

**RECEIVED**

By Alameda County Environmental Health 2:58 pm, Aug 07, 2017

August 3, 2017

Mr. Mark Detterman  
Alameda County Health Care Services Agency  
Environmental Health Services  
Local Oversight Program  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Subject: Submittal Acknowledgement regarding 811 Paramount Road, Oakland, CA. (Alameda County Fuel Leak Case No. RO0003143 and CA Geotracker Global ID T10000006106)

Dear Mr. Detterman:

We have read and acknowledge the content, recommendations, and/or conclusions contained in the attached document or report submitted on our behalf to ACDEH's FTP server and the SWRCB's Geotracker website.

We understand from our consultants at Stellar Environmental that the results of the attached current July 6, 2017 investigation detected a zone of petroleum hydrocarbons in soil at bore location SB7, immediately east of the underground storage tank removed in 2013, between 8-14 feet below ground surface, and that this "hot spot" may be the source of vapor intrusion that was detected during the 2015 and 2016 indoor air sampling of our home at 811 Paramount Road in Oakland by Stellar Environmental. We were also informed at the last time point of indoor air sampling (August, 2016) that TO-17 measurements of basement indoor air revealed TPH-diesel ( $180 \mu\text{g}/\text{m}^3$ ) and naphthalene ( $0.60 \mu\text{g}/\text{m}^3$ ), levels exceeding those of outside air ( $75$  and  $<0.085 \mu\text{g}/\text{m}^3$ ) and ESLs ( $140$  and  $0.083 \mu\text{g}/\text{m}^3$ ).

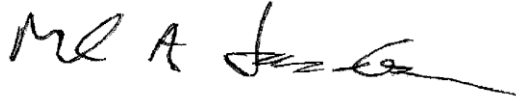
In evaluating the significance of previous and current data, we hope that ACDEH will consider the following in support of low-risk closure:

1. The basement rooms that were sampled for air and sub-slab soil gas are never occupied for more than one to two hours during a given day and are not considered habitable space for the purposes of taxation or marketing the house for sale.
2. Indoor living room air was also sampled by TO-15 in August, 2016. At that time, naphthalene was  $0.33 \mu\text{g}/\text{m}^3$  in the living room compared to  $0.72 \mu\text{g}/\text{m}^3$  in the basement by the same TO-15 method at the same time (TPH-gasoline was undetectable in the living room, TPH-diesel was not measured).
3. Previous assays of petroleum hydrocarbons in soil at depths of 8-14 feet bgs, which were made in June, 2015, at other locations immediately south, west, and north of the removed underground storage tank (SB1, SB2, and SG13, see attached Figure 3) revealed undetectable petroleum hydrocarbons.
4. The results of the July, 2017, sub-basement slab soil gas analyses, in particular TPH-d, TPH-g, and naphthalene levels, revealed levels several orders of magnitude lower than previous soil gas measurements made in 2015 and 2016 from the SG5.5 sampling site (see attached Figure 5).
5. A high sub-basement slab oxygen level was detected in July, 2017, which is likely to promote bioattenuation.

*Mr. Mark Detterman*  
*Alameda County Health Care Services Agency*  
*August 3, 2017*  
*Page 2 of 2*

We appreciate your time and engagement in this process.

Sincerely,

Handwritten signature of Mark A. Jacobson in black ink.

Mark A. Jacobson  
Property Owner-Responsible Party

Handwritten signature of Ilona Frieden in black ink.

Ilona Frieden  
Property Owner-Responsible Party

cc: Mr. Amitai Schwartz – Property Owner-Responsible Party Counsel

August 3, 2017

Mr. Mark Detterman  
Alameda County Health Care Services  
Local Oversight Program  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**Subject:** Data Package of Sub-Slab Soil-Gas and Soil Boring related to a Former Residential Underground Heating Oil Tank located at 811 Paramount Road, Oakland, CA. (Alameda County Fuel Leak Case No. RO0003143 and CA GeoTracker Global ID T10000006106)

Dear Mr. Detterman:

Stellar Environmental Solutions, Inc. (Stellar Environmental), on behalf of the property owners, presents Alameda County Health Care Services (ACHCS) with the attached updated analytical summary tables, figures, boring logs and analytical laboratory reports of the findings of the recent sub-slab soil-gas and soil bore sampling.

The investigation activities were conducted on July 6, 2017 in accordance with our April 6, 2017 Workplan with inclusion of comments received in ACHCS's conditional approval letter, dated May 30, 2017. We understand per the ACHCS letter, dated February 10, 2017, that upon review of the data, ACHCS has committed to either a conference call or meeting in order to quickly identify next steps based on the new data.

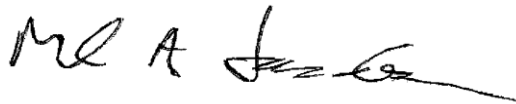
The objective of the investigation was to further evaluate residual site soil contaminant source of indoor air vapor intrusion related to a former 350-gallon residential underground heating fuel storage tank (UST) that was removed on December 16, 2013. The current investigation sampling detected a zone of petroleum hydrocarbons in soil at bore location SB7 that contained 4,700 - 20,000 mg/kg TPH-diesel; 860 - 2,000 mg/kg TPH-gasoline; and up to 38 mg/kg naphthalene that was concentrated between 8-14 feet below ground surface and may be the source of measured vapor intrusion degrading indoor air in the adjacent building. In addition, the sub-slab soil-gas sampling showed no contaminants above the regulatory environmental screening limits and 15-16 % oxygen concentration conducive to promote bioattenuation.

Mr. Mark Detterman  
Alameda County Health Care Services Agency  
August 3, 2017  
Page 2 of 2

This document has been prepared for the exclusive use by the Property Owners (responsible party), the regulatory agencies, and their authorized assigns and/or representatives. No reliance on this report shall be made by anyone other than those for whom it was prepared.

If you have any questions regarding this document, please contact us at (510) 644-3123.

Sincerely,



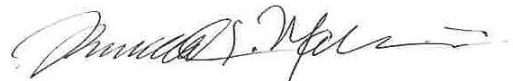
Mr. Mark A. Jacobson  
Property Owner-Responsible Party



Ms. Ilona Frieden  
Property Owner-Responsible Party



Mr. Henry Pietropaoli, P.G.  
Principal Geologist and Project Manager



Mr. Richard S. Makdisi, P.G.  
Principal Geochemist and President

Attachments: A) Figures 1-6  
B) Analytical Summary Tables 1- 7  
C) Boring Logs  
D) Laboratory reports



cc: Mr. Amitai Schwartz, Esq—counsel to RPs.  
Alameda County Health Care and California GeoTracker fileserver

