

**Operations & Maintenance  
Report, Fourth Quarter 2013**

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



*now*



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**August 11, 2014**

# Sign-off Sheet



Please note that effective May 12, 2014, the employees of **JBR Environmental Consultants, Inc. (JBR)** have joined **Stantec Consulting Services Inc. (Stantec)**. You will continue to see the same people, doing business with you the same way, and with the same goal: to safely deliver the highest level of service while always striving to exceed your expectations.

This document entitled *Operations and Maintenance Report, Fourth Quarter 2013*, was prepared by JBR (now Stantec) on behalf of **TOC Holdings Co. (TOC)** for specific application to TOC Facility No. 01-176 in Mountlake Terrace, Washington. Services conducted by JBR (now Stantec) for this project were conducted in accordance with the Environmental Services Contract between **Anderson Environmental Contracting, LLC (AEC)** and JBR, which has been now transferred over to Stantec. Any reliance on this document by any 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 JBR and AEC. 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 below.

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- Unit 1: 24205 – TOC Property
- Unit 2: 24225 – TOC/Farmasonis Property
- Unit 3: 24309 – Drake Property

## Abbreviations & Acronyms

µg/L	micrograms per liter
AEC	Anderson Environmental Contracting, LLC
AO	Agreed Order
AWS	Air/Water Separator
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
City	City of Mountlake Terrace, Washington
DMR	Discharge Monitoring Report
DPE	Dual-Phase Extraction
Ecology	Washington State Department of Ecology
GAC	Granular-Activated Carbon
gallons/day	gallons per day
gallons/minute	gallons per minute
GRPH	Gasoline-Range Petroleum Hydrocarbons
JBR	JBR Environmental Consultants, Inc.
lb/day	pounds per day
LNAPL	Light Nonaqueous-Phase Liquid
mg/m <sup>3</sup>	milligrams per cubic meter
MPE	Multi-Phase Extraction
MTCA	Model Toxics Control Act
NOC	Notice of Construction
O&M	Operation and Maintenance
OWS	Oil/Water Separator
ppmv	parts per million vapor
PSCAA	Puget Sound Clean Air Agency
ROW	Right-of-Way
SEPA	State Environmental Policy Act
SES	SoundEarth Strategies, Inc.
Stantec	Stantec Consulting Services Inc.
SUP	Special Use Permit
SVE	Soil Vapor Extraction
SWD	State Waste Discharge
TOC	TOC Holdings Co.
VOC	Volatile Organic Compound

## 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

## Executive Summary

This report documents the **Fourth Quarter 2013** operation and maintenance (O&M) activities from October through December 2013 associated with interim remedial actions currently being implemented at TOC Holdings Co. (TOC) Facility No. 01-176 located in Mountlake Terrace, Washington. The interim remedial actions are being implemented within the Interim Remedial Action Project Area, which encompasses the following properties, as defined in the Agreed Order (AO) No. DE 8661 between the Washington Department of Ecology (Ecology) and TOC: 1) TOC Property, located at 24205 56th Avenue West, 2) TOC/Farmasonis Property, located at 24225 56th Avenue West, 3) Drake Property, located at 24309 56th Avenue West, and 4) portions of the 56th Avenue West right-of-way (ROW). These properties constitute the TOC Site, as defined by the AO.

This activities described in this report were completed by SoundEarth Strategies (SES). Since that time, JBR Environmental Consultants, Inc. (now Stantec Consulting Services Inc. [Stantec]) has been hired by TOC to take over environmental consulting responsibilities on the project. This report has been prepared by Stantec to meet the reporting requirements for the work was conducted by SES during this Quarter.

Three multi-phase extraction systems have been installed within the Interim Remedial Action Project Area for remediation of petroleum hydrocarbon-contaminated groundwater, vapor and free product (where present). Unit 1 is located on and performs remediation for the TOC Property, and Units 2 and 3 are located on the TOC/Farmasonis Property and perform remediation for the TOC/Farmasonis and Drake Properties, respectively. This report includes a description of the multi-phase extraction systems, permit compliance, performance and optimization efforts. A summary of the multi-phase extraction system performance and maintenance activities during this Quarter is provided below:

- A combined total of 804.4 pounds of vapor-phase hydrocarbons was removed during this reporting period, and a cumulative total of 2,448.6 pounds since startup in October 2012. In addition, a volume of 376,072 gallons of groundwater was extracted, treated and discharged during this period. The total volume of water processed since system startup is approximately 1,012,602 gallons.
- There was no recovered light nonaqueous-phase liquid (LNAPL) from the three multi-phase extraction systems. Also, the oil/water separator (OWS) for each system was inspected, and no LNAPL or sheen was visible on the liquid contents.
- O&M consisted of routine, scheduled maintenance activities (as described in the O&M Manual), as well as the following:
  - Installed dynamic vacuum ports on nearly all remediation wells (excluding three on Drake Property).
  - Changed air compressor regulator filter at Drake Property
  - Routine bag filter replacements at Drake Property
- System optimization activities during this reporting period focused on balancing the flow of water through the OWS and addressing issues associated with the granular-activated carbon (GAC) canisters. These activities are described in more detail in the following sections.

## 1.0 INTRODUCTION

This report documents the **Fourth Quarter 2013** O&M activities from October through December 2013 associated with interim remedial actions currently being implemented at TOC Facility No. 01-176 located in Mountlake Terrace, Washington. The interim remedial actions are being implemented within the Interim Remedial Action Project Area, which encompasses the following properties, as defined in the AO No. DE 8661 between Ecology and TOC: 1) TOC Property, located at 24205 56th Avenue West, 2) TOC/Farmasonis Property, located at 24225 56th Avenue West, 3) Drake Property, located at 24309 56th Avenue West, and 4) portions of the 56th Avenue West ROW. These properties constitute the TOC Site, as defined by the AO.

This activities described in this report were completed by SES, since that time, Stantec has been hired by TOC to take over environmental consulting responsibilities on the project. This report has been prepared by Stantec to meet the reporting requirements, but the work was conducted by SES during this Quarter. As such, figures and tables prepared by SES are included in this report and not modified by Stantec.

Three multi-phase extraction systems have been installed within the Interim Remedial Action Project Area for remediation of petroleum hydrocarbon-contaminated groundwater, vapor and free product (where present). Unit 1 is located on and performs remediation for the TOC Property, and Units 2 and 3 are located on the TOC/Farmasonis Property and perform remediation for the TOC/Farmasonis and Drake Properties, respectively. This report includes a description of the multi-phase extraction systems, permit compliance, performance and optimization efforts.

## 2.0 SYSTEM DESCRIPTION

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

### 2.1 SYSTEM BACKGROUND

TOC (formerly Time Oil Co.) operated a retail gasoline station on the TOC Property between 1968 and 1990. One 8,000-gallon and two 6,000-gallon underground storage tanks were removed from the TOC Property in 1991. The TOC Property is currently vacant. A dual-phase extraction remediation system (former DPE system) was installed at the TOC Property in 1996 and operated until October 2004. In 2006, SES confirmed that gasoline contamination extended downgradient of the TOC Property to the south and west based on groundwater monitoring results. In October 2011, the AO between TOC and Ecology became effective. In accordance with the AO, SES initiated a remedial investigation at the TOC site. Additionally, the former DPE system was removed and three multi-phase extraction (MPE) systems were installed between November 2011 and August 2012. The three MPE systems (Units 1, 2 and 3) began operating in October 2012.

MPE is an in situ remedial technology that simultaneously extracts multiple fluid phases from remediation wells. The phases generally include vapor phase, dissolved phase (i.e. groundwater), and LNAPL or free product.

### 2.2 CURRENT SYSTEM

Each MPE system consists of a self-contained, aboveground equipment enclosure. The MPE system for the TOC Property (Unit 1) is located within a fenced enclosure on the TOC Property. The MPE systems for the TOC/Farmasonis Property (Unit 2) and Drake Property (Unit 3) are co-located within a single fenced enclosure located on the eastern side of the TOC/Farmasonis Property. The three MPE systems are basically identical, with the exception of their orientation, mirror-image layouts and the number of remediation wells serving each MPE system. A total of 24 remediation wells serve the three MPE systems: 9 wells at the TOC Property, 6 wells at the TOC/Farmasonis Property, and 9 wells at the Drake Property (**Figure 1**). The individual MPE equipment enclosures were custom fabricated in accordance with the Washington State Department of Labor and Industry requirements for factory-assembled structures.

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



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

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

## 2.3 SYSTEM MODIFICATIONS

During this Quarter, system modifications included the installation of dynamic vacuum ports on nearly all remediation wells (excluding three on the Drake Property).

## 3.0 PERMITS

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

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

### 3.1 STATE WASTE DISCHARGE PERMIT

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

- The maximum daily volumes of water to be discharged to Outfalls 001 and 002 shall be 7,000 and 14,000 gallons per day (gallons/day), respectively.
- pH shall be between 6 and 10 Standard Units.
- Benzene concentrations shall not exceed 5 micrograms per liter ( $\mu\text{g/L}$ ).
- Benzene, toluene, ethylbenzene and total xylene (BTEX) cumulative concentration shall not exceed 100  $\mu\text{g/L}$ .
- Gasoline-Range Petroleum Hydrocarbons (GRPH) shall not exceed 1,000  $\mu\text{g/L}$ .
- Total lead shall not exceed 1,090  $\mu\text{g/L}$ .

The SWD Permit identifies two outfall locations where compliance with the maximum daily effluent limits must be attained: the MPE system for the TOC Property (Unit 1) discharges to Outfall 001; the MPE systems for the TOC/Farmasonis Property (Unit 2) and the Drake Property (Unit 3) discharge to Outfall 002. Effluent from each of the three MPE systems is sampled on a monthly basis at points adjacent to each MPE system (**Figure 3**). Discharges from Units 2 and 3 combine after the effluent sampling points at approximately the location of Outfall 002. The minimum, maximum and average effluent concentrations are reported in the DMR submitted to Ecology.

Based on recent field measurements, the latitude and longitude for the designated Outfall 001 location in the SWD Permit is incorrect. The outfall locations designated in the SWD Permit and the corrected location for Outfall 001 is shown on **Figure 3**. The corrected coordinates for Outfall 1 are as follows:

Outfall 001 (MPE Unit 1)

Latitude: 47.7790381° North

Longitude: -122.3079532° West

WA State Plane North: 389498.11 M East  
87673.575 M North

A letter documenting the change to the outfall locations in the SWD Permit was provided to Ecology's Water Quality Program.

### 3.2 PSCAA ORDER OF APPROVAL

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

- All emissions from each of the three SVE blowers shall be routed through their associated catalytic oxidizer.
- The flow through each catalytic oxidizer shall not exceed 350 standard cubic feet per minute. The flow rate shall be monitored monthly.
- The temperature of the vapor entering the catalytic bed shall be at least 240 degrees Celsius (464 degrees Fahrenheit), and the temperature of the vapor exiting the oxidizer bed shall not exceed 620 degrees Celsius (1148 degrees Fahrenheit).
- The destruction and removal efficiency of the TPH-G flowing into and out of the catalytic oxidizer shall be 95 percent unless the concentration of TPH-G in the vapor exiting the catalytic oxidizer does not exceed 50 parts per million vapor (ppm<sub>v</sub>).
- The catalytic oxidizers may be removed and SVE emissions can be vented directly to the atmosphere through a stack provided the benzene and TPH-G concentrations remain below 0.5 and 50 ppm<sub>v</sub>, respectively, for a period of 3 consecutive months. The catalytic oxidizer shall be reactivated if concentrations of benzene or TPH-G exceed 0.5 or 50 ppm<sub>v</sub>, respectively.

### 3.3 SPECIAL USE PERMIT

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

## 4.0 SYSTEM PERFORMANCE

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

### 4.1 TOC PROPERTY

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

- The MPE operation time this Quarter was approximately 100 percent (**Table 1A**).
- The vapor-phase hydrocarbon mass removal associated with the SVE system was approximately 698.5 pounds, and aqueous-phase hydrocarbon removal associated with the GAC treatment process was approximately 0.836 pounds for this reporting period. The cumulative vapor-phase and aqueous-phase hydrocarbon removal to date is approximately 1,810 pounds (**Tables 1A, 2A, and 3A**).
- The volume of groundwater extracted during this reporting period was 75,825.2 gallons (**Tables 1A and 3A**). The average flow rate of groundwater recovery was 842.5 gallons/day (**Tables 1A and 3A**).
- No LNAPL was recovered from the OWS. Also, the OWS was inspected, and no LNAPL or sheen was visible on the liquid contents.
- The SVE daily mass removal rate ranged from 6.98 to 8.85 pounds per day (lb/day) during this Quarter (**Table 2A**).
- The effluent concentration of GRPH exiting the catalytic oxidizer was not detected at concentrations above the laboratory's lower reporting limit of 10 milligrams per cubic meter (mg/m<sup>3</sup>; 2.329 ppm<sub>v</sub>; **Table 4A**).
- All system operations were in compliance with Ecology's Water Quality Program and PSCAA permits (**Tables 4A and 5A**).

### 4.2 TOC / FARMASONIS PROPERTY

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

- The MPE operation time this Quarter was approximately 100 percent (**Table 1B**).
- The vapor-phase hydrocarbon mass removal associated with the SVE system was approximately 99.6 pounds, and aqueous-phase hydrocarbon removal associated with the GAC treatment process was 0.05 pounds for this reporting period. The cumulative vapor-phase and aqueous-phase hydrocarbon removal was approximately 597.6 pounds (**Tables 1B, 2B, and 3B**).

- The volume of groundwater extracted during this reporting period was approximately 89,204 gallons (**Tables 1B and 3B**). The average flow rate of groundwater recovery was 991 gallons/day (**Tables 1B and 3B**).
- No LNAPL was recovered from the OWS. Also, the OWS was inspected, and no LNAPL or sheen was visible on the liquid contents.
- The daily vapor mass removal rate ranged from 0.35 to 1.85 lb/day during this Quarter (**Table 2B**).
- The effluent concentration of GRPH exiting the catalytic oxidizer was not detected at concentrations above the laboratory's lower reporting limit of 10 mg/m<sup>3</sup> (2.329 ppm<sub>v</sub>; **Table 4B**).
- All system operations were in compliance with Ecology's Water Quality Program and PSCAA permits (**Tables 4B and 5B**).

