to the 2Q2013 event, the results of the July 2013 sampling event for the wells located on the Herman Property are included herein.

Groundwater monitoring for MW84 (a remediation well located on the Drake Property and connected to the remediation system on the TOC/Farmasonis Property) was scheduled for the 2Q2013 field event but could not be performed during June 2013 field activities because the remediation system was offline for repairs and MW84 was inactive. Therefore, groundwater monitoring for MW84 was performed at the same time as the Herman Property wells on July 12, 2013. Due to the close proximity of the sampling date to the 2Q2013 event, the results of the July 2013 sampling event for MW84 are also included herein.

The sections below summarize the field methods and protocols used by SES for the 2Q2013 groundwater monitoring event.

5.1 Depth-to-Groundwater/LNAPL Level Measurements

Depth-to-groundwater/LNAPL levels were measured by SES personnel from June 24-26, 2013 for the monitoring wells identified in the IRAWP scope of work. As described in Section 1.0, MW84 and the newly installed Herman Property wells were measured by SES personnel on July 12, 2013. According to SES, after opening the wells, groundwater levels were permitted to equilibrate with atmospheric pressure prior to recording the measurements. SES measured and recorded depth-to-groundwater/LNAPL levels relative to the top of the well casings to an accuracy of 0.01 feet using an electronic water level meter or an oil/water interface probe. Where LNAPL was previously observed or expected to occur, SES used an oil/water interface probe to check for the presence of LNAPL and measure the depth-to-groundwater. SES personnel recorded the depth-to-groundwater measurements in monitoring well MW09 (located on the TOC Property) using each of the water level meters and interface probes to check for consistency between the probes used for the measurement event. Depth-to-groundwater/LNAPL level and groundwater elevation results are presented in Section 6.1.

The wells identified in the table below were included in the quarterly groundwater monitoring scope of work but were not gauged for the reasons stated.

Wells not Gauged during Field Event

Well ID & Location (Property Name)	Explanation
• MW84 (Drake)	*SES did not provide explanation.*
• MW44 (56th ROW)	Well was dry.

5.2 Groundwater Sampling

The quarterly groundwater monitoring scope of work included collecting samples from 37 wells. The wells identified in the table below were included in the scope of work but were not sampled for the reasons stated.

Wells not Sampled during Field Event

Well ID & Location (Property Name)	Explanation
• MW33 (TOC) • MW69 (Drake) • MW70 (Drake)	Insufficient water to fill sample containers.

The groundwater sampling methods, protocols and rationale used by SES were identified in their *Draft Groundwater Monitoring Report, Second Quarter 2013*, and are summarized in this section. The rationale they used for selection of sampling methodology is provided in the following section.

5.2.1 SES Groundwater Sampling Method Rationale

According to SES, peristaltic pumps are the default, low-flow sample collection method for the groundwater monitoring events, but they are ineffective for collection of samples deeper than approximately 31 feet. Since the depth-to-groundwater level exceeds 31 feet in over half of the monitoring wells, SES considered the advantages and disadvantages of the sampling methods identified below and provided the following conclusions for the sampling methodology used for the quarterly events (see Section 5.2.2):

- Peristaltic pumps and dedicated tubing allow collection of 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 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 monitoring wells in the Deep Zone, but so are bailers and bladder pumps. Furthermore, 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.

5.2.2 SES Groundwater Sampling Methods

Based on the rationale provided above, SES used four sampling methods (peristaltic pump, bladder pump, bailer and pneumatic pump) and elected not to use submersible pumps for groundwater sampling. The SES groundwater sampling protocols and methods used for the sampling events included the following:

- For monitoring wells connected to a remediation unit, SES collected groundwater samples using a dedicated downhole pneumatic pump (MW15, MW27, MW31 and MW32). The pneumatic pumps deliver a pulse of groundwater to the wellhead whenever the groundwater table rises above the pump intake.
- For monitoring wells with depth-to-groundwater levels were less than approximately 31 feet bgs and the well was not connected to a remediation unit, SES collected groundwater samples in accordance with low-flow protocols using a peristaltic pump (MW09, MW10, MW22, MW102, MW104 and MW106).
- For monitoring wells with depth-to-groundwater levels exceeding approximately 31 feet bgs, SES collected samples using a bottom-loading bladder pump in accordance with low-flow protocols (MW09, MW20, MW55, MW56, MW58, MW59, MW60, MW63, MW65, MW77, MW84, MW85, MW86, MW89, MW103, MW105 and MW107) or a disposable polyethylene bailer (MW09, MW45, MW48 through MW53 and MW66).
- In order to evaluate the effects of sample method on data quality, SES collected three samples from MW09 using different sampling methods (bladder pump, peristaltic pump and bailer).
- SES collected field duplicate samples for QA/QC purposes (see Section 5.5) from MW09 using a peristaltic pump, MW31 using a pneumatic pump, MW66 using a bailer, and MW86 and MW103 using a bladder pump.

5.3 Well Purging & Groundwater Sampling Methods

Well purging and groundwater sampling with a peristaltic pump was performed using dedicated polyethylene tubing at flow rates ranging from 50 to 188 milliliters per minute (mL/min). For wells where the screened interval was fully saturated at the time of the monitoring event, the tubing intake was placed at the mid-point of the screened interval. The groundwater level in MW60, MW63, MW65, MW84, and MW102 through MW106 was below the top of the screen and therefore, the tubing intake was placed approximately 2 to 3 feet below the surface of the groundwater.

Well purging and groundwater sampling with a bottom-loading bladder pump was performed using disposable polyethylene tubing at flow rates ranging from 40 to 400 mL/min. 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 where the water level was below the top of the screen. In wells with a fully-saturated screen (MW60, MW63, MW65 and MW107), the bladder pump was placed approximately mid-screen.

When purging and sampling in accordance with low-flow protocols, SES monitored water quality using Quanta and YSI Inc. water quality meters equipped with a flow-through cell. Field parameters, including temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential, were monitored and recorded. Following purging and stabilization of the field 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.

Well purging and groundwater sampling with disposable bailers required the removal of at least three well volumes from each monitoring well prior to sampling. SES did not monitor field parameters during purging and sampling with bailers, or sampling with the pneumatic pumps. Upon removal of at least three well volumes of groundwater, water samples were collected from the bailer directly into laboratory-prepared sample containers. Fewer than three well volumes were purged from the following wells prior to collecting a groundwater sample:

- MW51 and MW52 bailed dry upon removal of one well-volume of groundwater. The wells were allowed to recharge and were sampled later the same day.
- MW45, MW50 and MW53 bailed dry upon removal of approximately two well-volumes of groundwater. The wells were allowed to recharge, and were sampled later the same day.

Purge water generated during this sampling event was placed in labeled 55-gallon steel drums and temporarily stored on the TOC Property for transfer to the remediation systems for treatment and permitted discharge to the sanitary sewer.

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. (Friedman & Bruya) under standard chain-of-custody protocols for laboratory analysis.

5.4 Laboratory Analyses

The types of laboratory analyses performed by Friedman & Bruya for the groundwater samples are identified in the table below. The data were reportedly validated by SES and, in some cases, qualifiers were assigned. Results are reported between the method detection limits (MDLs) and the method reporting limits (MRLs) for all data packages. Results are typically reported as "not detected" when below the MRLs. In cases where the MRLs were not below MTCA Method A Cleanup Levels for groundwater, the results are reported between the MDL and MRL and are considered estimates that are used for informational purposes only.

Laboratory Analyses for Groundwater Samples

Hazardous Substance	Method of Analysis	Sample Location / Well ID
GRPH	NWTPH-Gx	*Analyses performed for all groundwater samples collected during field event.*
DRPH & ORPH	NWTPH-Dx	• MW102 • MW104 • MW106 • MW103 • MW105 • MW107
BTEX	EPA Method 8260C or 8021B	*Analyses performed for all groundwater samples collected during field event.*
MTBE	EPA Method 8260C	• MW65 • MW85 • MW102 • MW77 • MW86 • MW104 • MW84 • MW89 • MW106
EDB & EDC	EPA Method 8260C	• MW84 • MW104 • MW106 • MW102 • MW105 • MW107 • MW103
EDB	EPA Method 8011M	• MW102 • MW104 • MW106 • MW103 • MW105 • MW107
Lead (Total & Dissolved)	EPA Method 200.8	• MW31 • MW104 • MW106 • MW102 • MW105 • MW107 • MW103

Acronyms:

BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
DRPH = Diesel-Range Petroleum Hydrocarbons
EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dicholoroethane)
EPA = U.S. Environmental Protection Agency
GRPH = Gasoline-Range Petroleum Hydrocarbons
MTBE = Methyl Tertiary-Butyl Ether
NWTPH-Dx = Northwest Total Petroleum Hydrocarbon – diesel-range organics analysis method
NWTPH-Gx = Northwest Total Petroleum Hydrocarbon – gasoline-range organics analysis method
ORPH = Oil-Range Petroleum Hydrocarbons

5.5 QA/QC Sampling Methods & Data Quality Review

The scope of work for the quarterly groundwater monitoring events included collection and laboratory analyses of groundwater samples for QA/QC purposes. QA/QC samples collected for the 2Q2013 groundwater monitoring event are summarized below.

- Two equipment rinsate samples were collected from water poured through the bladder pumps used for sampling at the following locations:
    - MW86 (sample 01176-20130626-R1)
    - MW103 (sample 01176-20130712-R1)
- Three groundwater sampling equipment methods were used at MW09 to compare the sampling method effects (if any) on the variability of analytical results. The sampling methods included a bladder pump (sample MW09-20130625-BL), a peristaltic pump (sample MW09-20130625-PE) and a bailer (sample MW09-20130625-BA).
- Two blind field duplicate samples were collected from the following locations using the same sampling equipment methods:
    - MW09 using a peristaltic pump (samples MW09-20130625-PE and MW999-20130625-PE).
    - MW103 using a bladder pump (samples MW103-20130712-BL and MW999-20130712-BL).
- Three non-blind field duplicate samples were collected at the following locations using the same sampling equipment methods:
    - MW31 using a pneumatic pump (sample MW31-20130626-PN and method duplicate sample MW31-20130626).
    - MW66 using a bailer (sample MW66-20130625-BA and method duplicate sample MW66-20130625-BA2).
    - MW86 using a bladder pump (sample MW86-20130625-BL and method duplicate sample MW86-20130625-BL2).

6.0 GROUNDWATER MONITORING RESULTS

As described in Section 3.0, the hydrogeologic framework of the TOC Site includes three groundwater zones (Shallow, Intermediate and Deep) that appear to be interconnected. Based on re-evaluation of available SES data by Stantec and a comparison of site-specific lithology and groundwater elevations collected during multiple sampling events, 16 monitoring wells appear to have screen intervals that intersect multiple groundwater zones. At these locations, groundwater elevations do not correlate with a single, unique zone and appear to reflect some combination of the two intersected zones (either intersecting Shallow and Intermediate Zones or Intermediate and Deep Zones). Wells that are screened in multiple intervals are not considered to be representative of a single, unique groundwater zone and, therefore, were not used by Stantec for groundwater elevation contouring. Therefore, the monitoring wells were placed into five different categories based on well screen intervals and intersected groundwater zones. The five categories include:

1. Shallow Zone Wells,
2. Intermediate Zone Wells,
3. Deep Zone Wells,
4. Shallow-Intermediate Zone Intersect Wells, and
5. Intermediate-Deep Zone Intersect Wells.

Table A-1 (**Appendix A**) provides a side-by-side comparison of SES well classifications (provided in the *Draft Remediation Investigation Report* [SES 2013b]) with Stantec's revised well classifications for the five categories described above. The revised well classifications are based on a comprehensive evaluation of data by Stantec during updates to the CSM.

Groundwater monitoring results for the 2Q2013 field event are organized by monitoring well categories and summarized below. Historical groundwater elevations and analytical results since June 1992 are presented and discussed in the annual (first quarter) groundwater monitoring reports.

6.1 Groundwater Elevations

The groundwater elevations were contoured by Stantec and used to identify groundwater flow direction and hydraulic gradients (**Figures 4 through 6**). The depth-to-groundwater/LNAPL level measurements and groundwater elevations are summarized in the following sections and provided on **Table 2-1** (attached to this report). Field data was corrected by SES for differences between instruments based on the measurements recorded for monitoring well MW09 (maximum 0.01 feet). The groundwater elevations provided on **Table 2-1** were updated by Stantec based a survey performed by PACE in 2014 (see Section 1.0). It should be noted that depth-to-groundwater/LNAPL level measurements were collected by SES when the remediation systems were operating and therefore, may not represent baseline (i.e., non-pumping) groundwater flow patterns.

Depth-to-groundwater/LNPAL level measurements ranged from 10.25 feet for MW12 (located in the Shallow Zone) to 44.52 feet for MW16 (located in the Intermediate-Deep Zone intersect). LNAPL was not observed in any of the monitoring wells during the 2Q2013 field event. Shallow Zone Wells

Groundwater flow in the Shallow Zone appears to be predominantly to the south-southeast based on groundwater elevations measured during the 2Q2013 event, with a relatively consistent horizontal hydraulic gradient ranging from 0.02 to 0.05 feet/feet across the TOC Site, as shown on **Figure 4**.

6.1.1 Intermediate Zone Wells

Similar to the Shallow Zone, groundwater flow in the Intermediate Zone appears to be generally to the south-southeast based on groundwater elevations measured during the 2Q2013 event with horizontal hydraulic gradients ranging from 0.01 to 0.1 feet/feet across the TOC Site. As discussed in Section 3.0 and shown on **Figure 5**, steepening in the slope of the horizontal gradient is apparent in the vicinity of the TOC Property's southern boundary and is thought to be related to mounding of groundwater in the area of the TOC Property. This mounding could reflect influences of the following: artificial recharge associated with emplaced fill in the former UST area and stormwater infiltration pit and depression; and/or the apparent presence of a low permeability material in that area. Also, mounding effects appear to be present in direct vicinity to some of the remediation wells (MW15, MW32 and MW91), likely associated with vacuum effects from the SVE components of the remediation systems. As groundwater moves downgradient and encounters higher permeability layers (e.g., gravels and sands), the horizontal hydraulic gradient flattens significantly as is evident from the potentiometric surface on **Figure 5**.