# **ATTACHMENT A**

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## **Figures**



**SITE LOCATION MAP**

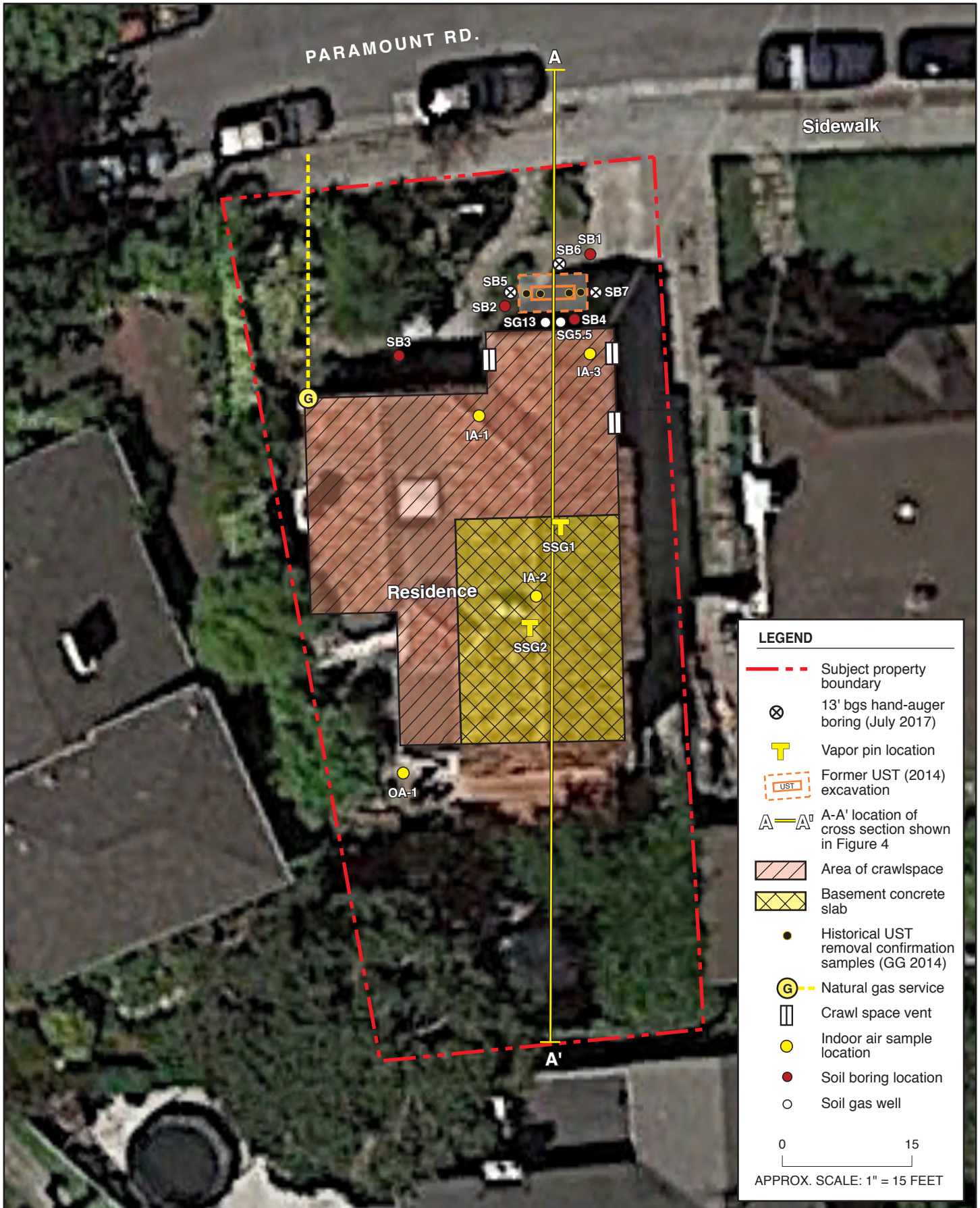
811 Paramount Avenue  
Oakland, CA

By: MJC

FEBRUARY 2015

**Figure 1**





**LEGEND**

- - - Subject property boundary
- ⊗ 13' bgs hand-auger boring (July 2017)
- T Vapor pin location
- UST Former UST (2014) excavation
- A—A' A-A' location of cross section shown in Figure 4
- Area of crawlspace
- Basement concrete slab
- Historical UST removal confirmation samples (GG 2014)
- G Natural gas service
- Crawl space vent
- Indoor air sample location
- Soil boring location
- Soil gas well

