October 18, 2016

Mr. Dean Yasuda Washington State Department of Ecology **Northwest Regional Office** 3190 160<sup>th</sup> Avenue Southeast Bellevue, WA 98008-5452

**SUBJECT:** REQUEST FOR CONTAINED-IN DETERMINATION

**Plastic Sales & Service Site** 

**6870 Woodlawn Avenue Northeast** 

Seattle, Washington 98115 **Project Number: 0651-002-02** 

Dear Mr. Yasuda:

On behalf of The Lutheran Retirement Home of Greater Seattle dba The Hearthstone (Hearthstone), SoundEarth Strategies, Inc. (SouthEarth) has prepared this request for a Contained-In Determination (CID) from the Washington State Department of Ecology (Ecology) for the property at 6870 Woodlawn Avenue Northeast, Seattle, Washington (the Property; Figure 1). Hearthstone installed 19 electrodes and four temperature probes in the subsurface soil at the Property as part of the electrical resistance heating (ERH) system to treat soil containing tetrachloroethene (PCE). In addition, soil was excavated in the Woodlawn Avenue Northeast right-of-way (ROW) for electrical conduits. A detailed description of the ERH system is presented in the Engineering Design Report prepared by SoundEarth and dated May 9, 2016.

A total of 47 drums of soil were generated from the installation of the electrodes and temperature probes. Of the 47 drums, 17 contain concentrations of PCE less or equal to 14 milligrams per kilogram (mg/kg) and/or less than the Toxicity Characteristic Leaching Procedure (TCLP) regulatory threshold of 0.7 milligrams per liter (mg/L) PCE. We estimate the 17 drums contain 10 to 15 tons of soil. Of the 17 drums, 3 contain concentrations of PCE that exceed 14 mg/kg; however, TCLP results for those samples were less than 0.7 mg/L. Approximately 5 to 10 tons of soil were excavated from the ROW and stockpiled at the Property. Concentrations of PCE in the soil stockpile samples were less than 1 mg/kg PCE. Based on these results, Hearthstone is requesting to remove and dispose of the soil in 17 drums and soil stockpiles as F002 listed waste at Subtitle D Landfill under a CID from Ecology.

Table 1 provides summary analytical results for soil samples collected from the 47 drums and ROW soil stockpiles. The 17 soil drum samples and soil stockpile samples containing PCE concentrations less than 14 mg/kg and/or less than the TCLP regulatory threshold the 0.7 mg/L PCE are highlighted in yellow. Figure 2 provides the location of each electrode and associated soil drum. Laboratory analytical results are presented in Attachment A.

If you have questions or need additional information, please contact the undersigned.

#### Respectfully,

SoundEarth Strategies, Inc.

Tom Cammarata, LG, LHG

#### Attachments:

Figure 1, Property Location Map

Figure 2, TRS Group, Inc. Figure Showing Electrode Locations and Associated Drums

Table 1, Summary of Soil Analytical Results for Drums and Soil Stockpile

Attachment A, Laboratory Analytical Reports

OnSite Environmental, Inc. #1609-302

OnSite Environmental, Inc. #1609-302B

OnSite Environmental, Inc. #1609-313

OnSite Environmental, Inc. #1609-313B

OnSite Environmental, Inc. #1609-336

OnSite Environmental, Inc. #1609-337

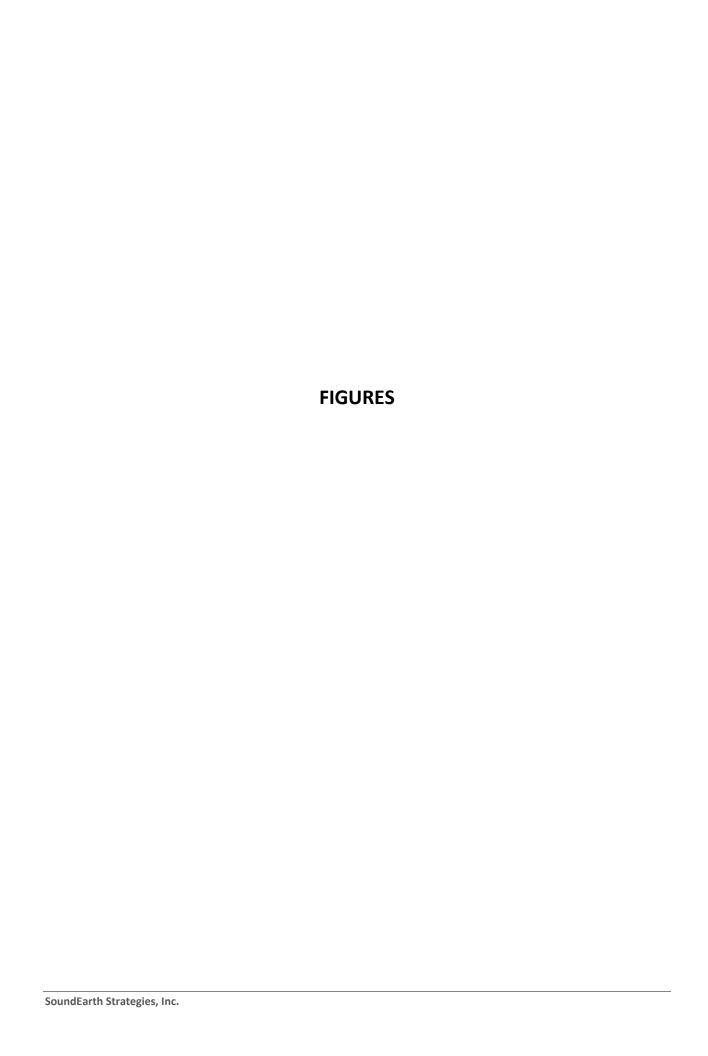
OnSite Environmental, Inc. #1609-364

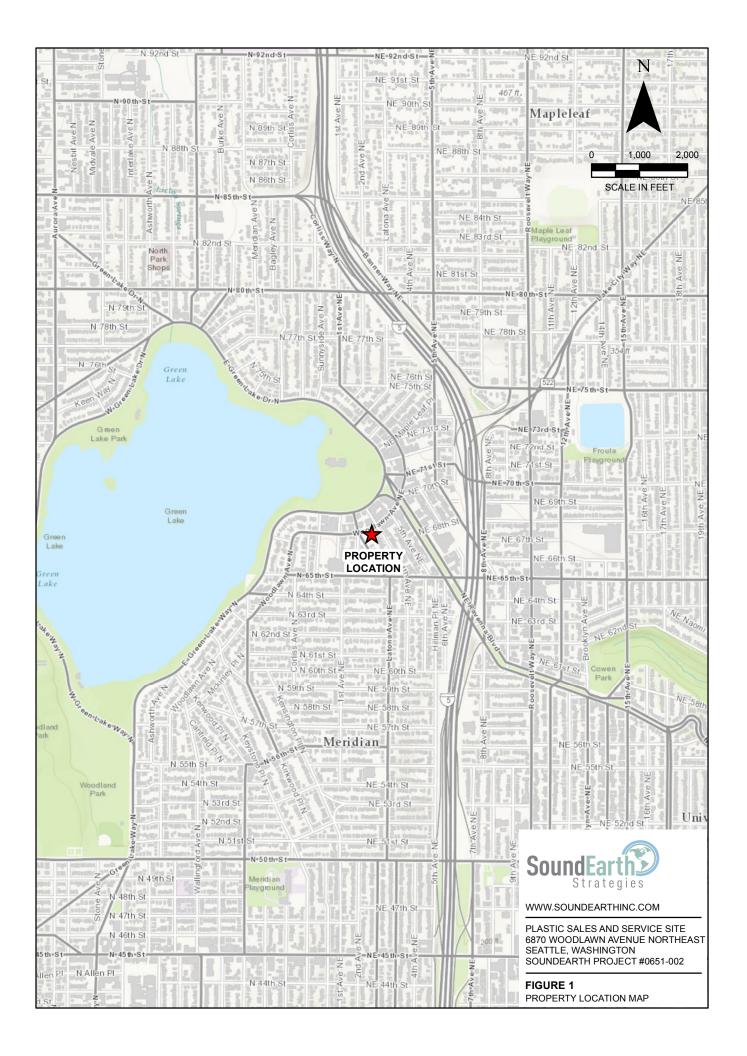
OnSite Environmental, Inc. #1609-377

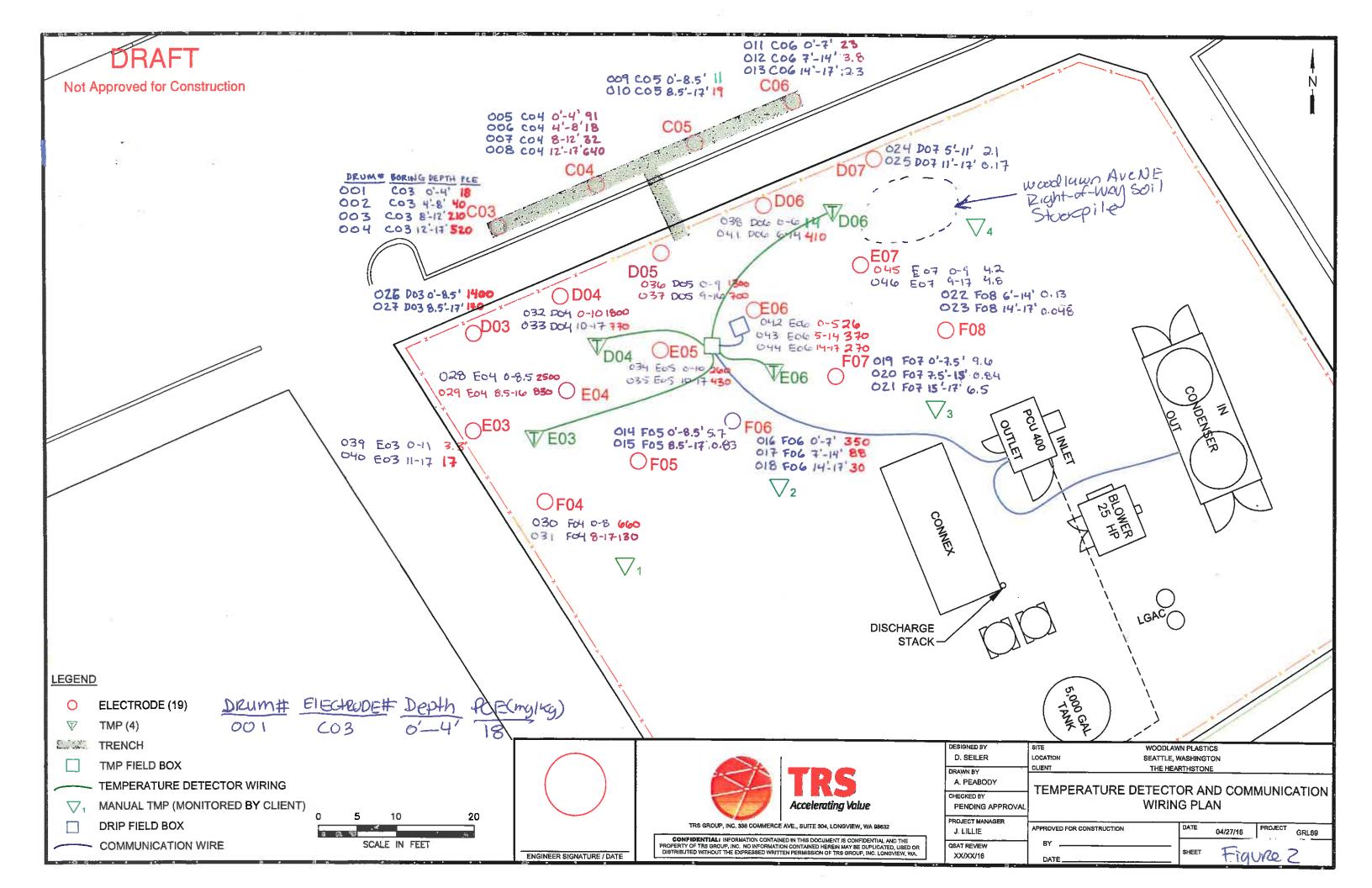
OnSite Environmental, Inc. #1609-393

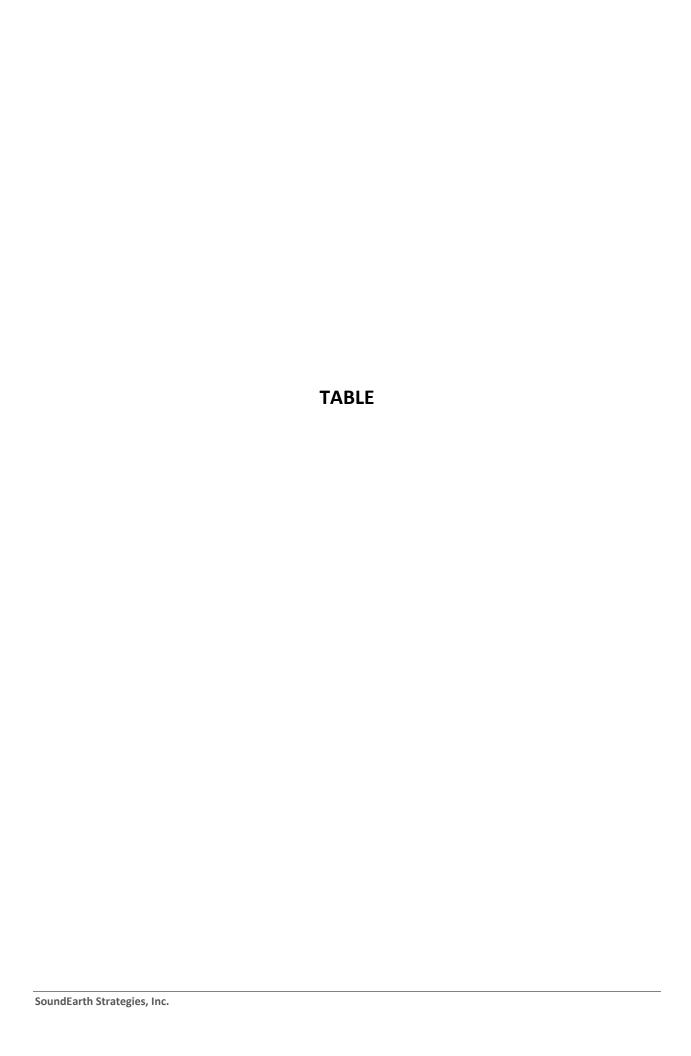
OnSite Environmental, Inc. #1609-393B

TJC/dnm











# Table 1 Summary of Soil Analytical Results for Drums and Soil Stockpile Plastic Sales and Service Site 6870 Woodlawn Avenue Northeast Seattle, Washington