6.1.2 Deep Zone Wells

Groundwater flow in the Deep Zone appears to be generally to the south-southeast based on groundwater elevations measured during the 2Q2013 event. The horizontal hydraulic gradient is relatively flat at an average of about 0.01 feet/feet likely because the wells are screened in high permeability material. Within and in the vicinity of the artificial recharge area on the TOC Property, the groundwater elevation data indicate that downward vertical gradients appear to exist between all three zones; however, Deep Zone data in this area are limited. Downgradient of this area, the groundwater elevation data appear to indicate that vertical gradients shift from downward (between the Shallow and Intermediate Zones) to upward (between the Intermediate and Deep Zones). Groundwater elevations between the intermediate and Deep Zones are similar, but the Deep Zone elevations are typically slightly elevated above the Intermediate Zone in downgradient areas. The presence of upward vertical gradients between the Deep and Intermediate Zones, downgradient of the TOC Property appear to be effective in inhibiting downward vertical flow of groundwater and migration of contamination in downgradient areas and effectively bounding the extent of vertical contamination.

6.1.3 Well Screens Intersecting Multiple Zones

As previously mentioned, 16 monitoring wells appear to intersect conditions of multiple groundwater zones. Since the elevations for these wells appear to be anomalous and do not correlate with a single, unique zone, they were not used for groundwater contouring but are shown on **Figure 5**. The two intersecting groundwater zones are defined below.

- **Shallow-Intermediate Zone Intersect Wells:** Fifteen wells appear to have screened intervals that intersect both Shallow and Intermediate Zone conditions (MW08, MW09, MW18, MW22, MW24, MW27, MW28, MW29, MW37, MW38, MW43, MW82, MW83, MW88 and MW100). Groundwater elevations for these wells are typically lower than Shallow Zone wells but higher than Intermediate Zone wells due to influence of groundwater conditions from both the Shallow and Intermediate Zones. These wells were previously classified by SES as "Intermediate Zone" or "Upper Intermediate Zone" wells (as shown on **Table A-1, Appendix A**).
- **Intermediate-Deep Zone Intersect Wells:** One well (MW16) appears to have a screened interval that intersects both Intermediate and Deep Zone conditions. The well has been dry during many sampling events but the groundwater elevations measured are typically lower than other Intermediate Zone wells due to influence from the Deep Zone. This well was previously classified by SES as an "Intermediate Zone" well (as shown on **Table A-1, Appendix A**).

6.2 Groundwater Quality Results

The types of laboratory analyses performed by Friedman & Bruya for the groundwater samples collected during the quarterly event are identified on the table in Section 5.3. Analytical reports are provided in **Appendix B**.

Tables 1-1 through 1-3 summarize analytical results for the wells sampled during the quarterly event. As shown on the attached tables, the analytical results indicate several constituents were detected in groundwater samples at concentrations above the MRLs (i.e., detected concentrations) and above MTCA Method A Cleanup Levels. A summary of the analytical results that exceed the MTCA Method A Cleanup Levels for each monitoring well category is provided in the following sections.

6.2.1 Shallow Zone Wells

The scope of work defined in the IRAWP does not require quarterly groundwater sampling of any of the 20 active wells in the Shallow Zone. However, three Shallow Zone wells (MW102, MW104 and MW106) were installed on the Herman Property following completion of the IRAWP and, therefore, are included quarterly groundwater monitoring scope of work.

The table on the following page identifies groundwater samples exceeding MTCA Method A Cleanup Levels for Shallow Zone wells. **Table 1-1** (attached to this report) summarizes the analytical results for all groundwater samples collected from Shallow Zone wells. Concentration distribution maps for GRPH and benzene in groundwater within the Shallow Zone are provided on **Figures 7 and 8,** respectively.

Analytical Results for Groundwater Samples Exceeding Cleanup Levels (Shallow Zone Wells)

Analyte	MTCA Method A Cleanup Level (µg/L)	Well ID & Location (Property Name)	Concentration Exceeding Cleanup Level (µg/L)
GRPH	1,000 or 800 when benzene is present	MW102 (Herman) MW104 (Herman)	180,000 58,000
DRPH	500	MW102 (Herman) MW104 (Herman)	8,400 11,000
Benzene	5	MW102 (Herman) MW104 (Herman)	9,600 17
Toluene	1,000	MW102(Herman) MW104 (Herman)	48,000 3,200
Ethylbenzene	700	MW102 (Herman) MW104 (Herman)	3,100 2,600
Total Xylenes	1,000	MW102 (Herman) MW104 (Herman)	20,100 14,600
MTBE	20	MW102 (Herman)	52
EDB	0.01	MW102 (Herman) MW104 (Herman)	0.88 0.034
EDC	5	MW102 (Herman)	120
Lead (Dissolved)	15	MW102 (Herman)	16.7
Lead (Total)	15	MW102 (Herman)	15.6

6.2.2 Intermediate Zone Wells

The scope of work defined in the IRAWP requires quarterly groundwater sampling of 28 of the 64 active wells in the Intermediate Zone. One well scheduled for quarterly monitoring (MW21 on the TOC Property) was decommissioned in 2012 following completion of the IRAWP. Three Intermediate Zone wells (MW103, MW105 and MW107) were installed on the Herman Property following completion of the IRAWP and were added to the scope of work for the quarterly monitoring events. Twelve additional Intermediate Zone wells (MW90 through MW101) were installed in 2011 after completion of the IRAWP but were not included during this quarterly event (SES did not document their reasoning for excluding these wells from the scope of work for the 2Q213 event). Therefore, a total of 31 active wells are included quarterly groundwater monitoring scope of work.

The table on the following page identifies groundwater samples exceeding MTCA Method A Cleanup Levels for Intermediate Zone wells. **Table 1-2** (attached to this report) summarizes the analytical results for all groundwater samples collected from Intermediate Zone wells. Concentration distribution maps for GRPH and benzene in groundwater within the Intermediate Zone are provided on **Figures 9 and 10,** respectively.

Analytical Results for Groundwater Samples Exceeding Cleanup Levels (Intermediate Zone Wells)

Analyte	MTCA Method A Cleanup Level (µg/L)	Well ID & Location (Property Name)	Concentration Exceeding Cleanup Level (µg/L)
GRPH	1,000 or 800 when benzene is present	MW15 (TOC) MW20 (TOC) MW32 (TOC) MW45 (TOC/Farmasonis) MW48 (TOC/Farmasonis) MW103 (Herman)	1,800 8,600 8,000 8,300 11,000 2,900
DRPH	500	MW103 (Herman)	1,500
Benzene	5	MW20 (TOC) MW32 (TOC) MW103 (Herman)	25 11 1,400
Total Xylenes	1,000	MW20 (TOC) MW32 (TOC)	1,200 1,900
MTBE	20	MW103 (Herman)	260
EDB	0.01	MW103 (Herman)	0.094
EDC	5	MW103 (Herman)	34
Lead (Total)	15	MW31 (TOC/Farmasonis)	19.9

6.2.3 Deep Zone Wells

The scope of work defined in the IRAWP does not require quarterly groundwater sampling of any of the six active wells in the Deep Zone.

6.2.4 Well Screens Intersecting Multiple Zones

As described in the opening paragraph of Section 6.0, 16 monitoring wells appear to have wells screens that intersect conditions of multiple groundwater zones. The groundwater quality results for monitoring wells in these zones are discussed below.

6.2.4.1 Shallow-Intermediate Zone Intersect Wells

The scope of work defined in the IRAWP requires quarterly groundwater sampling for three of the 15 active wells that intersect Shallow and Intermediate Zone conditions (MW09, MW22 and MW27 located on the TOC Property). For illustration purposes, GRPH and benzene concentrations within wells screened across both Shallow and Intermediate Zones are shown with the Intermediate Zone wells on **Figures 9 and 10**, respectively.

The table on the following page identifies groundwater samples exceeding MTCA Method A Cleanup Levels for Shallow-Intermediate Zone intersect wells. **Table 1-3** (attached to this report) summarizes the analytical results for groundwater samples collected from Shallow-Intermediate Zone intersect wells.

Analytical Results for Groundwater Samples Exceeding Cleanup Levels (Shallow-Intermediate Zone Intersect Wells)

Analyte	MTCA Method A Cleanup Level (µg/L)	Well ID & Location (Property Name)	Concentration Exceeding Cleanup Level (µg/L)
GRPH	1,000 or 800 when benzene is present	MW09 (TOC) MW27 (TOC)	960 9,200
Total Xylenes	1,000	MW27 (TOC)	3,300

6.2.4.2 Intermediate-Deep Zone Intersect Wells

The scope of work defined in the IRAWP does not require quarterly groundwater monitoring for the wells that intersect Intermediate and Deep Zone conditions (MW16 located on the 242nd St ROW).

6.3 QA/QC & Data Quality Results

As described in Section 5.5, the scope of work for the quarterly groundwater monitoring events included the collection and laboratory analyses of groundwater samples for QA/QC purposes. SES reportedly performed a QA/QC review of the analytical results, which included a review of accuracy and precision of data supplied by the laboratory. Analytical results for field duplicate samples are provided for the applicable wells identified on **Tables 1-2 and 1-3** and analytical results for all other QA/QC samples are provided with the laboratory reports in **Appendix B**. SES indicated that in the event that a result for any chemical of concern in a QA/QC sample exceeded the primary sample result, and the QA/QC sample was collected using the same method as the primary sample, then the higher of the two values was reported. However, if the sample collection methods differed, then the primary sample results are reported, regardless of the QA/QC analytical result.

7.0 CONCLUSIONS

Stantec's conclusions for the 2Q2013 groundwater monitoring event are summarized below and based on field data collected by SES.

- The overall direction of groundwater flow through the Shallow, Intermediate, and Deep Zones is toward the south-southeast.
- 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 contamination associated with the former UST excavation appears to be associated with contaminated groundwater within the Shallow Zone and portions of the Intermediate Zone on the TOC, TOC-Farmasonis and Drake Properties.
- **Shallow Zone:** Petroleum-related constituents were not detected in groundwater sampled as part of the 2Q2013 event at the TOC Site, as shown on **Figures 7 and 8**. Concentrations of GRPH and benzene exceeding MTCA Method A Cleanup Levels were observed in the southwest (MW102) and central-north (MW104) areas of the Herman Property, but based on historical groundwater concentration patterns are likely not associated with historical operations on the TOC Property.
- **Intermediate Zone:** As shown on **Figure 9,** concentrations of GRPH exceeding MTCA Method A Cleanup Levels were focused in the southeast area of the TOC Property near MW15 and in the southwest area of the TOC Property near MW20 and MW32 (downgradient from the historical UST excavation area); on the eastside of the 56th Avenue ROW near MW45 and MW48 (adjacent to the TOC/Farmasonis Property line), and in the southwest area of the Herman Property near MW103 (downgradient from historical UST excavations on the Herman Property). As shown on **Figure 10**, concentrations of benzene exceeding MTCA Method A Cleanup Levels were also focused near MW20 and MW32 on the TOC Property and 103 on the Herman Property.
- **Deep Zone:** Groundwater samples were not collected from wells within the Deep Zone during this quarterly event.
- **Shallow-Intermediate Zone Intersect Wells:** As shown on **Figure 9**, concentrations of GRPH exceeding MTCA Method A Cleanup Levels were focused in the northwest area of the TOC Property near MW 27 (in the historical UST excavation area) and further south near MW09 (downgradient from the historical UST excavation area).

8.0 FUTURE TASKS

SES conducted groundwater monitoring for the 3Q2013 field event in September 2013. The results will be presented in a subsequent groundwater monitoring report prepared by Stantec.

9.0 REFERENCES

Axis Survey & Mapping. 2012. *Existing Site Exhibit, Sheet 1 OF 1, SE ¼, SW ¼, SEC. 33, TWP. 27 N., RGE. 4 E., W.M. Mountlake Terrace, Snohomish County, Washington*. April 6.

City of Mountlake Terrace. 2005. *As-Built Utilities, 24205 56th Ave. W. Area*. October 3.

Environmental Science & Engineering, Inc. (ES&E). 1992. *Results of Site Assessment, Time Oil Property #01-176, Located at 24205 56th Avenue West, Mountlake Terrace, Washington*. September 16.

K&S Environmental, Inc. (K&S). 2001. *UST Decommissioning and Site Assessment Report, R&R Auto, 24311 56th Ave. W., Mountlake Terrace, WA*. January 16.

Landau Associates, Inc. (Landau). 2005. *Groundwater Status Report, Time Oil Property 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington.* January 25.

Reisdorff, Thomas D. 1985. *Herman Short Plat No. 106*. January 31.

Snohomish County Assessor's Office. 2009. Snohomish County On-Line Property Information, accessed at <http://gis.snoco.org/maps/property/index.htm>. November.

SES. 2011. *Interim Remedial Action Work Plan (IRAWP), TOC Holdings Co. Facility No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington 98043*. July 28.

SES. 2013a. *Draft Operation and Maintenance Report, Second Quarter 2013,* TOC Holdings Co. *No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington 98043*. September 27.

SES. 2013b. *Draft Remedial Investigation Report*, TOC Holdings Co. *No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington 98043*. November 27.

SES. 2014. *Draft Groundwater Monitoring Report, Second Quarter 2013, TOC Holdings Co. Facility No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington 98043*. February 12.

Time Oil Company [sic] (Time Oil Co.). 1975. *Blueprint Drawing No. 1390: Conduits, Piping, Electrical Service, Lighting, Retaining Wall & Lot Drainage, Mountlake Terrace, Wash*. September 8 with undated maintenance notes in red-orange pencil.

U.S. Environmental Protection Agency (EPA). 1992. *RCRA Ground-Water Monitoring Draft Technical Guidance*. Office of Solid Waste. Washington, D.C. November.

U.S. Environmental Protection Agency (EPA). 1996. *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*. July 30.

U.S. Geological Survey (USGS). 2002. Urban-250mm Aerial Photograph of 24200 Block of Mountlake Terrace, Washington.