0 15

APPROX. SCALE: 1" = 15 FEET



**SITE PLAN SHOWING LOCATIONS OF FORMER UST, HISTORICAL AND CURRENT INVESTIGATION SAMPLING**

**811 Paramount Road  
Oakland, CA**

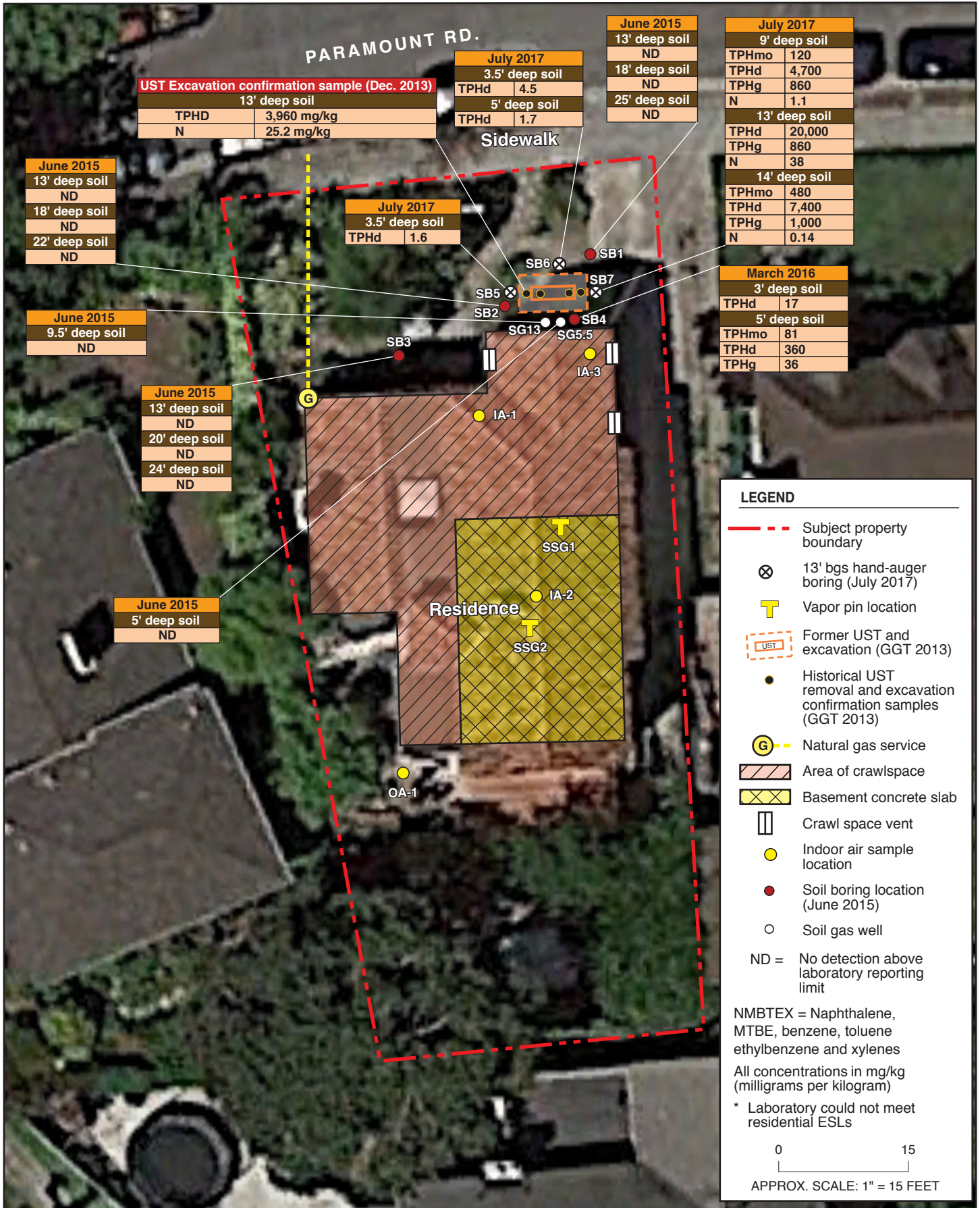
By: MJC

JULY 2017

**Figure 2**



2015-16-25



2015-16-26



**DISTRIBUTION OF ANALYTICAL RESULTS OF SOIL**

811 Paramount Road  
 Oakland, CA

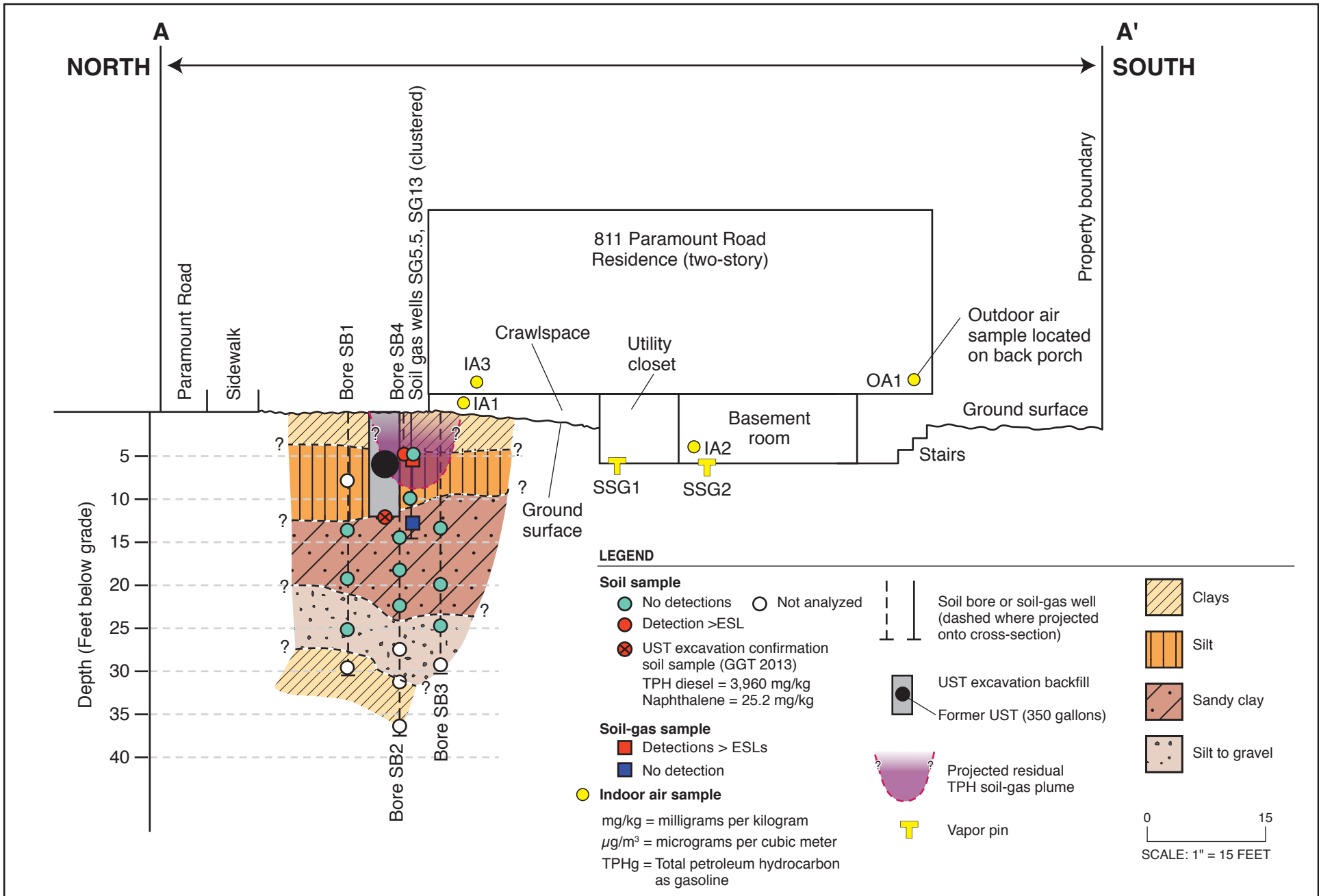
By: MJC

JULY 2017

**Figure 3**





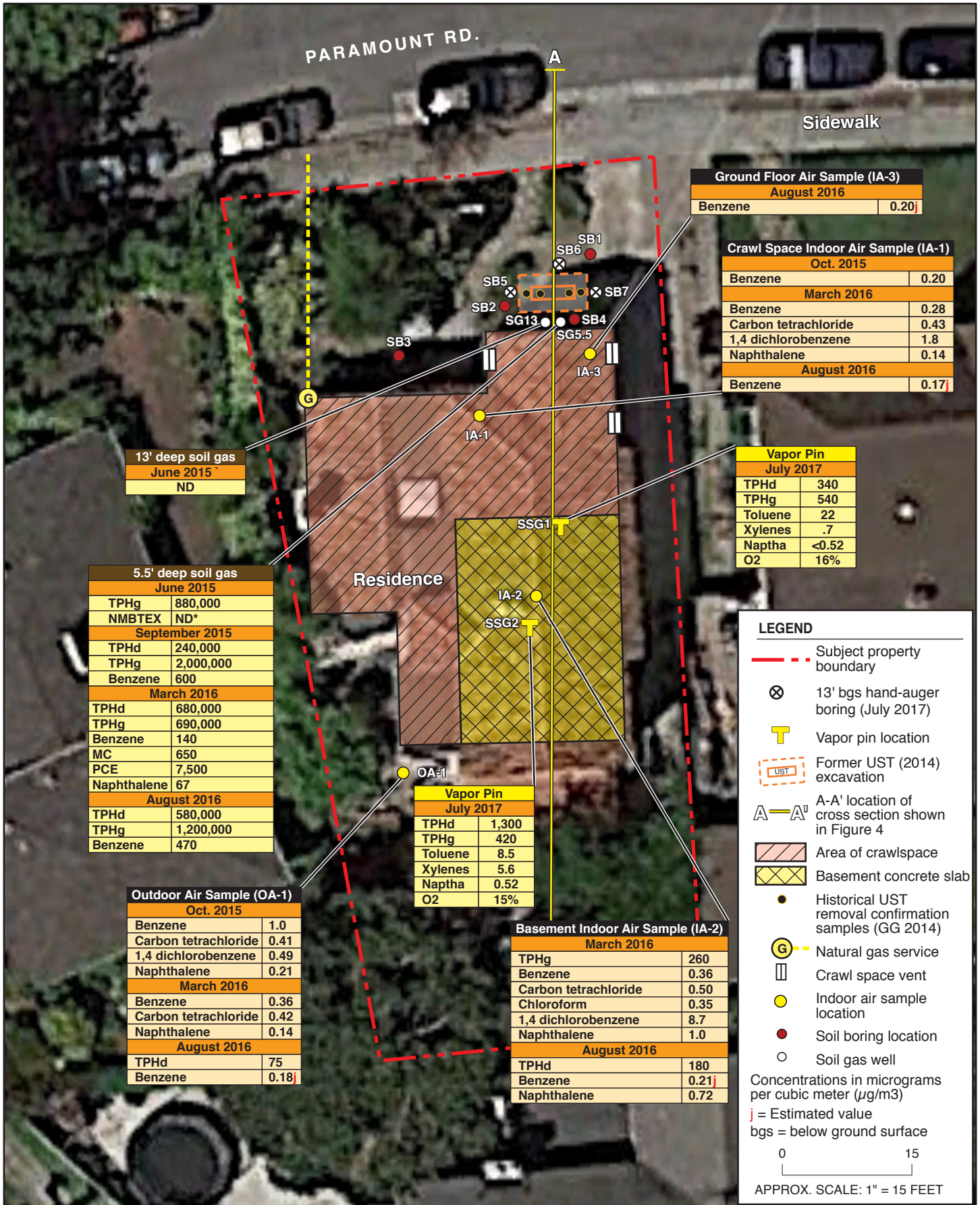


**CROSS-SECTION A-A'**  
811 Paramount Road, Oakland, CA

**Figure 4**

by: MJC

JULY 2017



SITE PLAN SHOWING BORINGS AND ANALYTICAL RESULTS IN SOIL-GAS, SUB-SLAB GAS, INDOOR AND OUTDOOR AIR

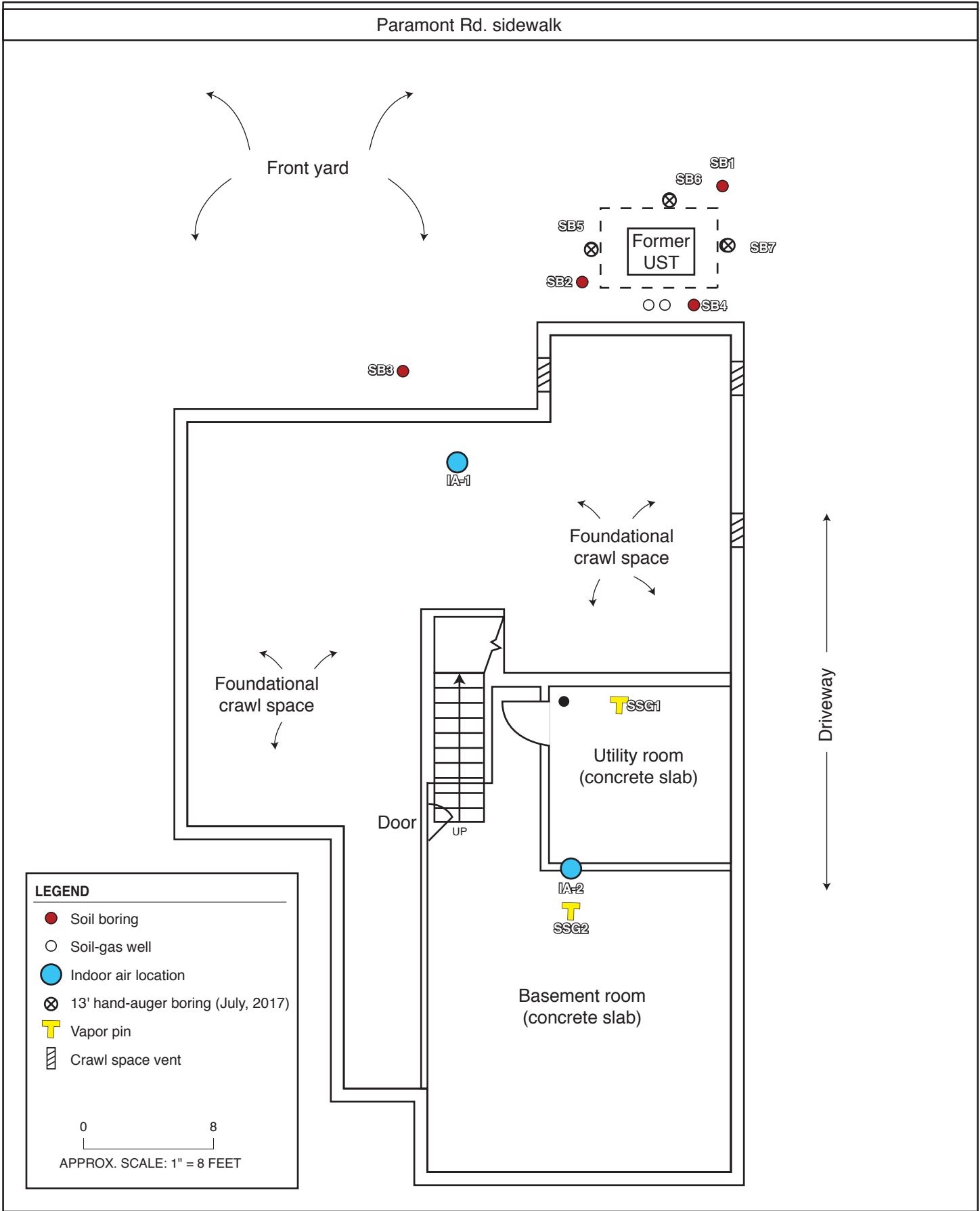
811 Paramount Road  
Oakland, CA

By: MJC

JULY 2017

Figure 5





**LEGEND**

- Soil boring
- Soil-gas well
- Indoor air location
- ⊗ 13' hand-auger boring (July, 2017)
- T Vapor pin
- ▨ Crawl space vent

0 8  
APPROX. SCALE: 1" = 8 FEET

N



**PLAN VIEW OF SUBGRADE CRAWL SPACE AND BASEMENT RELATIVE TO FORMER UST**

811 Paramount Road  
Oakland, CA

By: MJC

JULY 2017

**Figure 6**



2015-16-27

## **ATTACHMENT B**

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### **Analytical Summary Tables**