						Analytical Res	ults <sup>(1)</sup> (milligrams p	er kilogram)		TCLP Analytic	al Results <sup>(2)</sup> (milligra	ams per liter)
Well/Boring ID	Feet bgs	Sample ID	Sampled By	Date Sampled	Tetrachloroethene	Trichloroethene	Cis-1,2- Dichloroethene	Trans-1,2- Dichloroethene	Vinyl Chloride	Tetrachloroethene	Trichloroethene	Vinyl Chloride
C03	0–4	DRUM001-20160922	SoundEarth	09/22/16	18 <sup>(2)</sup>	0.41	0.20	<0.025	0.061	0.490	0.0086	<0.0020
C03	4–8	DRUM002-20160922	SoundEarth	09/22/16	40	1.5	0.70	<0.025	0.29	-	-	-
C03	8–12	DRUM003-20160922	SoundEarth	09/22/16	210	0.83	<0.29	<0.025	0.19	-	-	-
C03	12–17	DRUM004-20160922	SoundEarth	09/22/16	520	1.1	0.16	<0.025	0.050	-	-	-
C04	0–4	DRUM005-20160923	SoundEarth	09/23/16	91	1.6	0.75	<0.62	<0.62	-	-	-
C04	4–8	DRUM006-20160923	SoundEarth	09/23/16	18	6.7	3.5	<0.13	0.41	-	-	-
C04	8–12	DRUM007-20160923	SoundEarth	09/23/16	32	3.2	1.9	<0.14	0.22	-	-	-
C04	12–17	DRUM008-20160923	SoundEarth	09/23/16	640	8.9	1.8	<1.2	<1.2	-	-	-
C05	0-8.5	DRUM009-20160923	SoundEarth	09/23/16	11	0.19	<0.076	<0.076	<0.076	0.190	0.0028	<0.0020
C05	8.5–17	DRUM010-20160923	SoundEarth	09/23/16	19	0.28	<0.069	<0.069	<0.069	-	-	-
C06	0–7	DRUM011-20160923	SoundEarth	09/23/16	23	0.23	<0.064	<0.064	<0.064	-	-	-
C06	7–14	DRUM012-20160923	SoundEarth	09/23/16	3.8	<0.025	<0.025	<0.025	<0.025	-	-	-
C06	14–17	DRUM013-20160923	SoundEarth	09/23/16	2.3	<0.025	<0.025	<0.025	<0.025	-	-	-
F05	0-8.5	DRUM014-20160923	SoundEarth	09/23/16	5.7	0.45	0.093	<0.060	<0.060	-	-	-
F05	8.5–17	DRUM015-20160923	SoundEarth	09/23/16	0.83	0.11	<0.063	<0.063	<0.063	-	-	-
F06	0–7	DRUM016-20160923	SoundEarth	09/23/16	350	<1.3	<1.3	<1.3	<1.3	-	-	-
F06	7–14	DRUM017-20160923	SoundEarth	09/23/16	88	0.92	<0.62	<0.62	<0.62	-	-	-
F06	14–17	DRUM018-20160923	SoundEarth	09/23/16	30	0.44	<0.27	<0.27	<0.27	-	-	-
F07	0–7.5	DRUM019-20160926	SoundEarth	09/26/16	9.6	0.33	<0.062	<0.062	<0.062	-	-	-
F07	7.5–15	DRUM020-20160926	SoundEarth	09/26/16	0.84	<0.025	<0.025	<0.025	<0.025	-	-	-
F07	15–17	DRUM021-20160926	SoundEarth	09/26/16	6.5	0.10	<0.063	<0.063	<0.063	-	-	-
F08	6–14	DRUM022-20160926	SoundEarth	09/26/16	0.13	<0.025	<0.025	<0.025	<0.025	-	-	-
F08/D07	14-17/0-5	DRUM023-20160926	SoundEarth	09/26/16	0.048	<0.025	<0.025	<0.025	<0.025	-	-	-
D07	5–11	DRUM024-20160926	SoundEarth	09/26/16	2.1	<0.025	<0.025	<0.025	<0.025	-	-	-
D07	11–17	DRUM025-20160926	SoundEarth	09/26/16	0.17	<0.025	<0.025	<0.025	<0.025	-	-	-
D03	0–8.5	DRUM026-20160926	SoundEarth	09/26/16	1,400	<13	<13	<13	<13	-	-	-
D03	8.5–17	DRUM027-20160926	SoundEarth	09/26/16	170	<2.7	<2.7	<2.7	<2.7	-	-	-
E04	0-8.5	DRUM028-20160927	SoundEarth	09/27/16	2,500	<0.81	<0.81	<0.81	<0.81	-	-	-
E04	8.5–16	DRUM029-20160927	SoundEarth	09/27/16	830	<0.87	<0.87	<0.87	<0.87	-	-	-
E04/F04	16-17/0-8	DRUM030-20160927	SoundEarth	09/27/16	660	<0.79	<0.79	<0.79	<0.79	-	-	-
F04	8–17	DRUM031-20160927	SoundEarth	09/27/16	130	<0.76	<0.76	<0.76	<0.76	-	-	-
D04	0–10	DRUM032-20160927	SoundEarth	09/27/16	1,800	<0.78	<0.78	<0.78	<0.78	-	-	-
D04	10–17	DRUM033-20160927	SoundEarth	09/27/16	770	0.83	<0.80	<0.80	<0.80	-	-	-
E05	0–10	DRUM034-20160927	SoundEarth	09/27/16	260	<0.82	<0.82	<0.82	<0.82	-	-	-
E05	10–17	DRUM035-20160927	SoundEarth	09/27/16	430	<0.79	<0.79	<0.79	<0.79	-	-	-
D05	0–9	DRUM036-20160927	SoundEarth	09/27/16	1,300	<0.85	<0.85	<0.85	<0.85	-	-	-
D05	0–16	DRUM037-20160927	SoundEarth	09/27/16	700	<0.77	<0.77	<0.77	<0.77	-	-	-
D05/D06	16–17/0–6	DRUM038-20160929	SoundEarth	09/29/16	14	<0.049	<0.049	<0.049	<0.073	0.130	<0.0020	<0.0020
E03	0–11	DRUM039-20160929	SoundEarth	09/29/16	3.3	0.16	0.085	<0.039	<0.058	-	-	-
<b>Toxicity Characteris</b>	tic (20x rule for so	il)			14	10	NE	NE	4	NA	NA	NA
<b>Toxicity Characteris</b>	tic TCLP Regulator	ry Threshhold								0.7	0.5	0.2

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#### Table 1

#### Summary of Soil Analytical Results for Drums and Soil Stockpile Plastic Sales and Service Site

#### 6870 Woodlawn Avenue Northeast Seattle, Washington

						Analytical Results <sup>(1)</sup> (milligrams per kilogram)				TCLP Analytic	TCLP Analytical Results (2) (milligrams per liter)		
Well/Boring ID	Feet bgs	Sample ID	Sampled By	Date Sampled	Tetrachloroethene	Trichloroethene	Cis-1,2- Dichloroethene	Trans-1,2- Dichloroethene	Vinyl Chloride	Tetrachloroethene	Trichloroethene	Vinyl Chloride	
E03	11–17	DRUM040-20160929	SoundEarth	09/29/16	17	0.013	0.0049	<0.025	<0.025	-	-	-	
D06	6–14	DRUM041-20160928	SoundEarth	09/28/16	410	<0.82	<0.82	<0.82	<0.82	-	-	-	
D06/E06	14-17/0-5	DRUM042-20160929	SoundEarth	09/29/16	26	<0.048	<0.048	<0.048	<0.072	-	-	-	
E06	5–14	DRUM043-20160928	SoundEarth	09/28/16	370	<0.89	<0.89	<0.89	<0.89	-	-	-	
E06	14–17	DRUM044-20160928	SoundEarth	09/28/16	270	<0.91	<0.91	<0.91	<0.91	-	-	-	
E07/F08	0-9/0-6	DRUM045-20160929	SoundEarth	09/29/16	4.2	<0.039	<0.039	<0.039	<0.058	-	-	-	
E07	9–17	DRUM046-20160929	SoundEarth	09/29/16	4.8	<0.045	<0.045	<0.045	<0.067	-	-	-	
E, D, C row	1	DRUM047-20160929	SoundEarth	09/29/16	18	0.043	<0.034	<0.034	<0.052	-	-	-	
NA	NA	Trench SP01	SoundEarth	09/26/16	0.16	<0.025	<0.025	<0.025	<0.025	-	-	-	
NA	NA	Trench SP02	SoundEarth	09/26/16	0.43	0.034	<0.025	<0.025	<0.025	-	-	-	
NA	NA	Trench SP03	SoundEarth	09/26/16	0.67	<0.025	<0.025	<0.025	<0.025	-	-	-	
Toxicity Characteris	stic (20x rule for so	oil)			14	10	NE	NE	4	NA	NA	NA	
Toxicity Characteristic TCLP Regulatory Threshhold							·	0.7	0.5	0.2			

#### NOTES:

Samples analyzed by OnSite Environmental, Inc. in Redmond, Washington.

<sup>(1)</sup>Samples analyzed by EPA Method 8260C.

 $^{(2)}$ Samples analyzed for TCLP by EPA Method 1131/8260C and is below Toxicty Characteristic.

Yellow denotes soil drums containing PCE concentrations less or equal to 14 mg/kg and/or TCLP concentration less than 0.7 mg/L

-- = not analyzed

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

2 of 2

EPA = U.S. Environmental Protection Agency

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

NA = not applicable

NE = not established

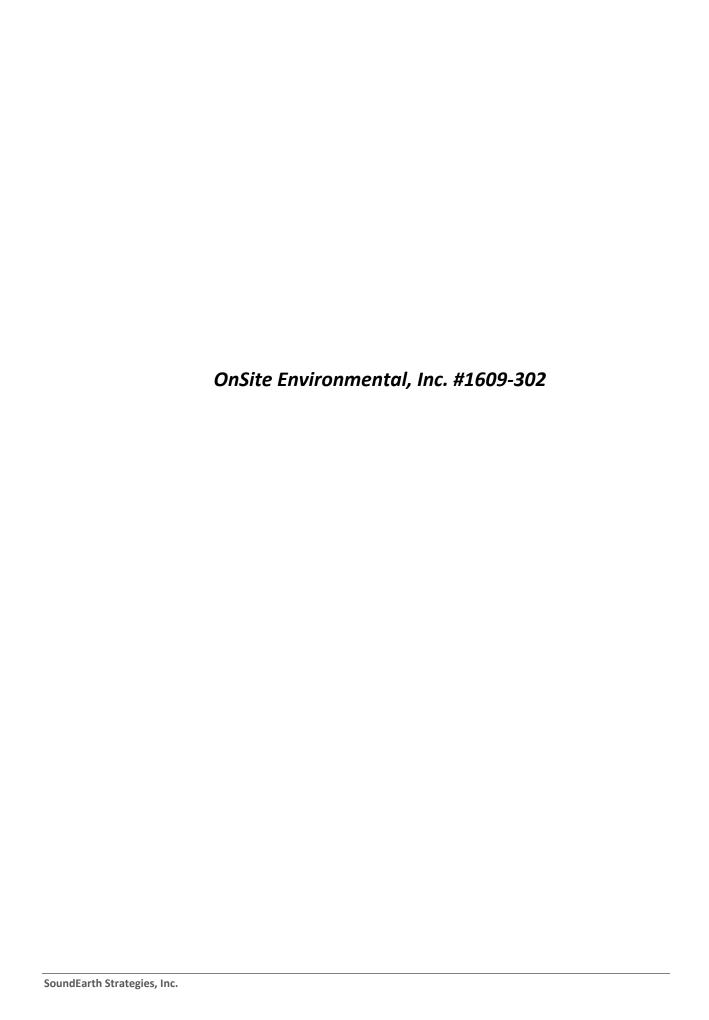
PCE = tetrachloroethene

SoundEarth = SoundEarth Strategies, Inc.

TCLP = Toxicity Characteristic Leaching Procedure

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### ATTACHMENT A LABORATORY ANALYTICAL REPORTS





14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 4, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-302

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 23, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Laboratory Reference: 1609-302

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 22, 2016 and received by the laboratory on September 23, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

#### Volatiles EPA 8260C Analysis

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

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

Laboratory Reference: 1609-302

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM001-20160922					
Laboratory ID:	09-302-01					
Vinyl Chloride	0.061	0.025	EPA 8260C	9-23-16	9-23-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
(cis) 1,2-Dichloroethene	0.20	0.025	EPA 8260C	9-23-16	9-23-16	
Trichloroethene	0.41	0.13	EPA 8260C	9-26-16	9-26-16	
Tetrachloroethene	18	0.64	EPA 8260C	9-26-16	9-26-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	116	76-131				
Toluene-d8	110	80-126				
4-Bromofluorobenzene	90	60-146				

Laboratory Reference: 1609-302

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM002-20160922					
Laboratory ID:	09-302-02					
Vinyl Chloride	0.29	0.025	EPA 8260C	9-23-16	9-23-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
(cis) 1,2-Dichloroethene	0.70	0.63	EPA 8260C	9-26-16	9-26-16	
Trichloroethene	1.5	0.63	EPA 8260C	9-26-16	9-26-16	
Tetrachloroethene	40	3.1	EPA 8260C	9-26-16	9-26-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	115	76-131				
Toluene-d8	113	80-126				
4-Bromofluorobenzene	95	60-146				

Laboratory Reference: 1609-302

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM003-20160922					
Laboratory ID:	09-302-03					
Vinyl Chloride	0.19	0.025	EPA 8260C	9-23-16	9-23-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
(cis) 1,2-Dichloroethene	ND	0.29	EPA 8260C	9-26-16	9-26-16	
Trichloroethene	0.83	0.29	EPA 8260C	9-26-16	9-26-16	
Tetrachloroethene	210	5.8	EPA 8260C	9-26-16	9-26-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	108	76-131				
Toluene-d8	111	80-126				
4-Bromofluorobenzene	98	60-146				

Laboratory Reference: 1609-302

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM004-20160922					
Laboratory ID:	09-302-04					
Vinyl Chloride	0.050	0.025	EPA 8260C	9-23-16	9-23-16	
(trans) 1,2-Dichloroethene	nD	0.025	EPA 8260C	9-23-16	9-23-16	
(cis) 1,2-Dichloroethene	0.16	0.025	EPA 8260C	9-23-16	9-23-16	
Trichloroethene	1.1	0.10	EPA 8260C	9-26-16	9-26-16	
Tetrachloroethene	520	5.5	EPA 8260C	9-26-16	9-28-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	116	76-131				
Toluene-d8	114	80-126				
4-Bromofluorobenzene	101	60-146				

Laboratory Reference: 1609-302

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0923S1					
Vinyl Chloride	ND	0.025	EPA 8260C	9-23-16	9-23-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
Trichloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-23-16	9-23-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	112	76-131				
Toluene-d8	112	80-126				
4-Bromofluorobenzene	106	60-146				

Laboratory Reference: 1609-302

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0926S1					
Vinyl Chloride	ND	0.025	EPA 8260C	9-26-16	9-26-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-26-16	9-26-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-26-16	9-26-16	
Trichloroethene	ND	0.025	EPA 8260C	9-26-16	9-26-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-26-16	9-26-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	120	76-131				
Toluene-d8	115	80-126				
4-Bromofluorobenzene	105	60-146				

Laboratory Reference: 1609-302

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Result		Spike Level		Reco	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB09	23S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0527	0.0562	0.0500	0.0500	105	112	68-126	6	15	
Benzene	0.0503	0.0519	0.0500	0.0500	101	104	70-121	3	15	
Trichloroethene	0.0539	0.0565	0.0500	0.0500	108	113	75-120	5	15	
Toluene	0.0533	0.0556	0.0500	0.0500	107	111	80-120	4	15	
Chlorobenzene	0.0484	0.0511	0.0500	0.0500	97	102	76-120	5	15	
Surrogate:										
Dibromofluoromethane					106	108	76-131			
Toluene-d8					108	107	80-126			
4-Bromofluorobenzene					99	102	60-146			