### 4.3 DRAKE PROPERTY

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

- The MPE operation time this Quarter was approximately 84 percent (**Table 1C**). System down time was attributed to GAC canister maintenance, as well as GAC canister fouling and OWS high level alarms.
- The vapor-phase hydrocarbon mass removal associated with the SVE system was approximately 6.3 pounds, and aqueous-phase hydrocarbon removal associated with the GAC treatment process was approximately 0.09 pounds for this reporting period. The cumulative vapor-phase and aqueous-phase hydrocarbon removal to date is approximately 49.9 pounds (**Tables 1C, 2C, and 3C**).
- The volume of groundwater extracted during this reporting period was approximately 211,043 gallons (**Tables 1C and 3C**). The average flow rate of groundwater recovery was 2,345 gallons/day (**Tables 1C and 3C**).
- No LNAPL was recovered from the OWS. Also, the OWS was inspected, and no LNAPL or sheen was visible on the liquid contents.
- The average daily vapor mass removal rate was 0.1 lb/day during this Quarter (**Table 2C**).
- The effluent concentration of GRPH exiting the catalytic oxidizer was not detected at concentrations above the laboratory's lower reporting limit of 10 mg/m<sup>3</sup> (2.329 ppm<sub>v</sub>; **Table 4C**).
- All system operations were in compliance with PSCAA and Ecology's Water Quality Program permits (**Tables 4C and 5C**).

## 5.0 SYSTEM OPTIMIZATION & FUTURE RECOMMENDATIONS

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

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

Operational activities during this Quarter continued to focus on dewatering the formation to optimize recovery of hydrocarbon vapors. System optimization activities during this reporting period focused on balancing the flow of water through the OWS and addressing issues associated with the GAC canisters. These activities, any system modifications, and observations are summarized below.

- Field crews continued to optimize the system flows to balance the flow rate of the OWS. Modifications were conducted to minimize high level conditions, which triggered the systems to shut down. Generally, the program modification stopped the flow of water to the OWS for a brief period of time while the OWS transfer pumps discharged water to the GAC canisters.
- Sand, silt, and biological byproducts continued to accumulate within the lead GAC canisters. This buildup of materials restricts the discharge of wastewater from the OWS and eventually causes the systems to shut down. In the past, the majority of this loading has been observed at the Drake system. SES installed a bag filter on the Drake system in 2013, which has been successful in removing sediment from the water stream before it accumulated in the lead GAC canister. The installation of bag filters is currently being evaluated for the other two systems.
- A minor leak was noted on the OWS transfer pump at the TOC Property, and will be addressed during a future O&M event.
- The water hose for MW69 on the Drake Property apparently collapsed, and will need to be replaced during a future O&M event.

## 6.0 LIMITATIONS

This document, ***Operations and Maintenance Report, Fourth Quarter 2013*** was prepared by JBR, (now Stantec) on behalf of TOC. The material presented reflects Stantec's best judgment in light of the information available at the time of preparation. Any use which a third party makes of this document, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this document.

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Table 5C:	Liquid Stream Analytical Results - Drake Property (SES Table)





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

Reporting Period		Duration of Reporting Period (days)	System Run Time (days)	System Run Time (%)	Volume of Treated Groundwater Discharged (gallons)	Average Groundwater Recovered Flow Rate (gallons/day)	GRPH Aqueous-Phase Removal (lb)	GRPH Vapor-Phase Removal (lb)
Start Date	End Date							
10/02/12	12/05/12	64	30	46%	35,204.9	550.1	2.522	917.8
12/05/12	03/04/13	89	36	40%	7,655.9	86.0	0.918	42.1
03/04/13	06/05/13	93	29	31%	4,915.8	52.9	0.609	6.0
06/05/13	09/04/13	91	69	76%	83,540.3	918.0	3.121	138.0
09/04/13	12/03/13	90	90	100%	75,825.2	842.5	0.836	698.5
<b>Average</b>				<b>59%</b>				
<b>Totals</b>		<b>427</b>	<b>253</b>		<b>207,142.1</b>		<b>8.006</b>	<b>1,802.4</b>

**NOTES:**

% = percent

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)



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

Reporting Period		Duration of Reporting Period (days)	System Run Time (days)	System Run Time (%)	Volume of Groundwater Discharged (gallons)	Average Groundwater Recovered Flow Rate (gallons/day)	GRPH Aqueous-Phase Removal (lb)	GRPH Vapor-Phase Removal (lb)
Start Date	End Date							
10/03/12	12/05/12	63.0	51.7	82%	12,858	204	0.005	477.4
12/05/12	03/04/13	89	52.5	59%	18,758	211	0.002	9.1
03/04/13	06/05/13	93	67.1	72%	106,670	1,147	0.235	4.9
06/05/13	09/04/13	91	82.2	90%	123,303	1,355	0.051	6.2
09/04/13	12/03/13	90	89.9	100%	89,204	991	0.046	99.6
<b>Average</b>				<b>81%</b>				
<b>Totals</b>		<b>426</b>	<b>343</b>		<b>350,793.6</b>		<b>0.34</b>	<b>597.3</b>

**NOTES:**

% = percent

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)



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

Reporting Period		Duration of Reporting Period (days)	System Run Time (days)	System Run Time (%)	Volume of Groundwater Discharged (gallons)	Average Groundwater Recovered Flow Rate (gallons/day)	GRPH Aqueous-Phase Removal (lb)	GRPH Vapor-Phase Removal (lb)
Start Date	End Date							
10/02/12	12/05/12	64.0	58.6	92%	71,160	1,112	0.029	30.7
12/05/12	03/04/13	89.0	73.3	82%	30,268.8	340	0.258	4.7
03/04/13	06/05/13	93.0	39.6	43%	74,015.9	796	0.491	2.7
06/05/13	09/04/13	91.0	58.1	64%	68,178.7	749	0.158	4.6
09/04/13	12/03/13	90.0	75.8	84%	211,042.8	2,345	0.088	6.3
<b>Average</b>				<b>73%</b>				
<b>Totals</b>		<b>427.0</b>	<b>305.3</b>		<b>454,666.4</b>		<b>1.025</b>	<b>48.9</b>

**NOTES:**

% = percent

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)



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

Site Visit	Run Time		SVE Parameters		Catalytic Oxidizer		GRPH Removal		
	SVE Hour Meter	Total Time in Operation	SVE Pre-Filter Vacuum	Air Flow Rate <sup>(1)</sup>	Catalyst Entrance Temp.	Catalyst Exit Temp.	Influent Concentration <sup>(2)</sup>	Daily Mass Recovery Rate <sup>(3) (4)</sup>	Cumulative Recovered <sup>(5)</sup>
Date	(hours)	(days)	(iow)	(scfm)	(°C)	(°C)	(mg/m <sup>3</sup> )	(lb/day)	(lb)
10/02/12	5.0	0.21	70.0	146.8	330	380	1,600	21.1	0.000
10/10/12	70.2	2.93	69.0	149.2	330	419	2,600	27.9	75.906
10/17/12	237.7	9.90	69.0	149.2	330	410	3,400	40.2	356.743
10/24/12	406.9	16.95	68.0	144.4	330	385	2,400	38.3	626.562
11/07/12	638.2	26.59	73.0	140.7	330	384	1,700	26.3	879.751
12/05/12	714.2	29.76	67.0	148.0	330	344	150	12.0	917.763
01/08/13	1,482.9	61.79	65.0	153.8	330	342	35	1.3	957.955
01/17/13	1,533.7	63.90	76.0	153.0	330	350	--	--	--
02/05/13	1,537.6	64.07	64.0	148.6	330	342	53	0.60	959.318
03/04/13	1,569.4	65.39	27.0	173.0	330	342	<10	0.42	959.873
04/03/13	1,587.2	66.13	60.0	157.4	330	342	14	0.14	959.978
05/08/13	1,595.4	66.48	17.0	175.2	330	341	22	0.27	960.070
06/05/13	2,267.7	94.49	36.0	166.0	330	340	<10	0.21	965.870
07/02/13	2,789.8	116.24	39.0	168.0	330	340	26	0.23	970.932
08/06/13	3,227.4	134.48	47.0	162.1	330	341	31	0.42	978.643
08/09/13	3,302.8	137.62	64.0	157.1	330	345	--	--	--
09/04/13	3,924.4	163.52	66.0	152.0	330	351	580	4.31	1,103.908
10/07/13	4,715.2	196.47	66.0	153.1	330	356	710	8.85	1,395.373
10/14/13	4,888.3	203.68	72.0	155.4	330	354	--	--	--
10/15/13	4,913.7	204.74	70.0	154.7	330	355	--	--	--
10/16/13	4,936.9	205.70	66.0	154.4	330	364	--	--	--
11/06/13	5,434.8	226.45	45.0	173.7	330	349	240	6.98	1,604.585
11/07/13	5,460.5	227.52	45.0	168.1	330	346	--	--	--
12/03/13	6,084.2	253.51	74.0	158.2	330	355	740	7.31	1,802.388
<b>PSCAA NOC-10384 Restrictions and Conditions</b>				<b>max. 350</b>	<b>min. 240</b>	<b>max. 620</b>			

**NOTES:**

- <sup>(1)</sup>Air flow rates calculated using an averaging flow sensor (Dwyer Model DS).
- <sup>(2)</sup>Influent vapor-phase samples collected from SVE sample port prior to air treatment.
- <sup>(3)</sup>Daily removal rate (lb/day) = average concentration (mg/m<sup>3</sup>) x average flow rate (scfm) x conversion (8.99x10<sup>-5</sup> lb-m<sup>3</sup>-min/mg-ft<sup>3</sup>-day).
- <sup>(4)</sup>Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.
- <sup>(5)</sup>Cumulative mass of GRPH removed (lb) = daily removal rate (lb/day) x time in operation (days) + previous cumulative total (lb).

-- = not analyzed, measured, or calculated  
 < = not detected at concentration above the laboratory's lower reporting limit  
 \* C = degrees Celsius  
 ft = feet  
 GRPH = gasoline-range petroleum hydrocarbons  
 iow = inches of water  
 lb = pounds  
 lb/day = pounds per day  
 m<sup>3</sup> = cubic meter  
 max. = maximum  
 mg = milligrams  
 min. = minimum  
 NOC = Notice of Construction  
 PSCAA = Puget Sound Clean Air Agency  
 scfm = standard cubic feet per meter  
 SVE = soil vapor extraction  
 Temp. = temperature



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

Site Visit	Run Time		SVE Parameters		Catalytic Oxidizer		GRPH Removal		
	SVE Hour Meter	Total Time in Operation	SVE Pre-Filter Vacuum	Air Flow Rate <sup>(1)</sup>	Catalyst Entrance Temp.	Catalyst Exit Temp.	Influent Concentration <sup>(2)</sup>	Daily Mass Recovery Rate <sup>(3) (4)</sup>	Cumulative Recovered <sup>(5)</sup>
Date	(hours)	(days)	(inHg)	(scfm)	(°C)	(°C)	(mg/m <sup>3</sup> )	(lb/day)	(lb)
10/03/12	15.6	0.7	68	149.1	330	350	340	4.56	0.00
10/10/12	73.7	3.1	86	134.1	330	363	1,300	10.44	25.26
10/17/12	242.0	10.1	76	135.8	330	376	1,300	15.77	135.86
10/24/12	410.7	17.1	72	137.2	330	355	1,100	14.73	239.37
10/25/12	434.7	18.1	73	139.2	330	354	--	--	--
11/06/12	722.8	30.1	74	137.8	330	358	--	--	--
11/07/12	748.2	31.2	74	138.6	330	352	660	10.91	392.78
12/05/12	1,257.4	52.4	74	124.3	330	338	15	3.99	477.40
12/06/12	1,266.4	52.8	75	135.6	--	--	--	--	--
01/08/13	1,989.7	82.9	27	164.7	330	344	15	0.19	483.35
01/09/13	2,012.1	83.8	32	163.5	330	336	--	--	--
01/17/13	2,037.9	84.9	27	166.5	331	336	--	--	--
02/05/13	2,490.2	103.8	33	159.5	330	335	<10	0.15	486.39
02/06/13	2,514.5	104.8	38	157.5	330	335	--	--	--
03/04/13	2,517.2	104.9	31	162.9	330	335	<10	0.07	486.47
03/12/13	2,705.4	112.7	32	161.7	330	335	--	--	--
04/03/13	3,230.7	134.6	33	166.8	330	335	<10	0.07	488.67
05/08/13	3,454.7	143.9	33	164.5	330	338	<10	0.07	489.37
06/05/13	4,127.1	172.0	36	158.9	330	335	<10	0.07	491.40
06/19/13	4,438.7	184.9	34	166.7	330.0	335.0	--	--	--
07/02/13	4,746.1	197.8	32	164.2	330.0	335.0	<10	0.07	493.28
08/06/13	5,403.6	225.2	10	175.5	330.0	335.0	<10	0.08	495.37
08/09/13	5,475.4	228.1	20	168.6	330.0	335.0	--	--	--
09/04/13	6,098.7	254.1	20	170.1	330.0	335.0	<10	0.08	497.62
10/07/13	6,890.0	287.1	34	163.9	330.0	336.0	41	0.35	509.00
10/14/13	7,062.9	294.3	35	165.2	330.0	336.0	--	--	--
10/15/13	7,088.0	295.3	74	146.5	330.0	342.0	--	--	--
10/16/13	7,111.3	296.3	67	147.6	330.0	340.0	--	--	--
11/06/13	7,610.8	317.1	73	150.7	330.0	338.0	140	1.28	547.44
11/07/13	7,635.3	318.1	65	148.2	330.0	338.0	--	--	--
12/03/13	8,257.0	344.0	65	154.2	330.0	337.0	130	1.85	597.26
12/04/13	8,287.9	345.3	66	154.2	330.0	337.0	--	--	--
<b>PSCAA NOC-10384 Restrictions and Conditions</b>				<b>max. 350</b>	<b>min. 240</b>	<b>max. 620</b>			

**NOTES:**

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

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

<sup>(3)</sup>Daily removal rate (lb/day) = average concentration (mg/m<sup>3</sup>) x average flow rate (scfm) x conversion (8.99x10<sup>-8</sup> lb-m<sup>3</sup>-min/mg-ft<sup>3</sup>-day).