**Table 1**  
**Historical Analytical Results of Detected Compounds in Soil-Gas Well SG-5.5**  
**811 Paramount Road, Oakland, California**

Sample I.D.	Contaminants (µg/m <sup>3</sup> )								Gases (%)		Leak Check (%)
	TPHd	TVHg	Benzene	Ethyl-benzene	Toluene	Xylenes	MTBE	Naphthalene	O <sub>2</sub>	Methane	Helium
<b>June 4, 2015</b>											
SG6	NA	<b>880,000</b>	<250	<250	<250	<250	<250	<250	3.0	0.21	<0.050
SG6s	NA	NA	NA	NA	NA	NA	NA	<2.7	NA	NA	<0.068*
<b>September 23, 2015</b>											
SG6SA	NA	<b>2,000,000</b>	<b>600</b>	340	94	410 j	<33	<43	NA	NA	NA
SG6s	<b>240,000</b>	NA	NA	NA	NA	NA	NA	<3.0	NA	NA	<0.050*
SG6Sd	<b>230,000</b>	NA	NA	NA	NA	NA	NA	<3.0	NA	NA	<0.050*
<b>March 31, 2016</b>											
SG5.5	NA	<b>690,000</b>	<b>140</b>	<110	7,500	390	<92	<b>67</b>	1.2	0.19	<0.050
SG5.5s	<b>460,000</b>	NA	NA	NA	NA	NA	NA	<17.0	NA	NA	0.13*
SG5.5sd	<b>680,000</b>	NA	NA	NA	NA	NA	NA	<17.0	NA	NA	0.13*
<b>August 25, 2016</b>											
SG5.5	NA	<b>1,200,000</b>	<b>470</b>	<110	<82	140	<78	<190	4.0	0.28	<0.11
SG5.5s	<b>410,000</b>	NA	NA	NA	NA	NA	NA	<5.0	NA	NA	<0.050*
SG5.5sd	<b>580,000</b>	NA	NA	NA	NA	NA	NA	<5.0	NA	NA	<0.050*
<b>ESL</b>	68,000	300,000	48	560	160,000	52,000	5,400	41	NR	NR	NR