Tables

TABLE 1-1

Groundwater Quality Results for Shallow Zone Wells (0 to 20 feet bgs)

Second Quarter 2013

TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

Well ID	Property	Sample Date	Sample ID [2]	Analytical Results (µg/L) [1]												
				Total Petroleum Hydrocarbons			Volatile Organic Compounds								Metals	
				Method NWTPH-Gx	Method NWTPH-Dx		EPA Method 8260C							EPA Method 8011M	EPA Method 200.8	
				GRPH	DRPH	ORPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	EDB	Lead (dissolved)	Lead (total)
MW102	Herman	7/12/2013	MW102-20130712-PE	180,000	8,400	250U	9,600	48,000	3,100	20,100 [a]	52	120	1U	0.88	16.7	15.6
MW104	Herman	7/12/2013	MW104-20130712-PE	58,000	11,000	320	17	3,200	2,600	14,600 [b]	1U	1U	1U	0.034	1U	1U
MW106	Herman	7/12/2013	MW106-20130712-PE	100U	140	250U	0.35U	1U	1U	3U	1U	1U	1U	0.01U	1U	1U
MTCA Method A Cleanup Level [3]				**1,000/800** [4]	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**5**	**0.01**	**0.01**	**15**	**15**

NOTES:

Field data was collected by SoundEarth Strategies, Inc.

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

U = Indicates the compound was undetected at the reported concentration.

[1] Groundwater samples were analyzed by Friedman & Bruya, Inc. of Seattle WA.

[2] Sample ID suffix indicates type of sampling method used. (PE = peristaltic pump)

[3] MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the WAC, revised November 2007.

[4] 1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

[a] Total reported concentration for m, p-Xylene and o-Xylene was 20,100 (14,000 for m, p-Xylene and 6,100 for o-Xylene).

[b] Total reported concentration for m, p-Xylene and o-Xylene was 14,600 (10,000 for m, p-Xylene and 4,600 for o-Xylene).

LIST OF PROPERTIES:

Herman = 24311 56th Avenue West, Mountlake Terrace WA

ACRONYMS & ABBREVIATIONS:

µg/L = micrograms per liter

bgs = below ground surface

DRPH = diesel-range petroleum hydrocarbons

EDB = ethylene dibromide (1,2-dibromoethane)

EDC = ethylene dichloride (1,2-dicholoroethane)

EPA = U.S. Environmental Protection Agency

GRPH = gasoline-range petroleum hydrocarbons

MTBE = methyl tertiary-butyl ether

MTCA = Model Toxics Control Act

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon - diesel-range organics

NWTPH-Gx = Northwest Total Petroleum Hydrocarbon - gasoline-range organics

ORPH = oil-range petroleum hydrocarbons

WAC = Washington Administrative Code

TABLE 1-2
Groundwater Quality Results for Intermediate Zone Wells (20 to 60 feet bgs)
Second Quarter 2013
TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

Well ID [1]	Property	Sample Date	Sample ID [3]	Analytical Results (µg/L) [2]												
				Total Petroleum Hydrocarbons			Volatile Organic Compounds								Metals	
				Method NWTPH-Gx	Method NWTPH-Dx		EPA Method 8021B or 8260C				EPA Method 8260C			EPA Method 8011M	EPA Method 200.8	
				GRPH	DRPH	ORPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	EDB	Lead (dissolved)	Lead (total)
MW10	TOC	6/25/2013	MW10-20130625-PE	410	NA	NA	4.5	3.1	12	80	NA	NA	NA	NA	NA	NA
MW15 (RW)	TOC	6/26/2013	MW15-20130626-PN	1,800	NA	NA	1U	2	49	120	NA	NA	NA	NA	NA	NA
MW20	TOC	6/26/2013	MW20-20130626-BL	8,600	NA	NA	25	98	200	1,200	NA	NA	NA	NA	NA	NA
MW31 (2" RW)	TOC/Farmasonis	6/26/2013	MW31-20130626	170	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
		6/26/2013	MW31-20130626-PN	150	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	3.09	19.9
MW32 (RW)	TOC	6/26/2013	MW32-20130626-PN	8,000	NA	NA	11	93	280	1,900	NA	NA	NA	NA	NA	NA
MW33	TOC	6/26/2013	*not sampled* [a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW45	ROW (56th)	6/26/2013	MW45-20130626-BA	8,300	NA	NA	1U	1U	1U	340	NA	NA	NA	NA	NA	NA
MW48	ROW (56th)	6/26/2013	MW48-20130626-BA	11,000	NA	NA	5U	12	130	810	NA	NA	NA	NA	NA	NA
MW49	ROW (56th)	6/26/2013	MW49-20130626-BA	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW50	ROW (56th)	6/26/2013	MW50-20130626-BA	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW51	ROW (56th)	6/26/2013	MW51-20130626-BA	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW52	ROW (56th)	6/26/2013	MW52-20130626-BA	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW53	ROW (56th)	6/26/2013	MW53-20130626-BA	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW55	ROW (56th)	6/26/2013	MW55-20130626-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW56	TOC/Farmasonis	6/26/2013	MW56-20130626-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW58	TOC/Farmasonis	6/26/2013	MW58-20130626-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW59	TOC/Farmasonis	6/26/2013	MW59-20130626-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW60	ROW (56th)	6/26/2013	MW60-20130626-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW63	ROW (56th)	6/25/2013	MW63-20130625-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW65	Drake	6/25/2013	MW65-20130625-BL	100U	NA	NA	1U	1U	1U	3U	1U	NA	NA	NA	NA	NA
MW66	TOC/Farmasonis	6/25/2013	MW66-20130626-BA	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
		6/25/2013	MW66-20130626-BA2	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW69	Drake	6/25/2013	*not sampled* [a]	NA	NA	NA	**1U**	**1U**	**1U**	**3U**	**NA**	**NA**	**NA**	**NA**	NA	NA
MW70	Drake	6/25/2013	*not sampled* [a]	NA	NA	NA	**1U**	**1U**	**1U**	**3U**	**1U**	**NA**	**NA**	**NA**	NA	NA
MW84 (RW) [4]	Drake	7/12/2013	MW84-20130712-BL	240	NA	NA	0.35U	1U	1.1	3.9 [b]	1U	1U	0.01U	NA	NA	NA
MW85	Drake	6/25/2013	MW85-20130625-BL	100U	NA	NA	1U	1U	1U	3U	1U	NA	NA	NA	NA	NA
MW86	Drake	6/25/2013	MW86-20130625-BL	100U	NA	NA	1U	1U	1U	3U	1U	NA	NA	NA	NA	NA
		6/25/2013	MW86-20130626-BL2	100U	NA	NA	1U	1U	1U	3U	1U	NA	NA	NA	NA	NA
MW89	Drake	6/25/2013	MW89-20130626-BL	100U	NA	NA	1U	1U	1U	3U	1U	NA	NA	NA	NA	NA
MTCA Method A Cleanup Level [5]				**1,000/800** [6]	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**5**	**0.01**	**0.01**	**15**	**15**

TABLE 1-2
Groundwater Quality Results for Intermediate Zone Wells (20 to 60 feet bgs)
Second Quarter 2013
TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

Well ID [1]	Property	Sample Date	Sample ID [3]	Analytical Results (µg/L) [2]												
				Total Petroleum Hydrocarbons			Volatile Organic Compounds								Metals	
				Method NWTPH-Gx	Method NWTPH-Dx		EPA Method 8021B or 8260C				EPA Method 8260C			EPA Method 8011M	EPA Method 200.8	
				GRPH	DRPH	ORPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	EDB	Lead (dissolved)	Lead (total)
MW103	Herman	7/12/2013	MW103-20130712-BL	2,900	1,500	250U	1,400	42	100	240 [c]	260	34	0.01U	0.094	3.34	3.16
		7/12/2013	MW999-20130712-BL	2,600	1,400	250U	970	63	77	240 [d]	240	24	0.01U	0.087	NA	NA
MW105	Herman	7/12/2013	MW105-20130712-BL	100U	50U	250U	0.35U	1U	1U	3U	1U	1U	0.01U	0.01U	1U	1U
MW107	Herman	7/12/2013	MW107-20130712-BL	100U	62	250U	0.52	1U	1U	3U	1U	1U	0.01U	0.01U	1U	1U
MTCA Method A Cleanup Level [5]				1,000/800 [6]	500	500	5	1,000	700	1,000	20	5	0.01	0.01	15	15

NOTES:
Field data was collected by SoundEarth Strategies, Inc.
Red denotes concentration exceeds MTCA Method A Cleanup Levels for groundwater.
U = Indicates the compound was undetected at the reported concentration.

[1] Remediation wells are identified as "RW." RWs are 4" (unless noted as 2") and are connected to a remediation system.
[2] Groundwater samples were analyzed by Friedman & Bruya, Inc. of Seattle WA.
[3] Sample ID suffix indicates type of sampling method used. (BA = bailer [disposable polyethylene], BL = bladder pump [bottom-loading], PE = peristaltic pump, PN = pneumatic pump)
[4] The pump was removed from MW84 following the 2Q2013 field event. Therefore, MW84 is currently used as a monitoring well and no longer serves as a remediation well.
[5] MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the WAC, revised November 2007.
[6] 1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

[a] MW33, MW69 and MW70 were not sampled due to insufficient groundwater to fill the sample containers.
[b] Total reported concentration for m, p-Xylene and o-Xylene was 3.9 (3.9 for m, p-Xylene and 1U for o-Xylene).
[c] Total reported concentration for m, p-Xylene and o-Xylene was 240 (120 for m, p-Xylene and 120 for o-Xylene).
[d] Total reported concentration for m, p-Xylene and o-Xylene was 240 (130 for m, p-Xylene and 110 for o-Xylene).

LIST OF PROPERTIES:
TOC = 24205 56th Avenue West, Mountlake Terrace WA
TOC/Farmasonis = 24225 56th Avenue West, Mountlake Terrace WA
Drake = 24309 56th Avenue West, Mountlake Terrace WA
Herman = 24311 56th Avenue West, Mountlake Terrace WA
ROW (56th) = portion of 56th Avenue West, Mountlake Terrace WA

ACRONYMS & ABBREVIATIONS:
µg/L = micrograms per liter
bgs = below ground surface
DRPH = diesel-range petroleum hydrocarbons
EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dicholoroethane)
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
MTBE = methyl tertiary-butyl ether
MTCA = Model Toxics Control Act
NA = not analyzed
NWTPH-Dx = Northwest Total Petroleum Hydrocarbon - diesel-range organics
NWTPH-Gx = Northwest Total Petroleum Hydrocarbon - gasoline-range organics
ORPH = oil-range petroleum hydrocarbons
ROW = right-of-way
WAC = Washington Administrative Code

TABLE 1-3
Groundwater Quality Results for Shallow-Intermediate Zone Intersect Wells
Second Quarter 2013
TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

Well ID [1]	Property	Sample Date	Sample ID [3]	Analytical Results (µg/L) [2]												
				Total Petroleum Hydrocarbons			Volatile Organic Compounds								Metals	
				Method NWTPH-Gx	Method NWTPH-Dx		EPA Method 8021B				EPA Method 8260C			EPA Method 8011M	EPA Method 200.8	
				GRPH	DRPH	ORPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	EDB	Lead (dissolved)	Lead (total)
MW09	TOC	6/25/2013	MW09-20130625-BA	960	NA	NA	2.5	1.3	9.3	69	NA	NA	NA	NA	NA	NA
		6/25/2013	MW09-20130625-BL	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
		6/25/2013	MW09-20130625-PE	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
		6/25/2013	MW999-20130625-PE	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW22	TOC	6/25/2013	MW22-20130625-PE	100U	NA	NA	1U	1U	1U	3U	NA	NA	NA	NA	NA	NA
MW27 (2" RW)	TOC	6/26/2013	MW27-20130626-PN	9,200	NA	NA	5U	18	180	3,300	NA	NA	NA	NA	NA	NA
MTCA Method A Cleanup Level [4]				**1,000/800 [5]**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**20**	**5**	**0.01**	**0.01**	**15**	**15**

NOTES:

Field data was collected by SoundEarth Strategies, Inc.

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

U = Indicates the compound was undetected at the reported concentration.

[1] Remediation wells are identified as "RW." RWs are 4" (unless noted as 2") and are connected to MPE system.

[2] Groundwater samples were analyzed by Friedman & Bruya, Inc. of Seattle WA.

[3] Sample ID suffix indicates type of sampling method used. (BA = bailer [disposable polyethylene], BL = bladder pump [bottom-loading], PE = peristaltic pump, PN = pneumatic pump)

[4] MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the WAC, revised November 2007.

[5] 1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

LIST OF PROPERTIES:

TOC = 24205 56th Avenue West, Mountlake Terrace WA

ACRONYMS & ABBREVIATIONS:

µg/L = micrograms per liter
bgs = below ground surface
DRPH = diesel-range petroleum hydrocarbons
EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dicholoroethane)
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
LNAPL = light non-aqueous phase liquid
MTBE = methyl tertiary-butyl ether
MTCA = Model Toxics Control Act
NA = not analyzed
NWTPH-Dx = Northwest Total Petroleum Hydrocarbon - diesel-range organics
NWTPH-Gx = Northwest Total Petroleum Hydrocarbon - gasoline-range organics
ORPH = oil-range petroleum hydrocarbons
ROW = right-of-way
WAC = Washington Administrative Code