Laboratory Reference: 1609-302

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

5 5						Per	cent	Recovery		RPD	
Analyte	Result		Spike Level		F	Recovery		Limits	RPD	Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB09	26S1									
	SB	SBD	SB	SBD	9	SB	SBD				
1,1-Dichloroethene	0.0554	0.0559	0.0500	0.0500	1	11	112	68-126	1	15	
Benzene	0.0524	0.0530	0.0500	0.0500	1	05	106	70-121	1	15	
Trichloroethene	0.0541	0.0562	0.0500	0.0500	1	80	112	75-120	4	15	
Toluene	0.0530	0.0548	0.0500	0.0500	1	06	110	80-120	3	15	
Chlorobenzene	0.0463	0.0490	0.0500	0.0500	(	93	98	76-120	6	15	
Surrogate:											
Dibromofluoromethane					1	17	115	76-131			
Toluene-d8					1	09	109	80-126			
4-Bromofluorobenzene					,	99	100	60-146			

Date of Report: October 4, 2016

Samples Submitted: September 23, 2016

Laboratory Reference: 1609-302 Project: 0651-002

#### % MOISTURE

Date Analyzed: 9-23-16

Client ID	Lab ID	% Moisture
DRUM001-20160922	09-302-01	18
DRUM002-20160922	09-302-02	46
DRUM003-20160922	09-302-03	14
DRUM004-20160922	09-302-04	12



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

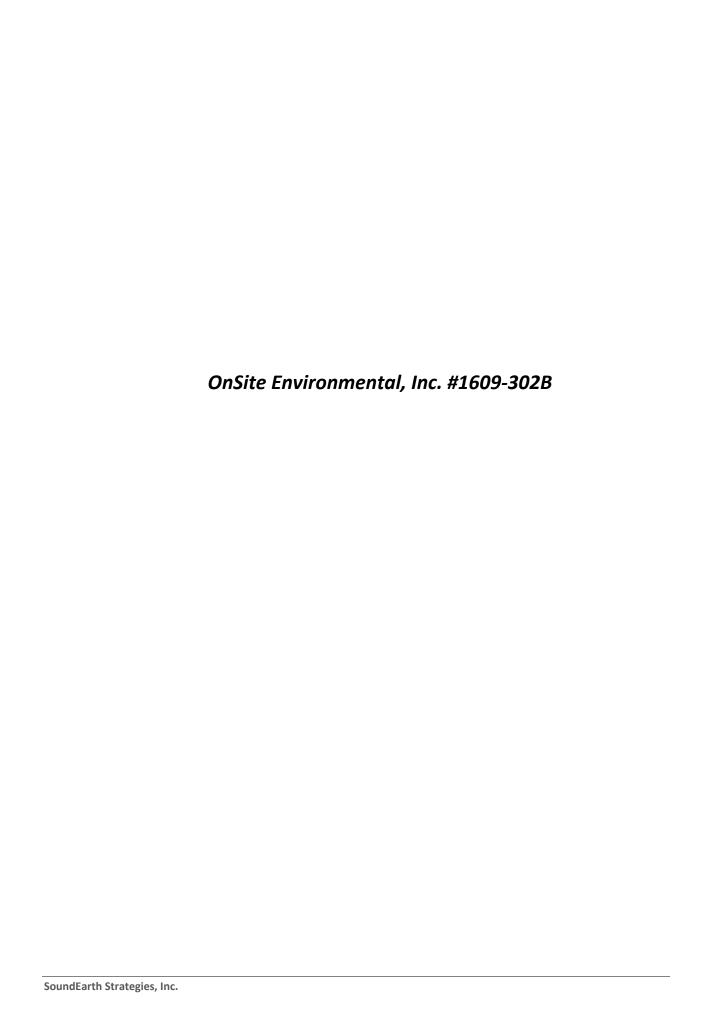


## OnSite Environmental Inc.

**Chain of Custody** 

Page	1	of		
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14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 10, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-302B

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 23, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Project: 0651-002

#### **Case Narrative**

Samples were collected on September 22, 2016 and received by the laboratory on September 23, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

Project: 0651-002

### TCLP VOLATILES EPA 1311/8260C

Matrix: TCLP Extract

Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM001-20160922					
Laboratory ID:	09-302-01					
Vinyl Chloride	ND	2.0	EPA 8260C	10-5-16	10-6-16	
Trichloroethene	8.6	2.0	EPA 8260C	10-5-16	10-6-16	
Tetrachloroethene	490	2.0	EPA 8260C	10-5-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	116	71-131				
Toluene-d8	105	80-127				
4-Bromofluorobenzene	89	80-125				

Project: 0651-002

#### **TCLP VOLATILES** EPA 1311/8260C **METHOD BLANK QUALITY CONTROL**

Matrix: TCLP Extract

Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB1005T1					
Vinyl Chloride	ND	2.0	EPA 8260C	10-5-16	10-6-16	
Trichloroethene	ND	2.0	EPA 8260C	10-5-16	10-6-16	
Tetrachloroethene	ND	2.0	EPA 8260C	10-5-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	116	71-131				
Toluene-d8	110	80-127				
4-Bromofluorobenzene	93	80-125				

Project: 0651-002

#### TCLP VOLATILES EPA 1311/8260C SB/SBD QUALITY CONTROL

Matrix: TCLP Extract

Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	06T1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	7.42	6.95	10.0	10.0	74	70	62-132	7	20	
Benzene	10.5	10.0	10.0	10.0	105	100	75-121	5	15	
Trichloroethene	9.08	8.82	10.0	10.0	91	88	65-115	3	15	
Toluene	10.5	10.5	10.0	10.0	105	105	78-120	0	15	
Chlorobenzene	9.89	9.40	10.0	10.0	99	94	77-118	5	15	
Surrogate:										
Dibromofluoromethane					108	111	71-131			
Toluene-d8					108	110	80-127			
4-Bromofluorobenzene					93	86	80-125			



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical \_\_\_\_\_\_.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



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October 5, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-313

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 23, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Laboratory Reference: 1609-313

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 23, 2016 and received by the laboratory on September 23, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

#### Volatiles EPA 8260C Analysis

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

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

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM005-20160923					
Laboratory ID:	09-313-01					
Vinyl Chloride	ND	0.62	EPA 8260C	9-29-16	10-1-16	
(trans) 1,2-Dichloroethene	ND	0.62	EPA 8260C	9-29-16	10-1-16	
(cis) 1,2-Dichloroethene	0.75	0.62	EPA 8260C	9-29-16	10-1-16	
Trichloroethene	1.6	0.62	EPA 8260C	9-29-16	10-1-16	
Tetrachloroethene	91	0.62	EPA 8260C	9-29-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	76-131				
Toluene-d8	105	80-126				
4-Bromofluorobenzene	105	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM006-20160923					
Laboratory ID:	09-313-02					
Vinyl Chloride	0.41	0.13	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.13	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	3.5	0.13	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	6.7	0.13	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	18	0.13	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	76-131				
Toluene-d8	111	80-126				
4-Bromofluorobenzene	112	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM007-20160923					
Laboratory ID:	09-313-03					
Vinyl Chloride	0.22	0.14	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.14	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	1.9	0.14	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	3.2	0.14	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	32	0.14	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	76-131				
Toluene-d8	107	80-126				
4-Bromofluorobenzene	106	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM008-20160923					
Laboratory ID:	09-313-04					
Vinyl Chloride	ND	1.2	EPA 8260C	9-29-16	9-29-16	
(trans) 1,2-Dichloroethene	ND	1.2	EPA 8260C	9-29-16	9-29-16	
(cis) 1,2-Dichloroethene	1.8	1.2	EPA 8260C	9-29-16	9-29-16	
Trichloroethene	8.9	1.2	EPA 8260C	9-29-16	9-29-16	
Tetrachloroethene	640	5.9	EPA 8260C	9-29-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	76-131				
Toluene-d8	108	80-126				
4-Bromofluorobenzene	107	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM009-20160923					_
Laboratory ID:	09-313-05					
Vinyl Chloride	ND	0.076	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	nD	0.076	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.076	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	0.19	0.076	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	11	0.076	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	76-131				
Toluene-d8	114	80-126				
4-Bromofluorobenzene	110	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM010-20160923					
Laboratory ID:	09-313-06					
Vinyl Chloride	ND	0.069	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.069	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.069	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	0.28	0.069	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	19	0.34	EPA 8260C	9-29-16	10-3-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	76-131				
Toluene-d8	108	80-126				
4-Bromofluorobenzene	107	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM011-20160923					
Laboratory ID:	09-313-07					
Vinyl Chloride	ND	0.064	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.064	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.064	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	0.23	0.064	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	23	0.32	EPA 8260C	9-29-16	10-3-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	76-131				
Toluene-d8	109	80-126				
4-Bromofluorobenzene	105	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM012-20160923					
Laboratory ID:	09-313-08					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	3.8	0.070	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	116	76-131				
Toluene-d8	117	80-126				
4-Bromofluorobenzene	100	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM013-20160923					
Laboratory ID:	09-313-09					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	2.3	0.066	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	120	76-131				
Toluene-d8	118	80-126				
4-Bromofluorobenzene	99	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM014-20160923					
Laboratory ID:	09-313-10					
Vinyl Chloride	ND	0.060	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.060	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	0.093	0.060	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	0.45	0.060	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	5.7	0.060	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	100	76-131				
Toluene-d8	107	80-126				
4-Bromofluorobenzene	107	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM015-20160923					
Laboratory ID:	09-313-11					
Vinyl Chloride	ND	0.063	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.063	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.063	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	0.11	0.063	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	0.83	0.063	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	76-131				
Toluene-d8	114	80-126				
4-Bromofluorobenzene	111	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM016-20160923					
Laboratory ID:	09-313-12					
Vinyl Chloride	ND	1.3	EPA 8260C	9-29-16	9-29-16	
(trans) 1,2-Dichloroethene	ND	1.3	EPA 8260C	9-29-16	9-29-16	
(cis) 1,2-Dichloroethene	ND	1.3	EPA 8260C	9-29-16	9-29-16	
Trichloroethene	ND	1.3	EPA 8260C	9-29-16	9-29-16	
Tetrachloroethene	350	6.9	EPA 8260C	9-29-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	76-131				
Toluene-d8	109	80-126				
4-Bromofluorobenzene	105	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM017-20160923					
Laboratory ID:	09-313-13					
Vinyl Chloride	ND	0.62	EPA 8260C	9-29-16	10-1-16	
(trans) 1,2-Dichloroethene	ND ND	0.62	EPA 8260C	9-29-16	10-1-16	
(cis) 1,2-Dichloroethene	ND	0.62	EPA 8260C	9-29-16	10-1-16	
Trichloroethene	0.92	0.62	EPA 8260C	9-29-16	10-1-16	
Tetrachloroethene	88	0.62	EPA 8260C	9-29-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	95	76-131				
Toluene-d8	104	80-126				
4-Bromofluorobenzene	104	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM018-20160923					
Laboratory ID:	09-313-14					
Vinyl Chloride	ND	0.27	EPA 8260C	9-29-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.27	EPA 8260C	9-29-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.27	EPA 8260C	9-29-16	9-30-16	
Trichloroethene	0.44	0.27	EPA 8260C	9-29-16	9-30-16	
Tetrachloroethene	30	0.27	EPA 8260C	9-29-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	76-131				
Toluene-d8	107	80-126				
4-Bromofluorobenzene	108	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0929S2					
Vinyl Chloride	ND	0.025	EPA 8260C	9-29-16	9-29-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Trichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	114	76-131				
Toluene-d8	119	80-126				
4-Bromofluorobenzene	115	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0930S2					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	112	76-131				
Toluene-d8	118	80-126				
4-Bromofluorobenzene	117	60-146				

Laboratory Reference: 1609-313

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB09	29S2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0513	0.0499	0.0500	0.0500	103	100	68-126	3	15	
Benzene	0.0516	0.0532	0.0500	0.0500	103	106	70-121	3	15	
Trichloroethene	0.0516	0.0497	0.0500	0.0500	103	99	75-120	4	15	
Toluene	0.0517	0.0520	0.0500	0.0500	103	104	80-120	1	15	
Chlorobenzene	0.0507	0.0502	0.0500	0.0500	101	100	76-120	1	15	
Surrogate:										
Dibromofluoromethane					100	102	76-131			
Toluene-d8					107	105	80-126			
4-Bromofluorobenzene					105	104	60-146			

Laboratory Reference: 1609-313

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB09	30S2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0441	0.0439	0.0500	0.0500	88	88	68-126	0	15	
Benzene	0.0470	0.0480	0.0500	0.0500	94	96	70-121	2	15	
Trichloroethene	0.0494	0.0474	0.0500	0.0500	99	95	75-120	4	15	
Toluene	0.0503	0.0489	0.0500	0.0500	101	98	80-120	3	15	
Chlorobenzene	0.0475	0.0486	0.0500	0.0500	95	97	76-120	2	15	
Surrogate:										
Dibromofluoromethane					103	101	76-131			
Toluene-d8					109	107	80-126			
4-Bromofluorobenzene					106	107	60-146			

Date of Report: October 5, 2016

Samples Submitted: September 23, 2016

Laboratory Reference: 1609-313 Project: 0651-002

#### % MOISTURE

Date Analyzed: 9-30&10-4-16

Client ID	Lab ID	% Moisture
DRUM005-20160923	09-313-01	16
DRUM006-20160923	09-313-02	16
DRUM007-20160923	09-313-03	14
DRUM008-20160923	09-313-04	14
DRUM009-20160923	09-313-05	21
DRUM010-20160923	09-313-06	17
DRUM011-20160923	09-313-07	17
DRUM012-20160923	09-313-08	17
DRUM013-20160923	09-313-09	16
DRUM014-20160923	09-313-10	16
DRUM015-20160923	09-313-11	19
DRUM016-20160923	09-313-12	17
DRUM017-20160923	09-313-13	16
DRUM018-20160923	09-313-14	12



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





**Chain of Custody** 

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

09 - 313Analytical Laboratory Testing Services **Turnaround Request Laboratory Number:** (in working days) 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com (Check One) Sound Earth Strategres, Inc. Project Number: Organophosphorus Pesticides 8270D/SIM 1 Day Same Day Chlorinated Acid Herbicides 8151A 065(-002 Project Name: 2 Days Organochlorine Pesticides 8081B 3 Days Halogenated Volatiles 8260C EDB EPA 8011 (Waters Only) 618 + th PAHs 8270D/SIM (low-level) Plastics Sales & Service HEM (oil and grease) 1664A Standard (7 Days) (TPH analysis 5 Days) NWTPH-Dx (☐ Acid / SG **Number of Containers** Ton Cammarata, Courtney Schaumberg Sampled by: Fotal MTCA Metals Total RCRA Metals NWTPH-HCID Logan Schumaches TCLP Metals (other) Date Time Lab ID Sample Identification Sampled Matrix DRUM005-20160923 9/23/16 0800 Soci X 0810 DRUM006-20160923 X DRUM007-20160923 0820 X DRUM008-20160923 0900 DRUM009-20160923 0935 0945 DRUMO10-20160923 DRUMO11-20160923 1105 1115 DRUM012-20160923 DRUM013-20160923 1250 DRUMO14-20160923 1335 **Comments/Special Instructions** Company Detection limit of 0.025 mg/kg for PCE, TCE, cis and trans-DCE, and VC. Logan Schungsh SES Relinquished Received Relinquished Received Relinquished Received Data Package: Standard 
Level III Level IV Reviewed/Date Reviewed/Date Chromatograms with final report 

Electronic Data Deliverables (EDDs)

# OnSite Environmental Inc.

### **Chain of Custody**

Page 2 of 2

**Turnaround Request** Analytical Laboratory Testing Services Laboratory Number: 09-313 (in working days) 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com (Check One) SoundForth Strategres, Inc.