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

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

-- = not analyzed, measured, or calculated

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

\* C = degrees Celsius

ft = feet

GRPH = gasoline-range petroleum hydrocarbons

low = inches of water

lb = pounds

lb/day = pounds per day

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

max. = maximum

mg = milligrams

min. = minimum

NOC = Notice of Construction

PSCAA = Puget Sound Clean Air Agency

scfm = standard cubic feet per meter

SVE = soil vapor extraction

Temp. = temperature



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

Site Visit	Run Time		SVE Parameters		Catalytic Oxidizer		GRPH Removal		
	SVE Hour Meter (hours)	Total Time in Operation (days)	SVE Pre-Filter Vacuum (iow)	Air Flow Rate <sup>(1)</sup> (scfm)	Catalyst Entrance Temp. (°C)	Catalyst Exit Temp. (°C)	Influent Concentration <sup>(2)</sup> (mg/m <sup>3</sup> )	Daily Mass Recovery Rate <sup>(3) (4)</sup> (lb/day)	Cumulative Recovered <sup>(5)</sup> (lb)
10/02/12	11.2	0.47	70.0	143.8	330	340	13.0	0.2	0.00
10/10/12	75.7	3.15	73.0	140.4	330	338	12.0	0.2	0.43
10/17/12	243.7	10.15	74.0	141.7	330	337	<10	0.1	1.18
10/24/12	411.9	17.16	74.0	139.9	330	338	<10	0.1	1.63
10/25/12	436.7	18.20	74.0	142.8	330	338	--	--	--
11/06/12	724.8	30.20	77.0	137.6	330	337	--	--	--
11/07/12	750.3	31.3	76	139.1	330	338	<10	0.1	1.69
12/05/12	1,417.6	59.1	76	141.9	330	340	160.0	1.0	30.67
01/08/13	2,231.8	93.0	83	137.3	330	337	<10	0.1	32.80
02/05/13	2,731.0	113.8	70	144.2	330	337	<10	0.1	34.11
03/04/13	3,177.5	132.4	71	144.6	330	338	<10	0.1	35.32
04/03/13	3,894.4	162.3	64	152.4	330	338	<10	0.1	37.31
05/15/13	4,059.7	169.2	27	173.5	330.0	301.0	<10	0.1	37.82
06/05/13	4,126.8	172.0	27	172.9	330.0	338.0	<10	0.1	38.04
07/02/13	4,400.3	183.3	17	171.7	330	338	<10	0.1	38.92
08/06/13	5,055.3	210.6	10	182.6	330	338	<10	0.1	41.09
09/04/13	5,520.0	230.0	13	181.6	330	338	<10	0.1	42.68
10/07/13	6,311.3	263.0	13	183.7	330	337	<10	0.1	45.38
10/14/13	6,484.1	270.2	14	185.6	330	337	--	--	--
10/15/13	6,509.2	271.2	15	184.9	330	337	--	--	--
11/06/13	7,031.9	293.0	18	185.6	330	338	<10	0.1	47.87
11/07/13	7,056.6	294.0	18	172.7	330	337	--	--	--
12/03/13	7,339.5	305.8	20	186.4	330	338	<10	0.1	48.95
12/04/13	7,368.7	307.0	25	185.1	330	338	--	--	--
<b>PSCAA NOC-10384 Restrictions and Conditions</b>				<b>max. 350</b>	<b>min. 240</b>	<b>max. 620</b>			

**NOTES:**

- <sup>(1)</sup>Air flow rates calculated using an averaging flow sensor (Dwyer Model DS).
- <sup>(2)</sup>Influent vapor-phase samples collected from SVE sample port prior to air treatment.
- <sup>(3)</sup>Daily removal rate (lb/day) = average concentration (mg/m<sup>3</sup>) x average flow rate (scfm) x conversion (8.99x10<sup>-5</sup> lb-m<sup>3</sup>-min/mg-ft<sup>3</sup>-day).
- <sup>(4)</sup>Nondetectable influent concentrations assumed to be 50% of the laboratory's lower reporting limit. Removal rates based upon this assumption are shown in *italics*.
- <sup>(5)</sup>Cumulative mass of GRPH removed (lb) = daily removal rate (lb/day) x time in operation (days) + previous cumulative total (lb).

-- = not analyzed/not tested  
 < = not detected at a concentration exceeding the laboratory reporting limit  
 \* C = degrees Celsius  
 ft = feet  
 GRPH = gasoline-range petroleum hydrocarbons  
 iow = inches of water  
 lb = pounds  
 lb/day = pounds per day  
 m<sup>3</sup> = cubic meter  
 max. = maximum  
 mg = milligrams  
 min. = minimum  
 NOC = Notice of Construction  
 PSCAA = Puget Sound Clean Air Agency  
 scfm = standard cubic feet per meter  
 SVE = soil vapor extraction  
 Temp. = temperature



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

Site Visit  Date	Extracted Groundwater			Hydrocarbon Recovery - Aqueous-Phase		
	Flow Totalizer (gallons)	Treated Between Visits (gallons)	Average Flow Rate (gallons/day)	Influent GRPH Concentration (µg/L)	GRPH Removed <sup>(1) (2) (3)</sup> (lb)	Cumulative GRPH Removed <sup>(3) (4)</sup> (lb)
10/02/12	636.3	0	0	--	--	--
10/10/12	5,761.0	5,124.7	641	18,000	0.770	0.770
10/17/12	14,898.1	9,137.1	1,305	--	--	--
10/24/12	21,888.4	6,990.3	999	--	--	--
11/07/12	31,361.8	9,473.4	677	6,100	1.303	2.073
12/05/12	35,204.9	3,843.1	137	14,000	0.449	2.522
01/08/13	38,076.5	2,871.6	84	19,000	0.455	2.977
01/17/13	40,712.0	2,635.5	293	--	--	--
02/05/13	41,363.4	651.4	34	8,200	0.225	3.202
03/04/13	42,860.8	1,497.4	55	19,000	0.237	3.439
04/03/13	44,190.2	1,329.4	44	11,000	0.122	3.561
05/08/13	46,979.7	2,789.5	80	20,000	0.466	4.027
06/05/13	47,776.6	796.9	28	3,200	0.021	4.048
07/02/13	63,869.9	16,093.3	596	17,000	2.283	6.331
08/06/13	89,987.5	26,117.6	746	<100	0.011	6.342
08/09/13	95,562.8	5,575.3	1,858	--	--	--
09/04/13	131,316.9	35,754.2	1,375	2,400	0.828	7.169
10/07/13	174,445.2	43,128.3	1,307	1,100	0.396	7.565
10/14/13	184,151.7	9,706.5	1,387	--	--	--
10/15/13	184,982.4	830.7	831	--	--	--
10/16/13	185,955.0	972.6	973	--	--	--
11/06/13	187,065.4	1,110.4	53	3,800	0.400	7.965
11/07/13	188,072.0	1,006.6	1,007	--	--	--
12/03/13	207,142.1	19,070.1	733	240	0.040	8.006
<b>State Waste Discharge Permit Number ST0007384 Maximum Daily Limits</b>			<b>7,000</b>			

**NOTES:**

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

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

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

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

-- = not analyzed, measured, or calculated

µg/L = micrograms per liter

µg-gallon = micrograms - gallon conversion

gallons/day = gallons per day

GRPH = gasoline-range petroleum hydrocarbons

lb = pound(s)

lb-L = pounds - liter conversion



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

Site Visit  Date	Extracted Groundwater			Hydrocarbon Recovery - Aqueous-Phase		
	Flow Totalizer (gallons)	Treated Between Visits (gallons)	Average Flow Rate (gallons/day)	Influent GRPH Concentration (µg/L)	GRPH Removed <sup>(1) (2) (3)</sup> (lb)	Cumulative GRPH Removed <sup>(3) (4)</sup> (lb)
10/03/12	397.8	0	0	--	--	--
10/10/12	562.6	164.8	24	<100	0.000	0.000
10/17/12	5,392.6	4,830.0	690	--	--	--
10/24/12	8,170.9	2,778.3	397	--	--	--
10/25/12	8,580.4	409.5	410	--	--	--
11/06/12	10,624.2	2,043.8	170	--	--	--
11/07/12	10,630.5	6.3	6	<100	0.004	0.004
12/05/12	12,858.4	2,227.9	80	<100	0.001	0.005
12/06/12	14,221.5	1,363.1	1,363	--	--	--
01/08/13	18,643.2	4,421.7	134	<100	0.002	0.008
01/09/13	18,651.6	8.4	8	--	--	--
01/17/13	18,753.9	102.3	13	--	--	--
02/05/13	18,753.9	0.0	0	<100	0.000	0.008
03/13/13	18,758.0	4.1	0	1,100	0.000	0.008
03/12/13	18,758.0	0.0	0	--	--	--
04/03/13	24,667.4	5,909.4	269	740	0.036	0.044
05/08/13	90,733.6	66,066.2	1,888	<100	0.028	0.072
06/05/13	125,427.8	34,694.2	1,239	590	0.171	0.243
06/19/13	131,990.5	6,562.7	469	--	--	--
07/02/13	172,454.5	40,464.0	3,113	<100	0.020	0.262
08/06/13	223,496.3	51,041.8	1,458	<100	0.021	0.283
08/09/13	226,651.9	3,155.6	1,052	--	--	--
09/04/13	248,730.9	22,079.0	849	<100	0.011	0.294
10/07/13	269,136.3	20,405.4	618	<100	0.018	0.312
10/14/13	273,636.3	4,500.0	643	--	--	--
10/15/13	275,837.1	2,200.8	2,201	--	--	--
10/16/13	277,480.5	1,643.4	1,643	--	--	--
11/06/13	308,993.4	31,512.9	1,501	<100	0.017	0.328
11/07/13	310,249.2	1,255.8	1,256	--	--	--
12/03/13	337,935.2	27,686.0	1,065	<100	0.012	0.340
12/04/13	339,243.0	1,307.8	1,308	--	--	--
<b>State Waste Discharge Permit Number ST0007384 Maximum Daily Limits</b>			<b>7,000</b>			

**NOTES:**

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

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

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

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

-- = not analyzed, measured, or calculated

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

µg/L = micrograms per liter

µg-gallon = micrograms - gallon conversion

GRPH = gasoline-range petroleum hydrocarbons

gallons/day = gallons per day

lb = pound(s)

lb-L = pounds - liter conversion





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

Site Visit  Date	Extracted Groundwater			Hydrocarbon Recovery - Aqueous-Phase		
	Flow Totalizer (gallons)	Treated Between Visits (gallons)	Average Flow Rate (gallons/day)	Influent GRPH Concentration (µg/L)	GRPH Removed <sup>(1) (2) (3)</sup> (lb)	Cumulative GRPH Removed <sup>(3) (4)</sup> (lb)
10/02/12	1,178.0	--	--	--	--	--
10/10/12	5,075.9	3,897.9	487	<100	0.002	0.002
10/17/12	15,755.8	10,679.9	1,526	--	--	--
10/24/12	27,288.0	11,532.2	1,647	--	--	--
10/25/12	28,809.6	1,521.6	1,522	--	--	--
11/06/12	36,398.8	7,589.2	632	--	--	--
11/07/12	38,565.1	2,166.3	2,166	<100	0.014	0.016
12/05/12	71,160.2	32,595.1	1,164	<100	0.014	0.029
01/08/13	71,627.1	466.9	14	<100	0.000	0.029
02/06/13	84,429.4	12,802.4	441	160	0.017	0.046
03/04/13	101,429.0	16,999.6	654	1,700	0.241	0.288
04/03/13	119,013.8	17,584.8	586	<100	0.007	0.295
05/08/13	157,058.4	38,044.6	1,087	1,500	0.476	0.771
06/05/13	175,444.9	18,386.5	657	<100	0.008	0.779
07/02/13	175,445.7	0.8	0	--	--	--
08/06/13	181,799.7	6,354.0	182	2,500	0.133	0.911
09/04/13	243,623.6	61,823.9	2,132	<100	0.026	0.937
10/07/13	333,942.9	90,319.3	2,737	<100	0.038	0.975
10/14/13	355,115.5	21,172.6	3,025	--	--	--
10/15/13	358,033.9	2,918.4	2,918	--	--	--
11/06/13	420,282.1	62,248.2	2,829	<100	0.036	1.011
11/07/13	423,365.1	3,083.0	3,083	--	--	--
12/03/13	454,666.4	31,301.3	1,204	<100	0.014	1.025
12/04/13	458,180.0	3,513.6	3,514	--	--	--
<b>State Waste Discharge Permit Number</b> <b>ST0007384 Maximum Daily Limits</b>			<b>7,000</b>			

**NOTES:**

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



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

Sample Date	Analytical Results (mg/m <sup>3</sup> )										GRPH DRE <sup>(5)</sup> %
	Influent Vapor Samples <sup>(1)</sup>					Effluent Vapor Samples <sup>(2)</sup>					
	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (mg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (mg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	
10/02/12	1,600	2.0	10	5.5	26	<10	<0.1	<0.1	<0.1	<0.3	99.7
10/10/12	2,600	2.3	13	8.7	37	<10	<0.1	0.20	<0.1	<0.3	99.8
10/17/12	3,400	3.0	9.4	11	42	<10	<0.1	<0.1	<0.1	<0.3	99.9
10/24/12	2,400	1.5	7.0	9.4	39	<10	<0.1	<0.1	<0.1	<0.3	99.8
11/07/12	1,700	<0.5	7.0	7.3	37	<10	<0.1	<0.1	<0.1	<0.3	99.7
12/05/12	150	<0.1	0.23	<0.1	3.5	<10	<0.1	<0.1	<0.1	<0.3	96.7
01/08/13	35	<0.1	0.19	0.18	0.86	<10	<0.1	0.16	<0.1	<0.3	85.7
02/05/13	53	<0.1	0.30	0.13	0.78	<10	<0.1	<0.1	<0.1	<0.3	90.6
03/04/13	<10	<0.1	0.10	0.10	0.69	<10	<0.1	<0.1	<0.1	<0.3	0.0
04/03/13	14	<0.1	0.18	0.14	0.90	<10	<0.1	<0.1	<0.1	<0.3	64.3
05/08/13	22	<0.1	0.23	<0.1	0.35	<10	<0.1	<0.1	<0.1	<0.3	77.3
06/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
07/02/13	26	<0.1	0.24	<0.1	0.48	<10	<0.1	<0.1	<0.1	<0.3	80.8
08/06/13	31	<0.1	0.21	0.14	0.79	<10	<0.1	<0.1	<0.1	<0.3	83.9
09/04/13	580	<0.1	5.0	<0.1	22	<10	<0.1	<0.1	<0.1	<0.3	99.1
10/07/13	710	<0.1	5.7	<0.1	22	<10	<0.1	<0.1	<0.1	<0.3	99.3
11/06/13	240	<0.1	1.6	<0.1	6.4	<10	<0.1	<0.1	<0.1	<0.3	97.9
12/03/13	740	<0.1	6.3	<0.1	19	<10	<0.1	<0.1	<0.1	<0.3	99.3
<b>PSCAA NOC-10384 Restrictions and Conditions</b>						<b>min. 214.7<sup>(5)</sup></b>				<b>95%<sup>(5) (6)</sup></b>	