TABLE 2-1

Depth-to-Groundwater/LNAPL Level Measurements

Second Quarter 2013

TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

Well ID [1]	Property	Date	Reference Elevation (feet) [2]	DTW (feet) [3]	Groundwater Elevation (feet) [2, 4]	LNAPL Thickness (feet)	NOTES
MW01	TOC	NA	NA	NA	NA	--	Decommissioned 10/2/2009
MW02	TOC	06/24/2013	358.71	10.90	347.81	--	
MW03	TOC	06/24/2013	361.85	11.82	350.03	--	
MW04	ROW (56th)	06/24/2013	361.96	10.68	351.28	--	
MW05	ROW (242nd)	06/24/2013	363.70	11.02	352.68	--	
MW06	TOC	06/24/2013	358.98	12.17	346.81	--	
MW07	TOC/Farmasonis	NA	NA	NA	NA	--	Decommissioned 11/29/2004
MW08	ROW (56th)	06/24/2013	360.34	20.28	340.06	--	
MW09	TOC	06/25/2013	360.32	26.25	334.07	--	
MW10	TOC	06/25/2013	357.91	29.29	328.62		
MW11 (RW)	TOC	06/24/2013	362.34	32.81	329.53	--	
MW12	ROW (56th)	06/24/2013	357.65	10.25	347.40	--	
MW13	ROW (56th)	06/24/2013	357.34	40.78	316.56	--	
MW14	TOC/Farmasonis	NA	NA	NA	NA	--	Decommissioned 11/29/2004
MW15 (RW)	TOC	06/26/2013	357.56	36.34	321.22	--	
MW16	ROW (242nd)	06/24/2013	365.18	44.52	320.66	--	
MW17	TOC/Farmasonis	NA	NA	NA	NA	--	Decommissioned 11/29/2004
MW18 (RW)	TOC	06/24/2013	357.91	28.60	329.31	--	
MW19	TOC	06/24/2013	358.86	12.62	346.24	--	
MW20	TOC	06/26/2013	359.93	34.23	325.70	--	
MW21	TOC	NA	NA	NA	NA	--	Decommissioned 04/16/2012
MW22	TOC	06/25/2013	358.52	28.84	329.68	--	
MW23	TOC	06/24/2013	357.08	39.09	317.99	--	
MW24 (RW)	TOC	06/24/2013	361.97	33.16	328.81	--	
MW25	TOC	06/24/2013	358.70	29.08	329.62	--	
MW26	TOC	06/24/2013	363.81	44.34	319.47	--	
MW27 (2" RW)	TOC	06/26/2013	362.51	18.85	343.66	--	
MW28	TOC	06/24/2013	358.41	28.10	330.31	--	
MW29 (2" RW)	TOC	06/24/2013	358.93	12.93	346.00	--	
MW30	TOC/Farmasonis	06/24/2013	356.46	38.27	318.19	--	
MW31 (2" RW)	TOC/Farmasonis	06/26/2013	357.08	33.02	324.06	--	
MW32 (RW)	TOC	06/26/2013	359.95	28.69	331.26	--	
MW33	TOC	06/24/2013	358.24	34.26	323.98	--	
MW34	TOC	06/24/2013	357.88	11.65	346.23	--	
MW35	TOC	06/24/2013	358.46	39.46	319.00	--	
MW36	TOC	06/24/2013	357.98	41.89	316.09	--	
MW37	TOC	06/24/2013	358.90	18.28	340.62	--	
MW38	TOC	06/24/2013	364.42	20.34	344.08	--	
MW39	TOC/Farmasonis	06/24/2013	355.88	38.38	317.50	--	
MW40	TOC/Farmasonis	06/24/2013	356.32	38.30	318.02	--	
MW41 (2" RW)	TOC/Farmasonis	06/24/2013	356.14	34.80	321.34	--	
MW42	TOC/Farmasonis	06/24/2013	356.43	39.64	316.79	--	
MW43	ROW (56th)	06/24/2013	358.84	35.12	323.72	--	
MW44	ROW (56th)	06/24/2013	354.93	Dry	Dry	--	
MW45	ROW (56th)	06/26/2013	356.49	37.89	318.60	--	
MW46	ROW (56th)	06/24/2013	357.00	40.20	316.80	--	
MW47	ROW (56th)	06/24/2013	355.47	39.99	315.48	--	
MW48	ROW (56th)	06/26/2013	355.41	39.92	315.49	--	
MW49	ROW (56th)	06/26/2013	356.44	40.89	315.55	--	
MW50	ROW (56th)	06/26/2013	361.99	35.36	326.63	--	
MW51 [5]	ROW (56th)	06/26/2013	352.66	38.90	313.76	--	
MW51 [5]	ROW (56th)	07/12/2013	352.66	39.56	313.10	--	
MW52	ROW (56th)	06/26/2013	355.61	40.23	315.38	--	
MW53	ROW (56th)	06/26/2013	359.85	40.73	319.12	--	
MW54	TOC/Farmasonis	06/24/2013	357.93	10.98	346.95	--	
MW55	ROW (56th)	06/26/2013	356.50	40.19	316.31	--	

TABLE 2-1

Depth-to-Groundwater/LNAPL Level Measurements

Second Quarter 2013

TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

Well ID [1]	Property	Date	Reference Elevation (feet) [2]	DTW (feet) [3]	Groundwater Elevation (feet) [2, 4]	LNAPL Thickness (feet)	NOTES
MW56	TOC/Farmasonis	06/26/2013	357.49	42.79	314.70	--	
MW57 (RW)	TOC/Farmasonis	06/24/2013	356.42	43.02	313.40	--	
MW58	TOC/Farmasonis	06/26/2013	355.40	40.22	315.18	--	
MW59	TOC/Farmasonis	06/26/2013	356.51	41.69	314.82	--	
MW60	ROW (56th)	06/26/2013	358.58	41.44	317.14	--	
MW61	ROW (56th)	06/24/2013	357.17	10.30	346.87	--	
MW62	ROW (56th)	06/24/2013	360.50	11.62	348.88	--	
MW63	ROW (56th)	06/25/2013	355.11	39.94	315.17	--	
MW64	ROW (56th)	06/24/2013	355.18	37.70	317.48	--	
MW65	Drake	06/25/2013	353.08	38.66	314.42	--	
MW66	TOC/Farmasonis	06/26/2013	355.75	40.87	314.88	--	
MW67	Drake	06/24/2013	355.73	12.25	343.48	--	
MW68	Drake	06/24/2013	355.11	12.07	343.04	--	
MW69 (RW)	Drake	06/24/2013	353.76	38.96	314.80	--	
MW70 (2" RW)	Drake	06/24/2013	354.17	39.28	314.89	--	
MW71	Shin/Choi	06/24/2013	347.92	NM	NM	--	Not included in quarterly event SOW (per IRAWP).
MW72	Shin/Choi	06/24/2013	347.38	NM	NM	--	Not included in quarterly event SOW (per IRAWP).
MW73	Shin/Choi	06/24/2013	347.33	NM	NM	--	Not included in quarterly event SOW (per IRAWP).
MW74	Shin/Choi	06/24/2013	347.94	NM	NM	--	Not included in quarterly event SOW (per IRAWP).
MW75	ROW (56th)	06/24/2013	354.78	NM	NM	--	Not included in quarterly event SOW (per IRAWP).
MW76	Drake	06/24/2013	351.69	37.25	314.44	--	
MW77 [5]	Drake	06/25/2013	349.95	36.07	313.88	--	
MW77 [5]	Drake	07/12/2013	349.95	36.83	313.12	--	
MW78	Drake	06/24/2013	349.90	34.34	315.56	--	
MW79	TOC/Farmasonis	06/24/2013	353.98	13.79	340.19	--	
MW80	TOC/Farmasonis	06/24/2013	353.83	14.43	339.40	--	
MW81	TOC/Farmasonis	06/24/2013	355.60	40.80	314.80	--	
MW82	TOC/Farmasonis	06/24/2013	355.59	29.60	325.99	--	
MW83	TOC/Farmasonis	NA	NA	NA	NA	--	Decommissioned 11/21/2011
MW84 (RW) [6]	Drake	07/12/2013	353.75	40.23	313.52	--	
MW85 [5]	Drake	06/25/2013	351.28	37.21	314.07	--	
MW85 [5]	Drake	07/12/2013	351.28	38.03	313.25	--	
MW86 [5]	Drake	06/25/2013	352.72	38.69	314.03	--	
MW86 [5]	Drake	07/12/2013	352.72	39.42	313.30	--	
MW87	Drake	06/24/2013	349.72	36.10	313.62	--	
MW88	Drake	06/24/2013	351.63	16.45	335.18	--	
MW89	Drake	06/25/2013	353.86	39.31	314.55	--	
MW90 (RW)	TOC	06/24/2013	362.87	34.65	328.22	--	
MW91 (RW)	TOC	06/24/2013	362.67	32.33	330.34	--	
MW92 (RW)	TOC/Farmasonis	06/24/2013	357.91	44.45	313.46	--	
MW93 (RW)	TOC/Farmasonis	06/24/2013	355.97	41.18	314.79	--	
MW94 (RW)	TOC/Farmasonis	06/24/2013	357.94	41.70	316.24	--	
MW95 (RW)	Drake	06/24/2013	354.67	39.60	315.07	--	
MW96 (RW)	Drake	06/24/2013	356.00	40.63	315.37	--	
MW97 (RW)	Drake	06/24/2013	354.29	39.23	315.06	--	
MW98 (RW)	Drake	06/24/2013	354.75	39.65	315.10	--	
MW99 (RW)	Drake	06/24/2013	353.58	39.10	314.48	--	
MW100	TOC/Farmasonis	06/24/2013	355.75	16.15	339.60	--	
MW101 (RW)	Drake	06/24/2013	352.05	37.66	314.39	--	
MW102 [7]	Herman	07/12/2013	352.39	14.70	337.69	--	
MW103 [7]	Herman	07/12/2013	352.21	40.56	311.65	--	
MW104 [7]	Herman	07/12/2013	353.00	12.62	340.38	--	
MW105 [7]	Herman	07/12/2013	353.05	39.83	313.22	--	
MW106 [7]	Herman	07/12/2013	349.24	14.54	334.70	--	
MW107 [7]	Herman	07/12/2013	349.56	37.41	312.15	--	

TABLE 2-1

Depth-to-Groundwater/LNAPL Level Measurements

Second Quarter 2013

TOC Holdings Co. Facility No. 01-176; Mountlake Terrace WA

NOTES:

Field data was collected by SoundEarth Strategies, Inc.

Dry = Top of pump was encountered prior to groundwater/LNAPL level.

(1) Remediation wells are identified as "RW." RWs are 4 inches in diameter (unless noted as 2 inches) and are connected to multi-phase remediation system.

(2) Reference elevation is the north side of the top of the well casing (except for MW25 where the reference elevation is the high point on the polyvinyl chloride (PVC) casing and the reference elevation for MW99 is the top of the well cap). Elevations were measured in feet above MSL (NAVD88 Datum).

(3) DTW as measured from a marked measuring point on the well casing rim. According to the SoundEarth Strategies, the DTW measurements had been corrected for differences between instruments based on the measurements recorded for MW09.

(4) Groundwater elevations corrected for LNAPL thickness, assuming specific gravities of 0.80 for gasoline, and 1.0 for groundwater. Where LNAPL thickness measured, groundwater elevation adjusted to account for the presence of LNAPL in the well using the method in "Estimation of Free Hydrocarbon Volume from Fluid Levels in Monitoring Wells" [Lenhard and Parker 1990; Groundwater 28(1):57-67].

(5) MW51, MW7, MW85 and MW86 were gauged in June and July 2013. Groundwater elevations collected in June were used for groundwater contours.

(6) The pump was removed from MW84 following the 2Q2013 field event. Therefore, MW84 is currently used as a monitoring well and no longer serves as a remediation well. MW84 could not be gauged during June field activities and was gauged in July 2013. Since groundwater conditions were more similar to the 2Q2013 event than to the 3Q2013 event, and because of the close proximity to the 2Q2013 event, the results of the July 2013 event are included herein.

(7) Wells on the Herman Property were installed in June 2013 and developed in July 2013 (after the 2Q2013 field event). Since groundwater conditions were more similar to the 2Q2013 event than to the 3Q2013 event, and because of the close proximity to the 2Q2013 event, the results of the July 2013 event are included herein.

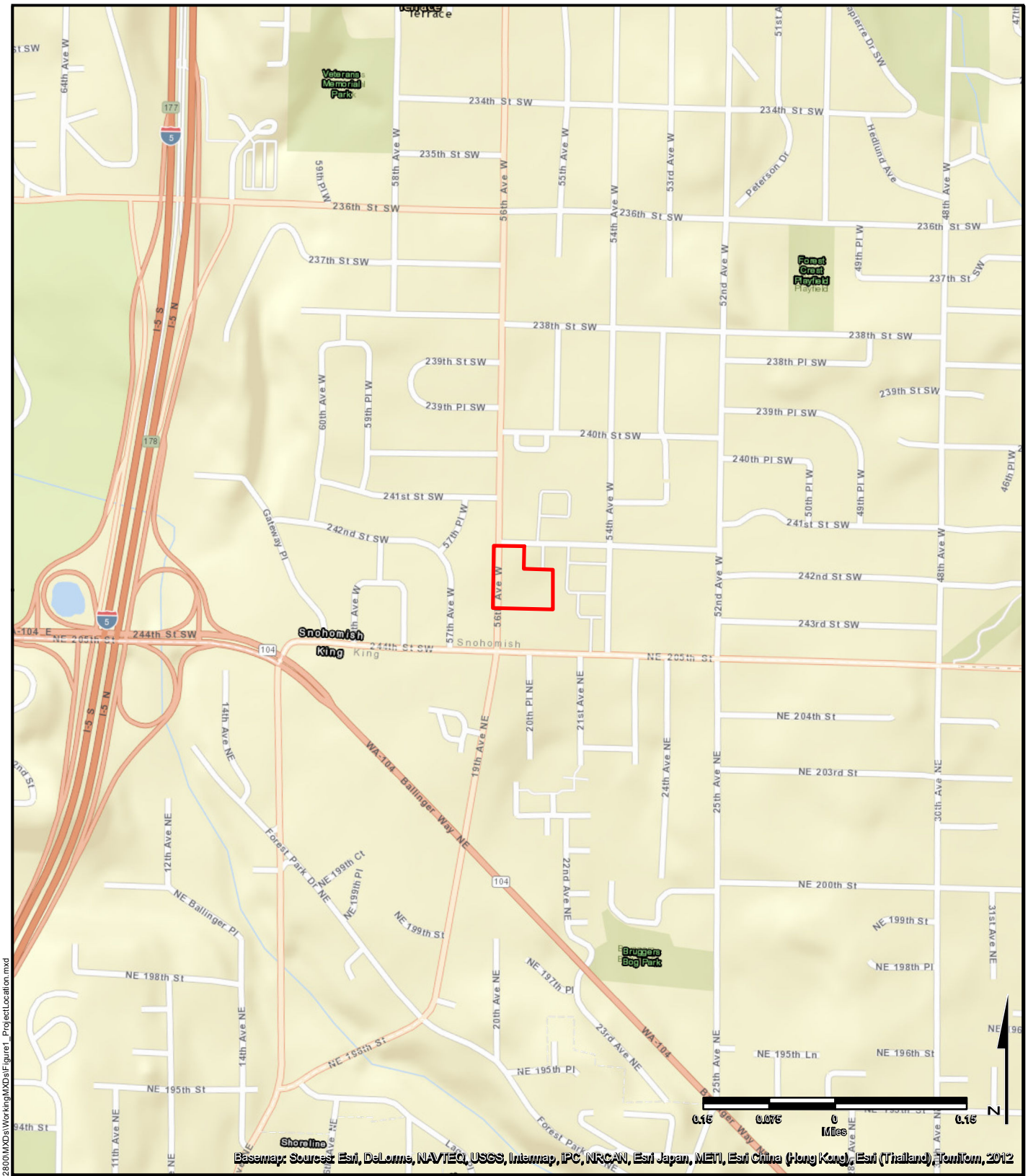
ACRONYMS & ABBREVIATIONS:

-- = no measurable product or odor observed
DTW = depth to water
IRAWP = Interim Remedial Action Work Plan
LNAPL = light non-aqueous phase liquid
MSL = mean sea level
NA = not applicable
NAVD88 = North American Vertical Datum of 1988
NM = not measured
SOW = scope of work

LIST OF PROPERTIES:

TOC = 24205 56th Avenue West, Mountlake Terrace WA
TOC/Farmasonis = 24225 56th Avenue West, Mountlake Terrace WA
Drake = 24309 56th Avenue West, Mountlake Terrace WA
Herman = 24311 56th Avenue West, Mountlake Terrace WA
Shin/Choi = 24325 56th Avenue West, Mountlake Terrace WA
ROW (56th) = portion of 56th Avenue West, Mountlake Terrace WA
ROW (242nd) = portion of 242nd Street Southwest, Mountlake Terrace WA

Figures



Basemap: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012

Legend

Site Boundary

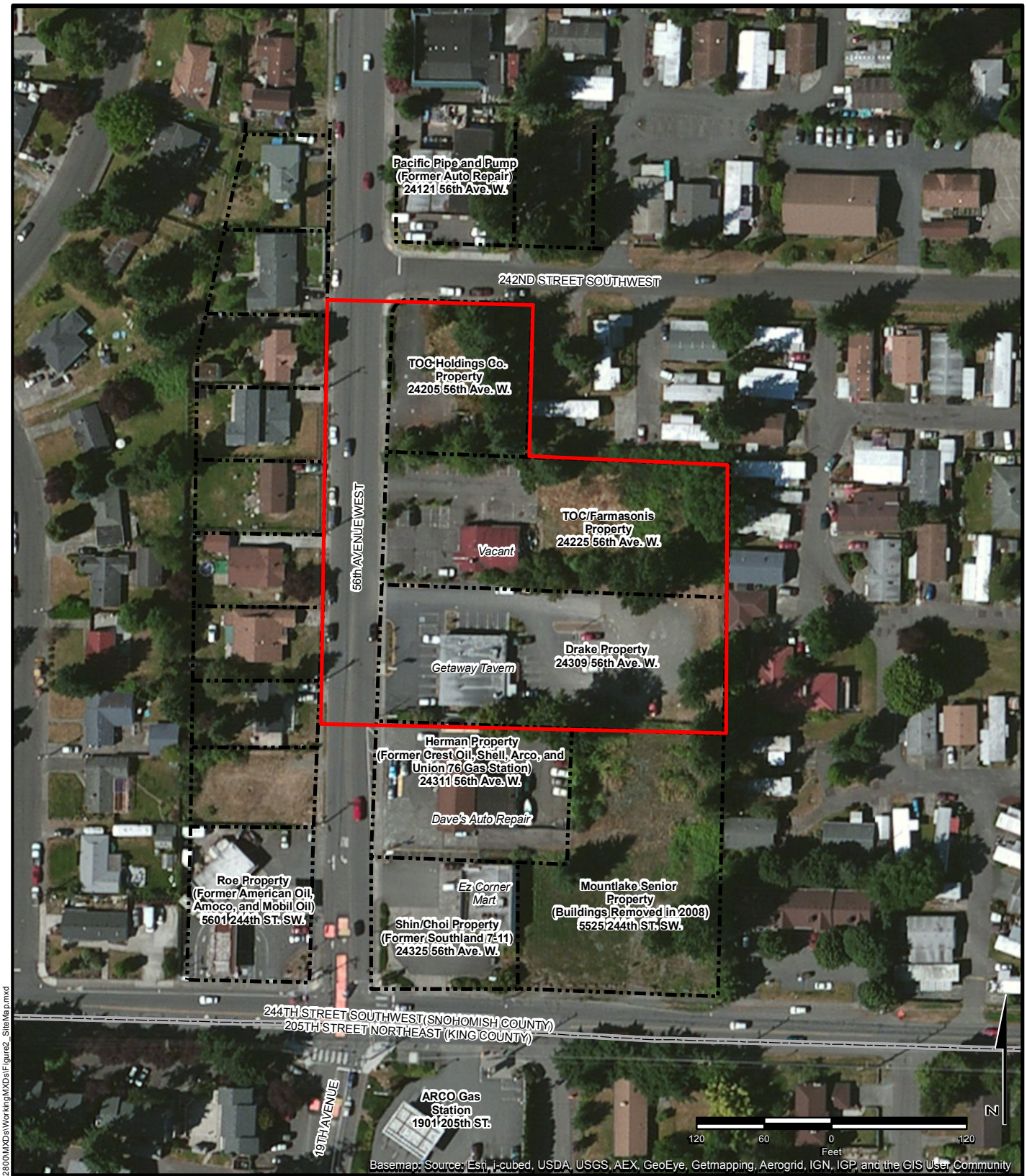
TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 1: PROJECT LOCATION

Stantec

DRAWN BY	D.H.	DATE DRAWN	1/21/2015
SCALE	1 in = 0.16 miles		
PROJECT	203714085		

X:\WA\Clients\Time_Oil\TOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\Figure1_ProjectLocation.mxd



Legend

Site Boundary

PARCELS

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 2: SITE MAP

Stantec

DRAWN BY	D.H.	DATE DRAWN	1/21/2015
SCALE	1 in = 120 feet		
PROJECT	203714085		

X:\WA\Clients\Time_Oil\TOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\Figure2_SiteMap.mxd

Legend

- Site Boundary
- Historic Pump Islands (Removed)
- Parcels
- Remediation System Piping
- Compound Fence
- Historic Excavation
- Historic UST Location
- System Compound
- Abandoned Well
- Deep Well
- Intermediate Well
- Shallow Well
- Mix Zone Well
- Stormwater Infiltration Pit

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 3: LOCATIONS OF WELLS AND REMEDIATION SYSTEMS

Stantec

DRAWN BY	D.H.	DATE DRAWN	2/3/2015
SCALE	1 in = 50 ft		
PROJECT	203714085		

Path: X:\WA\Clients\Time_Oil\TOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\Figure3_SiteMap With Well Locations(11x17).mxd

Note:

1. Groundwater elevations for wells MW102, MW104, and MW106 were measured on 7/12/13.

242nd Street Southwest

56th Avenue West

TOC Holdings Co. Property

TOC/Farmasonis Property

Drake Property

Herman Property

Shin/Choi Property

Mountlake Senior Property

MW05 352.68
MW04 351.28
MW03 350.03
MW06 346.81
MW62 348.88
MW02 347.81
MW19 346.24
MW34 346.23
MW54 346.95
MW12 347.4
MW61 346.87
MW67 343.48
MW68 343.04
MW104 340.38
MW102 337.69
MW106 334.70
MW71 NM
MW72 NM
MW79 340.19
MW80 339.4
339.0

352 351 350 349 348 347 346 345 344 343 342 341 340 339 338 337 336 335

N

50 25 0 50
Feet

Basemap: Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Parcels
- MW72 / 343.04 — Groundwater Sample Location Identifier and Groundwater Elevation (ft, MSL)
- 343 — Estimated Groundwater Elevation Contour (ft, MSL)
- Site Boundary
- Compound Fence
- System Compound
- Equipment Shed
- Historic Excavation

Washington — Project Location

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 4: GROUNDWATER ELEVATION CONTOURS, SHALLOW ZONE, JUNE 24-25, 2013 (SYSTEM ON)

Stantec

DRAWN BY	D.H.
DATE DRAWN	1/21/2015
SCALE	1 in = 50 feet
PROJECT	203714085

X:\WA\Clients\Time_Oil\TOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure4_2Q13_GWE_UZ_Map.mxd

Note:

1. Well symbols displayed in purple indicate wells that are screened across multiple zones and were not used for contouring. Groundwater elevations at these locations are displayed in red.

2. Dry/TP indicates that the top of the pump was encountered prior to the water surface.

3. Groundwater elevation at wells MW15, MW32, and MW91 may be mounded in part due to vacuum effects from the SVE remediation system.

4. Groundwater elevations for wells MW84, MW103, MW105, and MW107 were measured on 7/12/13.

242nd Street Southwest

56th Avenue West

TOC Holdings Co. Property

TOC/Farmasonis Property

Drake Property

Herman Property

Shin/Choi Property

Mountlake Senior Property

MW16 320.66
MW38 344.08
MW27 343.66
MW90 328.22
MW11 329.53
MW50 326.63
MW91 330.34
MW37 340.62
MW24 Dry/TP
MW29 346.0
MW09 334.07
MW08 340.06
MW32 331.26
MW25 329.62
MW28 330.31
MW35 319
MW36 316.09
MW20 325.7
MW10 328.62
MW18 Dry/TP
MW15 321.22
MW53 319.12
MW22 329.68
MW33 323.98
MW23 317.99
MW31 324.06
MW94 Dry/TP
MW93 314.79
MW43 323.72
MW60 317.14
MW13 316.56
MW56 314.7
MW59 314.82
MW66 314.88
MW92 313.46
MW82 325.99
MW41 Dry/TP
MW45 318.6
MW49 315.55
MW100 339.6
MW81 314.8
MW46 316.8
MW57 313.4
MW42 316.79
MW58 315.18
MW55 316.31
MW48 315.49
MW96 315.37
MW88 335.18
MW76 314.44
MW97 315.06
MW70 314.89
MW63 315.17
MW44 Dry
MW98 315.1
MW47 315.48
MW52 315.38
MW95 315.07
MW99 Dry/TP
MW65 314.42
MW75 NM
MW69 314.8
MW101 314.39
MW89 314.55
MW84 NM
MW77 313.88
MW87 313.62
MW86 314.03
MW85 314.07
MW51 313.76
MW105 313.22
MW103 311.65
MW107 312.15
MW74 NM
MW73 NM

330 325 320 315 314 313 312

N

50 25 0 50 Feet

Basemap: Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Parcels
- MW73 — Groundwater Sample Location Identifier and Groundwater Elevation (ft, MSL) (NM = Not Measured)
- (Mix zone)
- (Intermediate zone)
- 343.04
- 343 — Estimated Groundwater Elevation Contour (ft, MSL)
- Site Boundary
- Compound Fence
- Equipment Shed
- System Compound
- System Piping
- Historic Excavation

Washington — Project Location

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 5: GROUNDWATER ELEVATION CONTOURS, INTERMEDIATE ZONE, JUNE 24-25, 2013 (SYSTEM ON)

Stantec

DRAWN BY	D.H.
DATE DRAWN	2/3/2015
SCALE	1 in = 50 feet
PROJECT	203714085

X:\WA\Clients\Time_Oil\TOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure5_2Q13_GWE_IZ_Map.mxd

Legend

- Parcels
- Groundwater Sample Location Identifier and Groundwater Elevation (ft, MSL) (NM = Not Measured) — 343.04
- Estimated Groundwater Elevation Contour (ft, MSL) — 315
- Site Boundary
- Compound Fence
- Equipment Shed
- System Compound
- Historic Excavation

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 6: GROUNDWATER ELEVATION CONTOURS, DEEP ZONE, JUNE 24, 2013 (SYSTEM ON)

Stantec

DRAWN BY	D.H.	DATE DRAWN	1/21/2015
SCALE	1 in = 50 feet		
PROJECT	203714085		

X:\WA\Clients\Time_O\TOC-MountlakeTerrace_BA\402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure6_2Q13_GWE_LZ_Map.mxd

Notes:

1. ND = Not Detected
   NS = Well Not Sampled
   NA= Constituent Not Analyzed

2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation

3. If a duplicate sample was collected, the higher result between the original and the duplicate is shown.

242nd Street Southwest

56th Avenue West

MW05 NS
MW04 NS
MW03 NS
MW06 NS
MW62 NS
MW02 NS
MW19 NS
MW34 NS
MW54 NS
MW12 NS
MW61 NS
MW67 NS
MW68 NS
MW79 NS
MW80 NS
MW104 58000
MW102 180000
MW106 ND
MW71 NS
MW72 NS

TOC Holdings Co. Property
TOC/Farmasonis Property
Drake Property
Herman Property
Shin/Choi Property
Mountlake Senior Property

N

50 25 0 50
Feet

Basemap: Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Parcels
- MW72 800 — Groundwater Sample Location Identifier and GRPH Concentration (µg/L)
- Minimum Preliminary Screening Level For GRPH(800 µg/L;MTCA Method A Cleanup Level)
- Site Boundary
- Compound Fence
- System Compound
- Equipment Shed
- Historic Excavation

Washington
Project Location

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 7: GRPH CONCENTRATIONS IN GROUNDWATER, SHALLOW ZONE, JULY 2013

Stantec

DRAWN BY	D.H.	DATE DRAWN	2/3/2015
SCALE	1 in = 50 feet		
PROJECT	203714085		

X:\WA\Clients\Time_Oil\TOC-Mountlake Terrace_BA1402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure7_2Q13_GRPH_UZ_Map.mxd

Notes:

1. ND = Not Detected
   NS = Well Not Sampled
   NA= Constituent Not Analyzed

2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation

3. If a duplicate sample was collected, the higher result between the original and the duplicate is shown.

242nd Street Southwest

56th Avenue West

MW05 NS

MW04 NS

MW03 NS

TOC Holdings Co. Property

MW06 NS

MW62 NS

MW02 NS

MW19 NS

MW34 NS

MW54 NS

MW12 NS

TOC/Farmasonis Property

MW61 NS

MW79 NS

MW80 NS

MW67 NS

MW68 NS

Drake Property

MW104 17

Herman Property

MW102 9600

MW106 ND

MW71 NS

Shin/Choi Property

Mountlake Senior Property

MW72 NS

N

50 25 0 50
Feet

Basemap: Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

X:\WA\Clients\Time_Oil\TOC-Mountlake Terrace_BA1402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure8_2Q13_Benzene_UZ_Map.mxd

Legend

- Parcels
- MW72 / 10 — Groundwater Sample Location Identifier and Benzene Concentration (µg/L)
- Minimum Preliminary Screening Level For Benzene(5 µg/L;MTCA Method A Cleanup Level)
- Site Boundary
- Compound Fence
- System Compound
- Equipment Shed
- Historic Excavation

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 8: BENZENE CONCENTRATIONS IN GROUNDWATER, SHALLOW ZONE, JULY 2013

Stantec

DRAWN BY	D.H.	DATE DRAWN	2/3/2015
SCALE	1 in = 50 feet		
PROJECT	203714085		

Notes:

1. ND = Not Detected
   NS = Well Not Sampled
   NA= Constituent Not Analyzed
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation
3. If a duplicate sample was collected, the higher result between the original and the duplicate is shown.
4. Well symbols displayed in purple indicate wells that are screened across multiple zones.
5. Well MW49 is screened in the intermediate zone below contamination that is present at MW45.