Project Number:

0651-002 Organophosphorus Pesticides 8270D/SIM 1 Day Same Day Chlorinated Acid Herbicides 8151A 2 Days 3 Days Organochlorine Pesticides 8081B Project Name: Plastres Subes 3 Service Halogenated Volatiles 8260C EDB EPA 8011 (Waters Only) PAHs 8270D/SIM (low-level) HEM (oil and grease) 1664A Standard (7 Days) NWTPH-Dx ( Acid / SG Semivolatiles 8270D/SIM (with low-level PAHs) (TPH analysis 5 Days) **Number of Containers** Tom Camarata, Courtney Schaumberg Total RCRA Metals Total MTCA Metals Volatiles 8260C Logar Schomacher % Moisture Time Lab ID Matrix Sample Identification Sampled Sampled DRUMO15-20160923 Soil DRUMO16-20160923 1450 DRUMO17-20160923 1500 X 1520 DRUMO18-20160923 Signature Date **Comments/Special Instructions** 22 Logon Schumahn Sound Eath Alpha Cover Detection limit of 0,025 mg/kg for Relinquished PCE, TCE, Crs and trans-DCE and VC. Received Relinquished Received Relinquished Received Data Package: Standard 

Level III 

Level IV Reviewed/Date Reviewed/Date Chromatograms with final report 

Electronic Data Deliverables (EDDs)





October 12, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-313B

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 23, 2016.

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

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

Sincerely.

David Baumeister Project Manager

**Enclosures** 



Project: 0651-002

#### **Case Narrative**

Samples were collected on September 23, 2016 and received by the laboratory on September 23, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

Project: 0651-002

### TCLP VOLATILES EPA 1311/8260C

Matrix: TCLP Extract

Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM009-20160923					
Laboratory ID:	09-313-05					
Vinyl Chloride	ND	2.0	EPA 8260C	10-6-16	10-7-16	
Trichloroethene	2.8	2.0	EPA 8260C	10-6-16	10-7-16	
Tetrachloroethene	190	2.0	EPA 8260C	10-6-16	10-7-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	103	71-131				
Toluene-d8	105	80-127				
4-Bromofluorobenzene	112	80-125				

Project: 0651-002

# TCLP VOLATILES EPA 1311/8260C METHOD BLANK QUALITY CONTROL

Matrix: TCLP Extract

Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB1006T2					
Vinyl Chloride	ND	2.0	EPA 8260C	10-6-16	10-7-16	
Trichloroethene	ND	2.0	EPA 8260C	10-6-16	10-7-16	
Tetrachloroethene	ND	2.0	EPA 8260C	10-6-16	10-7-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	99	71-131				
Toluene-d8	105	80-127				
4-Bromofluorobenzene	116	80-125				

Project: 0651-002

#### TCLP VOLATILES EPA 1311/8260C SB/SBD QUALITY CONTROL

Matrix: TCLP Extract

Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	07T1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	10.4	10.1	10.0	10.0	104	101	62-132	3	20	
Benzene	9.41	9.24	10.0	10.0	94	92	75-121	2	15	
Trichloroethene	8.15	7.89	10.0	10.0	82	79	65-115	3	15	
Toluene	9.43	9.30	10.0	10.0	94	93	78-120	1	15	
Chlorobenzene	8.17	8.28	10.0	10.0	82	83	77-118	1	15	
Surrogate:										
Dibromofluoromethane					96	94	71-131			
Toluene-d8					105	106	80-127			
4-Bromofluorobenzene					117	115	80-125			



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
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- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





**Chain of Custody** 

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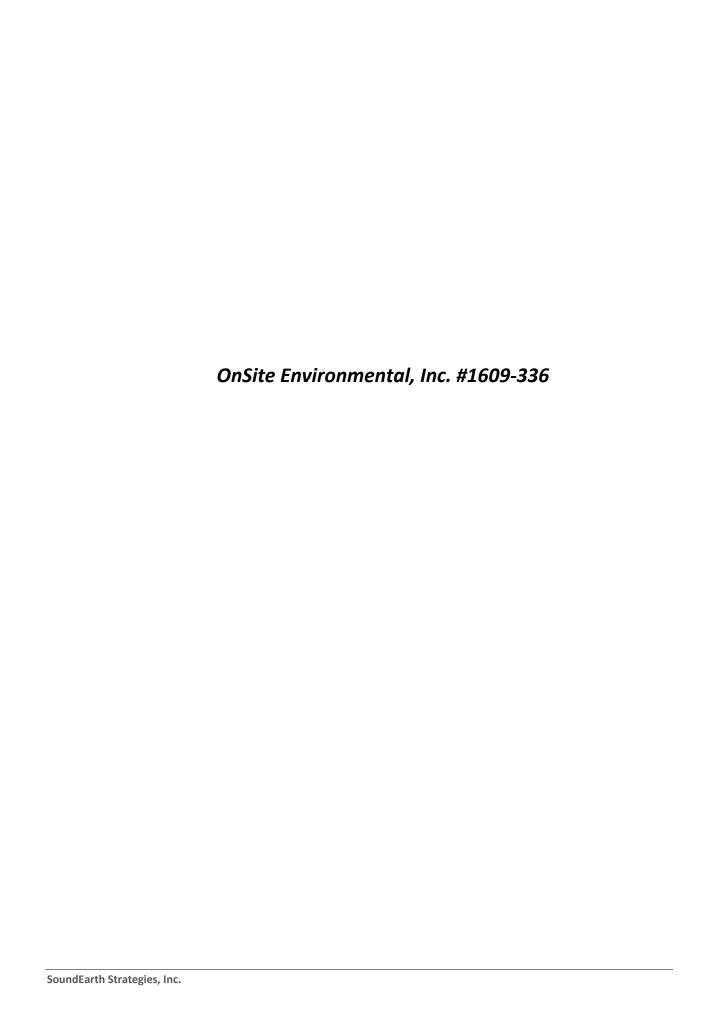
Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working da			La	abo	rato	ory	Nur	mbe	er:	U	9	-3	11	3									
Phone: (425) 883-3881 · www.onsite-env.com  Company:  Sound Earth Strategres, Inc.  Project Number:  OG5 (-002  Project Name:  Plastics Sales & Service  Project Manager:  Ton Cammarata, Courtney Schaumberg  Sampled by:  Lagan Schumaches	2 Da		1 Day	er of Containers	HCID	NWTPH-Gx/BTEX	H-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	s 8260C	nated Volatiles 8260C	EPA 8011 (Waters Only)	volatiles 8270D/SIM low-level PAHs)	8270D/SIM (low-level)	8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	ated Acid Herbicides 8151A	RCRA Metals	fotal MTCA Metals	HOLES YOCK - PEF, TCE,	grease) 1664A	VC by 8268 C			ture
Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number	NWTPH-HCI	NWTP	NWTPH-Gx	NWTP	Volatiles	Halogenated	EDB E	Semivolatiles (with low-leve	PAHs 8	PCBs (	Organo	Organo	Chlorinated	Total R	Total M	TCLP	HEM (oil and	P. C. F. F. C. F.			% Moisture
l DRUM005-20160923	9/23/16	0800	Sort	4																		X		1	0
2 DRUM006-20160923		0810																				×			1
3 DRUM007-20160923		0820																				×			
4 DRUM008-20160923		0900																				×			
5 DRUM009-20160923		0935																	(	$\bigcirc$		×			
6 DRUMO10-20160923		0945		П															,			X			
7 DRUMO11-20160923		1105																				X			
8 DRUMO12-20160923		1115																				×			
9 DRUM013-20160923		1250		T																		X			
10 DRUMO14-20160923		1335	V	1																		×			
Signature		ompany				Date		200000000000000000000000000000000000000	Time			Com	ments	s/Spe	cial I	nstru	ction	S							
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Reviewed/Date		Reviewed/Da	te									Chror	matog	grams	s with	n fina	l repo	ort 🗌	Elec	ctronic	o Data	. Delive	rables (l	EDDs)	



### **Chain of Custody**

Page 2 of 2

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		naround Req n working da			Lab	ora	tory	Nu	mbe	er:	09	) -	31	3									
Phone: (425) 883-3881 • www.onsite-env.com Company:		(Check One)										T	T	T	T					,	T	T	
SoundEarth Strategres, Inc.	☐ Same	e Day [	1 Day											8270D/SIM						DOGE			
Company: SoundFarth Strategres, Inc. Project Number: 0651-002 Project Name:	2 Day	ys [	3 Days				Clean-up)						81B	s 8270l	3151A					200			
Project Name: Plustres Subes 3 Server Project Manager: Tom Cammarata, Courtney Schaumberg	Stand	dard (7 Days) analysis 5 Da	ave)	ço					8260C	s Only)	MIS	-level)	Pesticides 8081B	Pesticides	icides 8				664A	166			
Project Manager: Tom Campa rate Courtness Schaumber	(1711	ariarysis 5 Da	195/	Containers		×	Acid /		latiles	Water	270D/S AHs)	M (low	Pestic	rus Pe	d Herb	als	als		ase) 1	5 7 7 C			
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Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Number	NWTPH-HCID	NWIPH-GX/BIEX	NWTPH-Dx ( Acid / SG	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles (with low-level	PAHs 8270D/SIM (low-level)	PUBS 8082A Organochlorine	Organophosphorus	Chlorinated Acid Herbicides 8151A	Total RC	Total MTCA Metals	TCLP Metals	HEM (oil	25			% Moisture
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14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

September 30, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-336

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 27, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Laboratory Reference: 1609-336

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 26, 2016 and received by the laboratory on September 27, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

#### Volatiles EPA 8260C Analysis

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

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

Laboratory Reference: 1609-336

Project: 0651-002

#### TOTAL METALS EPA 6010C/7471B

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	09-336-01					
Client ID:	Trench SP01-01					
Arsenic	ND	12	6010C	9-28-16	9-28-16	
Barium	110	3.1	6010C	9-28-16	9-28-16	
Cadmium	ND	0.62	6010C	9-28-16	9-28-16	
Chromium	64	0.62	6010C	9-28-16	9-28-16	
Lead	18	6.2	6010C	9-28-16	9-28-16	
Mercury	ND	0.31	7471B	9-27-16	9-27-16	
Selenium	ND	12	6010C	9-28-16	9-28-16	
Silver	ND	1.2	6010C	9-28-16	9-28-16	

Lab ID: Client ID:	09-336-02 <b>Trench SP01-02</b>				
Arsenic	ND	12	6010C	9-28-16	9-28-16
Barium	97	2.9	6010C	9-28-16	9-28-16
Cadmium	ND	0.58	6010C	9-28-16	9-28-16
Chromium	49	0.58	6010C	9-28-16	9-28-16
Lead	14	5.8	6010C	9-28-16	9-28-16
Mercury	ND	0.29	7471B	9-27-16	9-27-16
Selenium	ND	12	6010C	9-28-16	9-28-16
Silver	ND	1.2	6010C	9-28-16	9-28-16

Laboratory Reference: 1609-336

Project: 0651-002

#### TOTAL METALS EPA 6010C/7471B

Matrix: Soil

Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	09-336-03					
Client ID:	Trench SP01-03					
Arsenic	ND	13	6010C	9-28-16	9-28-16	
Barium	110	3.2	6010C	9-28-16	9-28-16	
Cadmium	ND	0.64	6010C	9-28-16	9-28-16	
Chromium	48	0.64	6010C	9-28-16	9-28-16	
Lead	13	6.4	6010C	9-28-16	9-28-16	
Mercury	ND	0.32	7471B	9-27-16	9-27-16	
Selenium	ND	13	6010C	9-28-16	9-28-16	
Silver	ND	1.3	6010C	9-28-16	9-28-16	

Laboratory Reference: 1609-336

Project: 0651-002

# TOTAL METALS EPA 6010C METHOD BLANK QUALITY CONTROL

Date Extracted: 9-28-16
Date Analyzed: 9-28-16

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0928SM1

Analyte	Method	Result	PQL
Arsenic	6010C	ND	10
Barium	6010C	ND	2.5
Cadmium	6010C	ND	0.50
Chromium	6010C	ND	0.50
Lead	6010C	ND	5.0
Selenium	6010C	ND	10
Silver	6010C	ND	1.0

Laboratory Reference: 1609-336

Project: 0651-002

# TOTAL MERCURY EPA 7471B METHOD BLANK QUALITY CONTROL

Date Extracted: 9-27-16
Date Analyzed: 9-27-16

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB0927S1

Analyte Method Result PQL

Mercury 7471B **ND** 0.25

Laboratory Reference: 1609-336

Project: 0651-002

## TOTAL METALS EPA 6010C DUPLICATE QUALITY CONTROL

Date Extracted: 9-28-16
Date Analyzed: 9-28-16

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 09-318-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	10	
Barium	36.7	35.7	3	2.5	
Cadmium	ND	ND	NA	0.50	
Chromium	25.9	24.7	5	0.50	
Lead	ND	ND	NA	5.0	
Selenium	ND	ND	NA	10	
Silver	ND	ND	NA	1.0	

Laboratory Reference: 1609-336

Project: 0651-002

## TOTAL MERCURY EPA 7471B DUPLICATE QUALITY CONTROL

Date Extracted: 9-27-16
Date Analyzed: 9-27-16

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 09-322-01

Sample Duplicate

Analyte Result Result RPD PQL Flags

Mercury ND ND NA 0.25

Laboratory Reference: 1609-336

Project: 0651-002

## TOTAL METALS EPA 6010C MS/MSD QUALITY CONTROL

Date Extracted: 9-28-16
Date Analyzed: 9-28-16

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 09-318-02

Analyte	Spike Level	MS	Percent Recovery MSD		Percent Recovery	RPD	Flags
Arsenic	100	96.2	96	98.7	99	3	
Barium	100	133	97	135	98	1	
Cadmium	50.0	47.4	95	48.8	98	3	
Chromium	100	117	91	121	96	4	
Lead	250	233	93	238	95	2	
Selenium	100	91.4	91	94.4	94	3	
Silver	25.0	20.8	83	21.7	87	4	

Laboratory Reference: 1609-336

Project: 0651-002

TOTAL MERCURY
EPA 7471B
MS/MSD QUALITY CONTROL

Date Extracted: 9-27-16
Date Analyzed: 9-27-16

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 09-322-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.500	0.465	93	0.506	101	8	

Laboratory Reference: 1609-336

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trench SP01-01					
Laboratory ID:	09-336-01					
Vinyl Chloride	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Trichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Tetrachloroethene	0.16	0.025	EPA 8260C	9-28-16	9-28-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	76-131				
Toluene-d8	99	80-126				
4-Bromofluorobenzene	88	60-146				

Laboratory Reference: 1609-336

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trench SP01-02					
Laboratory ID:	09-336-02					
Vinyl Chloride	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Trichloroethene	0.034	0.025	EPA 8260C	9-28-16	9-28-16	
Tetrachloroethene	0.43	0.060	EPA 8260C	9-28-16	9-28-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	103	76-131				
Toluene-d8	104	80-126				
4-Bromofluorobenzene	93	60-146				

Laboratory Reference: 1609-336

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	Trench SP01-03					
Laboratory ID:	09-336-03					
Vinyl Chloride	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Trichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Tetrachloroethene	0.67	0.074	EPA 8260C	9-28-16	9-28-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	115	76-131				
Toluene-d8	116	80-126				
4-Bromofluorobenzene	113	60-146				

Laboratory Reference: 1609-336

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0928S1					
Vinyl Chloride	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Trichloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-28-16	9-28-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	76-131				
Toluene-d8	106	80-126				
4-Bromofluorobenzene	108	60-146				