**NOTES:**

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

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

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

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

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

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

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

% = percent

DRE = destruction and removal efficiency

GRPH = gasoline-range petroleum hydrocarbons

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

min. = minimum

NOC = Notice of Construction

ppmv = part per million volume

PSCAA = Puget Sound Clean Air Agency

SVE = soil vapor extraction



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

Sample Date	Analytical Results (mg/m <sup>3</sup> )										GRPH DRE <sup>(5)</sup> %
	Influent Vapor Samples <sup>(1)</sup>					Effluent Vapor Samples <sup>(2)</sup>					
	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (mg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (mg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	
10/03/12	340	0.44	1.6	0.96	1.7	<10	<0.1	0.17	<0.1	<0.3	98.5
10/10/12	1,300	0.77	<0.5	4.0	9.6	<10	<0.1	0.21	<0.1	<0.3	99.6
10/17/12	1,300	0.55	<0.5	3.7	7.9	<10	<0.1	<0.1	<0.1	<0.3	99.6
10/24/12	1,100	0.50	3.1	<0.1	11	<10	<0.1	<0.1	<0.1	<0.3	99.5
11/07/12	660	<0.1	2.7	<0.1	7.1	<10	<0.1	<0.1	<0.1	<0.3	99.2
12/05/12	15	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	66.7
01/08/13	15	<0.1	<0.1	<0.1	<0.3	<10	<0.1	0.10	<0.1	<0.3	66.7
02/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
03/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
04/03/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
05/08/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
06/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
07/02/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
08/06/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
09/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
09/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
10/07/13	41	<0.1	0.19	<0.1	0.4	<10	<0.1	<0.1	<0.1	<0.3	87.8
11/06/13	140	<0.1	0.52	<0.1	1.4	<10	<0.1	<0.1	<0.1	<0.3	96.4
12/03/13	130	<0.1	0.44	0.73	1.3	<10	<0.1	<0.1	<0.1	<0.3	96.2
<b>PSCAA NOC-10384 Restrictions and Conditions</b>						<b>min. 214.7<sup>(5)</sup></b>					<b>95%<sup>(5) (6)</sup></b>

**NOTES:**

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

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



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

Sample Date	Analytical Results (mg/m <sup>3</sup> )										GRPH DRE <sup>(5)</sup> %
	Influent Vapor Samples <sup>(1)</sup>					Effluent Vapor Samples <sup>(2)</sup>					
	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (mg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	GRPH <sup>(3)</sup> (mg/m <sup>3</sup> )	Benzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Toluene <sup>(4)</sup> (mg/m <sup>3</sup> )	Ethylbenzene <sup>(4)</sup> (mg/m <sup>3</sup> )	Total Xylenes <sup>(4)</sup> (mg/m <sup>3</sup> )	
10/02/12	13	<0.1	0.13	0.12	0.35	<10	<0.1	<0.1	<0.1	<0.3	61.5
10/10/12	12	<0.1	0.10	<0.1	<0.3	<10	<0.1	0.18	<0.1	<0.3	58.3
10/17/12	<10	<0.1	0.17	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
10/24/12	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
11/07/12	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
12/05/12	160	<0.1	<0.1	1.50	0.99	<10	<0.1	<0.1	<0.1	<0.3	96.9
01/08/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	0.12	<0.1	<0.3	0.0
02/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
03/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
04/03/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
05/15/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
06/05/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
07/02/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
08/06/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
09/04/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
10/07/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
11/06/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
12/03/13	<10	<0.1	<0.1	<0.1	<0.3	<10	<0.1	<0.1	<0.1	<0.3	0.0
<b>PSCAA NOC-10384 Restrictions and Conditions</b>						<b>min. 214.7 <sup>(5)</sup></b>				<b>95% <sup>(5) (6)</sup></b>	

**NOTES:**

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

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

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

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

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

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

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

% = percent

DRE = destruction and removal efficiency

GRPH = gasoline-range petroleum hydrocarbons

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

min. = minimum

NOC = Notice of Construction

ppmv = part per million volume

PSCAA = Puget Sound Clean Air Agency

SVE = soil vapor extraction



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

Sample Date	Groundwater Influent - Pre GAC Treatment (µg/L)					Groundwater Influent - Mid GAC Treatment (µg/L)					Groundwater Effluent - Post GAC Treatment (µg/L)								
	GAC-1 Influent Sample <sup>(1)</sup>					GAC-2 Influent Sample <sup>(2)</sup>					Effluent Discharge Sample <sup>(3)</sup>								
	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	BTEX	Total Lead <sup>(6)</sup>	pH <sup>(7)</sup>	
10/10/12	18,000	25	370	280	4,500	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.59	
11/07/12	6,100	8.4	99	24	1,200	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.61	
12/05/12	14,000	12	250	200	2,700	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	19.4	7.19	
01/08/13	19,000	60	400	520	3,600	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.71	
02/05/13	8,200	11	83	61	1,200	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.86	
03/04/13	19,000	20	200	460	3,900	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.88	
04/03/13	11,000	27	83	<40	2500	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.68	
05/08/13	20,000	11	450	<10	3400	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.06	
06/05/13	3,200	4.0	35	<1	350	<100	<1	<1	<1	<3	<100	<1	<1	<1	3.1	<6	3.33	6.8	
07/02/13	17,000	9.9	290	190	3200	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.74	
08/06/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.89	
09/04/13	2,400	1.1	18	<1	230	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.41	
10/07/13	1,100	1.1	12	<1	86	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.89	
11/06/13	3,800	27	150	26	810	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.94	
12/03/13	240	<1	3.7	<1	19	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	7.05	6.98	
12/16/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	--	
<b>State Waste Discharge Permit Number ST0007384 Effluent Limits</b>											<b>1,000</b>	<b>5</b>					<b>100</b>	<b>1,090</b>	<b>6 to 10</b>

**NOTES:**

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

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



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

Sample Date	Groundwater Influent - Pre GAC Treatment (µg/L)					Groundwater Influent - Mid GAC Treatment (µg/L)					Groundwater Effluent - Post GAC Treatment (µg/L)							
	GAC-1 Influent Sample <sup>(1)</sup>					GAC-2 Influent Sample <sup>(2)</sup>					Effluent Discharge Sample <sup>(3)</sup>							
	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	BTEX	Total Lead <sup>(6)</sup>	pH <sup>(7)</sup>
10/10/12	<100	<1	<1	<1	3.1	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.59
11/07/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.71
12/05/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	76.5	8.05
01/08/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.29
02/05/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.31
03/13/13	1,100	2.9	<1	14	27	--	--	--	--	--	<100	<1	<1	<1	<3	<6	--	7.59
04/03/13	740	<1	<1	<1	7.9	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.08
05/08/13	<100	<1	<1	<1	5.1	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.51
06/05/13	590	2.0	1.8	14	120	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	4.51	6.68
07/02/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.97
08/06/13	<100	<1	<1	<1	5.2	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.10
09/04/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.96
10/07/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	
11/06/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	
12/03/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	1.59	7.04
<b>State Waste Discharge Permit Number ST0007384 Effluent Limits</b>											<b>1,000</b>	<b>5</b>				<b>100</b>	<b>1,090</b>	<b>6 to 10</b>

**NOTES:**

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

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



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

Sample Date	Groundwater Influent - Pre GAC Treatment (µg/L)					Groundwater Influent - Mid GAC Treatment (µg/L)					Groundwater Effluent - Post GAC Treatment (µg/L)								
	GAC-1 Influent Sample <sup>(1)</sup>					GAC-2 Influent Sample <sup>(2)</sup>					Effluent Discharge Sample <sup>(3)</sup>								
	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	GRPH <sup>(4)</sup>	Benzene <sup>(5)</sup>	Toluene <sup>(5)</sup>	Ethylbenzene <sup>(5)</sup>	Total Xylenes <sup>(5)</sup>	BTEX	Total Lead <sup>(6)</sup>	pH <sup>(7)</sup>	
10/10/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.87	
11/07/12	<100	1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.83	
12/05/12	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	4.05	7.84	
01/08/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.06	
02/05/13	160	<1	<1	1.8	5.8	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.02	
03/04/13	1,700	<1	1.4	24	160	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.64	
04/03/13	<100	<1	<1	<1	3.7	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.89	
05/08/13	1,500	<1	<1	16	120	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.41	
06/05/13	<100	<1	<1	<1	4.0	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	2.99	7.05	
07/02/13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	<100	<1	<1	<1	<3	<6	--	6.35	
08/06/13	2,500	1	2.3	40	260	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	8.07	
09/04/13	<100	<1	<1	<1	3.6	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.03	
10/07/13	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	7.09	
11/06/13	<100	<1	<1	<1	5.7	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	--	6.94	
12/03/13	<100	<1	<1	<1	5.7	<100	<1	<1	<1	<3	<100	<1	<1	<1	<3	<6	1.9	7.35	
12/16/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	--	
<b>State Waste Discharge Permit Number ST0007384 Effluent Limits</b>											<b>1,000</b>	<b>5</b>					<b>100</b>	<b>1,090</b>	<b>6 to 10</b>

**NOTES:**

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

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

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

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

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

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

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

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

-- = not analyzed/not tested

µg/L = micrograms per liter

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

EPA = U.S. Environmental Protection Agency

GAC = granular activated carbon

GRPH = gasoline-range petroleum hydrocarbons

## List of Figures

Figure 1: Project Map (SES Figure)

Figure 2: Piping and Instrumentation Diagram (SES Figure)

Figure 3: Outfall Sampling Locations



P:10440 TOC HOLDINGS CO.01-176 MOUNTLAKE TERRACE\TECHNICAL\CAD\2013\Q3\O&MI\01-176\_201203\_O&MI\_FIGURE1\_DFER.DWG 12/20/2013

**LEGEND**

- ⊕ B27 SOIL BORING (NO WELL INSTALLED)
- ⊕ MW68 GROUNDWATER MONITORING WELL (SHALLOW SCREEN)
- ⊕ MW89 GROUNDWATER MONITORING WELL (UPPER INTERMEDIATE SCREEN)
- ⊕ MW77 GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)
- ⊕ MW78 GROUNDWATER MONITORING WELL (DEEP SCREEN)
- ⊕ MW17 DECOMMISSIONED GROUNDWATER MONITORING WELL
- ⊕ CURRENT OR FORMER UST
- ⊕ CATCH BASIN
- ◆ SURVEY BENCHMARK
- PROPERTY BOUNDARY
- FD FIBER OPTIC
- GAS NATURAL GAS
- SI STORM SEWER INFILTRATION PIPE
- SD STORM SEWER DRAIN
- SS SANITARY SEWER
- W WATER
- DP OVERHEAD POWER
- E1 PRIMARY ELECTRICAL
- E2 SECONDARY ELECTRICAL
- SANITARY SEWER MANHOLE
- OX CATALYTIC OXIDIZER
- ELECTRICAL JUNCTION BOX
- ELECTRICAL VAULT
- ⊕ PAD-MOUNTED TRANSFORMER
- C.O. SANITARY SEWER CLEAN OUT
- UST UNDERGROUND STORAGE TANK

**DATUM/BASIS OF BEARINGS**

HELD A BEARING OF N00°03'34"E ALONG THE MONUMENTED CENTERLINE OF 56TH AVE W BETWEEN 244TH ST SW AND 240TH ST SW PER PLAT OF LAKE FOREST CREST V.10 / P.107

**BASIS OF POSITION:** CITY OF MONTLAKE TERRACE CONTROL POINT DESIGNATION MTLK127.

**ORIGINATING BENCHMARK:**

TOP OF MAG NAIL IN CURB AT NORTHWEST CORNER OF SITE PER SITE PLAN BY CPS ENGINEERING PROVIDED TO AXIS BY CLIENT

**COORDINATE SYSTEM:** NAD 1983 STATEPLANE WASHINGTON NORTH FIPS 4601 (US FEET)

**VERTICAL DATUM:** NAVD '88

**ELEVATION:** 363.62'

**TEMPORARY BENCHMARKS:**

**TBM 'A'** SET 'X' ON NORTH BONNETT BOLT FOR FIRE HYDRANT.

**ELEVATION:** 357.86'

**TBM 'B'** SET 'X' ON TOP SOUTH BOLT.

**ELEVATION:** 368.89'

**REFERENCES:**

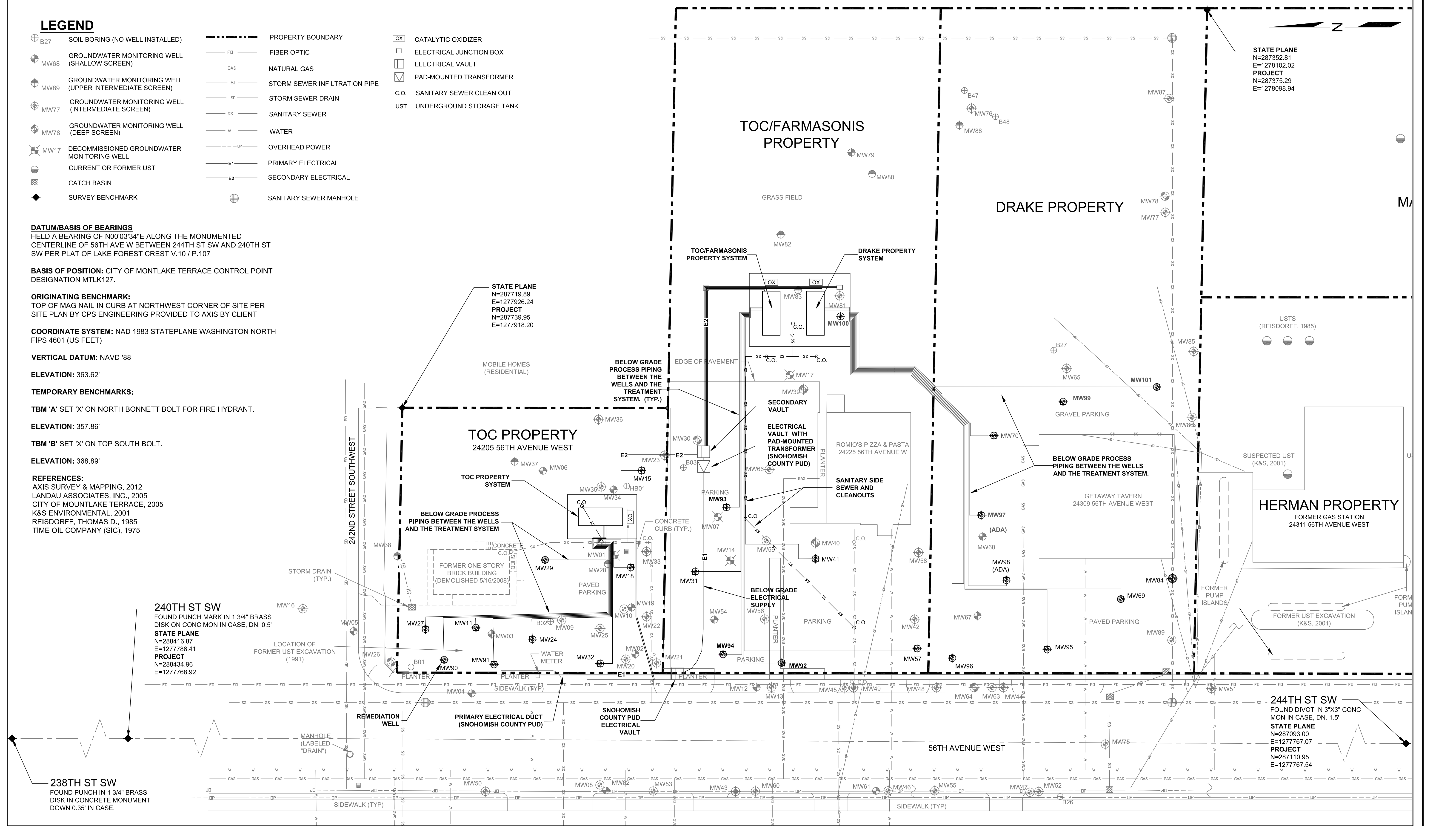
- AXIS SURVEY & MAPPING, 2012
- LANDAU ASSOCIATES, INC., 2005
- CITY OF MOUNTLAKE TERRACE, 2005
- K&S ENVIRONMENTAL, 2001
- REISDORFF, THOMAS D., 1985
- TIME OIL COMPANY (SIC), 1975