242nd Street Southwest

56th Avenue West

TOC Holdings Co. Property

TOC/Farmasonis Property

Drake Property

Herman Property

Shin/Choi Property

Mountlake Senior Property

MW16 NS
MW38 NS
MW27 9200
MW90 NS
MW11 NS
MW50 ND
MW91 NS
MW37 NS
MW24 NS
MW29 NS
MW09 960
MW08 NS
MW32 8000
MW25 NS
MW28 NS
MW35 NS
MW36 NS
MW20 8600
MW10 410
MW18 NS
MW15 1800
MW53 ND
MW22 ND
MW33 NS
MW23 NS
MW31 170
MW43 NS
MW94 NS
MW93 NS
MW60 ND
MW56 ND
MW59 ND
MW66 ND
MW13 NS
MW92 NS
MW82 NS
MW41 NS
MW45 8300
MW100 NS
MW81 NS
MW49 ND
MW46 NS
MW57 NS
MW42 NS
MW58 ND
MW55 ND
MW48 11000
MW96 NS
MW88 NS
MW76 NS
MW97 NS
MW63 ND
MW70 Dry
MW44 NS
MW98 NS
MW47 NS
MW52 ND
MW95 NS
MW99 NS
MW65 ND
MW75 NS
MW69 NS
MW101 NS
MW89 ND
MW84 (Pump Removed 2013) NS
MW77 ND
MW87 NS
MW86 ND
MW85 ND
MW51 ND
MW105 ND
MW103 2900
MW107 ND
MW74 NS
MW73 NS

N

50 25 0 50
Feet

Basemap: Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Parcels
- Site Boundary
- Compound Fence
- Equipment Shed
- System Compound
- System Piping
- Historic Excavation
- MW73 — Groundwater Sample Location Identifier and GRPH Concentration (µg/L)
  - (Mix zone)
  - (Intermediate zone)
  - 343.04
- Minimum Preliminary Screening Level For GRPH(800 µg/L;MTCA Method A cleanup level)

Washington — Project Location

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 9: GRPH CONCENTRATIONS IN GROUNDWATER, INTERMEDIATE ZONE, JUNE AND JULY 2013

Stantec

DRAWN BY	D.H.
DATE DRAWN	1/22/2015
SCALE	1 in = 50 feet
PROJECT	203714085

X:\WA\Clients\Time_O\NTOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure9_2Q13_GRPH_IZ_Map.mxd

Notes:

1. ND = Not Detected
   NS = Well Not Sampled
   NA= Constituent Not Analyzed
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation
3. If a duplicate sample was collected, the higher result between the original and the duplicate is shown.
4. Well symbols displayed in purple indicate wells that are screened across multiple zones.
5. MW27 and MW48 had elevated reporting limits due to dilution. Concentrations at these locations are reported as 5U or not detected at 5µg/l. The contour at MW48 is based on concentrations observed at this location during previous events.

242nd Street Southwest

56th Avenue West

TOC Holdings Co. Property

TOC/Farmasonis Property

Drake Property

Herman Property

Shin/Choi Property

Mountlake Senior Property

MW16 NS
MW38 NS
MW27 5U
MW90 NS
MW11 NS
MW50 ND
MW91 NS
MW37 NS
MW24 NS
MW09 2.5
MW29 NS
MW08 NS
MW32 11
MW25 NS
MW28 NS
MW35 NS
MW36 NS
MW20 25
MW10 4.5
MW18 NS
MW15 ND
MW53 ND
MW22 ND
MW33 Dry
MW23 NS
MW31 ND
MW94 NS
MW93 NS
MW43 NS
MW60 ND
MW56 ND
MW59 ND
MW66 ND
MW13 NS
MW92 NS
MW82 NS
MW41 NS
MW45 Dry
MW49 Dry
MW100 NS
MW81 NS
MW46 NS
MW57 NS
MW42 NS
MW58 ND
MW55 ND
MW48 5U
MW96 NS
MW88 NS
MW76 NS
MW97 NS
MW70 Dry
MW63 ND
MW98 NS
MW44 NS
MW47 NS
MW52 ND
MW95 NS
MW99 NS
MW65 ND
MW75 NS
MW69 NS
MW101 NS
MW89 ND
MW84 (Pump Removed 2013) NS
MW86 ND
MW77 ND
MW87 NS
MW85 ND
MW51 ND
MW105 ND
MW103 1400
MW107 0.52
MW74 NS
MW73 NS

50 25 0 50
Feet

N

Basemap: Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Parcels
- MW73 — Groundwater Sample Location Identifier and Benzene Concentration (µg/L)
  - (Mix zone)
  - (Intermediate zone)
  - 343.04
- Minimum Preliminary Screening Level For benzene(5 µg/L;MTCA Method A cleanup level)
- Site Boundary
- Compound Fence
- Equipment Shed
- System Compound
- System Piping
- Historic Excavation

Washington

Project Location

TOC Holdings Co. Facility 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

FIGURE 10: BENZENE CONCENTRATIONS IN GROUNDWATER, INTERMEDIATE ZONE, JUNE AND JULY 2013

Stantec

DRAWN BY	D.H.
DATE DRAWN	1/22/2015
SCALE	1 in = 50 feet
PROJECT	203714085

X:\WA\Clients\Time_O\TOC-MountlakeTerrace_BA1402800\MXDs\WorkingMXDs\2Q13 GW Report\Figure7_2Q13_Benzene_IZ_Map.mxd

Appendix A

Monitoring Well Zones

Table A-1 Revised Monitoring Well Classifications

TABLE A-1

Revised Monitoring Well Classifications

TOC Holdings Co. Site 01-176; Mountlake Terrace WA

Well ID [1]	Property	MW Zone Classification (Stantec)	MW Zone Classification (SoundEarth Strategies)
MW01*	TOC	Shallow	Shallow
MW02	TOC	Shallow	Shallow
MW03	TOC	Shallow	Shallow
MW04	ROW (56th)	Shallow	Shallow
MW05	ROW (242nd)	Shallow	Shallow
MW06	TOC	Shallow	Shallow
MW07*	TOC/Farmasonis	Intermediate	Shallow
MW08	ROW (56th)	Shallow-Intermediate Intersect	Intermediate
MW09	TOC	Shallow-Intermediate Intersect	Intermediate
MW10	TOC	Intermediate	Intermediate
MW11 (RW)	TOC	Intermediate	Intermediate
MW12	ROW (56th)	Shallow	Shallow
MW13	ROW (56th)	Intermediate	Intermediate
MW14*	TOC/Farmasonis	Intermediate	Intermediate
MW15 (RW)	TOC	Intermediate	Intermediate
MW16	ROW (242nd)	Intermediate-Deep Intersect	Intermediate
MW17*	TOC/Farmasonis	Intermediate	Intermediate
MW18 (RW)	TOC	Shallow-Intermediate Intersect	Intermediate
MW19	TOC	Shallow	Shallow
MW20	TOC	Intermediate	Intermediate
MW21*	TOC	Intermediate	Intermediate
MW22	TOC	Shallow-Intermediate Intersect	Intermediate
MW23	TOC	Intermediate	Intermediate
MW24 (RW)	TOC	Shallow-Intermediate Intersect	Intermediate
MW25	TOC	Intermediate	Intermediate
MW26	TOC	Deep	Deep
MW27 (2" RW)	TOC	Shallow-Intermediate Intersect	Upper Intermediate
MW28	TOC	Shallow-Intermediate Intersect	Upper Intermediate
MW29 (2" RW)	TOC	Shallow-Intermediate	Upper Intermediate
MW30	TOC/Farmasonis	Deep	Deep
MW31 (2" RW)	TOC/Farmasonis	Intermediate	Intermediate
MW32 (RW)	TOC	Intermediate	Intermediate
MW33	TOC	Intermediate	Intermediate
MW34	TOC	Shallow	Shallow
MW35	TOC	Intermediate	Intermediate
MW36	TOC	Intermediate	Intermediate
MW37	TOC	Shallow-Intermediate Intersect	Upper Intermediate
MW38	TOC	Shallow-Intermediate Intersect	Upper Intermediate
MW39	TOC/Farmasonis	Deep	Deep
MW40	TOC/Farmasonis	Deep	Deep
MW41 (2" RW)	TOC/Farmasonis	Intermediate	Intermediate
MW42	TOC/Farmasonis	Intermediate	Intermediate
MW43	ROW (56th)	Shallow-Intermediate Intersect	Intermediate
MW44	ROW (56th)	Intermediate	Intermediate
MW45	ROW (56th)	Intermediate	Intermediate
MW46	ROW (56th)	Intermediate	Intermediate
MW47	ROW (56th)	Intermediate	Intermediate
MW48	ROW (56th)	Intermediate	Intermediate
MW49	ROW (56th)	Intermediate	Intermediate
MW50	ROW (56th)	Intermediate	Intermediate
MW51	ROW (56th)	Intermediate	Intermediate
MW52	ROW (56th)	Intermediate	Intermediate
MW53	ROW (56th)	Intermediate	Intermediate
MW54	TOC/Farmasonis	Shallow	Shallow
MW55	ROW (56th)	Intermediate	Intermediate
MW56	TOC/Farmasonis	Intermediate	Intermediate
MW57 (RW)	TOC/Farmasonis	Intermediate	Intermediate
MW58	TOC/Farmasonis	Intermediate	Intermediate
MW59	TOC/Farmasonis	Intermediate	Intermediate
MW60	ROW (56th)	Intermediate	Intermediate
MW61	ROW (56th)	Shallow	Shallow

TABLE A-1

Revised Monitoring Well Classifications

TOC Holdings Co. Site 01-176; Mountlake Terrace WA

Well ID [1]	Property	MW Zone Classification (Stantec)	MW Zone Classification (SoundEarth Strategies)
MW62	ROW (56th)	Shallow	Shallow
MW63	ROW (56th)	Intermediate	Intermediate
MW64	ROW (56th)	Deep	Deep
MW65	Drake	Intermediate	Intermediate
MW66	TOC/Farmasonis	Intermediate	Intermediate
MW67	Drake	Shallow	Shallow
MW68	Drake	Shallow	Shallow
MW69 (RW)	Drake	Intermediate	Intermediate
MW70 (2" RW)	Drake	Intermediate	Intermediate
MW71	Shin/Choi	Shallow	Shallow
MW72	Shin/Choi	Shallow	Shallow
MW73	Shin/Choi	Intermediate	Intermediate
MW74	Shin/Choi	Intermediate	Intermediate
MW75	ROW (56th)	Intermediate	Intermediate
MW76	Drake	Intermediate	Intermediate
MW77	Drake	Intermediate	Intermediate
MW78	Drake	Deep	Deep
MW79	TOC/Farmasonis	Shallow	Shallow
MW80	TOC/Farmasonis	Shallow	Upper Intermediate
MW81	TOC/Farmasonis	Intermediate	Intermediate
MW82	TOC/Farmasonis	Shallow-Intermediate Intersect	Upper Intermediate
MW83*	TOC/Farmasonis	Shallow-Intermediate Intersect	Upper Intermediate
MW84	Drake	Intermediate	Intermediate
MW85	Drake	Intermediate	Intermediate
MW86	Drake	Intermediate	Intermediate
MW87	Drake	Intermediate	Intermediate
MW88	Drake	Shallow-Intermediate Intersect	Upper Intermediate
MW89	Drake	Intermediate	Intermediate
MW90 (RW)	TOC	Intermediate	Intermediate
MW91 (RW)	TOC	Intermediate	Intermediate
MW92 (RW)	TOC/Farmasonis	Intermediate	Intermediate
MW93 (RW)	TOC/Farmasonis	Intermediate	Intermediate
MW94 (RW)	TOC/Farmasonis	Intermediate	Intermediate
MW95 (RW)	Drake	Intermediate	Intermediate
MW96 (RW)	Drake	Intermediate	Intermediate
MW97 (RW)	Drake	Intermediate	Intermediate
MW98 (RW)	Drake	Intermediate	Intermediate
MW99 (RW)	Drake	Intermediate	Intermediate
MW100	TOC/Farmasonis	Shallow-Intermediate Intersect	Upper Intermediate
MW101 (RW)	Drake	Intermediate	Intermediate
MW102	Herman	Shallow	Shallow
MW103	Herman	Intermediate	Intermediate
MW104	Herman	Shallow	Shallow
MW105	Herman	Intermediate	Intermediate
MW106	Herman	Shallow	Shallow
MW107	Herman	Intermediate	Intermediate

NOTES:

[1] Remediation wells are identified as "RW." RWs are 4" (unless noted as 2") and are connected to a remediation system.

*Decommissioned Well

LIST OF PROPERTIES:

TOC = 24205 56th Avenue West, Mountlake Terrace WA
TOC/Farmasonis = 24225 56th Avenue West, Mountlake Terrace WA
Drake = 24309 56th Avenue West, Mountlake Terrace WA
Herman = 24311 56th Avenue West, Mountlake Terrace WA
ROW (56th) = portion of 56th Avenue West, Mountlake Terrace WA
ROW (242nd) = portion of 242nd Street Southwest, Mountlake Terrace WA

Appendix B

Laboratory Analytical Reports

B-1 TOC Property Wells (24205)

B-2 TOC/Farmasonis Property Wells (24225)

B-3 Drake Property Wells (24309)

B-4 56th Avenue West Right-of-Way Wells

B-5 Herman Property Wells (24311)

B-1

TOC Property Wells (24205)

Stantec

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Kurt Johnson, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 5, 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 June 27, 2013 from the TOC_01-176_20130627 WORFDB7, F&BI 306474 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: Audrey Hackett, Beau Johnson
SOU0705R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 27, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC_01-176_20130627 WORFDB7, F&BI 306474 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
306474 -01	MW09-20130625-PE
306474 -02	MW999-20130625-PE
306474 -03	MW09-20130625-BL
306474 -04	MW09-20130625-BA
306474 -05	MW10-20130625-PE
306474 -06	MW15-20130626-PN
306474 -07	MW20-20130626-BL
306474 -08	MW22-20130625-PE
306474 -09	MW27-20130626-PN
306474 -10	MW32-20130626-PN
306474 -11	Trip-24205
306474 -12	01176-2013026-R1
306474 -13	MW31-20130626
306474 -14	Trip Blank

All quality control requirements were acceptable.