Laboratory Reference: 1609-336

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Pe	Percent Recovery			RPD		
Analyte	Res	sult	Spike	Level	Rec			Recovery Lin		RPD	Limit
SPIKE BLANKS											
Laboratory ID:	SB09	28S1									
	SB	SBD	SB	SBD	SB	SBD					
1,1-Dichloroethene	0.0479	0.0503	0.0500	0.0500	96	101	68-126	5	15		
Benzene	0.0508	0.0511	0.0500	0.0500	102	102	70-121	1	15		
Trichloroethene	0.0439	0.0468	0.0500	0.0500	88	94	75-120	6	15		
Toluene	0.0502	0.0516	0.0500	0.0500	100	103	80-120	3	15		
Chlorobenzene	0.0478	0.0492	0.0500	0.0500	96	98	76-120	3	15		
Surrogate:											
Dibromofluoromethane					100	105	76-131				
Toluene-d8					99	103	80-126				
4-Bromofluorobenzene					96	104	60-146				

Laboratory Reference: 1609-336

Project: 0651-002

#### % MOISTURE

Date Analyzed: 9-27-16

Client ID	Lab ID	% Moisture
Trench SP01-01	09-336-01	19
Trench SP01-02	09-336-02	14
Trench SP01-03	09-336-03	22



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical \_\_\_\_\_\_.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

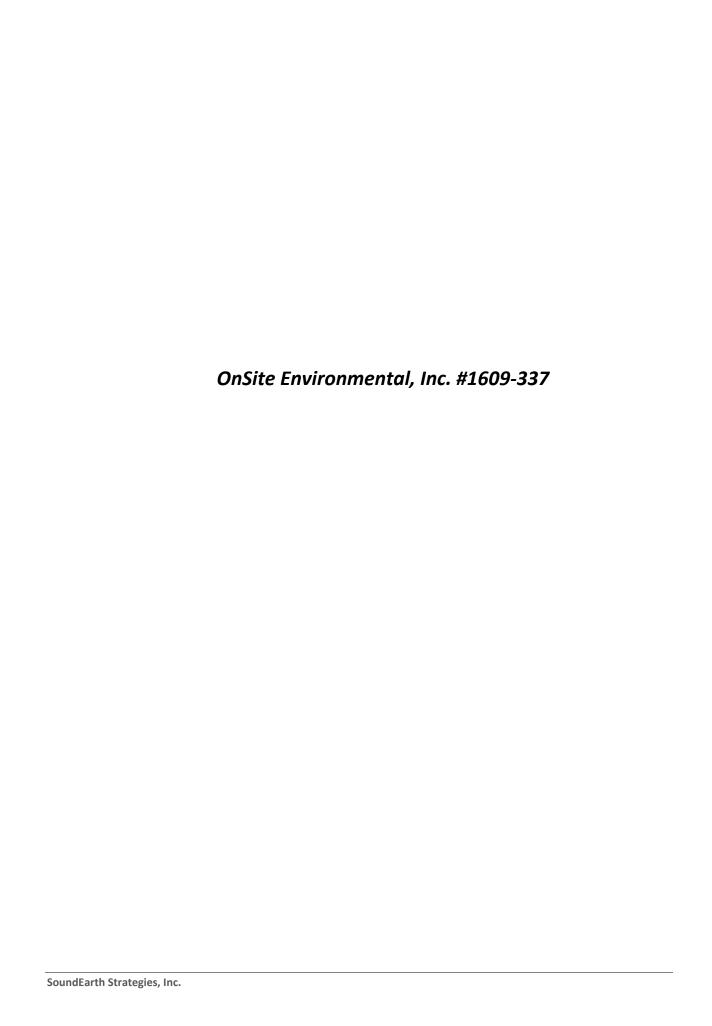


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Alk	OnSite	
	<b>Environmental</b>	inc.

## **Chain of Custody**

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Page		of		
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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com								ory	. 09-336															
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0(05) - 00 2 Project Name:	2 Da	ys	3 Days										22	270C	151	3				10				
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Tom Cammarata, Courtrey Schamberg	<u> </u>	(other)		Number of Containers	CID	NWTPH-Gx/BTEX	×	~	Volatiles 8260C Halogenated Volatiles 8260C	es 8270D)	(with low-level PAHS) PAHS 8270D/SiM (low-level)	A.	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	fotal MTCA Metals	sis	2	TCE, Cis				
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Lab ID Sample Identification	Date Sampled	Time Sampled	Matrix	Mumb	NWTPH-HCID	NWTP	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C Halogenated Vo	Semiv	PAHS	PCBs 8082A	Organi	Organo	Chlorir	Total F	Total A	TCLP Metals	HEM (	PCE			1.0	% Moisture
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14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 5, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-337

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 27, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 26, 2016 and received by the laboratory on September 27, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

#### Volatiles EPA 8260C Analysis

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

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

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DRUM019-20160926					
09-337-01					
ND	0.062	EPA 8260C	9-29-16	10-1-16	
ND	0.062	EPA 8260C	9-29-16	10-1-16	
ND	0.062	EPA 8260C	9-29-16	10-1-16	
0.33	0.062	EPA 8260C	9-29-16	10-1-16	
9.6	1.2	EPA 8260C	9-29-16	9-29-16	
Percent Recovery	Control Limits				
99	76-131				
106	80-126				
100	60-146				
	DRUM019-20160926 09-337-01 ND ND ND 0.33 9.6 Percent Recovery 99 106	DRUM019-20160926         09-337-01       0.062         ND       0.062         ND       0.062         0.33       0.062         9.6       1.2         Percent Recovery       Control Limits         99       76-131         106       80-126	DRUM019-20160926           09-337-01         0.062         EPA 8260C           ND         0.062         EPA 8260C           ND         0.062         EPA 8260C           0.33         0.062         EPA 8260C           9.6         1.2         EPA 8260C           Percent Recovery         Control Limits           99         76-131           106         80-126	Result         PQL         Method         Prepared           DRUM019-20160926           09-337-01         FPA 8260C         9-29-16           ND         0.062         EPA 8260C         9-29-16           ND         0.062         EPA 8260C         9-29-16           0.33         0.062         EPA 8260C         9-29-16           9.6         1.2         EPA 8260C         9-29-16           Percent Recovery         Control Limits           99         76-131         76-131           106         80-126         80-126	Result         PQL         Method         Prepared         Analyzed           DRUM019-20160926           09-337-01         EPA 8260C         9-29-16         10-1-16           ND         0.062         EPA 8260C         9-29-16         10-1-16           ND         0.062         EPA 8260C         9-29-16         10-1-16           0.33         0.062         EPA 8260C         9-29-16         10-1-16           9.6         1.2         EPA 8260C         9-29-16         9-29-16           Percent Recovery         Control Limits           99         76-131         76-131         76-131           106         80-126         80-126         80-126         80-126

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM020-20160926					
Laboratory ID:	09-337-02					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	0.84	0.056	EPA 8260C	9-29-16	10-3-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	99	76-131				
Toluene-d8	103	80-126				
4-Bromofluorobenzene	97	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM021-20160926					
Laboratory ID:	09-337-03					
Vinyl Chloride	ND	0.063	EPA 8260C	9-29-16	10-1-16	
(trans) 1,2-Dichloroethene	ND	0.063	EPA 8260C	9-29-16	10-1-16	
(cis) 1,2-Dichloroethene	ND	0.063	EPA 8260C	9-29-16	10-1-16	
Trichloroethene	0.10	0.063	EPA 8260C	9-29-16	10-1-16	
Tetrachloroethene	6.5	0.063	EPA 8260C	9-29-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	76-131				
Toluene-d8	103	80-126				
4-Bromofluorobenzene	100	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM022-20160926					
Laboratory ID:	09-337-04					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	. ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	0.13	0.025	EPA 8260C	9-30-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	101	76-131				
Toluene-d8	108	80-126				
4-Bromofluorobenzene	95	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM023-20160926					
Laboratory ID:	09-337-05					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	0.048	0.025	EPA 8260C	9-30-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	76-131				
Toluene-d8	108	80-126				
4-Bromofluorobenzene	98	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM024-20160926					
Laboratory ID:	09-337-06					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	2.1	0.062	EPA 8260C	9-29-16	10-3-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	76-131				
Toluene-d8	106	80-126				
4-Bromofluorobenzene	98	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DRUM025-20160926					
09-337-07					
ND	0.025	EPA 8260C	9-30-16	9-30-16	
ND	0.025	EPA 8260C	9-30-16	9-30-16	
ND	0.025	EPA 8260C	9-30-16	9-30-16	
ND	0.025	EPA 8260C	9-30-16	9-30-16	
0.17	0.025	EPA 8260C	9-30-16	9-30-16	
Percent Recovery	Control Limits				
117	76-131				
121	80-126				
113	60-146				
	DRUM025-20160926 09-337-07 ND ND ND ND ND 17 Percent Recovery 117 121	DRUM025-20160926         09-337-07       0.025         ND       0.025         ND       0.025         ND       0.025         0.17       0.025         Percent Recovery       Control Limits         117       76-131         121       80-126	DRUM025-20160926           09-337-07         ND         0.025         EPA 8260C           ND         0.025         EPA 8260C           ND         0.025         EPA 8260C           ND         0.025         EPA 8260C           0.17         0.025         EPA 8260C           Percent Recovery         Control Limits           117         76-131           121         80-126	Result         PQL         Method         Prepared           DRUM025-20160926           09-337-07         EPA 8260C         9-30-16           ND         0.025         EPA 8260C         9-30-16           0.17         0.025         EPA 8260C         9-30-16           Percent Recovery         Control Limits           117         76-131         76-131           121         80-126         80-126	Result         PQL         Method         Prepared         Analyzed           DRUM025-20160926           09-337-07         Page 1         9-30-16         9-30-16           ND         0.025         EPA 8260C         9-30-16         9-30-16           Percent Recovery         Control Limits           117         76-131         80-126

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM026-20160926					
Laboratory ID:	09-337-08					
Vinyl Chloride	ND	13	EPA 8260C	9-29-16	10-1-16	
(trans) 1,2-Dichloroethene	ND	13	EPA 8260C	9-29-16	10-1-16	
(cis) 1,2-Dichloroethene	ND	13	EPA 8260C	9-29-16	10-1-16	
Trichloroethene	ND	13	EPA 8260C	9-29-16	10-1-16	
Tetrachloroethene	1400	13	EPA 8260C	9-29-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	93	76-131				
Toluene-d8	101	80-126				
4-Bromofluorobenzene	99	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM027-20160926					
Laboratory ID:	09-337-09					
Vinyl Chloride	ND	2.7	EPA 8260C	9-30-16	10-1-16	
(trans) 1,2-Dichloroethene	ND	2.7	EPA 8260C	9-30-16	10-1-16	
(cis) 1,2-Dichloroethene	ND	2.7	EPA 8260C	9-30-16	10-1-16	
Trichloroethene	ND	2.7	EPA 8260C	9-30-16	10-1-16	
Tetrachloroethene	170	2.7	EPA 8260C	9-30-16	10-1-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	98	76-131				
Toluene-d8	107	80-126				
4-Bromofluorobenzene	109	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0929S2					
Vinyl Chloride	ND	0.025	EPA 8260C	9-29-16	9-29-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Trichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	114	76-131				
Toluene-d8	119	80-126				
4-Bromofluorobenzene	115	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0929S3					
Vinyl Chloride	ND	0.025	EPA 8260C	9-29-16	9-29-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Trichloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-29-16	9-29-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	76-131				
Toluene-d8	107	80-126				
4-Bromofluorobenzene	102	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB0930S2					
Vinyl Chloride	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.025	EPA 8260C	9-30-16	9-30-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	112	76-131				
Toluene-d8	118	80-126				
4-Bromofluorobenzene	117	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Pe	Percent			RPD		
Analyte	Res	sult	Spike	Level	Rec	overy	Limits	RPD	Limit	Flags	
SPIKE BLANKS											
Laboratory ID:	SB09	29S1									
	SB	SBD	SB	SBD	SB	SBD					
1,1-Dichloroethene	0.0467	0.0407	0.0500	0.0500	93	81	68-126	14	15		
Benzene	0.0492	0.0436	0.0500	0.0500	98	87	70-121	12	15		
Trichloroethene	0.0448	0.0389	0.0500	0.0500	90	78	75-120	14	15		
Toluene	0.0507	0.0441	0.0500	0.0500	101	88	80-120	14	15		
Chlorobenzene	0.0485	0.0429	0.0500	0.0500	97	86	76-120	12	15		
Surrogate:											
Dibromofluoromethane					98	102	76-131				
Toluene-d8					101	103	80-126				
4-Bromofluorobenzene					98	102	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rece	overy	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB09	29S2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0513	0.0499	0.0500	0.0500	103	100	68-126	3	15	
Benzene	0.0516	0.0532	0.0500	0.0500	103	106	70-121	3	15	
Trichloroethene	0.0516	0.0497	0.0500	0.0500	103	99	75-120	4	15	
Toluene	0.0517	0.0520	0.0500	0.0500	103	104	80-120	1	15	
Chlorobenzene	0.0507	0.0502	0.0500	0.0500	101	100	76-120	1	15	
Surrogate:										
Dibromofluoromethane					100	102	76-131			
Toluene-d8					107	105	80-126			
4-Bromofluorobenzene					105	104	60-146			

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery				
Analyte	Res	sult	Spike	Level	Rec	overy	Limits	RPD	Limit	Flags	
SPIKE BLANKS											
Laboratory ID:	SB09	30S2									
	SB	SBD	SB	SBD	SB	SBD					
1,1-Dichloroethene	0.0441	0.0439	0.0500	0.0500	88	88	68-126	0	15		
Benzene	0.0470	0.0480	0.0500	0.0500	94	96	70-121	2	15		
Trichloroethene	0.0494	0.0474	0.0500	0.0500	99	95	75-120	4	15		
Toluene	0.0503	0.0489	0.0500	0.0500	101	98	80-120	3	15		
Chlorobenzene	0.0475	0.0486	0.0500	0.0500	95	97	76-120	2	15		
Surrogate:											
Dibromofluoromethane					103	101	76-131				
Toluene-d8					109	107	80-126				
4-Bromofluorobenzene					106	107	60-146				

Samples Submitted: September 27, 2016

Laboratory Reference: 1609-337

Project: 0651-002

#### % MOISTURE

Date Analyzed: 9-28-16

Client ID	Lab ID	% Moisture
DRUM019-20160926	09-337-01	14
DRUM020-20160926	09-337-02	13
DRUM021-20160926	09-337-03	15
DRUM022-20160926	09-337-04	15
DRUM023-20160926	09-337-05	13
DRUM024-20160926	09-337-06	16
DRUM025-20160926	09-337-07	14
DRUM026-20160926	09-337-08	16
DRUM027-20160926	09-337-09	12



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical \_\_\_\_\_.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