STATE PLANE  
N=287352.81  
E=1278102.02  
PROJECT  
N=287375.29  
E=1278098.94

**240TH ST SW**  
FOUND PUNCH MARK IN 1 3/4" BRASS DISK ON CONC MON IN CASE, DN. 0.5'  
STATE PLANE  
N=288416.87  
E=1277786.41  
PROJECT  
N=288434.96  
E=1277768.92

**238TH ST SW**  
FOUND PUNCH IN 1 3/4" BRASS DISK IN CONCRETE MONUMENT DOWN 0.35' IN CASE.

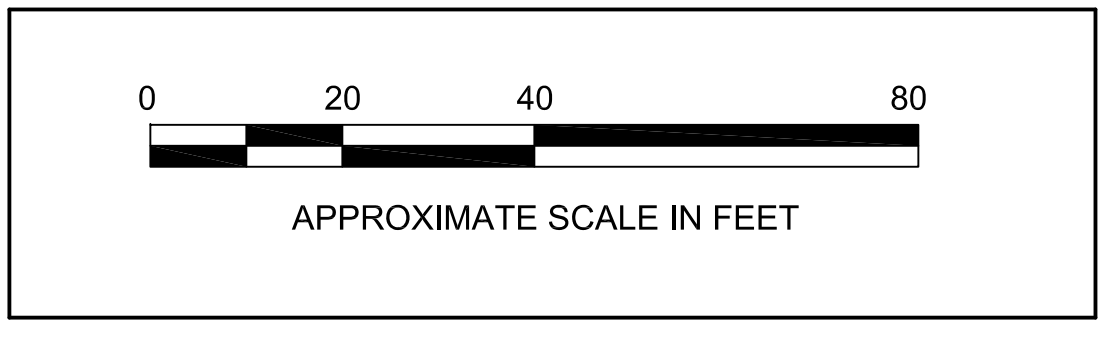
**244TH ST SW**  
FOUND DIVOT IN 3"x3" CONC MON IN CASE, DN. 1.5'  
STATE PLANE  
N=287093.00  
E=1277767.07  
PROJECT  
N=287110.95  
E=1277767.54



DATE: 09/30/2013  
 DRAWN BY: BLR  
 CHECKED BY: DHG/TSM  
 CAD FILE: 01-176\_2013Q3\_O&MI\_FIG01

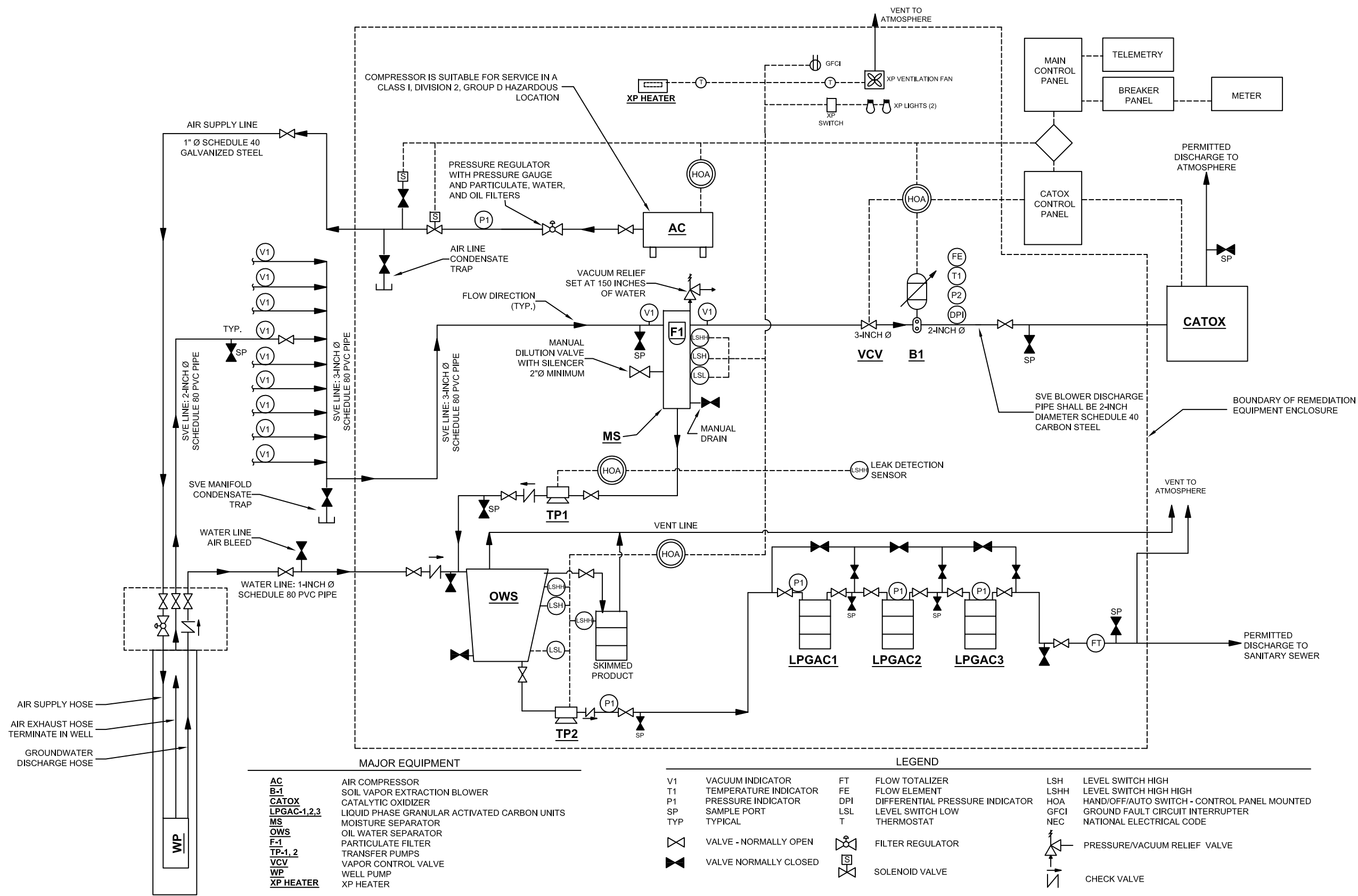
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176  
 PROJECT NUMBER: 0440-030  
 STREET ADDRESS: 24205 56TH AVENUE WEST  
 CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

#	DATE	REVISION	SHEET NO.



**FIGURE 1**  
PROJECT MAP

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AIR SUPPLY HOSE  
 AIR EXHAUST HOSE  
 TERMINATE IN WELL  
 GROUNDWATER  
 DISCHARGE HOSE

MAJOR EQUIPMENT		LEGEND					
<b>AC</b>	AIR COMPRESSOR	V1	VACUUM INDICATOR	FT	FLOW TOTALIZER	LSH	LEVEL SWITCH HIGH
<b>B-1</b>	SOIL VAPOR EXTRACTION BLOWER	T1	TEMPERATURE INDICATOR	FE	FLOW ELEMENT	LSHH	LEVEL SWITCH HIGH HIGH
<b>CATOX</b>	CATALYTIC OXIDIZER	P1	PRESSURE INDICATOR	DPI	DIFFERENTIAL PRESSURE INDICATOR	HOA	HAND/OFF/AUTO SWITCH - CONTROL PANEL MOUNTED
<b>LPGAC-1,2,3</b>	LIQUID PHASE GRANULAR ACTIVATED CARBON UNITS	SP	SAMPLE PORT	LSL	LEVEL SWITCH LOW	GFI	GROUND FAULT CIRCUIT INTERRUPTER
<b>MS</b>	MOISTURE SEPARATOR	TYP	TYPICAL	T	THERMOSTAT	NEC	NATIONAL ELECTRICAL CODE
<b>OWS</b>	OIL WATER SEPARATOR	☐	VALVE - NORMALLY OPEN	FR	FILTER REGULATOR	PRV	PRESSURE/VACUUM RELIEF VALVE
<b>F-1</b>	PARTICULATE FILTER	☐	VALVE NORMALLY CLOSED	SV	SOLENOID VALVE	CV	CHECK VALVE
<b>TP-1, 2</b>	TRANSFER PUMPS						
<b>VCV</b>	VAPOR CONTROL VALVE						
<b>WP</b>	WELL PUMP						
<b>XP HEATER</b>	XP HEATER						

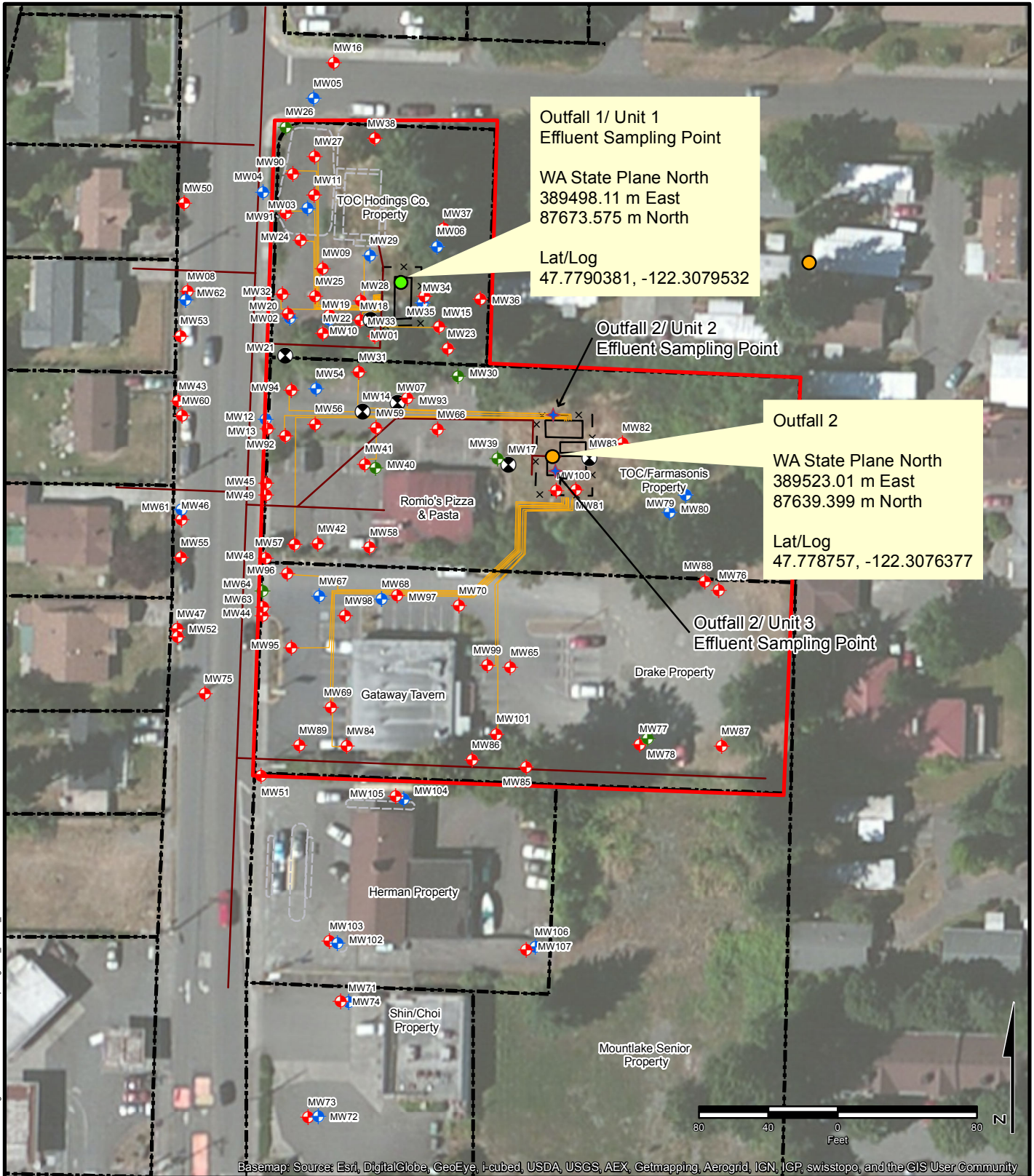


DATE: ..... 12/03/2012  
 DRAWN BY: ..... EAM/BLR  
 CHECKED BY: ..... MES/TSM  
 CAD FILE: ..... 01-176\_2013Q3\_PID

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


NOT TO SCALE

**FIGURE 2**  
 PIPING AND INSTRUMENTATION  
 DIAGRAM



Outfall 1/ Unit 1  
Effluent Sampling Point

WA State Plane North  
389498.11 m East  
87673.575 m North

Lat/Log  
47.7790381, -122.3079532

Outfall 2/ Unit 2  
Effluent Sampling Point

Outfall 2

WA State Plane North  
389523.01 m East  
87639.399 m North

Lat/Log  
47.778757, -122.3076377

Outfall 2/ Unit 3  
Effluent Sampling Point

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

X:\WA\Clients\Time\_Out\TOC-MountlakeTerrace\_BA1402800\MXD\Working\MXD\Outfall\_Location Maps\Figure2\_Outfall\_Locations.mxd

**Legend**

- Project Boundary
- Discharge Permit Outfall Locations
- Corrected Outfall Location
- ◆ Effluent Sampling Point
- ⊗ Abandoned Well
- ◆ Deep Well
- ◆ Intermediate Well
- ◆ Shallow Well
- Sewer Line

Project Location

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

---

**FIGURE 3: STATE WASTE DISCHARGE PERMIT ST0007384-  
OUTFALL SAMPLING LOCATIONS**

	DRAWN BY	D.H.	DATE DRAWN	7/31/2014
	SCALE	1 in = 80 feet		
	PROJECT	B.A14028.00		

*This document is for reference purposes only and should not be used as a legal document. JBR makes no guarantees to the accuracy of the data contained herein or any loss resulting therefrom.*

Appendix A  
Laboratory Analytical Reports – Vapor

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## Unit 1: 24205 – TOC Property

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FRIEDMAN & BRUYA, INC.