Notes: 's' indicates sorbent tube TO17 analysis; d = indicates duplicate sample; \* = helium leak check during TO17 sorbent tube collection analyzed from in-line Summa  
ESL = Environmental Screening Level applicable to both shallow (<3 meters) and deep (>3 meters) soil-gas in residential areas where groundwater is considered a potential drinking water resource, above which additional investigation is recommended (Water Board 2016); Analytical results in **bold-face** type equal or exceed the applicable ESL;  
Analytical results shown as < and italicized indicate a non-detection or less than the laboratory detection limit; µg/m<sup>3</sup> = micrograms per cubic meter  
TVHg = total petroleum hydrocarbons as gasoline; TPHd = total petroleum hydrocarbons as diesel; NA = not analyzed or not applicable; NR = not relevant

**Table 2**  
**Historical Analytical TO-15 Results of Detected Compounds in Soil-Gas Well SG5.5**  
**811 Paramount Road, Oakland, California**

Analyte	Sample Collection Date			ESL
	September 23, 2015	March 31, 2016	August 25, 2016	
Acetone	<1,300	4,300	<210	15,000,000
Benzene	<b>600</b>	<b>140</b>	<b>470</b>	48
2-butanone (MEK)	1,800 j	<3,800	<260	2,600,000
t-butyl alcohol	<1,700	2,700	<260	NLP
Cumene (isopropylbenzene)	ND	ND	280	NLP
Cyclohexane	24,000	5,400	8,500	NLP
Dichlorodifluoromethane	<44	1,100	<110	NLP
trans-1,3-dichloropropene	<1.4	180	<98	NLP
Ethanol	<580	13,000	<160	NLP
Ethyl acetate	<29	96	ND	NLP
Ethylbenzene	340	<110	250	560
4-Ethyltoluene	130 j	<120	140	NLP
Heptane	11,000	2,100	7,600	NLP
Hexane	4,600	1,200	2,200	NLP
4-methyl-2-pentanone	170 j	<100	<89	NLP
Methylene chloride	110	<b>650</b>	<300	510
Naphthalene *	<43	<b>67</b>	<b>&lt;190</b>	41
Propylbenzene	ND	ND	310	NLP
Styrene	<25	150	<92	470,000
Tetrachloroethene	<55	<b>7,500</b>	<150	240
Toluene	94	7,500	<82	160,000
1,1,2-Trichloroethane	<12	<0.70	<31	88
1,2,4-Trimethylbenzene	130	130	130	NLP
1,3,5-Trimethylbenzene	150 j	<120	120	NLP
Xylenes	410 j	390	94	52,000
Helium (leak check)**	<0.050	<0.050	<0.11	NR

*Notes:*

*ESL= Environmental Screening Level for shallow soil-gas at residential sites (Water Board 2016).*

*NLP= no level published; Results in **bold-face** type exceed regulatory ESLs.*

*Analytical results shown as "<" and italicized indicate a non-detection (ND) or less than the laboratory detection limit.*

*All results are reported in micrograms per cubic meter (µg/m<sup>3</sup>)*

*j = indicates compound was detected below quantification limit and is a statistical estimated value.*

*\* = Refer to Table 1 for naphthalene analysis results by method TO17*

*\*\* Helium tracer analyzed by Method ASTM194*

**Table 3**  
**Historical Analytical Results of Detected Compounds in Indoor and Outdoor Air**  
**811 Paramount Road, Oakland, California**

Analyte	Indoor Air (Crawl Space) (IA-1)	Outdoor Air (OA-1)	Indoor Air (Crawl Space) (IA-1)	Indoor Air (Basement Room) (IA-2)	Outdoor Air (OA-1)	Indoor Air (Crawl Space) (IA-1)	Indoor Air (Basement Room) (IA-2)	Indoor Air (Living Room) (IA-3)	Outdoor Air (OA-1)	ESL
	October 30, 2015		April 1, 2016			August 26, 2016				
<i>Method TO-17 Analysis *</i>										
TPH-diesel	<3/	NA	NA	NA	NA	NA	<b>180</b>	NA	75	140
Naphthalene **	<b>0.51 j</b>	NA	NA	NA	NA	NA	<b>0.60</b>	NA	<0.085	0.083
<i>Method TO-15 Analysis</i>										
TPH-gasoline	<36	<36	<36	<b>260</b>	<36	<7/	<65	<54	<57	100
Acetone	<6.0	6.2	<6.0	62	<6.0	14	48	25	6.8	31,000
Acrolein	ND	ND	<0.58	5.3	<0.58	NA	NA	NA	NA	NLP
2-propanol	ND	ND	ND	ND	ND	2.3	7.7	1.6	<2.0	NLP
Acrylonitrile	<0.22	0.36	<0.22	<0.22	<0.22	NA	NA	NA	NA	NLP
Benzene	<b>0.20</b>	<b>1.0</b>	<b>0.28</b>	<b>0.36</b>	<b>0.36</b>	<b>0.17j</b>	<b>0.21j</b>	<b>0.20j</b>	<b>0.18j</b>	0.097
Bromodichloromethane	ND	ND	0.0074	0.022	<0.0070	<0.14	<0.16	<0.14	<0.17	0.076
2-Butanone (MEK)	ND	ND	<7.5	7.5	<7.5	2.4j	4.7	2.0	0.65j	5,200
Carbon Tetrachloride	0.062	<b>0.41</b>	<b>0.43</b>	<b>0.50</b>	<b>0.42</b>	0.49	0.62	0.53	0.48	0.067
Chloroform	0.034	<b>0.17</b>	<b>0.18</b>	<b>0.35</b>	0.11	<b>0.22</b>	<b>0.22</b>	<b>0.54</b>	0.096j	0.12
Chloromethane	<0.2/	0.52	0.49	1.1	0.79	1.1	0.85	1.0	1.0	19
Cyclohexane	ND	ND	<1.8	2.8	<1.8	0.12j	2.1	0.22j	<0.57	NLP
1,3-Dichlorobenzene	ND	ND	1.8	8.7	0.063	<0.14	<0.14	<0.042	<0.13	NLP
1,4-Dichlorobenzene	<0.030	<b>0.49</b>	<b>1.8</b>	<b>8.7</b>	<0.030	0.048j	0.21	0.34	<0.20	0.26
Dichlorodifluoromethane	<0.50	2.4	2.2	2.2	2.2	2.6	2.4	2.7	2.6	NLP
Methylene chloride	ND	ND	ND	ND	ND	0.55j	0.49j	0.52j	0.52j	1.0
1,2-Dichloroethane	<0.004/	0.037	0.048	0.067	0.050	0.0141j	0.044j	0.047j	0.047j	0.11