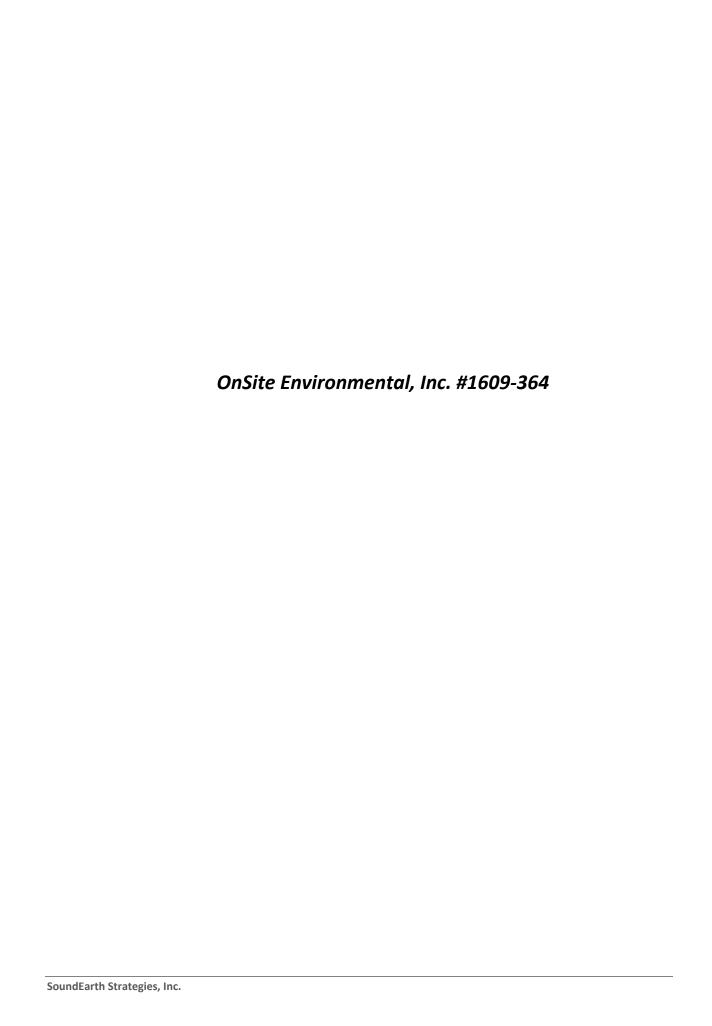


# OnSite Environmental Inc.

## **Chain of Custody**

Page of

Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		Turnaround Request (in working days)				L	aboratory Number: 09-337																	
Phone: (425) 883-3881 • www.onsite-env.com  Company:		(Check One)									-1-	T	T	T	T	T	T	T		(J-		П		
Sounci Earth Strategies, Inc. Project Number:		☐ Sam	e Day	1 Day								ny tanàna dia mandra d			MIS/C	A					INS-PKE			
0	05) - 002 Name:	2 Da	ays [	3 Days								-		3818	8270	8151A					and trons-			
			idard (7 Days)	,							32600	level)		des 80	icides	cides				664A	(1)			
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Sampl	n Cammarata, Courtrey Schaumberg ogen Schumaeher		(other)		Number of Contr	HCID	NWTPH-Gx/BTEX	1-GK	-Dx	Votatiles 8260C	Halogenated Volatiles 8260C	(with low-fevel PAHs) PAHs 8270D/SIM (low-level)	082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herblcides	fotal RCRA Metals	Total MTCA Metals	Aetals	Б	TCE, O			sture
Lab ID	Sample Identification	Date Sampled	Time Sampled	Watrix	Numbe	NWTPH-HCID	NWTP	NWTPH-Gx	NWTPH-Dx	Votatile	Haloge	(with lo	PCBs 8082A	Organo	Organo	Chlorin	Total B	Total M	TCLP Metals	HEM (c	PCE			% Moisture
1	DRUM019-20160926	9/26/16	0750	Soll	4																X			Ø
2	DRUM020-20160926		0800																		×			
3	DRUMOZI-20160926	,	0950		T																×			
4	DRUM022-20160926		0955																		X			
<	DRUM023-20160926		1020		1	T									T						X			
	DRUMO24-20160926		1330		1	T													-	-	X			
	DRUMO25-2016 0926		1340		14									1							×			
8	DROMO26-20160926		1445																		X			
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Relin	quished //w 4/////		SoundE	astly I	nc		9/1	26/	16	17	10	),[	Det	Cto	500	lie	J. 1.	ro-	f c	205-	251	ng/ka	g for on vc	
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Rec	eived	-		DIE	2		91	2	110	6 l	02	D		**********										
Revi	ewed/Date		Reviewed/Da	ate								CI	nroma	togra	ms w	ith fir	nal re	port						





14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 6, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-364

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 28, 2016.

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

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

Sincerely,

David Baumeister Project Manager

Enclosures



Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 27, 2016 and received by the laboratory on September 28, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

#### Volatiles EPA 8260C Analysis

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

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

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DRUM028-20160927					
09-364-01					
ND	0.81	EPA 8260C	10-4-16	10-4-16	
ND	0.81	EPA 8260C	10-4-16	10-4-16	
ND	0.81	EPA 8260C	10-4-16	10-4-16	
ND	0.81	EPA 8260C	10-4-16	10-4-16	
2500	40	EPA 8260C	10-4-16	10-5-16	
Percent Recovery	Control Limits				
106	76-131				
102	80-126				
107	60-146				
	DRUM028-20160927 09-364-01 ND ND ND ND ND Percent Recovery 106 102	DRUM028-20160927           09-364-01         0.81           ND         0.81           ND         0.81           ND         0.81           ND         0.81           2500         40           Percent Recovery         Control Limits           106         76-131           102         80-126	DRUM028-20160927           09-364-01         0.81         EPA 8260C           ND         0.81         EPA 8260C           ND         0.81         EPA 8260C           ND         0.81         EPA 8260C           2500         40         EPA 8260C           Percent Recovery         Control Limits           106         76-131           102         80-126	Result         PQL         Method         Prepared           DRUM028-20160927           09-364-01         EPA 8260C         10-4-16           ND         0.81         EPA 8260C         10-4-16           2500         40         EPA 8260C         10-4-16           Percent Recovery         Control Limits           106         76-131         102           80-126         Herboral Method	Result         PQL         Method         Prepared         Analyzed           DRUM028-20160927           09-364-01         09-364-01         10-4-16         10-5-16         Percent Recovery         Control Limits         106         76-131         76-131         102         80-126         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-5-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16         10-4-16 </td

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date		
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags	
Client ID:	DRUM029-20160927						
Laboratory ID:	09-364-02						
Vinyl Chloride	ND	0.87	EPA 8260C	10-4-16	10-4-16		
(trans) 1,2-Dichloroethene	ND	0.87	EPA 8260C	10-4-16	10-4-16		
(cis) 1,2-Dichloroethene	ND	0.87	EPA 8260C	10-4-16	10-4-16		
Trichloroethene	ND	0.87	EPA 8260C	10-4-16	10-4-16		
Tetrachloroethene	830	8.7	EPA 8260C	10-4-16	10-5-16		
Surrogate:	Percent Recovery	Control Limits					
Dibromofluoromethane	111	76-131					
Toluene-d8	104	80-126					
4-Bromofluorobenzene	105	60-146					

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM030-20160927					
Laboratory ID:	09-364-03					
Vinyl Chloride	ND	0.79	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.79	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.79	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.79	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	660	7.9	EPA 8260C	10-4-16	10-5-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	114	76-131				
Toluene-d8	104	80-126				
4-Bromofluorobenzene	106	60-146				

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM031-20160927					
Laboratory ID:	09-364-04					
Vinyl Chloride	ND	0.76	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.76	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.76	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.76	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	130	0.76	EPA 8260C	10-4-16	10-4-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	108	76-131				
Toluene-d8	104	80-126				
4-Bromofluorobenzene	105	60-146				

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date		
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags	
Client ID:	DRUM032-20160927						
Laboratory ID:	09-364-05						
Vinyl Chloride	ND	0.78	EPA 8260C	10-4-16	10-4-16		
(trans) 1,2-Dichloroethene	ND	0.78	EPA 8260C	10-4-16	10-4-16		
(cis) 1,2-Dichloroethene	ND	0.78	EPA 8260C	10-4-16	10-4-16		
Trichloroethene	ND	0.78	EPA 8260C	10-4-16	10-4-16		
Tetrachloroethene	1800	19	EPA 8260C	10-4-16	10-5-16		
Surrogate:	Percent Recovery	Control Limits					
Dibromofluoromethane	110	76-131					
Toluene-d8	104	80-126					
4-Bromofluorobenzene	107	60-146					

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

			Date	Date		
Result	PQL	Method	Prepared	Analyzed	Flags	
DRUM033-20160927						
09-364-06						
ND	0.80	EPA 8260C	10-4-16	10-4-16		
ND	0.80	EPA 8260C	10-4-16	10-4-16		
ND	0.80	EPA 8260C	10-4-16	10-4-16		
0.83	0.80	EPA 8260C	10-4-16	10-4-16		
770	8.0	EPA 8260C	10-4-16	10-5-16		
Percent Recovery	Control Limits					
105	76-131					
103	80-126					
104	60-146					
	DRUM033-20160927 09-364-06 ND ND ND 0.83 770 Percent Recovery 105 103	DRUM033-20160927         09-364-06       0.80         ND       0.80         ND       0.80         ND       0.80         0.83       0.80         770       8.0         Percent Recovery       Control Limits         105       76-131         103       80-126	DRUM033-20160927           09-364-06         0.80         EPA 8260C           ND         0.80         EPA 8260C           ND         0.80         EPA 8260C           0.83         0.80         EPA 8260C           770         8.0         EPA 8260C           Percent Recovery         Control Limits           105         76-131           103         80-126	Result         PQL         Method         Prepared           DRUM033-20160927         09-364-06         09-364-06         10-4-16           ND         0.80         EPA 8260C         10-4-16           ND         0.80         EPA 8260C         10-4-16           ND         0.80         EPA 8260C         10-4-16           0.83         0.80         EPA 8260C         10-4-16           770         8.0         EPA 8260C         10-4-16           Percent Recovery         Control Limits           105         76-131         103         80-126	Result         PQL         Method         Prepared         Analyzed           DRUM033-20160927           09-364-06         9-364-06         10-4-16         10-4-16           ND         0.80         EPA 8260C         10-4-16         10-4-16           ND         0.80         EPA 8260C         10-4-16         10-4-16           0.83         0.80         EPA 8260C         10-4-16         10-4-16           770         8.0         EPA 8260C         10-4-16         10-5-16           Percent Recovery         Control Limits           105         76-131         103         80-126	

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DRUM034-20160927					
09-364-07					
ND	0.82	EPA 8260C	10-4-16	10-4-16	
ND	0.82	EPA 8260C	10-4-16	10-4-16	
ND	0.82	EPA 8260C	10-4-16	10-4-16	
ND	0.82	EPA 8260C	10-4-16	10-4-16	
260	4.1	EPA 8260C	10-4-16	10-5-16	
Percent Recovery	Control Limits				
112	76-131				
113	80-126				
108	60-146				
	DRUM034-20160927 09-364-07 ND ND ND ND ND 260 Percent Recovery 112 113	DRUM034-20160927         09-364-07       ND       0.82         ND       0.82         ND       0.82         ND       0.82         260       4.1         Percent Recovery       Control Limits         112       76-131         113       80-126	DRUM034-20160927  09-364-07  ND	DRUM034-20160927  09-364-07  ND	DRUM034-20160927  09-364-07  ND

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date		
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags	
Client ID:	DRUM035-20160927						
Laboratory ID:	09-364-08						
Vinyl Chloride	ND	0.79	EPA 8260C	10-4-16	10-4-16		
(trans) 1,2-Dichloroethene	ND	0.79	EPA 8260C	10-4-16	10-4-16		
(cis) 1,2-Dichloroethene	ND	0.79	EPA 8260C	10-4-16	10-4-16		
Trichloroethene	ND	0.79	EPA 8260C	10-4-16	10-4-16		
Tetrachloroethene	430	3.9	EPA 8260C	10-4-16	10-5-16		
Surrogate:	Percent Recovery	Control Limits					
Dibromofluoromethane	112	76-131					
Toluene-d8	105	80-126					
4-Bromofluorobenzene	107	60-146					

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM036-20160927					
Laboratory ID:	09-364-09					
Vinyl Chloride	ND	0.85	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.85	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.85	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.85	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	1300	8.5	EPA 8260C	10-4-16	10-5-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	108	76-131				
Toluene-d8	103	80-126				
4-Bromofluorobenzene	104	60-146				

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM037-20160927					
Laboratory ID:	09-364-10					
Vinyl Chloride	ND	0.77	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.77	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.77	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.77	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	700	7.7	EPA 8260C	10-4-16	10-5-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	107	76-131				
Toluene-d8	102	80-126				
4-Bromofluorobenzene	104	60-146				

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
						_
Laboratory ID:	MB1004S3					
Vinyl Chloride	ND	0.025	EPA 8260C	10-4-16	10-4-16	_
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	117	76-131				
Toluene-d8	116	80-126				
4-Bromofluorobenzene	115	60-146				

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Reco	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	04S2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0489	0.0506	0.0500	0.0500	98	101	68-126	3	15	
Benzene	0.0568	0.0570	0.0500	0.0500	114	114	70-121	0	15	
Trichloroethene	0.0537	0.0545	0.0500	0.0500	107	109	75-120	1	15	
Toluene	0.0553	0.0565	0.0500	0.0500	111	113	80-120	2	15	
Chlorobenzene	0.0532	0.0523	0.0500	0.0500	106	105	76-120	2	15	
Surrogate:										
Dibromofluoromethane					106	109	76-131			
Toluene-d8					106	106	80-126			
4-Bromofluorobenzene					107	104	60-146			

Samples Submitted: September 28, 2016

Laboratory Reference: 1609-364

Project: 0651-002

## % MOISTURE

Date Analyzed: 9-30-16

Client ID	Lab ID	% Moisture
DRUM028-20160927	09-364-01	16
DRUM029-20160927	09-364-02	14
DRUM030-20160927	09-364-03	15
DRUM031-20160927	09-364-04	12
DRUM032-20160927	09-364-05	16
DRUM033-20160927	09-364-06	16
DRUM034-20160927	09-364-07	15
DRUM035-20160927	09-364-08	14
DRUM036-20160927	09-364-09	16
DRUM037-20160927	09-364-10	13



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical \_\_\_\_\_\_.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

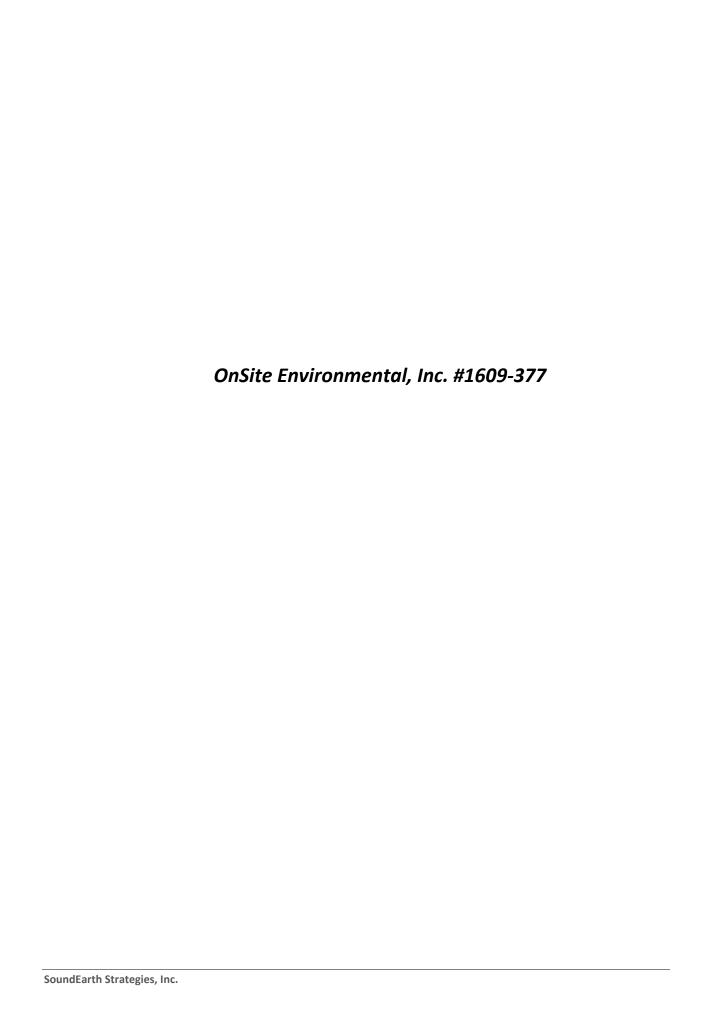


MA	OnSite	
	<b>Environmental</b>	inc.