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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

October 16, 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 October 7, 2013 from the TOC\_01-176T\_20131007 WORFDB7, F&BI 310119 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  
SOU1016R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20131007 WORFDB7, F&BI 310119 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
310119 -01	Vi_24205_20131007
310119 -02	Ve_24205_20131007

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/13

Date Received: 10/07/13

Project: TOC\_01-176T\_20131007 WORFDB7, F&BI 310119

Date Extracted: 10/10/13

Date Analyzed: 10/10/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24205_20131007 310119-01	<0.1	5.7	<0.1	22	710	98
Ve_24205_20131007 310119-02	<0.1	<0.1	<0.1	<0.3	<10	73
Method Blank 03-2018 MB	<0.1	<0.1	<0.1	<0.3	<10	71



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/13

Date Received: 10/07/13

Project: TOC\_01-176T\_20131007 WORFDB7, F&BI 310119

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

Laboratory Code: 310119-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	85	70-130
Toluene	mg/m <sup>3</sup>	5.0	85	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	85	70-130
Xylenes	mg/m <sup>3</sup>	15	84	70-130
Gasoline	mg/m <sup>3</sup>	100	107	70-130

**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.

310119

SAMPLE CHAIN OF CUSTODY

ME 10/21/13

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

SAMPLER'S (signature)

PROJECT NAME/NO.

PO #

TOC Holdings 01-1761  
24205 Property

REMARKS

GEMS Y / N

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102


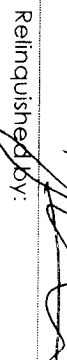
Phone # 206.306.1900 Fax # 206.306.1907

ANALYSES REQUESTED

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Notes
V. 24205_25131007			0148	10/21/13	1140	Air	2		X	X				
V. 24205_25131007			021	10/21/13	1150	Air	2		X	X				

Samples received at 21 °C

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

RELINQUISHED BY	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		ANTHONY DIST	SES	10/21/13	1610
Relinquished by:		Anthony Dist	ESR	10/21/13	1610
Received by:					

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

November 13, 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 November 6, 2013 from the TOC\_01-176T\_20131106 WORFDB7, F&BI 311115 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  
SOU1113R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20131106 WORFDB7, F&BI 311115 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
311115 -01	Vi_24205_20131106
311115 -02	Ve_24205_20131106

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176T\_20131106 WORFDB7, F&BI 311115

Date Extracted: 11/07/13

Date Analyzed: 11/07/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24205_20131106 311115-01	<0.1	1.6	<0.1	6.4	240	98
Ve_24205_20131106 311115-02	<0.1	<0.1	<0.1	<0.3	<10	89
Method Blank 03-2263 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176T\_20131106 WORFDB7, F&BI 311115

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

Laboratory Code: 311115-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	84	70-130
Toluene	mg/m <sup>3</sup>	5.0	86	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	87	70-130
Xylenes	mg/m <sup>3</sup>	15	87	70-130
Gasoline	mg/m <sup>3</sup>	100	109	70-130

**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.



31115

**SAMPLE CHAIN OF CUSTODY**

ME 11-06-13

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)	
PROJECT NAME/NO.	TOC Holdings 01-176T 24205 Property
REMARKS	GENS 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 samples	ANALYSES REQUESTED				Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260		SVOC's by 8270
VL24205_20131106			01A.B	11/6/13	1:30	Air	2		X	X			
VL24205_20131106			02T	11/6/13	1:25	Air	2		X	X			
(The remaining rows in the table are crossed out with a diagonal line.)													

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
		Ethan Marks		SES		11-6-13	1525
Received by:		DD		F&BZ		11	11
Relinquished by:							
Received by:							17:00

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

December 10, 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 December 4, 2013 from the TOC\_01-176T\_20131204 WORFDB7, F&BI 312046 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  
SOU1210R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20131204 WORFDB7, F&BI 312046 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312046 -01	Vi_24205_20131203
312046 -02	Ve_24205_20131203

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/13

Date Received: 12/04/13

Project: TOC\_01-176T\_20131204 WORFDB7, F&BI 312046

Date Extracted: 12/05/13

Date Analyzed: 12/05/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24205_20131203 312046-01	<0.1	6.3	<0.1	19	740	105
Ve_24205_20131203 312046-02	<0.1	<0.1	<0.1	<0.3	<10	88
Method Blank 03-2469 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/13

Date Received: 12/04/13

Project: TOC\_01-176T\_20131204 WORFDB7, F&BI 312046

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

Laboratory Code: 312045-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	82	70-130
Toluene	mg/m <sup>3</sup>	5.0	87	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	91	70-130
Xylenes	mg/m <sup>3</sup>	15	91	70-130
Gasoline	mg/m <sup>3</sup>	100	113	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

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

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

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

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

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

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

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

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

fb - Analyte present in the blank and the sample.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

312046

**SAMPLE CHAIN OF CUSTODY**

ME 12-04-13

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

SAMPLERS *(Signature)*  
 PROJECT NAME/NO. TOC Holdings 01-1761  
24205 Property PO #  
 REMARKS GEMS Y / N

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED				Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	
<del>VL 24205_201312_03</del>	<del></del>	<del></del>	<del>01A-13</del>	<del>12/03/13</del>	<del>1230</del>	<del>Air</del>	<del>2</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del></del>	<del></del>
<del>Ve 24205_20131203</del>	<del></del>	<del></del>	<del>02T</del>	<del>12/03/13</del>	<del>1220</del>	<del>Air</del>	<del>2</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del></del>	<del></del>

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

Relinquished by: <i>(Signature)</i>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: <i>(Signature)</i>		<u>Ashley SUIT</u>	<u>SES</u>	<u>12/3/13</u>	<u>0805</u>
Relinquished by: <i>(Signature)</i>		<u>Nhan Phan</u>	<u>SES</u>	<u>12/4/13</u>	<u>0805</u>
Received by:					

Samples received at 12

## Unit 2: 24225 – TOC/Farmasonis Property

---



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

October 16, 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 October 7, 2013 from the TOC\_01-176F\_20131007 WORFDB7, F&BI 310121 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  
SOU1016R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20131007 WORFDB7, F&BI 310121 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
310121 -01	Vi_24225_20131007
310121 -02	Ve_24225_20131007

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/13

Date Received: 10/07/13

Project: TOC\_01-176F\_20131007 WORFDB7, F&BI 310121

Date Extracted: 10/10/13

Date Analyzed: 10/10/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24225_20131007 310121-01	<0.1	0.19	<0.1	0.44	41	75
Ve_24225_20131007 310121-02	<0.1	<0.1	<0.1	<0.3	<10	74
Method Blank 03-2018 MB	<0.1	<0.1	<0.1	<0.3	<10	71

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/13

Date Received: 10/07/13

Project: TOC\_01-176F\_20131007 WORFDB7, F&BI 310121

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

Laboratory Code: 310119-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	85	70-130
Toluene	mg/m <sup>3</sup>	5.0	85	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	85	70-130
Xylenes	mg/m <sup>3</sup>	15	84	70-130
Gasoline	mg/m <sup>3</sup>	100	107	70-130

**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.

310121

SAMPLE CHAIN OF CUSTODY

ME 10/7/13

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES (signature) [Signature]

PROJECT NAME/NO. TOC Holdings 01-176F

PO # 24225 Property

REMARKS GEMS Y / N

Log # 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 samples	ANALYSES REQUESTED				Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260		SVOC's by 8270	RCRA-8 Metals
V.24225_20131002			01	10/02/13	1225	Air	71		X	X				
Ve.24225_20131002			02	10/07/13	1235	Air	71		X	X				
<u>Are</u>														
<del>_____</del>														

Samples received at 21 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>ASANTU DUST</u>	<u>SES</u>	<u>10/02/13</u>	<u>1610</u>
<u>[Signature]</u>	<u>Anty Lystra</u>	<u>FRL Inc</u>	<u>10/7/13</u>	<u>1815</u>
Received by:				

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

November 13, 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 November 6, 2013 from the TOC\_01-176F\_20131106 WORFDB7, F&BI 311117 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  
SOU1113R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20131106 WORFDB7, F&BI 311117 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
311117 -01	Vi_24225_20131106
311117 -02	Ve_24225_20131106

All quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176F\_20131106 WORFDB7, F&BI 311117

Date Extracted: 11/07/13

Date Analyzed: 11/07/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24225_20131106 311117-01	<0.1	0.52	<0.1	1.4	140	93
Ve_24225_20131106 311117-02	<0.1	<0.1	<0.1	<0.3	<10	85
Method Blank 03-2263 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176F\_20131106 WORFDB7, F&BI 311117

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

Laboratory Code: 311115-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	84	70-130
Toluene	mg/m <sup>3</sup>	5.0	86	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	87	70-130
Xylenes	mg/m <sup>3</sup>	15	87	70-130
Gasoline	mg/m <sup>3</sup>	100	109	70-130

**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.

31117

SAMPLE CHAIN OF CUSTODY

HC 11-06-13

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED					Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270		RCRA-8 Metals	
V_24225_20131106			01 AB	11/6/13	1230	Air	2		X	X					
Ve_24225_20131106			02 AB	11/6/13	1240	Air	2		X	X					

Samples received at 11-06-13

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	<u>Ethan Marks</u>	<u>SES</u>	<u>11-6-13</u>	<u>1525</u>
Received by: <u>Dee</u>	<u>Dee</u>	<u>FA 82</u>	<u>11</u>	<u>11</u>
Relinquished by:				
Received by:				

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

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

December 10, 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 December 4, 2013 from the TOC\_01-176F\_20131204 WORFDB7, F&BI 312045 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  
SOU1210R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20131204 WORFDB7, F&BI 312045 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312045 -01	Vi_24225_20131203
312045 -02	Ve_24225_20131203

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/13

Date Received: 12/04/13

Project: TOC\_01-176F\_20131204 WORFDB7, F&BI 312045

Date Extracted: 12/05/13

Date Analyzed: 12/05/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24225_20131203 312045-01	<0.1	0.44	0.73	1.3	130	94
Ve_24225_20131203 312045-02	<0.1	<0.1	<0.1	<0.3	<10	88
Method Blank 03-2469 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/13

Date Received: 12/04/13

Project: TOC\_01-176F\_20131204 WORFDB7, F&BI 312045

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

Laboratory Code: 312045-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	82	70-130
Toluene	mg/m <sup>3</sup>	5.0	87	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	91	70-130
Xylenes	mg/m <sup>3</sup>	15	91	70-130
Gasoline	mg/m <sup>3</sup>	100	113	70-130



**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.

312045

SAMPLE CHAIN OF CUSTODY ME 12-04-13

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) \_\_\_\_\_

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

TOC Holdings 01-176F  
24225 Property

REMARKS \_\_\_\_\_

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 samples	ANALYSES REQUESTED				Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260		SVOC's by 8270	RCRA-8 Metals
V1_24225_20131203			DIR-18	12/03/13	0935	Air	2		X	X				
Ve_24225_20131203			02T	12/03/13	0950	Air	2		X	X				

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Ashtey Everett	SES	12/21/13	0805
Relinquished by: _____	Whan Phuan	FERT	12/13	2808
Received by: _____				
Relinquished by: _____				
Received by: _____				

Samples received at 12:00

## Unit 3: 24309 – Drake Property

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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

October 16, 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 October 7, 2013 from the TOC\_01-176D\_20131007 WORFDB7, F&BI 310120 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  
SOU1016R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20131007 WORFDB7, F&BI 310120 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
310120 -01	Vi_24309_20131007
310120 -02	Ve_24309_20131007

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/13

Date Received: 10/07/13

Project: TOC\_01-176D\_20131007 WORFDB7, F&BI 310120

Date Extracted: 10/10/13

Date Analyzed: 10/10/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24309_20131007 310120-01	<0.1	<0.1	<0.1	<0.3	<10	72
Ve_24309_20131007 310120-02	<0.1	<0.1	<0.1	<0.3	<10	70
Method Blank 03-2018 MB	<0.1	<0.1	<0.1	<0.3	<10	71

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/16/13

Date Received: 10/07/13

Project: TOC\_01-176D\_20131007 WORFDB7, F&BI 310120

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

Laboratory Code: 310119-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	85	70-130
Toluene	mg/m <sup>3</sup>	5.0	85	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	85	70-130
Xylenes	mg/m <sup>3</sup>	15	84	70-130
Gasoline	mg/m <sup>3</sup>	100	107	70-130

**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.



310120

SAMPLE CHAIN OF CUSTODY

ME 10/7/13

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

SAMPLERS / Signatures

PROJECT NAME/NO.

PO #

TOC Holdings 01-176D  
24309 Property

REMARKS

GEMS Y / N

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

ANALYSES REQUESTED

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Notes
VL24309_20131001			01A5	10/01/13	1320	Air	2		X	X				
Ve_24309_20131001			02A5	10/01/13	1310	Air	2		X	X				

(AS)

Samples received at 21 °C

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	ANNEX DAVIS	SEES	10/01/13	1610
<i>[Signature]</i>	ANNEX DAVIS	SEES	10/07/13	1610
Received by:				
Relinquished by:				
Received by:				

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

November 13, 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 November 6, 2013 from the TOC\_01-176D\_20131106 WORFDB7, F&BI 311116 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  
SOU1113R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20131106 WORFDB7, F&BI 311116 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
311116 -01	Vi_24309_20131106
311116 -02	Ve_24309_20131106

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176D\_20131106 WORFDB7, F&BI 311116

Date Extracted: 11/07/13

Date Analyzed: 11/07/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24309_20131106 311116-01	<0.1	<0.1	<0.1	<0.3	<10	90
Ve_24309_20131106 311116-02	<0.1	<0.1	<0.1	<0.3	<10	91
Method Blank 03-2263 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176D\_20131106 WORFDB7, F&BI 311116

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

Laboratory Code: 311115-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	84	70-130
Toluene	mg/m <sup>3</sup>	5.0	86	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	87	70-130
Xylenes	mg/m <sup>3</sup>	15	87	70-130
Gasoline	mg/m <sup>3</sup>	100	109	70-130

**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.

31116

**SAMPLE CHAIN OF CUSTODY**

ME 11-06-13

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

SAMPLERS (signature)		PROJECT NAME/NO. TOC Holdings 01-176D 24309 Property	PO #
REMARKS		GEMS Y / N	

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED				Notes	
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260		SVOC's by 8270
VL24309_25131106			DLA-B	11/6/13	1250	Air	2	X	X	X			
Ve.24309_25131106			02 F	11/6/13	1245	Air	2	X	X	X			

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Edlan Marks	SES	11-6-13	1525
	Dee V D	FE832	11	11
Received by:				
Relinquished by:				
Received by:				

Samples received at: 17°C

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

December 10, 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 December 4, 2013 from the TOC\_01-176D\_20131204 WORFDB7, F&BI 312047 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  
SOU1210R.DOC



FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20131204 WORFDB7, F&BI 312047 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312047 -01	Vi_24309_20131203
312047 -02	Ve_24309_20131203

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/13

Date Received: 12/04/13

Project: TOC\_01-176D\_20131204 WORFDB7, F&BI 312047

Date Extracted: 12/05/13

Date Analyzed: 12/05/13

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

Results Reported as mg/m<sup>3</sup>

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
Vi_24309_20131203 312047-01	<0.1	<0.1	<0.1	<0.3	<10	87
Ve_24309_20131203 312047-02	<0.1	<0.1	<0.1	<0.3	<10	88
Method Blank 03-2469 MB	<0.1	<0.1	<0.1	<0.3	<10	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/13