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306474
Date Extracted: 07/01/13
Date Analyzed: 07/01/13 and 07/02/13

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW09-20130625-PE 306474-01	<1	<1	<1	<3	<100	94
MW999-20130625-PE 306474-02	<1	<1	<1	<3	<100	95
MW09-20130625-BL 306474-03	<1	<1	<1	<3	<100	93
MW09-20130625-BA 306474-04	2.5	1.3	9.3	69	960	96
MW10-20130625-PE 306474-05	4.5	3.1	12	80	410	94
MW15-20130626-PN 306474-06	<1	2.0	49	120	1,800	97
MW20-20130626-BL 306474-07 1/5	25	98	200	1,200	8,600	94
MW22-20130625-PE 306474-08	<1	<1	<1	<3	<100	90
MW27-20130626-PN 306474-09 1/5	<5	18	180	3,300	9,200	92
MW32-20130626-PN 306474-10 1/5	11	93	280	1,900	8,000	85
Trip-24205 306474-11	<1	<1	<1	<3	<100	91

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306474
Date Extracted: 07/01/13
Date Analyzed: 07/01/13 and 07/02/13

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
01176-2013026-R1 306474-12	<1	<1	<1	<3	<100	90
MW31-20130626 306474-13	<1	<1	<1	<3	170	90
Method Blank 03-1268 MB	<1	<1	<1	<3	<100	93

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306474

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: 306474-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (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	72-119
Toluene	ug/L (ppb)	50	97	71-113
Ethylbenzene	ug/L (ppb)	50	103	72-114
Xylenes	ug/L (ppb)	150	92	72-113
Gasoline	ug/L (ppb)	1,000	95	70-119

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.

306479

SAMPLE CHAIN OF CUSTODY ME 06/27/13 TOC V2

Send Report To Dee Gardner

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): L.Namba, C.Porter, T.Zandi, D.Mendel, D.Naylor

PROJECT NAME/NO.: 9021 Holdings - Mountlake Terrace 3130-18 (01-176) 24205

PO #:

REMARKS: Trip Blank supplied by laboratory

GEMS Y / N

Page # 1 of 1

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 jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals			Notes
								ANALYSES REQUESTED								
MW99-20130625-PE	MW99	30	01 A-C	06/25/13	1256	Water	3		✓	✓						X per DG 6/28/13
MW99-20130625-PE	MW99	30	02	06/25/13	1330	Water	3		✓	✓						ms
MW01-20130625-BL	MW01	28	03	06/25/13	1433	Water	3		✓	✓						Time on COC 1744
MW99-20130625-BA	MW99		04	06/25/13	1509	Water	3		✓	✓						
MW10-20130626-PE	MW10		05	06/26/13	1553	Water	3		✓	✓						
MW15-20130626-PN	MW15		06	06/26/13	1152	Water	3		✓	✓						
MW20-20130626-BL	MW20	37.7	07	06/26/13	1220	Water	3		✓	✓						
MW22-20130625-PE	MW22	32	08	06/25/13	1714	Water	3		✓	✓						
MW27-20130626-PN	MW27		09	06/26/13	1117	Water	3		✓	✓						
MW32-20130626-PN	MW32		10	06/26/13	1128	Water	3		✓	✓						
Trip-2-2045	TB		11 A-B			Water	2			✓						Lab
0176-20130626-RI	RI		12 A-C	6/26/13	0820	Water	3		✓	✓						
MW31-20130626 PNR			13 14 A-B	6/26/13	1221	Water Water	3 2		X	X						added TB

Trip Blank

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:		David Mendel	SES	6/27/13	1700
Received by:		DD	F&BI	11	11
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 8 °C

B-2

TOC/Farmasonis Property Wells (24225)

Stantec

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Kurt Johnson, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 5, 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 June 27, 2013 from the TOC_01-176_20130627 WORFDB7, F&BI 306472 project. There are 11 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
SOU0705R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 27, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC_01-176_20130627 WORFDB7, F&BI 306472 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
306472 -01	MW31-20130626-PN
306472 -02	MW56-20130626-BL
306472 -03	MW58-20130626-BL
306472 -04	MW59-20130626-BL
306472 -05	MW66-20130626-BA
306472 -06	MW66-20130626-BA2
306472 -07	Trip-24225

All quality control requirements were acceptable.

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306472
Date Extracted: 06/28/13
Date Analyzed: 06/28/13

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW31-20130626-PN 306472-01	<1	<1	<1	<3	150	92
MW56-20130626-BL 306472-02	<1	<1	<1	<3	<100	78
MW58-20130626-BL 306472-03	<1	<1	<1	<3	<100	90
MW59-20130626-BL 306472-04	<1	<1	<1	<3	<100	89
MW66-20130626-BA 306472-05	<1	<1	<1	<3	<100	84
MW66-20130626-BA2 306472-06	<1	<1	<1	<3	<100	84
Method Blank 03-1212 MB	<1	<1	<1	<3	<100	84

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306472
Date Extracted: 06/28/13
Date Analyzed: 06/28/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING METHOD 8021B

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (% Recovery) Limit (50-150)
Trip-24225 306472-07	<1	<1	<1	<3	87
Method Blank 03-1212 MB	<1	<1	<1	<3	84

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW31-20130626-PN	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	07/01/13	Lab ID:	306472-01
Date Analyzed:	07/02/13	Data File:	306472-01.028
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	84	60	125

Analyte:	Concentration ug/L (ppb)
Lead	19.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	07/01/13	Lab ID:	I3-396 mb
Date Analyzed:	07/02/13	Data File:	I3-396 mb.013
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	89	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW31-20130626-PN	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	07/01/13	Lab ID:	306472-01
Date Analyzed:	07/02/13	Data File:	306472-01.012
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	92	60	125

Analyte:	Concentration ug/L (ppb)
Lead	3.09

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	07/01/13	Lab ID:	I3-395 mb
Date Analyzed:	07/02/13	Data File:	I3-395 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306472

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: 306449-01 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	94	65-118
Toluene	ug/L (ppb)	50	91	72-122
Ethylbenzene	ug/L (ppb)	50	94	73-126
Xylenes	ug/L (ppb)	150	93	74-118
Gasoline	ug/L (ppb)	1,000	99	69-134

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306472

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 306382-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	100	104	79-121	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	102	83-115

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306472

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 200.8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	94	96	83-115	2

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.

306472

SAMPLE CHAIN OF CUSTODY ME 06/27/13

Romio's V3/AI2

Page # 1 of 1

Send Report To Dee Gardner

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) L. Namba, C. Porter, T. Zandi, D. Mendel, D. Naylor

PROJECT NAME/NO. TOC Holdings - Mountlake Terrace (01-176) 0440-030-18 24225

PO #

REMARKS Dissolved Pb sample to be filtered & preserved by laboratory. Trip Blank provided by laboratory

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 jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Total Pb by 200.8	Dissolved Pb by 200.8	Notes
MW31-20130626-PN	MW31		01 A-E	06/26/13	2:18	Water	5		✓	✓					✓	
MW56-20130626-BL	MW56	46.5	02 A-C	06/26/13	1317	Water	3		✓	✓				✓		
MW58-20130626-BL	MW58	43.5	03	06/26/13	1137	Water	3		✓	✓						
MW59-20130626-BL	MW59	45	04	06/26/13	1227	Water	3		✓	✓						
MW66-20130625-BA	MW66		05	06/25/13	1350	Water	3		✓	✓						
MW66-20130625-BA2	MW66		06	06/25/13	1405	Water	3		✓	✓						
Trip-24225	TB		07			Water	2			✓						

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	David Mendel	SES	6/27/13	1700
Received by:	DO KO	F+BI	"	"
Relinquished by:				
Received by:				

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

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 6 °C

B-3

Drake Property Wells (24309)

Stantec

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Kurt Johnson, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 9, 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 June 27, 2013 from the TOC_01-176_20130627 WORFDB7, F&BI 306473 project. There are 14 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
SOU0709R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 27, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC_01-176_20130627 WORFDB7, F&BI 306473 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
306473 -01	MW65-20130625-BL
306473 -02	MW77-20130626-BL
306473 -03	MW85-20130625-BL
306473 -04	MW86-20130625-BL
306473 -05	MW86-20130626-BL2
306473 -06	MW89-20130626-B
306473 -07	Trip-24309

All quality control requirements were acceptable.

Date of Report: 07/09/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306473
Date Extracted: 06/28/13
Date Analyzed: 06/28/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING METHOD 8021B

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (% Recovery) Limit (50-150)
Trip-24309 306473-07	<1	<1	<1	<3	80
Method Blank 03-1266 MB	<1	<1	<1	<3	90

Date of Report: 07/09/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306473
Date Extracted: 06/28/13
Date Analyzed: 06/28/13

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW65-20130625-BL 306473-01	<1	<1	<1	<3	<100	93
MW77-20130626-BL 306473-02	<1	<1	<1	<3	<100	92
MW85-20130625-BL 306473-03	<1	<1	<1	<3	<100	83
MW86-20130625-BL 306473-04	<1	<1	<1	<3	<100	86
MW86-20130626-BL2 306473-05	<1	<1	<1	<3	<100	89
MW89-20130626-B 306473-06	<1	<1	<1	<3	<100	93
Method Blank 03-1266 MB	<1	<1	<1	<3	<100	90

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW65-20130625-BL	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-01
Date Analyzed:	06/28/13	Data File:	062811.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	100	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW77-20130626-BL	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-02
Date Analyzed:	06/28/13	Data File:	062812.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	100	63	127
4-Bromofluorobenzene	106	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW85-20130625-BL	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-03
Date Analyzed:	06/28/13	Data File:	062813.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	98	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW86-20130625-BL	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-04
Date Analyzed:	06/28/13	Data File:	062814.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	97	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW86-20130626-BL2	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-05
Date Analyzed:	06/28/13	Data File:	062815.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	98	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW89-20130626-B	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-06
Date Analyzed:	06/28/13	Data File:	062816.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	97	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip-24309	Client:	SoundEarth Strategies
Date Received:	06/27/13	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	306473-07
Date Analyzed:	06/28/13	Data File:	062809.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	103	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130627 WORFDB7
Date Extracted:	06/28/13	Lab ID:	03-1280 mb
Date Analyzed:	06/28/13	Data File:	062808.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	98	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1

Date of Report: 07/09/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306473

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: 306473-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (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	101	72-119
Toluene	ug/L (ppb)	50	99	71-113
Ethylbenzene	ug/L (ppb)	50	104	72-114
Xylenes	ug/L (ppb)	150	95	72-113
Gasoline	ug/L (ppb)	1,000	92	70-119

Date of Report: 07/09/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306473

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

Laboratory Code: 306473-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	86	74-127

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	93	90	64-147	3

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.

306473

SAMPLE CHAIN OF CUSTODY

ME 06/27/13 V3

Page # 1 of 1

Send Report To Dee Gardner

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): L.Lamba, T. Zandi, C. Porter, D. Mendel, D. Naylor

PROJECT NAME/NO.: TOC Holding - Mountlake Terrace (01-12) 3440-030-18 24309

PO #:

REMARKS: Trip Blank supplied by Laboratory

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 jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	MTBE and EDC by 8260C		Notes
MW85-20130625-BL	MW85	26.9	01 A-D	06/25/13	1330	Water	4		✓	✓				✓		MTBE on Upper DG 7/8/13 MA.
MW77-20130626-BL	MW77		02	06/26/13	1440	Water	4		✓	✓				✓		
MW85-20130625-BL	MW85	39.5	03	06/25/13	1230	Water	4		✓	✓				✓		
MW86-20130625-BL	MW86	41	04	06/25/13	1120	Water	4		✓	✓				✓		
MW86-20130626-BL2	MW86	42	05	06/25/13	1122	Water	4		✓	✓				✓		
MW89-20130626-BL	MW89	42	06 A-B	06/25/13	1550	Water	4		✓	✓				✓		
Trip - 24309	TB		07 A-B			Water	2			✓				✓		

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:		David Mendel	SES	6/27/13	1700
Received by:		DO VO	F&BI	"	"
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 3 °C

B-4

56th Avenue West Right-of-Way Wells

Stantec

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Kurt Johnson, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 5, 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 June 27, 2013 from the TOC_01-176_20130627 WORFDB7, F&BI 306475 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
SOU0705R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 27, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC_01-176_20130627, F&BI 306475 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
306475-01	MW45-20130626-BA
306475-02	MW48-20130626-BA
306475-03	MW49-20130626-BA
306475-04	MW50-20130626-BA
306475-05	MW51-20130626-BA
306475-06	MW52-20130626-BA
306475-07	MW53-20130626-BA
306475-08	MW55-20130626-BL
306475-09	MW60-20130626-BL
306475-10	MW63-20130625-BL
306475-11	Trip Blank

All quality control requirements were acceptable.

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306475
Date Extracted: 07/01/13
Date Analyzed: 07/01/13 and 07/02/13

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW45-20130626-BA 306475-01	<1	<1	<1	340	8,300	94
MW48-20130626-BA 306475-02 1/5	<5	12	130	810	11,000	99
MW49-20130626-BA 306475-03	<1	<1	<1	<3	<100	94
MW50-20130626-BA 306475-04	<1	<1	<1	<3	<100	92
MW51-20130626-BA 306475-05	<1	<1	<1	<3	<100	94
MW52-20130626-BA 306475-06	<1	<1	<1	<3	<100	91
MW53-20130626-BA 306475-07	<1	<1	<1	<3	<100	93
MW55-20130626-BL 306475-08	<1	<1	<1	<3	<100	92
MW60-20130626-BL 306475-09	<1	<1	<1	<3	<100	92
MW63-20130625-BL 306475-10	<1	<1	<1	<3	<100	93
Method Blank 03-1270 MB	<1	<1	<1	<3	<100	94

Date of Report: 07/05/13
Date Received: 06/27/13
Project: TOC_01-176_20130627 WORFDB7, F&BI 306475

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: 306475-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (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	96	72-119
Toluene	ug/L (ppb)	50	95	71-113
Ethylbenzene	ug/L (ppb)	50	100	72-114
Xylenes	ug/L (ppb)	150	91	72-113
Gasoline	ug/L (ppb)	1,000	92	70-119

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.