**Chain of Custody** 

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Page	of	

	14648 NE	aboratory Testing Services 95th Street • Redmond, WA 98052	Turnaround Request (in working days) Laboratory Number: 09-364																								
Compa		5) 883-3881 • www.onsite-env.com	-	(Check One	e)			<del></del>			7						_										
So	Number:	Strategies Inc.	☐ Sam	ne Day	1 Day									British and Street			MIS						-PCE,				
0	(05) - 002 t Name:		2 Da	ays	3 Days											8	70D/	51A					(COO)				
1	Stic Sales 3 t Manager:	3 Service	Star (TPI	ndard (7 Days) Hanalysis 5 D	ays)	ers						s 8260C	SIM	w-level)		cides 808	sticides 82	oicides 8151		The second secon		1664A	- and trans-				
Sample	m Camma	cota Courtrey Schaumber		(other)	-	Number of Contain	ICID	ix/BTEX	×	×	260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	SA.	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbickdes	A Metals	A Metals	ils	HEM (oil and grease) 1664A	TCE, Cis	•			
Lab ID	Sa	ample Identification	Date Sampled	Time Sampled	Matrix	Number of	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	alogenat	emivolati	AHs 8270	PCBs 8082A	rganochl	rganopho	hlorinated	Total RCRA Metals	Total MTCA Metals	TCLP Metals	EM (oil ar	PCE, TC				% Moisture
1	DRUM02	8-20160927	9/27/10	T	T	4	-	_	2		>	Ι	s s	0.	ď.	0	0	ō	5	122	12	三	V	+	+		<u>*</u>
2	DRUMOS	29-20160927	09/27/10		soil	4																	X	-	+	-	7
3	DRUM 03	30 - 20160927	9/27/16		Soil	4																	X	-		+	H
4	DRUM 03	31-20160927	9/27/16	1025	Soil	4																	X	+	$\vdash$	+	H
5	DRUM 03	32-20160927	912716		Sosl	4			1	7	$\forall$	7	$\dashv$										X	+	$\vdash$	+	H
6	DRUMOS	13 - 20160927	9127/16	1225	Sost	4				7			7					$\neg$					X	-	$\vdash$		H
7	DRUMO	34-20160927	9/27/16	1310	Soil	4			1	7		1	7										X	+	$\vdash$	$\dashv$	H
8	DRUMO	35-20160927	9/27/16	1320	5011	4						7	7					7					X		$\vdash$	$\dashv$	П
9	DRUMO3	36-20160927	9/27/16	1440	soil	4				1		7	7	1	7			7	7				X			$\forall$	
10	DRUMO	37-20160927	9/27/16	1445	Soil	4			T	1		1		7			7	7					X	+		1	
		Signature	Co	ompany				Date	Fy.		Time			Com	ment	s/Spe	cial I	nstruc	tions	3		Reference to	le sa	i de la companya de	in the same	ME A	10
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Receiv	rea																										
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14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 11, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-377

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 29, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Laboratory Reference: 1609-377

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 28, 2016 and received by the laboratory on September 29, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

## Volatiles EPA 8260C Analysis

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

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

Laboratory Reference: 1609-377

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM041-20160928					_
Laboratory ID:	09-377-04					
Vinyl Chloride	ND	0.82	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.82	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.82	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.82	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	410	4.1	EPA 8260C	10-4-16	10-5-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	115	76-131				
Toluene-d8	111	80-126				
4-Bromofluorobenzene	113	60-146				

Laboratory Reference: 1609-377

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM043-20160928					
Laboratory ID:	09-377-06					
Vinyl Chloride	ND	0.89	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.89	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.89	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.89	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	370	4.5	EPA 8260C	10-4-16	10-5-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	108	76-131				
Toluene-d8	106	80-126				
4-Bromofluorobenzene	108	60-146				

Laboratory Reference: 1609-377

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM044-20160928					_
Laboratory ID:	09-377-07					
Vinyl Chloride	ND	0.91	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.91	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.91	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.91	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	270	4.5	EPA 8260C	10-4-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	105	76-131				
Toluene-d8	102	80-126				
4-Bromofluorobenzene	103	60-146				

Laboratory Reference: 1609-377

Project: 0651-002

## VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB1004S3					
Vinyl Chloride	ND	0.025	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	117	76-131				
Toluene-d8	116	80-126				
4-Bromofluorobenzene	115	60-146				

Laboratory Reference: 1609-377

Project: 0651-002

## VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

5 5					P	ercent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Re	covery	Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	04S2								
	SB	SBD	SB	SBD	SE	SBD	1			
1,1-Dichloroethene	0.0489	0.0506	0.0500	0.0500	98	101	68-126	3	15	
Benzene	0.0568	0.0570	0.0500	0.0500	11	4 114	70-121	0	15	
Trichloroethene	0.0537	0.0545	0.0500	0.0500	10	7 109	75-120	1	15	
Toluene	0.0553	0.0565	0.0500	0.0500	11	1 113	80-120	2	15	
Chlorobenzene	0.0532	0.0523	0.0500	0.0500	10	3 105	76-120	2	15	
Surrogate:										
Dibromofluoromethane					10	6 109	76-131			
Toluene-d8					10	6 106	80-126			
4-Bromofluorobenzene					10	7 104	60-146			

Samples Submitted: September 29, 2016

Laboratory Reference: 1609-377

Project: 0651-002

## % MOISTURE

Date Analyzed: 10-3-16

Client ID	Lab ID	% Moisture
DRUM041-20160928	09-377-04	16
DRUM043-20160928	09-377-06	14
DRUM044-20160928	09-377-07	13



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical .
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

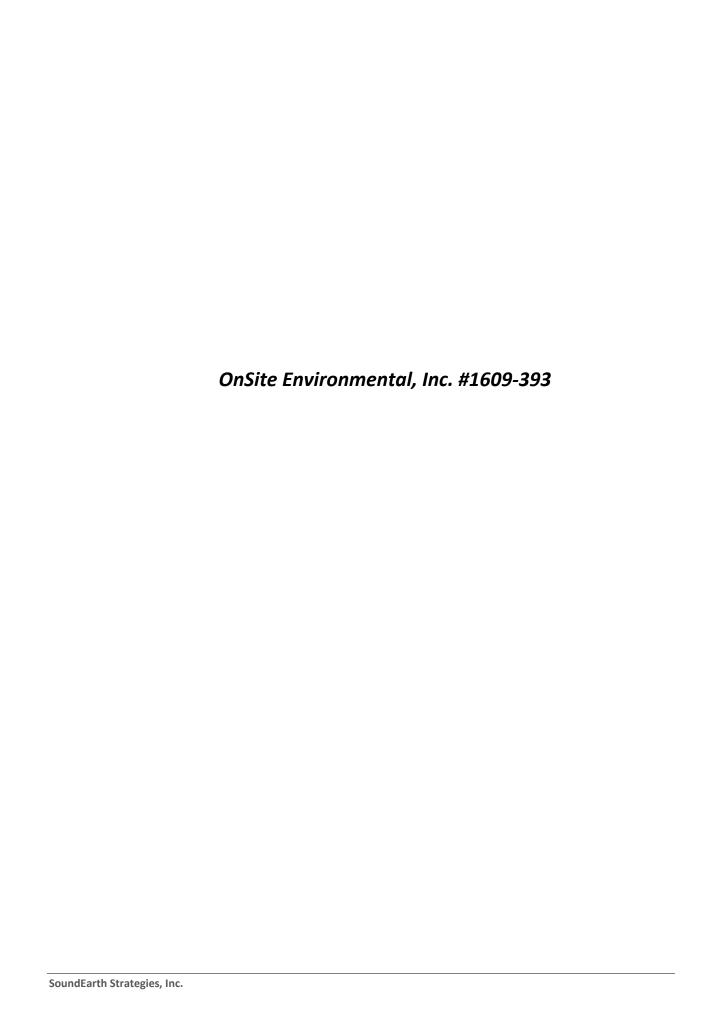


12.5		
MIL	OnSite	
	<b>Environmental</b>	inc.

# **Chain of Custody**

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Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052		rnaround Req in working da			L	abo	rato	ry	Nun	nbe	r:	<u> </u>							(	9	-	3 7	77		
Phone: (425) 883-3881 • www.onsite-env.com  Company:  Sound Earth Strategies The.  Project Number:  O(5) - 002  Project Name:  Plastic Sales 3 Service  Project Manager:  Tom Cammarata, Courtey Schaunberg  Sampled by:	(TP)		1 Day	of Containers		этех			Volatiles 8260C	Voidules ozooo	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)		Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Metals	Matale		HEM foil and crease) 1664A	E, Cis- and Hens-PKE	by 82				
Lab ID Sample Identification	Date Sampled	(other) Time Sampled	Watrix	Number of (	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Tarogeriated	semivolatiles with low-fev	PAHS 8270D	PCBs 8082A	Jiganochlor	Organophosp	Total BCRA Metals	Total MTCA Matale	TCLP Metals	HFM foil and	PCE, TC	and VC	thele			% Moisture
1 DRUM039-20160928	9/28/1	T	Soil	4			2				7					Ť	Ť	Ť		)	<	X			X
2 DRUMO40-20160928		0830		4									72							)	<	X			X
3 DRUM038-20140928	-	0935		4																)	X	X			X
4 DRUM041-20160928		0940		4																)					X
5 Drumo42-2010938		1100		4																)	X.	X			X
6 DRUMD43-20160928		1105		4																)	(				X
7 DRUM044-20160928		1110		4																)					X
8 DRUMU45-20160928		1210		4																	X	X			X
9 DRUMO46-20160928		1215		4																)	X	X			4
10 DRUM047-20160928	1	1355	1	4																)	(	X			X
Signature		Company	1			Date	9		Time			Com	ment	s/Spe	cial In	struck	ions	25	0	02	5	~~/	va Gu	_	40
Relinquished Clantont-		Surnde	Cuth			-	, ,	()	4	()	_	PC	E	TC	E, C	5-	00	cl +	con	5- 1	20	E, a	kg for	IC.	
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Relinquished  Received	)	\$ ST	aes	6		9/	291	16	18	355	-														
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Received						T			- 1																
Reviewed/Date		Reviewed/D	ate									Chro	mato	gram	s with	final	repo	rt []							





14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 7, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-393

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 30, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

#### **Case Narrative**

Samples were collected on September 29, 2016 and received by the laboratory on September 30, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

## Volatiles EPA 8260C Analysis

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

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

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM047-20160929					
Laboratory ID:	09-393-01					
Vinyl Chloride	ND	0.052	EPA 8260C	10-4-16	10-6-16	
(trans) 1,2-Dichloroethene	ND	0.034	EPA 8260C	10-4-16	10-6-16	
(cis) 1,2-Dichloroethene	ND	0.034	EPA 8260C	10-4-16	10-6-16	
Trichloroethene	0.043	0.034	EPA 8260C	10-4-16	10-6-16	
Tetrachloroethene	18	0.69	EPA 8260C	10-4-16	10-4-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	93	76-131				
Toluene-d8	100	80-126				
4-Bromofluorobenzene	100	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DRUM040-20160929					
09-393-02					
ND	0.025	EPA 8260C	10-6-16	10-6-16	
ND	0.025	EPA 8260C	10-6-16	10-6-16	
0.0049	0.025	EPA 8260C	10-6-16	10-6-16	
0.013	0.025	EPA 8260C	10-6-16	10-6-16	
17	0.038	EPA 8260C	10-4-16	10-6-16	
Percent Recovery	Control Limits				
108	76-131				
105	80-126				
91	60-146				
	DRUM040-20160929 09-393-02 ND ND 0.0049 0.013 17 Percent Recovery 108 105	DRUM040-20160929         09-393-02       0.025         ND       0.025         ND       0.025         0.0049       0.025         0.013       0.025         17       0.038         Percent Recovery       Control Limits         108       76-131         105       80-126	DRUM040-20160929         09-393-02       ND       0.025       EPA 8260C         ND       0.025       EPA 8260C         0.0049       0.025       EPA 8260C         0.013       0.025       EPA 8260C         17       0.038       EPA 8260C         Percent Recovery       Control Limits         108       76-131         105       80-126	Result         PQL         Method         Prepared           DRUM040-20160929           09-393-02         FPA 8260C         10-6-16           ND         0.025         EPA 8260C         10-6-16           ND         0.025         EPA 8260C         10-6-16           0.0049         0.025         EPA 8260C         10-6-16           0.013         0.025         EPA 8260C         10-6-16           17         0.038         EPA 8260C         10-4-16           Percent Recovery         Control Limits           108         76-131         105         80-126	Result         PQL         Method         Prepared         Analyzed           DRUM040-20160929           09-393-02         PPA 8260C         10-6-16         10-6-16           ND         0.025         EPA 8260C         10-6-16         10-6-16           ND         0.025         EPA 8260C         10-6-16         10-6-16           0.0049         0.025         EPA 8260C         10-6-16         10-6-16           0.013         0.025         EPA 8260C         10-6-16         10-6-16           17         0.038         EPA 8260C         10-4-16         10-6-16           Percent Recovery         Control Limits           108         76-131         76-131           105         80-126         10-6-16

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
DRUM038-20160929					
09-393-03					
ND	0.073	EPA 8260C	10-4-16	10-6-16	
ND	0.049	EPA 8260C	10-4-16	10-6-16	
ND	0.049	EPA 8260C	10-4-16	10-6-16	
ND	0.049	EPA 8260C	10-4-16	10-6-16	
14	0.97	EPA 8260C	10-4-16	10-4-16	
Percent Recovery	Control Limits				
95	76-131				
100	80-126				
98	60-146				
	DRUM038-20160929	DRUM038-20160929         09-393-03       0.073         ND       0.049         ND       0.049         ND       0.049         14       0.97         Percent Recovery       Control Limits         95       76-131         100       80-126	DRUM038-20160929 09-393-03  ND 0.073 EPA 8260C ND 0.049 EPA 8260C ND 0.049 EPA 8260C ND 0.049 EPA 8260C 14 0.97 EPA 8260C  Percent Recovery Control Limits 95 76-131 100 80-126	Result         PQL         Method         Prepared           DRUM038-20160929         09-393-03         FPA 8260C         10-4-16           ND         0.073         EPA 8260C         10-4-16           ND         0.049         EPA 8260C         10-4-16           ND         0.049         EPA 8260C         10-4-16           ND         0.049         EPA 8260C         10-4-16           14         0.97         EPA 8260C         10-4-16           Percent Recovery         Control Limits           95         76-131         100           80-126         10-4-16         10-4-16	Result         PQL         Method         Prepared         Analyzed           DRUM038-20160929           09-393-03         EPA 8260C         10-4-16         10-6-16           ND         0.049         EPA 8260C         10-4-16         10-6-16           ND         0.049         EPA 8260C         10-4-16         10-6-16           ND         0.049         EPA 8260C         10-4-16         10-6-16           ND         0.97         EPA 8260C         10-4-16         10-4-16           Percent Recovery         Control Limits           95         76-131         76-131         76-131           100         80-126         80-126         80-126