see notes next page

Table 3 continued

Analyte	Indoor Air (Crawl Space) (IA-1)	Outdoor Air (OA-1)	Indoor Air (Crawl Space) (IA-1)	Indoor Air (Basement Room) (IA-2)	Outdoor Air (OA-1)	Indoor Air (Crawl Space) (IA-1)	Indoor Air (Basement Room) (IA-2)	Indoor Air (Living Room) (IA-3)	Outdoor Air (OA-1)	ESL
	October 30, 2015		April 1, 2016			August 26, 2016				
<i>Method TO-15 Analysis - continued</i>										
1,2-Dichloropropane	<0.0047	0.017	0.022	0.039	0.024	<0.18	<0.16	<0.13	<0.17	0.28
1,4-Dioxane	0.021	<0.018	0.041	<0.018	<0.018	<0.19	<0.17	<0.14	<0.18	0.36
Ethanol	ND	ND	ND	ND	ND	1.8	19	320	2.6	NLP
Ethylbenzene	<0.44	0.82	<0.44	<0.44	<0.44	0.079j	0.23	0.15	0.066 j	1.1
4-Ethyltoluene	ND	ND	ND	ND	ND	<0.17	<0.17	0.34j	<0.17	NLP
Heptane	ND	ND	ND	ND	ND	<0.16	1.2	0.20j	0.57j	NLP
Hexane	ND	ND	ND	ND	ND	0.14j	1.0	0.13j	<0.58	NLP
2-Hexanone	ND	ND	<0.42	0.67	<0.42	<0.18	<0.34	<0.28	<0.61	NLP
4-Methyl-2-Pentanone	ND	ND	<0.42	0.70	<0.42	<0.13	0.48j	0.018j	<0.68	NLP
Naphthalene	<0.050	<b>0.21</b>	<b>0.14</b>	<b>1.0</b>	<b>0.14</b>	0.074j	<b>0.72</b>	<b>0.33j</b>	<b>0.093j</b>	0.083
Styrene	ND	ND	<0.43	1.9	<0.43	<0.075	0.88	0.26j	<0.70	940
1,1,1,2-Tetrachlorethane	ND	ND	<0.0070	0.0091	0.0077	<0.0078	<0.0071	<0.0059	<0.0073	0.048
Tetrachloroethene	ND	ND	0.075	0.074	<0.069	0.061j	0.054j	0.037j	0.049j	0.48
Tetrahydrofuran	ND	ND	<0.60	12	<0.60	<0.44	0.49j	<0.33	<2.4	NLP
Toluene	0.56	3.9	0.92	3.0	0.65	0.44	2.8	13	0.58	310
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.016j	0.014j	0.026j	0.016j	1,000
Trichloroethene	ND	ND	ND	ND	ND	0.028j	0.066j	0.028j	0.021j	0.48
Trichloroflouromethane	<0.57	1.3	1.1	1.2	1.2	1.4	9.0	2.1	1.5	NLP
1,2,4-Trimethylbenzene	<0.50	1.0	<0.50	<0.50	<0.50	<0.17	0.44j	<0.20	<0.81	2.1
Xylenes	<1.3	3.6	<1.3	1.5	<1.3	0.3j	0.88	0.57	0.262j	100

## Notes:

ESL= Environmental Screening Level for residential Indoor-Air (Water Board 2016, Tier 1). Results in **bold** type exceed regulatory ESLs;

NLP= no level published ; NA = not analyzed

\* = TO17 analysis reported to method dection limit, however method could not meet ESL for naphthalene; \*\* = refer to TO15 results for method TO17naphthalene analysis (Table 1).

j = indicates compound was detected below quantification limit and is a statistical estimated value; All results are reported in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )



**Table 4**  
**Historical Soil Sample Analytical Results**  
**811 Paramount Road, Oakland, California**

Sample ID	Depth (feet bgs)	TPHmo/ho	TPHd	TPHg	benzene	toluene	ethylbenzene	xylenes	MTBE	Naphthalene
<b>June 2, 2015 Soil Samples (mg/kg)</b>										
SG5.5-5	5	<1.2	<6.0	NA	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SG13-9.5	9.5	<1.2	<5.8	NA	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058
SB1-13	13	<1.2	<6.0	NA	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SB1-18	18	<1.2	<6.0	NA	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SB1-25	25	<1.2	<6.0	NA	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SB2-13	13	<1.2	<5.7	NA	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057
SB2-18	18	<1.2	<5.8	NA	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058
SB2-22	22	<1.2	<5.6	NA	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056
SB3-13	13	<1.2	<6.0	NA	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
SB3-20	20	<1.2	<5.8	NA	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058
SB3-24	24	<1.2	<5.9	NA	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059
<b>March 31, 2016 Soil Samples (mg/kg)</b>										
SB4-3.5	3	<5.9	17	<1.2	<0.0019	<0.0026	<0.0024	<0.0029	<0.0015	<0.00071
SB4-5.5	5	81	<b>360</b>	36	<0.0020	<0.0027	<0.0024	<0.0031	<0.0016	<0.00073
ESL	--	5,100	230	100	0.044	2.9	1.4	2.3	0.023	3.3

*Notes:*

*TPHmo* = total petroleum hydrocarbons as motor oil/hydraulic oil

*TPHd* = total petroleum hydrocarbons as diesel

*TPHg* = total petroleum hydrocarbons as gasoline

*MTBE* = methyl tertiary-butyl ether

*ESL* = Environmental Screening Levels for residential sites where groundwater is considered a potential drinking water resource (Water Board, 2016).

Analytical results shown as < italicized indicate a non-detection or less than the laboratory reporting limit.

All concentrations are expressed in milligrams per kilogram (mg/kg). Analytical results in bold type exceed the ESLs.

Sample concentrations reported on a dry weight basis. Moisture content in the soils ranged from 10.5 to 18.1 %. Moisture analyses included in Appendix D

bgs = below ground surface

**Table 5**  
**Historical Analytical Results of Detected VOCs in Soil Bore SB4 – March 31, 2016**  
**811 Paramount Road, Oakland, California**

Analyte	Sample ID		ESL
	SB4-3.5	SB4-5.5	
sec-butyl benzene	<0.0040	0.012	NLP
4-Isopropyl toluene	<0.0037	0.014	NLP
1,1,2,2-Tetrachloroethane	<0.0015	0.0017 j	0.018
1,2,3-Trichlorobenzene	<0.00083	0.0017 jb	1.5*

*Notes:*

*ESL= Environmental Screening Level for shallow soil at residential sites (Water Board 2016).*

*\* = ESL for 1,2,4-Trichlorobenzene shown*

*NLP= no level published; Results in **bold-face** type exceed regulatory ESLs.*

*Analytical results shown as < and italicized indicate a non-detection (ND) or less than the laboratory detection limit.*

*All results are reported in milligram per kilogram (mg/kg) on a dry wt basis, moisture ranged from 10.5 to 18.1 % .*

*Moisture analyses included in Appendix D*

*j = indicates compound was detected below quantification limit and is a statistical estimated value.*

*b = analyte detected in the associated method blank and in the sample*

**Table 6**  
**Analytical Results of Detected Compounds in Sub-Slab Soil-Gas**  
**July 6, 2017**  
**811 Paramount Road, Oakland, California**

Analyte	Sample Identifier			ESL
	SSG1	SSG1d*	SSG2	
<b>Method TO-17</b>				
TPH-diesel	340	300	1300	68,000
Naphthalene	<0.52	<0.52	0.52	41
<i>Helium (leak check %)</i>	<0.10	<0.099	<0.10	NR
<b>Method TO-15-GRO</b>				
TPH-gasoline	540	NA	420	300,000
Acetone	27	NA	43	15,000,000
2-butanone (MEK)	2.9	NA	<8.7	2,600,000
Carbon disulfide	<2.7	NA	3.5	NLP
Cloroform	<4.3	NA	5	NLP
Naphthalene	<18	NA	<19	41
Tetrahydrofuran	42	NA	<2.6	NLP
Toluene	22	NA	8.5	160,000
Trichloroflouromethane	<4.9	NA	32	NLP
Trichlorethylene	<4.7	NA	21	NLP
1,2,4-Trimethylbenzene	9.3	NA	<6.6	NLP
Xylenes	7	NA	5.6	52,000
<i>Helium (leak check %)</i>	<0.18	NA	<0.18	NR
<b>Fixed Gases (%)</b>				
Carbon Dioxide	0.92	NA	1.7	NR
Oxygen	16	NA	15	NR
Methane	<0.18	NA	<0.18	NR
<i>Helium (leak check)</i>	<0.18	NA	<0.18	NR

Notes:

ESL= Environmental Screening Level for shallow soil-gas at residential sites (Water Board 2016).