Date Received: 12/04/13

Project: TOC\_01-176D\_20131204 WORFDB7, F&BI 312047

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

Laboratory Code: 312045-02 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/m <sup>3</sup>	5.0	82	70-130
Toluene	mg/m <sup>3</sup>	5.0	87	70-130
Ethylbenzene	mg/m <sup>3</sup>	5.0	91	70-130
Xylenes	mg/m <sup>3</sup>	15	91	70-130
Gasoline	mg/m <sup>3</sup>	100	113	70-130

**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.

312047

**SAMPLE CHAIN OF CUSTODY**

NR 12-04-13

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

SAMPLES (signature) PROJECT NAME/NO. <u>TOC Holdings 01-176D 24309 Property</u>		PO #
REMARKS		GEMS Y / N

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED						Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals			
VL24309 2031203			QA-13	12/03/13	1115	Air	2									
Ve 24309 2031203			QA-13	12/03/13	1120	Air	2									

Relinquished by: <u>[Signature]</u>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>		<u>Nguyen Phau</u>	<u>SES</u>	<u>12/03/13</u>	<u>0805</u>
Relinquished by: <u>[Signature]</u>		<u>Nguyen Phau</u>	<u>SES</u>	<u>12/03/13</u>	<u>0805</u>
Received by: _____			<u>Samples received</u>	<u>12</u>	<u>0</u>

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



## Unit 1: 24205 – TOC Property

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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

October 15, 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 October 7, 2013 from the TOC\_01-176\_20131007 WORFDB7, F&BI 310127 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  
SOU1015R.DOC



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20131007 WORFDB7, F&BI 310127 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
310127 -01	We_24205_20131007
310127 -02	GAC1i_24205_20131007
310127 -03	GAC2i_24205_20131007

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/15/13

Date Received: 10/07/13

Project: TOC\_01-176\_20131007 WORFDB7, F&BI 310127

Date Extracted: 10/09/13

Date Analyzed: 10/09/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
We_24205_20131007 310127-01	<1	<1	<1	<3	<100	76
GAC1i_24205_20131007 310127-02	1.1	12	<1	86	1,100	91
GAC2i_24205_20131007 310127-03	<1	<1	<1	<3	<100	75
Method Blank 03-2016 MB	<1	<1	<1	<3	<100	74

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/15/13

Date Received: 10/07/13

Project: TOC\_01-176\_20131007 WORFDB7, F&BI 310127

**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: 310115-04 (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	65-118
Toluene	ug/L (ppb)	50	95	72-122
Ethylbenzene	ug/L (ppb)	50	94	73-126
Xylenes	ug/L (ppb)	150	93	74-118
Gasoline	ug/L (ppb)	1,000	102	69-134

**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.

310127

SAMPLE CHAIN OF CUSTODY

ME 10/7/13

V2

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLER (signature) [Signature]

PROJECT NAME/NO. TOC Holdings 01-1761  
24205 Property

PO # REMARKS

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 samples	ANALYSES REQUESTED				Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	
We_24205_20131007												
GAC11_24205_20131007			01A-C	10/07/13	1115	Water	3	X	X	X		
GAC21_24205_20131007			02	10/07/13	1100	Water	3	X	X	X		
			03	10/07/13	1105	Water	3	X	X	X		
(AE)												

Samples received at 5 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Ashley Elvitt</u>	<u>SES</u>	<u>10/07/13</u>	<u>1610</u>
<u>[Signature]</u>	<u>Dee Gardner</u>	<u>SESR</u>	<u>10/7/13</u>	<u>1610</u>
Received by:				

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@is omedia.com  
www.friedmanandbruya.com

November 13, 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 November 6, 2013 from the TOC\_01-176T\_20131106 WORFDB7, F&BI 311119 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  
SOU1113R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20131106 WORFDB7, F&BI 311119 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
311119 -01	We_24205_20131106
311119 -02	GAC1i_24205_20131106
311119 -03	GAC2i_24205_20131106

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176T\_20131106 WORFDB7, F&BI 311119

Date Extracted: 11/07/13 and 11/08/13

Date Analyzed: 11/07/13 and 11/08/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
We_24205 _20131106 311119-01	<1	<1	<1	<3	<100	103
GAC1i_24205 _20131106 311119-02 1/10	27	150	26	810	3,800	91
GAC2i_24205 _20131106 311119-03	<1	<1	<1	<3	<100	103
Method Blank 03-2285 MB	<1	<1	<1	<3	<100	102



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176T\_20131106 WORFDB7, F&BI 311119

**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: 311096-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	1.2	1.1	3
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	160	160	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	99	72-119
Toluene	ug/L (ppb)	50	107	71-113
Ethylbenzene	ug/L (ppb)	50	107	72-114
Xylenes	ug/L (ppb)	150	100	72-113
Gasoline	ug/L (ppb)	1,000	98	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.


311119

**SAMPLE CHAIN OF CUSTODY**

ME 11-06-13


1/1

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

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	ANALYSES REQUESTED	Notes
We_24205_20131106			01AC	11/6/13	1341	Water	3		X	X			
GAC11_24205_20131106			02	11/6/13	1335	Water	3		X	X			
GAC21_24205_20131106			03	11/6/13	1330	Water	3		X	X			

**SIGNATURE**  **PRINT NAME** Ethan Martin  
**Relinquished by:** \_\_\_\_\_ **COMPANY** SES **DATE** 11-6-13 **TIME** 1525  
**Received by:** DD **COMPANY** FRBZ **DATE** 11 **TIME** 11  
**Relinquished by:** \_\_\_\_\_ **COMPANY** \_\_\_\_\_ **DATE** \_\_\_\_\_ **TIME** \_\_\_\_\_  
**Received by:** \_\_\_\_\_ **COMPANY** \_\_\_\_\_ **DATE** \_\_\_\_\_ **TIME** \_\_\_\_\_

Samples received at 13:06

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

December 12, 2013

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

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 4, 2013 from the TOC\_01-176T\_20131204 WORFDB7, F&BI 312055 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Audrey Hackett, Beau Johnson  
SOU1212R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176T\_20131204 WORFDB7, F&BI 312055 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312055 -01	We_24205_20131203
312055 -02	GAC1i_24205_20131203
312055 -03	GAC2i_24205_20131203

The 200.8 total lead sample was analyzed from a glass VOA preserved with hydrochloric acid. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176T\_20131204 WORFDB7, F&BI 312055

Date Extracted: 12/04/13

Date Analyzed: 12/04/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
We_24205_20131203 312055-01	<1	<1	<1	<3	<100	82
GAC1i_24205_ 20131203 312055-02	<1	3.7	<1	19	240	84
GAC2i_24205_ 20131203 312055-03	<1	<1	<1	<3	<100	81
Method Blank 03-2465 MB	<1	<1	<1	<3	<100	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	We_24205_20131203	Client:	SoundEarth Strategies
Date Received:	12/04/13	Project:	TOC_01-176T_20131204 WORFDB7
Date Extracted:	12/05/13	Lab ID:	312055-01
Date Analyzed:	12/06/13	Data File:	312055-01.063
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

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

Analyte:	Concentration
	ug/L (ppb)
Lead	7.05 pc, pr

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176T_20131204 WORFDB7
Date Extracted:	12/05/13	Lab ID:	I3-833 mb
Date Analyzed:	12/06/13	Data File:	I3-833 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	96	Limit:	Limit:
		60	125

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



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176T\_20131204 WORFDB7, F&BI 312055

**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: 312030-01 (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	86	65-118
Toluene	ug/L (ppb)	50	86	72-122
Ethylbenzene	ug/L (ppb)	50	86	73-126
Xylenes	ug/L (ppb)	150	86	74-118
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176T\_20131204 WORFDB7, F&BI 312055

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

Laboratory Code: 311512-01 (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	102	101	79-121	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	104	83-115

**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.

312055

SAMPLE CHAIN OF CUSTODY

ME 12/4/13

V2

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

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

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 samples	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	ANALYSES REQUESTED	Notes
We-24205-20131203			01AC	12/03/13	0855	Water	3	X	X	X	X		
GAC11-24205-20131203			021	12/03/13	0907	Water	3	X	X	X			
GAC21-24205-20131203			031	12/03/13	0900	Water	3	X	X	X			
<del>_____</del>													

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

Relinquished by: <u>[Signature]</u>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: <u>[Signature]</u>		<u>Dee Gardner</u>	<u>SES</u>	<u>12/4/13</u>	<u>0805</u>
Relinquished by: <u>[Signature]</u>		<u>Ph an</u>	<u>Fe B T</u>	<u>12/4/13</u>	<u>0805</u>
Received by:					

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

December 26, 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 December 16, 2013 from the TOC\_01-176\_20131216 WORFDB7, F&BI 312245 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  
SOU1226R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 16, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20131216 WORFDB7, F&BI 312245 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID  
312245 -01

SoundEarth Strategies  
We\_24205\_20131216

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	We_24205_20131216	Client:	SoundEarth Strategies
Date Received:	12/16/13	Project:	TOC_01-176_20131216 WORFDB7
Date Extracted:	12/20/13	Lab ID:	312245-01
Date Analyzed:	12/20/13	Data File:	312245-01.066
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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	TOC_01-176_20131216 WORFDB7
Date Extracted:	12/20/13	Lab ID:	I3-867 mb
Date Analyzed:	12/20/13	Data File:	I3-867 mb.049
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	101	Limit:	Limit:
		60	125

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



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/26/13

Date Received: 12/16/13

Project: TOC\_01-176\_20131216 WORFDB7, F&BI 312245

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

Laboratory Code: 312297-01 (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	98	101	79-121	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	92	83-115

**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.

312245

Send Report to Dee Gardner

Company SoundEarth Strategies Inc. Suite 2009

Address 2811 Fairview Avenue East

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1902

**SAMPLE CHAIN OF CUSTODY**

HE 12/16/13

712a

SAMPLE ID (Signature) <u>Dee Gardner</u>		TURNAROUND TIME # <u>1</u> of <u>1</u>	
PROJECT NAME/NO. <u>01-176 / 24205</u>		PO #	
REMARKS		GEMS Y / N	
ANALYSES REQUESTED		<input checked="" type="checkbox"/> Standard (2 Weeks) <input type="checkbox"/> RUSH Rush charges authorized by:	
		SAMPLE DISPOSAL <input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions	

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Notes
<del>11E-21205-20131216</del>			01	12/16/13	1310	H <sub>2</sub> O	1							X Total Lead

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

SIGNATURE		PRINT NAME		COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>		Ashley Elliott	SES		12/16/13	1430
Received by: <u>[Signature]</u>		Michael Edell	ECB			
Relinquished by:						
Received by:						

## Unit 2: 24225 – TOC/Farmasonis Property

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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

October 15, 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 October 7, 2013 from the TOC\_01-176\_20131007 WORFDB7, F&BI 310125 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  
SOU1015R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20131007 WORFDB7, F&BI 310125 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
310125 -01	We_24225_20131007
310125 -02	GAC1i_24225_20131007
310125 -03	GAC2i_24225_20131007

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/15/13

Date Received: 10/07/13

Project: TOC\_01-176\_20131007 WORFDB7, F&BI 310125

Date Extracted: 10/09/13

Date Analyzed: 10/09/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
We_24225_20131007 310125-01	<1	<1	<1	<3	<100	76
GAC1i_24225_20131007 310125-02	<1	<1	<1	<3	<100	76
GAC2i_24225_20131007 310125-03	<1	<1	<1	<3	<100	75
Method Blank 03-2016 MB	<1	<1	<1	<3	<100	74

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/15/13

Date Received: 10/07/13

Project: TOC\_01-176\_20131007 WORFDB7, F&BI 310125

**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: 310115-04 (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	65-118
Toluene	ug/L (ppb)	50	95	72-122
Ethylbenzene	ug/L (ppb)	50	94	73-126
Xylenes	ug/L (ppb)	150	93	74-118
Gasoline	ug/L (ppb)	1,000	102	69-134



**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.

310125

SAMPLE CHAIN OF CUSTODY

ME 10/7/13

VZ


Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES <i>from future</i> 		PO #
PROJECT NAME/NO.		
TOC Holdings 01-176F 24225 Property		
REMARKS	GEMS Y / N	

Page # 1 of 1

TURNAROUND TIME

(X) Standard (2 Weeks)

( ) RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL


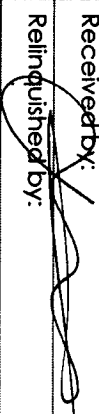
(X) Dispose after 30 days

( ) Return samples

( ) Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	ANALYSES REQUESTED				Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	
We_24225_Z0131007			01A-C	10/07/13	1125	Water	3	X	X	X		
GAC11_24225_Z0131007			02	10/07/13	1130	Water	3	X	X	X		
GAC21_24225_Z0131007			03	10/07/13	1135	Water	3	X	X	X		
<i>AKS</i>												

Samples received at 5 :00

Relinquished by: 	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: 		<u>Ashtley Pitt</u>	<u>SES</u>	<u>10/07/13</u>	<u>1610</u>
Relinquished by:		<u>Paul Livingston</u>	<u>EP Inc</u>	<u>10/7/13</u>	<u>1610</u>
Received by:					

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

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

November 13, 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 November 6, 2013 from the TOC\_01-176F\_20131106 WORFDB7, F&BI 311120 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  
SOU1113R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20131106 WORFDB7, F&BI 311120 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
311120 -01	We_24225_20131106
311120 -02	GAC1i_24225_20131106
311120 -03	GAC2i_24225_20131106

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176F\_20131106 WORFDB7, F&BI 311120

Date Extracted: 11/08/13

Date Analyzed: 11/08/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
We_24225 _20131106 311120-01	<1	<1	<1	<3	<100	105
GAC1i_24225 _20131106 311120-02	<1	<1	<1	<3	<100	105
GAC2i_24225 _20131106 311120-03	<1	<1	<1	<3	<100	106
Method Blank 03-2288 MB	<1	<1	<1	<3	<100	105

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176F\_20131106 WORFDB7, F&BI 311120

**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: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	ug/L (ppb)	50	103	103	72-119	0
Toluene	ug/L (ppb)	50	110	110	71-113	0
Ethylbenzene	ug/L (ppb)	50	111	111	72-114	0
Xylenes	ug/L (ppb)	150	103	103	72-113	0
Gasoline	ug/L (ppb)	1,000	94	93	70-119	1

**Data Qualifiers & Definitions**

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

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

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

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

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

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

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

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

fb - Analyte present in the blank and the sample.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