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM046-20160929					
Laboratory ID:	09-393-04					
Vinyl Chloride	ND	0.067	EPA 8260C	10-4-16	10-6-16	
(trans) 1,2-Dichloroethene	ND	0.045	EPA 8260C	10-4-16	10-6-16	
(cis) 1,2-Dichloroethene	ND	0.045	EPA 8260C	10-4-16	10-6-16	
Trichloroethene	ND	0.045	EPA 8260C	10-4-16	10-6-16	
Tetrachloroethene	4.8	0.045	EPA 8260C	10-4-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	102	76-131				
Toluene-d8	107	80-126				
4-Bromofluorobenzene	107	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM042-20160929					
Laboratory ID:	09-393-05					
Vinyl Chloride	ND	0.072	EPA 8260C	10-4-16	10-6-16	
(trans) 1,2-Dichloroethene	ND	0.048	EPA 8260C	10-4-16	10-6-16	
(cis) 1,2-Dichloroethene	ND	0.048	EPA 8260C	10-4-16	10-6-16	
Trichloroethene	ND	0.048	EPA 8260C	10-4-16	10-6-16	
Tetrachloroethene	26	0.96	EPA 8260C	10-4-16	10-4-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	76-131				
Toluene-d8	106	80-126				
4-Bromofluorobenzene	103	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM045-20160929					
Laboratory ID:	09-393-06					
Vinyl Chloride	ND	0.058	EPA 8260C	10-4-16	10-6-16	
(trans) 1,2-Dichloroethene	ND	0.039	EPA 8260C	10-4-16	10-6-16	
(cis) 1,2-Dichloroethene	ND	0.039	EPA 8260C	10-4-16	10-6-16	
Trichloroethene	ND	0.039	EPA 8260C	10-4-16	10-6-16	
Tetrachloroethene	4.2	0.039	EPA 8260C	10-4-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	96	76-131				
Toluene-d8	101	80-126				
4-Bromofluorobenzene	100	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

## **VOLATILES EPA 8260C**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM039-20160929					
Laboratory ID:	09-393-07					
Vinyl Chloride	ND	0.058	EPA 8260C	10-4-16	10-6-16	
(trans) 1,2-Dichloroethene	ND	0.039	EPA 8260C	10-4-16	10-6-16	
(cis) 1,2-Dichloroethene	0.085	0.039	EPA 8260C	10-4-16	10-6-16	
Trichloroethene	0.16	0.039	EPA 8260C	10-4-16	10-6-16	
Tetrachloroethene	3.3	0.039	EPA 8260C	10-4-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	99	76-131				
Toluene-d8	103	80-126				
4-Bromofluorobenzene	101	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB1004S2					
Vinyl Chloride	ND	0.025	EPA 8260C	10-4-16	10-4-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Trichloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Tetrachloroethene	ND	0.025	EPA 8260C	10-4-16	10-4-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	104	76-131				
Toluene-d8	108	80-126				
4-Bromofluorobenzene	105	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

#### VOLATILES EPA 8260C METHOD BLANK QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Laboratory ID:	MB1006S1					
Vinyl Chloride	ND	0.025	EPA 8260C	10-6-16	10-6-16	
(trans) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-6-16	10-6-16	
(cis) 1,2-Dichloroethene	ND	0.025	EPA 8260C	10-6-16	10-6-16	
Trichloroethene	ND	0.025	EPA 8260C	10-6-16	10-6-16	
Tetrachloroethene	ND	0.025	EPA 8260C	10-6-16	10-6-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	109	76-131				
Toluene-d8	110	80-126				
4-Bromofluorobenzene	111	60-146				

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rec	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	04S1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0357	0.0341	0.0500	0.0500	71	68	68-126	5	15	
Benzene	0.0509	0.0503	0.0500	0.0500	102	101	70-121	1	15	
Trichloroethene	0.0462	0.0434	0.0500	0.0500	92	87	75-120	6	15	
Toluene	0.0517	0.0508	0.0500	0.0500	103	102	80-120	2	15	
Chlorobenzene	0.0491	0.0468	0.0500	0.0500	98	94	76-120	5	15	
Surrogate:										
Dibromofluoromethane					102	100	76-131			
Toluene-d8					104	102	80-126			
4-Bromofluorobenzene					102	100	60-146			

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

#### VOLATILES EPA 8260C SB/SBD QUALITY CONTROL

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Rec	Recovery		RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	06S2								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	0.0402	0.0385	0.0500	0.0500	80	77	68-126	4	15	
Benzene	0.0495	0.0458	0.0500	0.0500	99	92	70-121	8	15	
Trichloroethene	0.0467	0.0439	0.0500	0.0500	93	88	75-120	6	15	
Toluene	0.0514	0.0473	0.0500	0.0500	103	95	80-120	8	15	
Chlorobenzene	0.0470	0.0441	0.0500	0.0500	94	88	76-120	6	15	
Surrogate:										
Dibromofluoromethane					102	102	76-131			
Toluene-d8					106	102	80-126			
4-Bromofluorobenzene					102	102	60-146			

Samples Submitted: September 30, 2016

Laboratory Reference: 1609-393

Project: 0651-002

#### % MOISTURE

Date Analyzed: 10-3-16

Client ID	Lab ID	% Moisture
DRUM047-20160929	09-393-01	13
DRUM040-20160929	09-393-02	11
DRUM038-20160929	09-393-03	18
DRUM046-20160929	09-393-04	13
DRUM042-20160929	09-393-05	18
DRUM045-20160929	09-393-06	12
DRUM039-20160929	09-393-07	14



#### **Data Qualifiers and Abbreviations**

- A Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B The analyte indicated was also found in the blank sample.
- C The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E The value reported exceeds the quantitation range and is an estimate.
- F Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I Compound recovery is outside of the control limits.
- J The value reported was below the practical quantitation limit. The value is an estimate.
- K Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L The RPD is outside of the control limits.
- M Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.
- N Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 Hydrocarbons in diesel range are impacting lube oil range results.
- O Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P The RPD of the detected concentrations between the two columns is greater than 40.
- Q Surrogate recovery is outside of the control limits.
- S Surrogate recovery data is not available due to the necessary dilution of the sample.
- T The sample chromatogram is not similar to a typical \_\_\_\_\_\_.
- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 The practical quantitation limit is elevated due to interferences present in the sample.
- V Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X Sample extract treated with a mercury cleanup procedure.
- X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

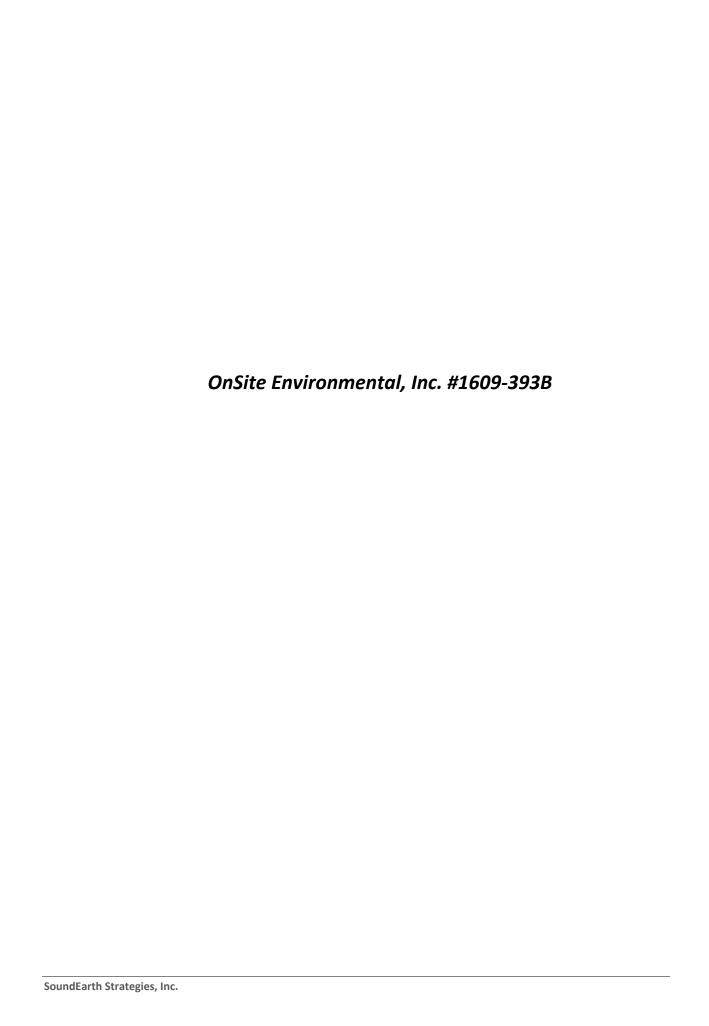


## OnSite Environmental Inc.

### **Chain of Custody**

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Page	l of	}
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	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Turnaround Request (in working days) Laboratory Number								r:	09-393														
Compa	Phone: (425) 883-3881 • www.onsite-env.com		(Check One	)					T	T			T		I		T	T	T		u- 1				
	Onclearth Strategies, Inc.	☐ Same	Day	1 Day											WIS/O						17G-5W				
0	05) - 002 Name:	2 Day	s	3 Days										818	8270D/SIM	8151A					and trems-				
		Stand	ard (7 Days)							Sanc	2002	evel)		es 80	sides	ides (				184A	- and				
Projec	Stic Sales 3 Service Manager:	(TPH	analysis 5 D	ays)	ners					0	IIS/Q	(s) (ow-l		sticid	Pesti	lerbic	100	100		se) 16	C.15-				
To	n Cammarata, Courtrey Schaumberg				Contai	0	STEX			OC Volat	827C	I PAI		ne Pe	horus	Acid H	Metals	Metal		grea	D'C				
oampi	su uy.		(other)		r of C	를 무	I-Gx/E	-G×	Ž-	s 826	latiles	low-level PAHs) s 8270D/SIM (low-le	082A	chlori	dsouc	ated /	CRA	TCA	Aetals	il and	17C				sture
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Semivo	(with low-level PAHs) PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides	Chlorinated Acid Herbicides	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	PCE			2	% Moisture
1	DRUM047-20160929	9/29/16	1340	Soil	4																X			)	X
Z	DRUM040-20160929	1	1355		4								1								X			1	X
3	DRUM038-20160929		1405		4																X			3	1
4	DRUM046-20160929		1420		4																X			X	(
5	DRUMO42-2016 0929		1435		4																X			×	
6	DRUMO45-20160929		1445		4																X			1	1
7	DRUM039-20160929	4	1455	1	4																X			1	X
				GT	0	12	7/11																		
	v .											-	-												
	Signature	Co	mpany				Date	AM		Time		Co	mmer	its/Sp	ecial	Instru	uction	18				ERIG			
Relin	quished Clair Toil.		Sandl	Earth			9.	-30-	16	9:0	15	ار ا	ete	che	00	lic	tin	- 04	PC	0.0	25	mgl	kg for		
Rece	1. 11/	7		EAY	1		9-	30-	-16	9:0		7 P	CE	TC	LE,	CIS	- 0	ncl	tro	ns-	DC	E, a	nol v	C.	
Relin	quished Plasathofel	7	SPE																						
Rece	ived Du	(a	K. S.	DE		0	N:	31	la	1010	cc														
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Revie	wed/Date		Reviewed/Da	ate								Ch	romat	ograr	ns wi	th fin	al rep	oort [							
	Data Package: Sta	ndard Level III Level IV Electronic Data Deliverables (EDDs)								(DS) []															





14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

October 17, 2016

Tom Cammarata Sound Earth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, WA 98102

Re: Analytical Data for Project 0651-002

Laboratory Reference No. 1609-393B

Dear Tom:

Enclosed are the analytical results and associated quality control data for samples submitted on September 30, 2016.

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

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

Sincerely,

David Baumeister Project Manager

**Enclosures** 



Project: 0651-002

#### **Case Narrative**

Samples were collected on September 29, 2016 and received by the laboratory on September 30, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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

Project: 0651-002

### TCLP VOLATILES EPA 1311/8260C

Matrix: TCLP Extract

Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	DRUM038-20160929					
Laboratory ID:	09-393-03					
Vinyl Chloride	ND	2.0	EPA 8260C	10-12-16	10-13-16	
Trichloroethene	ND	2.0	EPA 8260C	10-12-16	10-13-16	
Tetrachloroethene	130	2.0	EPA 8260C	10-12-16	10-13-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	106	71-131				
Toluene-d8	100	80-127				
4-Bromofluorobenzene	96	80-125				

Project: 0651-002

## TCLP VOLATILES EPA 1311/8260C METHOD BLANK QUALITY CONTROL

Matrix: TCLP Extract

Units: ug/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
						_
Laboratory ID:	MB1012T1					
Vinyl Chloride	ND	2.0	EPA 8260C	10-12-16	10-13-16	
Trichloroethene	ND	2.0	EPA 8260C	10-12-16	10-13-16	
Tetrachloroethene	ND	2.0	EPA 8260C	10-12-16	10-13-16	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	105	71-131				
Toluene-d8	99	80-127				
4-Bromofluorobenzene	97	80-125				

Project: 0651-002

#### TCLP VOLATILES EPA 1311/8260C SB/SBD QUALITY CONTROL

Matrix: TCLP Extract

Units: ug/L

					Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Recovery		Limits	RPD	Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB10	13T1								
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	9.56	9.60	10.0	10.0	96	96	62-132	0	20	
Benzene	9.65	9.75	10.0	10.0	97	98	75-121	1	15	
Trichloroethene	8.72	8.78	10.0	10.0	87	88	65-115	1	15	
Toluene	9.06	9.16	10.0	10.0	91	92	78-120	1	15	
Chlorobenzene	9.12	9.11	10.0	10.0	91	91	77-118	0	15	
Surrogate:										
Dibromofluoromethane					101	105	71-131			
Toluene-d8					99	100	80-127			
4-Bromofluorobenzene					95 98		80-125			



#### **Data Qualifiers and Abbreviations**

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7 -

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RPD - Relative Percent Difference



# OnSite Environmental Inc.

### **Chain of Custody**

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

	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052	Turnaround Request (in working days) Laboratory Number:								09-393																
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So	onclearth Strategies, Inc.	☐ Same	Day [	1 Day											VCIM							JQ-500	E 700			
0	051-002	2 Day	s [	3 Days										3	20700	1	1019					5740	pc			
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	Stic Sales 3 Service		analysis 5 Da	ays)	iners						iles 8	8270D/SIM	-wol)		Boot		Jerbig	co co	S		(se) 1	\$ 00	VOCC			
Sampl	m Cammarata, Courtrey Schaumberg		(other)		Number of Conta	4CID	NWTPH-Gx/BTEX	X	×C	Volatiles 8260C	Halogenated Volatiles 8260C	level PAI	PAHS 82/0D/SIM (low-level)	COS GUEZA	Organization in the resultings 500 fb	7	Chiorinated Acid Herbicides 6151A	Total RCRA Metals	Total MTCA Metals	stals	HEM (oil and grease) 1664A	TCE, C				aun
SUR		Date	Time		nber	NWTPH-HCID	TPH-(	NWTPH-Gx	NWTPH-Dx	atiles	ogena	Semivolatiles (with low-leve	15 82	00 00	al local		ormat	al RC	al MT	TCLP Metals	M (oil	E TH	000			% Moisture
Lab ID	Sample Identification	Sampled	Sampled	Watrix	Nur	Ž	Ž	N N	N N	No.	로	Ser	PAHS	2 2		5 6	5	Tot	10 To	2	뽀	28	- 1-	1		8
1	DRUM047-20160929	9/29/16	1340	Soil	4																	X				X
Z	DRUM040- 20160929		1355		4																	X				X
3	DRUM038-20160929		1405		4																	X	X	1	1	L
4	DRUM046-20160929		1420		4																	X			1	(
5	DRUMO42-2016 0929		1435		4																	X			4	
Co	DRUMO45-20160829		1445		4																	X			1	1
7	DRUM039-20160929	4	1455	J.	4																	X				X
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Rece	aived																									
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