Results in **bold-face** type exceed regulatory ESLs; NLP= no level published

NA = not analyzed

NR = not relevant

Analytical results shown as "<" and italicized indicate a non-detection (ND) or less than the laboratory detection limit.

All results are reported in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) unless indicated otherwise

SSG1d is a duplicate of SSG1

**Table 7**  
**Summary of Analytical Results of Detected Hydrocarbons and VOCs in Soil Bores SB5, SB6 and SB7**  
**July 7, 2017**  
**811 Paramount Road, Oakland, California**

Sample ID	Depth (feet bgs)	TPHmo	TPHd	TPHg	Naphthalene	1,2,4 trimethyl benzene	sec-butylbenzene	para-isopropyl toluene	n-butylbenzene	propylbenzene
SB5-3-3.5	3.5	ND	1.6	ND	ND	ND	ND	ND	ND	ND
SB5-4.5-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB5-8.5-9	9	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB5-12.5-13	13	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB6-3-3.5	3.5	ND	4.7	ND	ND	ND	ND	ND	ND	ND
SB6-4.5-5	5	ND	1.7	ND	ND	ND	ND	ND	ND	ND
SB6-8.5-9	9	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB6-12.5-13	13	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB7-3-3.5	3.5	180	44	ND	ND	ND	ND	ND	ND	ND
SB7-4.5-5	5	79	21	ND	ND	ND	ND	ND	ND	ND
SB7-8.5-9	9	120	<b>4,700</b>	<b>860</b>	1.1	<0.31	<0.43	<0.48	<0.63 j	<0.31
SB7-12.5-13	13	<1,200	<b>20,000</b>	<b>2,000</b>	<b>38</b>	9.4	2.3	4.1	5.8	1.2
SB7-13.5-14	14	480	<b>7,400</b>	<b>1,000</b>	0.14	0.19	0.03	0.06	0.07	<0.027
<b>ESL</b>		11,000	230	740	3.3	NLP	NLP	NLP	NLP	NLP

Notes:

TPHmo= total petroleum hydrocarbons as motor oil

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

ESL = Environmental Screening Levels for residential sites where groundwater is considered a potential drinking water resource (Water Board, 2016).

Analytical results in bold type exceed the ESLs; NLP = no ESL published

Analytical results shown as "<" and italicized indicate a non-detection (ND) or less than the laboratory reporting limit.

All concentrations are expressed in milligrams per kilogram (mg/kg).

Sample concentrations reported on a dry weight basis. Moisture content in the soils ranged from 5 to 21%.

bgs = below ground surface



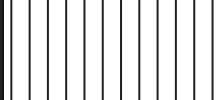
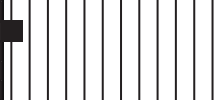
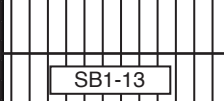
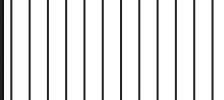


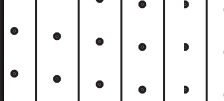
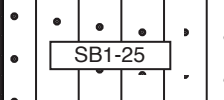
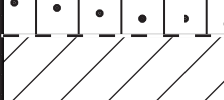
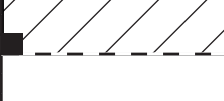
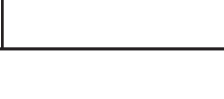

# **ATTACHMENT C**

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## **Boring Logs**

BORING NUMBER SB1 Page 1 of 1


PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 30 ft. bgs BOREHOLE DIA. 2.25" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Gregg Drilling DRILLING METHOD Rhino Geoprobe, 4' core  
 DRILLER Brandon GEOLOGIST H. Pietropaoli DATE DRILLED 6/2/15

DEPTH (feet)	GRAPHIC LOG	PID INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Garden top soil	
2		0	CL, medium brown silty clay, moist, slightly plastic	
4		0	ML, light yellow brown clayey silt to fine sand, crumbles, damp	
6		0		
8		0		
10		0		
12				
14		0	ML, light yellow brown clayey silt to fine sand, stiff, damp w/intercalated 3-5" clay layers	
16				
18		0.1		
20				
22		0	SM, light brown coarse sand, angular clasts (≤1/2"), loose, dry	
24				
26				
28		0	CL, light brown clay, stiff, hard drilling, damp	
30			Total depth = 30' bgs	

Notes:  
 PID = Photoionization Detector "Readings" are in parts per million per volume air (ppmv)

Continuous core recovery (R) unless specified otherwise



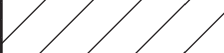





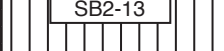
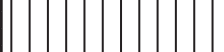
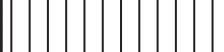
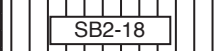


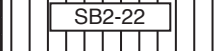



 Soil sample submitted for analysis

 Soil sample collected but not analyzed

bgs = below ground surface

BORING NUMBER SB2 Page 1 of 1




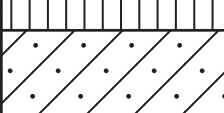
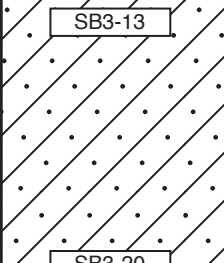
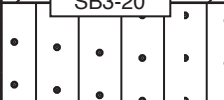
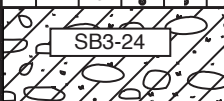

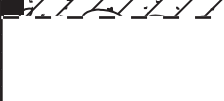

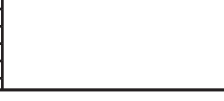


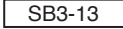

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 36 ft. bgs BOREHOLE DIA. 2.25" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Gregg Drilling DRILLING METHOD Rhino Geoprobe, 4' core  
 DRILLER Brandon GEOLOGIST H. Pietropaoli DATE DRILLED 6/2/15

DEPTH (feet)	GRAPHIC LOG	PID INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Garden top soil	
2			CL, brown/grey clay, plastic, moist	
4		0	CL, light yellow brown silty clay, moist	
6				
8		0	ML, greenish gray (olive) clayey silt	
10				
12		0	ML, yellow brown clayey fine sand to silt, damp, crumbles	
14				
16		0		
18			as above	
20				
22		0	20-25' deep, zone of interbedded clay 2-3" beds, sample SB2-22 of clay	
24				
26		0	GM, silty to coarse sandy gravel, angular fragments, clasts ( $\leq 1/2"$ )	
28				
30		0		
32			CL, light mottled green/grey/red brown clay, stiff, damp	<p>Notes:            PID = Photoionization Detector "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core recovery (R) unless specified otherwise</p> <p><span style="border: 1px solid black; padding: 2px;">SB2-13</span>            Soil sample submitted for analysis</p> <p><span style="display: inline-block; width: 10px; height: 10px; background-color: black; vertical-align: middle;"></span>            Soil sample collected but not analyzed</p> <p>bgs = below ground surface</p>
34				
36		0	Total depth = 36' bgs	

2015-16-07

BORING NUMBER SB3 Page 1 of 1

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 29 ft. bgs BOREHOLE DIA. 2.25" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Gregg Drilling DRILLING METHOD Rhino Geoprobe, 4' core  
 DRILLER Brandon GEOLOGIST H. Pietropaoli DATE DRILLED 6/2/15