311120

SAMPLE CHAIN OF CUSTODY

ME 11-06-13

V1

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES (signature) <i>[Signature]</i>		PO #
PROJECT NAME/NO. TOC Holdings 01-176F 24225 Property		
REMARKS		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 samples	ANALYSES REQUESTED				Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	
We_24225_2013106			01-KL	11/6/13	0935	Water	3	X	X	X		
GAC1L_24225_2013106			02-T	11/6/13	0945	Water	3	X	X	X		
GAC2L_24225_2013106			03-T	11/6/13	0940	Water	3	X	X	X		

Samples received at 17°C

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

Signature	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Stanley Elliott	SES	11/6/13	1300
<i>[Signature]</i>	Ethan Marks	SES	11-6-13	1300
<i>[Signature]</i>	Ethan Marks	SES	11-6-13	1525
<i>[Signature]</i>	Dan Ud	FVQB	11	14



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

December 12, 2013

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

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 4, 2013 from the TOC\_01-176F\_20131204 WORFDB7, F&BI 312053 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Audrey Hackett, Beau Johnson  
SOU1212R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176F\_20131204 WORFDB7, F&BI 312053 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312053 -01	We_24225_20131203
312053 -02	GAC1i_24225_20131203
312053 -03	GAC2i_24225_20131203

The 200.8 total lead sample was analyzed from a glass VOA preserved with hydrochloric acid. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176F\_20131204 WORFDB7, F&BI 312053

Date Extracted: 12/04/13

Date Analyzed: 12/04/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
We_24225_20131203 312053-01	<1	<1	<1	<3	<100	82
GAC1i_24225_20131203 312053-02	<1	<1	<1	<3	<100	81
GAC2i_24225_20131203 312053-03	<1	<1	<1	<3	<100	81
Method Blank 03-2465 MB	<1	<1	<1	<3	<100	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	We_24225_20131203	Client:	SoundEarth Strategies
Date Received:	12/04/13	Project:	TOC_01-176F_20131204 WORFDB7
Date Extracted:	12/05/13	Lab ID:	312053-01
Date Analyzed:	12/06/13	Data File:	312053-01.061
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	94	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Lead	1.59 pc, pr

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176F_20131204 WORFDB7
Date Extracted:	12/05/13	Lab ID:	I3-833 mb
Date Analyzed:	12/06/13	Data File:	I3-833 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	96	Limit:	Limit:
		60	125

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176F\_20131204 WORFDB7, F&BI 312053

**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: 312030-01 (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	86	65-118
Toluene	ug/L (ppb)	50	86	72-122
Ethylbenzene	ug/L (ppb)	50	86	73-126
Xylenes	ug/L (ppb)	150	86	74-118
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176F\_20131204 WORFDB7, F&BI 312053

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

Laboratory Code: 311512-01 (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	102	101	79-121	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	104	83-115

**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.



312053

SAMPLE CHAIN OF CUSTODY

ME 12/4/13

V2

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLES (signature) <u>[Signature]</u>	
PROJECT NAME/NO.	PO #
TOC Holdings 01-176F 24225 Property	
REMARKS	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 samples	ANALYSES REQUESTED				Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	
We_24225_25131203			DIA-C	12/03/13	0958	Water	3		X	X	X	
GAC11_24225_25131203			02 1	12/03/13	1003	Water	3		X	X	X	
GAC21_24225_25131203			03 1	12/03/13	1000	Water	3		X	X	X	

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<u>[Signature]</u>		<u>Ashley D. Smith</u>		<u>SEB</u>		<u>12/4/13</u>	<u>0805</u>
Relinquished by:		Relinquished by:		Relinquished by:		<u>12/4/13</u>	<u>0805</u>
Received by:		Received by:		Received by:			

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

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

December 26, 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 December 16, 2013 from the TOC\_01-176\_20131216 WORFDB7, F&BI 312246 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  
SOU1226R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 16, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20131216 WORFDB7, F&BI 312246 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID  
312246 -01

SoundEarth Strategies  
We\_24225\_20131216

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	We_24225_20131216	Client:	SoundEarth Strategies
Date Received:	12/16/13	Project:	TOC_01-176_20131216 WORFDB7
Date Extracted:	12/20/13	Lab ID:	312246-01
Date Analyzed:	12/20/13	Data File:	312246-01.067
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	7.19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	TOC_01-176_20131216 WORFDB7
Date Extracted:	12/20/13	Lab ID:	I3-867 mb
Date Analyzed:	12/20/13	Data File:	I3-867 mb.049
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	101	Limit:	Limit:
		60	125

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/26/13

Date Received: 12/16/13

Project: TOC\_01-176\_20131216 WORFDB7, F&BI 312246

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

Laboratory Code: 312297-01 (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	98	101	79-121	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	92	83-115

**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.

312246

**SAMPLE CHAIN OF CUSTODY**

ME 12/16/13

AI2

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East Suite 2000

City, State, ZIP Seattle, WA 98107

Phone # 206.306.1900 Fax # 206.306.1907

<u>Dee Gardner</u> SAMPLERS (Signature)		PO #
PROJECT NAME/NO. <u>01-176 / 24225</u>		GEMS Y / N
REMARKS		
TURNAROUND TIME Standard (2 Weeks) <input checked="" type="checkbox"/> RUSH Rush charges authorized by:		
SAMPLE DISPOSAL <input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions		

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED						Notes		
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals		Total Lead	
<del>ME 24225-2031216</del>	<del></del>	<del></del>	<del>01</del>	<del>12/16/13</del>	<del>1315</del>	<del>H<sub>2</sub>O</del>	<del>1</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>

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

Relinquished by: <u>[Signature]</u>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>		<u>Anthony Elliott</u>	<u>SES</u>	<u>12/16/13</u>	<u>1430</u>
Relinquished by: <u>[Signature]</u>		<u>Michael Edell</u>	<u>FRB</u>	<u>1</u>	<u>4</u>
Received by:					



## Unit 3: 24309 – Drake Property

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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

October 15, 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 October 7, 2013 from the TOC\_01-176\_20131007 WORFDB7, F&BI 310126 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  
SOU1015R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20131007 WORFDB7, F&BI 310126 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
310126 -01	We_24309_20131007
310126 -02	GAC1i_24309_20131007
310126 -03	GAC2i_24309_20131007

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/15/13

Date Received: 10/07/13

Project: TOC\_01-176\_20131007 WORFDB7, F&BI 310126

Date Extracted: 10/09/13

Date Analyzed: 10/09/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
We_24309_20131007 310126-01	<1	<1	<1	<3	<100	76
GAC1i_24309_20131007 310126-02	<1	<1	<1	<3	<100	76
GAC2i_24309_20131007 310126-03	<1	<1	<1	<3	<100	76
Method Blank 03-2016 MB	<1	<1	<1	<3	<100	74

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/15/13

Date Received: 10/07/13

Project: TOC\_01-176\_20131007 WORFDB7, F&BI 310126

**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: 310115-04 (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	65-118
Toluene	ug/L (ppb)	50	95	72-122
Ethylbenzene	ug/L (ppb)	50	94	73-126
Xylenes	ug/L (ppb)	150	93	74-118
Gasoline	ug/L (ppb)	1,000	102	69-134

**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.

310126

SAMPLE CHAIN OF CUSTODY

ME 10/7/13

V2

Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLER'S Signature: [Signature]

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

PO #

REMARKS

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 samples	ANALYSES REQUESTED				Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	
We_24309_20X300DF			01A-C	10/07/13	1240	Water	3	X	X	X		
GAC1L_24309_20X5100CT			02	10/07/13	1250	Water	3	X	X	X		
GAC2L_24309_20X5100CT			03	10/07/13	1255	Water	3	X	X	X		
<u>REC</u>												

Samples received at 5 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Asmely Elliott</u>	<u>SEES</u>	<u>10/07/13</u>	<u>1610</u>
Received by: <u>[Signature]</u>	<u>Dee Gardner</u>	<u>SEES</u>	<u>10/7/13</u>	<u>1610</u>
Relinquished by: <u>[Signature]</u>				
Received by:				

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

November 13, 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 November 6, 2013 from the TOC\_01-176D\_20131106 WORFDB7, F&BI 311118 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  
SOU1113R.DOC



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20131106 WORFDB7, F&BI 311118 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
311118 -01	We_24309_20131106
311118 -02	GAC1i_24309_20131106
311118 -03	GAC2i_24309_20131106

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176D\_20131106 WORFDB7, F&BI 311118

Date Extracted: 11/07/13

Date Analyzed: 11/07/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
We_24309_ 20131106 311118-01	<1	<1	<1	<3	<100	101
GAC1i_24309_ 20131106 311118-02	<1	<1	<1	5.7	<100	103
GAC2i_24309_ 20131106 311118-03	<1	<1	<1	<3	<100	102
Method Blank 03-2285 MB	<1	<1	<1	<3	<100	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/13

Date Received: 11/06/13

Project: TOC\_01-176D\_20131106 WORFDB7, F&BI 311118

**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: 311096-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	1.2	1.1	3
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	160	160	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	99	72-119
Toluene	ug/L (ppb)	50	107	71-113
Ethylbenzene	ug/L (ppb)	50	107	72-114
Xylenes	ug/L (ppb)	150	100	72-113
Gasoline	ug/L (ppb)	1,000	98	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.

31118

**SAMPLE CHAIN OF CUSTODY**

ME 11-06-13

VI


Send Report To Dee Gardner

Company SoundEarth Strategies Inc.

Address 2811 Fairview Ave East, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature) 		PROJECT NAME/NO. TOC Holdings 01-176D 24309 Property	PO #
REMARKS		GEMS Y / N	



Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of samples	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	ANALYSES REQUESTED		Notes
We_24309_20131106			DAC	11/6/13	0915	Water	3		X	X				
GAC11_24309_20131106			02 T	11/6/13	0920	Water	3		X	X				
GAC21_24309_20131106			03 T	11/6/13	0925	Water	3		X	X				

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

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
		Ethan Marks		SES		11-6-13	1525
		D D CO		F202		11	4
Received by:		Received by:		Samples received at		13°C	

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

December 12, 2013

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

Dear Ms. Gardner:

Included are the results from the testing of material submitted on December 4, 2013 from the TOC\_01-176D\_20131204 WORFDB7, F&BI 312054 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Audrey Hackett, Beau Johnson  
SOU1212R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176D\_20131204 WORFDB7, F&BI 312054 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>SoundEarth Strategies</u>
312054 -01	We_24309_20131203
312054 -02	GAC1i_24309_20131203
312054 -03	GAC2i_24309_20131203

The 200.8 total lead sample was analyzed from a glass VOA preserved with hydrochloric acid. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176D\_20131204 WORFDB7, F&BI 312054

Date Extracted: 12/04/13

Date Analyzed: 12/04/13

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

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
We_24309_20131203 312054-01	<1	<1	<1	<3	<100	83
GAC1i_24309_20131203 312054-02	<1	<1	<1	<3	<100	79
GAC2i_24309_20131203 312054-03	<1	<1	<1	<3	<100	82
Method Blank 03-2465 MB	<1	<1	<1	<3	<100	83



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	We_24309_20131203	Client:	SoundEarth Strategies
Date Received:	12/04/13	Project:	TOC_01-176D_20131204 WORFDB7
Date Extracted:	12/05/13	Lab ID:	312054-01
Date Analyzed:	12/06/13	Data File:	312054-01.062
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	93	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Lead	1.90 pc, pr

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	TOC_01-176D_20131204 WORFDB7
Date Extracted:	12/05/13	Lab ID:	I3-833 mb
Date Analyzed:	12/06/13	Data File:	I3-833 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	96	Limit:	Limit:
		60	125

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176D\_20131204 WORFDB7, F&BI 312054

**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: 312030-01 (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	86	65-118
Toluene	ug/L (ppb)	50	86	72-122
Ethylbenzene	ug/L (ppb)	50	86	73-126
Xylenes	ug/L (ppb)	150	86	74-118
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/12/13

Date Received: 12/04/13

Project: TOC\_01-176D\_20131204 WORFDB7, F&BI 312054

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

Laboratory Code: 311512-01 (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	102	101	79-121	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	104	83-115

**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.

312054

SAMPLE CHAIN OF CUSTODY

ME 12/14/13

V2

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

SAMPLERS (signature)		PROJECT NAME/NO.	PO #
<i>[Signature]</i>		TOC Holdings 01-176D 24309 Property	
REMARKS		GEMS Y / N	

Page # 1 of 1

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

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

Sample ID	Sample Location	Sample Depth	Lab ID	Date sampled	Time sampled	Matrix	# of samples	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	Total Lead by 6020/200.8	ANALYSES REQUESTED	Notes
We_24309_20131203			01A-C	12/03/13	1045	Water	3		X	X	X		
GAC1_24309_20131203			02	12/03/13	1052	Water	3	X	X	X			
GAC2_24309_20131203			03	12/03/13	1048	Water	3	X	X	X			
<i>[Handwritten: and]</i>													

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Ashley Ellist	SES	12/04/13	0805
Relinquished by: _____	Phan Phan	FeBT	12/4/13	0805
Received by: _____				

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

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

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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

December 26, 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 December 16, 2013 from the TOC\_01-176\_20131216 WORFDB7, F&BI 312247 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  
SOU1226R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 16, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies TOC\_01-176\_20131216 WORFDB7, F&BI 312247 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID  
312247 -01

SoundEarth Strategies  
We\_24309\_20131216

All quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	We_24309_20131216	Client:	SoundEarth Strategies
Date Received:	12/16/13	Project:	TOC_01-176_20131216 WORFDB7
Date Extracted:	12/20/13	Lab ID:	312247-01
Date Analyzed:	12/20/13	Data File:	312247-01.068
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	TOC_01-176_20131216 WORFDB7
Date Extracted:	12/20/13	Lab ID:	I3-867 mb
Date Analyzed:	12/20/13	Data File:	I3-867 mb.049
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	101	Limit:	Limit:
		60	125

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/26/13

Date Received: 12/16/13

Project: TOC\_01-176\_20131216 WORFDB7, F&BI 312247

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

Laboratory Code: 312297-01 (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	98	101	79-121	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	92	83-115

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

312247

SAMPLE CHAIN OF CUSTODY

ME 12/16/13

AZ2

Send Report To Dee Gardner  
 Company SoundEarth Strategies Inc.  
 Address 2811 Fairview Avenue East Suite 200  
 City, State, ZIP Seattle WA 98102  
 Phone # 206.306.1908 Fax # 206.306.1907

SAMPLES (Signature) <u>[Signature]</u>	
PROJECT NAME/NO.	PO #
<u>01-176 / 24309</u>	
REMARKS	

Page # 1 of 1

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH

Rush charges authorized by: \_\_\_\_\_

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

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED							Notes						
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Total lead							
<u>Ue 20309.20131216</u>	<u>01</u>	<u>12/16/13</u>	<u>1320</u>	<u>M.O</u>	<u>1</u>														

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

SIGNATURE

Relinquished by: [Signature]  
 Received by: [Signature]

PRINT NAME

Ashley Elsie  
Michelle Adk

COMPANY

SES  
ERine

DATE

12/11/13

TIME

1430

Samples received at 14 °C