306475

SAMPLE CHAIN OF CUSTODY

ME 06/27/13 V2

Page # 1 of 1

Send Report To Dee Gardner

Company Sound Earth Strategies

Address 2811 Fairview Avenue East 2000

City, State, ZIP Seattle WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) L. Namba, T. Zanti, D. Naylor, D. Mandel, C. Porter, C. Parker

PROJECT NAME/NO. TOC Holdings - Mountlake Terrace (01-176)

PO #

REMARKS Trip Blank supplied by laboratory

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 jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals			Notes
MW45-20130626-BA	MW45		01AB	06/26/13	1310	Water	7		✓	✓						
MW48-20130626-BA	MW48		02AB	06/26/13	1412	Water	3		✓	✓						
MW49-20130626-BA	MW49		03A	06/26/13	1425	Water	3		✓	✓						
MW50-20130626-BA	MW50		04	06/26/13	1500	Water	3		✓	✓						
MW51-20130626-BA	MW51		05	06/26/13	1455	Water	3		✓	✓						
MW52-20130626-BA	MW52		06	06/26/13	1510	Water	3		✓	✓						
MW53-20130626-BA	MW53		07	06/26/13	1520	Water	3		✓	✓						
MW55-20130626-BL	MW55	43.5	08	06/26/13	1125	Water	3		✓	✓						
MW60-20130626-BL	MW60	47.5	09	06/26/13	1030	Water	3		✓	✓						
MW63-20130625-BL	MW63	46.9	10	06/25/13	1640	Water	3		✓	✓						
Trip-ROW	TB		11AB			Water	2		✓	✓						Hold

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	David Mandel	SES	6/27/13	1700
Received by:	DV CO	FS BT	"	"
Relinquished by:				
Received by:				

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

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 5 °C

B-5

Herman Property Wells (24311)

Stantec

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Kurt Johnson, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 23, 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 July 12, 2013 from the TOC_01-176_20130712 WORFDB7, F&BI 307179 project. There are 41 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
SOU0723R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 12, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC_01-176_20130712 WORFDB7, F&BI 307179 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
307179 -01	MW102-20130712-PE
307179 -02	MW103-20130712-BL
307179 -03	MW104-20130712-PE
307179 -04	MW105-20130712-BL
307179 -05	MW106-20130712-PE
307179 -06	MW107-20130712-BL
307179 -07	MW999-20130712-BL
307179 -08	01-176-20130712-R1
307179 -09	Trip 24311

The 8260C benzene concentration in sample MW104-20130712-PE (pg. 23) was qualified due to carryover from a previous sample injection.

The 8011 EDB concentration of sample MW102-20130712-PE exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179
Date Extracted: 07/15/13 and 07/16/13
Date Analyzed: 07/15/13 and 07/16/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW102-20130712-PE 307179-01 1/40	180,000	117
MW103-20130712-BL 307179-02	2,900	107
MW104-20130712-PE 307179-03 1/40	58,000	112
MW105-20130712-BL 307179-04	<100	94
MW106-20130712-PE 307179-05	<100	92
MW107-20130712-BL 307179-06	<100	94
MW999-20130712-BL 307179-07	2,600	118
01-176-20130712-R1 307179-08	<100	88
Method Blank 03-1352 MB	<100	95

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179
Date Extracted: 07/15/13
Date Analyzed: 07/16/13

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW102-20130712-PE 307179-01	8,400 x	<250	94
MW103-20130712-BL 307179-02	1,500 x	<250	96
MW104-20130712-PE 307179-03	11,000 x	320 x	83
MW105-20130712-BL 307179-04	<50	<250	96
MW106-20130712-PE 307179-05	140 x	<250	96
MW107-20130712-BL 307179-06	62 x	<250	101
MW999-20130712-BL 307179-07	1,400 x	<250	96
Method Blank 03-1390 MB	<50	<250	101

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW102-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-01
Date Analyzed:	07/16/13	Data File:	307179-01.047
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/L (ppb)
Lead	15.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW103-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-02
Date Analyzed:	07/16/13	Data File:	307179-02.043
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Lead	3.16

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW104-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-03
Date Analyzed:	07/16/13	Data File:	307179-03.044
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW105-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-04
Date Analyzed:	07/16/13	Data File:	307179-04.045
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	89	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW106-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-05
Date Analyzed:	07/16/13	Data File:	307179-05.046
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	90	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW107-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-06
Date Analyzed:	07/16/13	Data File:	307179-06.040
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	I3-419 mb
Date Analyzed:	07/16/13	Data File:	I3-419 mb.034
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW102-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-01
Date Analyzed:	07/16/13	Data File:	307179-01.013
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	91	60	125

Analyte:	Concentration ug/L (ppb)
Lead	16.7

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW103-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-02
Date Analyzed:	07/16/13	Data File:	307179-02.014
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	91	60	125

Analyte:	Concentration ug/L (ppb)
Lead	3.34

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW104-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-03
Date Analyzed:	07/16/13	Data File:	307179-03.015
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	89	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW105-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-04
Date Analyzed:	07/16/13	Data File:	307179-04.016
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	87	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW106-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-05
Date Analyzed:	07/16/13	Data File:	307179-05.017
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW107-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-06
Date Analyzed:	07/16/13	Data File:	307179-06.010
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	I3-420 mb
Date Analyzed:	07/16/13	Data File:	I3-420 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW102-20130712-PE	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-01
Date Analyzed:	07/15/13	Data File:	071513.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	88	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	52
1,2-Dichloroethane (EDC)	120
1,2-Dibromoethane (EDB)	<1
Benzene	1,400 ve
Toluene	3,900 ve
Ethylbenzene	900 ve
m,p-Xylene	3,100 ve
o-Xylene	2,200 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW102-20130712-PE	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-01 1/1000
Date Analyzed:	07/16/13	Data File:	071607.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1,000
1,2-Dichloroethane (EDC)	<1,000
1,2-Dibromoethane (EDB)	<1,000
Benzene	9,600
Toluene	48,000
Ethylbenzene	3,100
m,p-Xylene	14,000
o-Xylene	6,100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW103-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-02
Date Analyzed:	07/16/13	Data File:	071608.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	250 ve
1,2-Dichloroethane (EDC)	34
1,2-Dibromoethane (EDB)	<1
Benzene	730 ve
Toluene	42
Ethylbenzene	100
m,p-Xylene	120
o-Xylene	120

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW103-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-02 1/10
Date Analyzed:	07/15/13	Data File:	071521.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	260
1,2-Dichloroethane (EDC)	37
1,2-Dibromoethane (EDB)	<10
Benzene	1,400
Toluene	30
Ethylbenzene	72
m,p-Xylene	74
o-Xylene	89

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW104-20130712-PE	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-03
Date Analyzed:	07/15/13	Data File:	071515.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	17
Toluene	1,400 ve
Ethylbenzene	810 ve
m,p-Xylene	2,700 ve
o-Xylene	1,900 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW104-20130712-P E	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-03 1/100
Date Analyzed:	07/15/13	Data File:	071523.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<100
1,2-Dichloroethane (EDC)	<100
1,2-Dibromoethane (EDB)	<100
Benzene	72 c
Toluene	3,200
Ethylbenzene	2,600
m,p-Xylene	10,000
o-Xylene	4,600

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW105-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-04
Date Analyzed:	07/15/13	Data File:	071508.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW106-20130712-PE	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-05
Date Analyzed:	07/15/13	Data File:	071509.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	94	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW107-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-06
Date Analyzed:	07/15/13	Data File:	071510.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	0.52
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW999-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-07
Date Analyzed:	07/15/13	Data File:	071511.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	250 ve
1,2-Dichloroethane (EDC)	24
1,2-Dibromoethane (EDB)	<1
Benzene	660 ve
Toluene	63
Ethylbenzene	77
m,p-Xylene	130
o-Xylene	110

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW999-20130712-BL	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-07 1/10
Date Analyzed:	07/15/13	Data File:	071520.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	240
1,2-Dichloroethane (EDC)	26
1,2-Dibromoethane (EDB)	<10
Benzene	970
Toluene	64
Ethylbenzene	81
m,p-Xylene	130
o-Xylene	110

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	01-176-20130712-R1	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	307179-08
Date Analyzed:	07/15/13	Data File:	071507.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	96	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip 24311	Client:	SoundEarth Strategies
Date Received:	07/12/13	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/16/13	Lab ID:	307179-09
Date Analyzed:	07/16/13	Data File:	071608.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	101	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/15/13	Lab ID:	03-1313 mb
Date Analyzed:	07/15/13	Data File:	071506.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	95	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176_20130712 WORFDB7
Date Extracted:	07/16/13	Lab ID:	03-1316 mb
Date Analyzed:	07/16/13	Data File:	071607.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

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

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179
Date Extracted: 07/17/13
Date Analyzed: 07/17/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR 1,2-DIBROMOETHANE BY EPA METHOD 8011 MODIFIED
Results Reported as µg/L (ppb)

Sample ID Laboratory ID	EDB
MW102-20130712-PE 307179-01	0.88 ve
MW103-20130712-BL 307179-02	0.094
MW104-20130712-PE 307179-03	0.034
MW105-20130712-BL 307179-04	<0.01
MW106-20130712-PE 307179-05	<0.01
MW107-20130712-BL 307179-06	<0.01
MW999-20130712-BL 307179-07	0.087
01-176-20130712-R1 307179-08	<0.01
Trip 24311 307179-09	<0.01
Method Blank	<0.01

EDB 1,2-Dibromoethane

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

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

Laboratory Code: 307179-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (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	94	69-134

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	100	58-134	0

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 307179-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	89	103	79-121	15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	99	83-115

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 200.8

Laboratory Code: 307179-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	93	105	79-121	12

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	94	83-115

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

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

Laboratory Code: 307179-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	102	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	102	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	106	50-150
Benzene	ug/L (ppb)	50	<0.35	102	50-150
Toluene	ug/L (ppb)	50	<1	107	50-150
Ethylbenzene	ug/L (ppb)	50	<1	105	50-150
m,p-Xylene	ug/L (ppb)	100	<2	110	50-150
o-Xylene	ug/L (ppb)	50	<1	104	50-150

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	103	103	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	100	99	70-130	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	101	97	70-130	4
Benzene	ug/L (ppb)	50	98	98	70-130	0
Toluene	ug/L (ppb)	50	98	99	70-130	1
Ethylbenzene	ug/L (ppb)	50	100	100	70-130	0
m,p-Xylene	ug/L (ppb)	100	102	103	70-130	1
o-Xylene	ug/L (ppb)	50	99	103	70-130	4

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

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

Laboratory Code: 307176-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	68-125
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	97	78-113
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	106	83-114
Benzene	ug/L (ppb)	50	<0.35	95	79-109
Toluene	ug/L (ppb)	50	<1	95	73-117
Ethylbenzene	ug/L (ppb)	50	<1	95	71-120
m,p-Xylene	ug/L (ppb)	100	<2	95	63-128
o-Xylene	ug/L (ppb)	50	<1	96	64-129

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	103	102	70-122	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	98	96	79-109	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	109	109	85-113	0
Benzene	ug/L (ppb)	50	96	95	81-108	1
Toluene	ug/L (ppb)	50	95	95	83-108	0
Ethylbenzene	ug/L (ppb)	50	97	96	84-110	1
m,p-Xylene	ug/L (ppb)	100	97	96	84-112	1
o-Xylene	ug/L (ppb)	50	97	97	82-113	0

Date of Report: 07/23/13
Date Received: 07/12/13
Project: TOC_01-176_20130712 WORFDB7, F&BI 307179

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR 1,2-DIBROMOETHANE BY EPA METHOD 8011 MODIFIED

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 10)
1,2-Dibromoethane	ug/L (ppb)	0.10	113	103	70-130	9

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.

307179

SAMPLE CHAIN OF CUSTODY ME 07-15-13

A05/B14/V2

Page # 1 of 1

Send Report To Dee Gardner

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): L. Namba, W. Rajkovich, N. Kis-Yang

PROJECT NAME/NO.: TOC Holdings - Mountlake Terrace 0440-030-19 01-176

PO #

REMARKS: Dissolved Pb samples field filtered & preserved. TB provided by laboratory

GEMS Y / N

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH Arranged by Dee
- 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: NWTPH-Dx	NWTPH-Gx	EDB BTEX by 8021B	mTBE + EDC, EDA by 8260C	SVOC's by 8270	RCRA-8 Metals	Total Pb	Dissolved Pb	Notes
MW102-20130712-PE	MW102	16	01A-K	07/12/13	13:09	Water	11	✓	✓	✓	✓			✓	✓	
MW103-20130712-BL	MW103	40.56	02A-J	07/12/13	15:30	Water	11	✓	✓	✓	✓			✓	✓	
MW104-20130712-PE	MW104	15	03A-B	07/12/13	1654	Water	11	✓	✓	✓	✓			✓	✓	Received 10 Containers
MW105-20130712-BL	MW105	41.5	04 J	07/12/13	1427	Water	11	✓	✓	✓	✓			✓	✓	
MW106-20130712-PE	MW106	17	05 I	07/12/13	1601	Water	11	✓	✓	✓	✓			✓	✓	
MW107-20130712-BL	MW107	48.45	06 I	07/12/13	1350	Water	11	✓	✓	✓	✓			✓	✓	* - per DG 7/15/13 MA
MW999-20130712-BL	MW999		07A-I	07/12/13	1545	Water	9	✓	✓	✓	✓					
-20130712-RI 01-176 - Rnt G	Rinsate		08A-H	07/12/13	0925	Water	8		✓	✓	✓					
Trip 24311	TB		09A-B			Water	2			*	*					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Larry Namba	Larry Namba	SES	07/12/13	1804
Received by:	Kurt Johnson	F&B	7/12/13	1804
Relinquished by:				
Received by:				

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

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 4 °C