DEPTH (feet)	GRAPHIC LOG	PID INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Garden top soil	
2		0	CL, light brown clay, organics, moist, plastic, Fe-oxide staining	
4			CL, light yellow brown silty clay, damp, slightly plastic	
6		0	ML, light yellow brown clayey silt, dry, loose	
8		0		
10			SC, yellow brown clayey fine sand, slightly plastic, damp, silty clay, interbeds	
12		0		
14		0		
16		0		
18		0		
20			SM, light brown fine to medium sand, damp, crumbles, moderate sorting	
22		0		
24		0	GC, light yellow brown clayey gravel, dry, loose, 5% clasts (<1/2"), clay interbeds (1-3" thick)	
26		0		
28		0		
30			Total depth = 29' bgs	Notes: PID = Photoionization Detector "Readings" are in parts per million per volume air (ppmv)
32				Continuous core recovery (R) unless specified otherwise
34				 SB3-13 Soil sample submitted for analysis
36				 Soil sample collected but not analyzed
				bgs = below ground surface



## Soil Bore SB4,

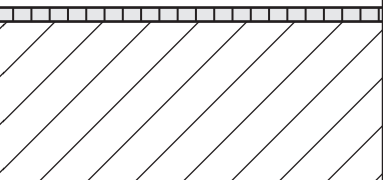
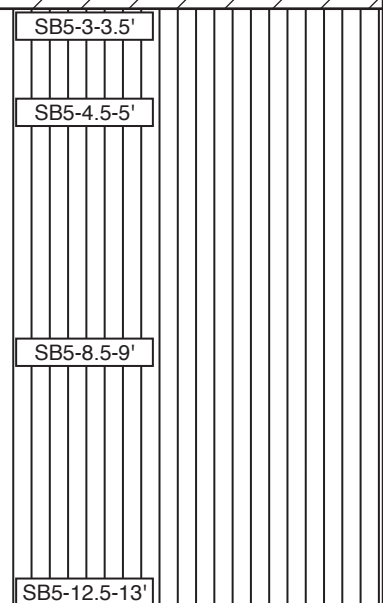



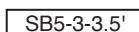
Total depth = 5 feet

“The boring lithology consisted of an upper 6 inches of garden soil overlying light brown silty clay. Light-green discoloration was noted in bore SB4 between 3-5 feet bgs and a light oil odor was noticeable in the 5 foot sample.”

No log produced; bore is described in top paragraph on page 8 of the Site Investigation Report, May 17, 2016



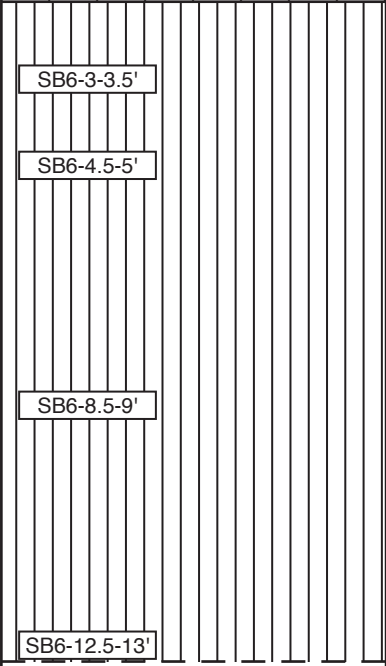
BORING NUMBER SB5 Page 1 of 1

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 13 ft. bgs BOREHOLE DIA. 3.5" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Cascade DRILLING METHOD Hand auger  
 DRILLER Victor/Reuben GEOLOGIST S. Bittman DATE DRILLED 7/6/17

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		Clayey silt planting mix 6"	
2		CL, silty clay, medium brown, damp, very stiff, no odor	
4	 SB5-3-3.5'	ML, clayey silt, light brown, orange mottling, moist, stiff, no odor	
6		Becomes sandy, very fine @ 6'	
8		Color to yellow brown @ 8'	
10	 SB5-4.5-5'		
12	 SB5-8.5-9'		
14	 SB5-12.5-13'	Total depth = 13' bgs	
16			
18			Notes: Continuous soil recovery  SB5-3-3.5' Soil sample submitted for analysis bgs=below ground surface
20			

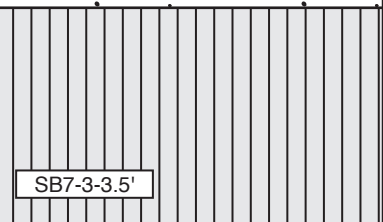
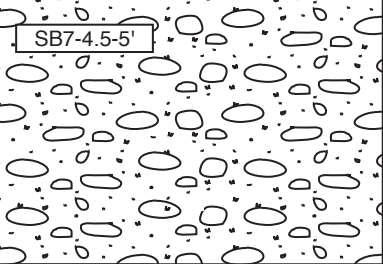
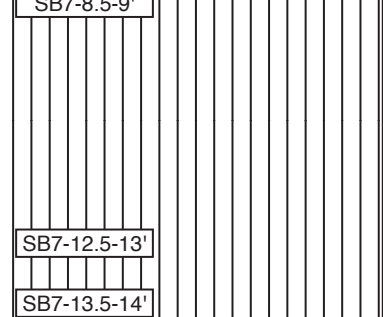

BORING NUMBER SB6 Page 1 of 1

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 13 ft. bgs BOREHOLE DIA. 3.5" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Cascade DRILLING METHOD Hand auger  
 DRILLER Victor/Reuben GEOLOGIST S. Bittman DATE DRILLED 7/6/17

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		Silty planting mix 6"	
2		CL, silty clay, medium brown, damp, stiff, no odor	
4		ML, clayey silt, yellow brown, damp, stiff, no odor	
4	SB6-3-3.5'		
5	SB6-4.5-5'		
8		occasional caliche nodular @~7-8', sandy w/orange mottling	
9	SB6-8.5-9'		
12	SB6-12.5-13'		
14		Total depth = 13' bgs	
16			
18			Notes: Continuous soil recovery SB6-3-3.5' Soil sample submitted for analysis bgs=below ground surface
20			

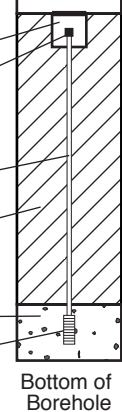


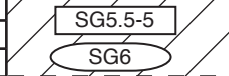
BORING NUMBER SB7 Page 1 of 1

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 14 ft. bgs BOREHOLE DIA. 3.5" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Cascade DRILLING METHOD Hand auger  
 DRILLER Victor/Reuben GEOLOGIST S. Bittman DATE DRILLED 7/6/17

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		Landscaped path/gravel 6"	
0 - 4		OL, organic rich clayey silt, dark brown, damp, no plasticity, no odor	
	SB7-3-3.5'		
4 - 8		GW, sandy gravel, grey, moist, dense petroleum odor starts @ 5.5'	
	SB7-4.5-5'		
8 - 13.5		ML, clayey silt, blue-green, damp, strong petroleum odor	
	SB7-8.5-9'		
13.5 - 14		Cleans up ~13.5'	Hole collapsing
	SB7-12.5-13'		
	SB7-13.5-14'		
14 - 20		Total depth = 14' bgs	
			Notes: Continuous soil recovery SB7-3-3.5' Soil sample submitted for analysis bgs=below ground surface

BORING NUMBER SG5.5 Page 1 of 1

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 6.0 ft. bgs BOREHOLE DIA. 3" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Gregg Drilling DRILLING METHOD Hand-held auger  
 DRILLER Brandon GEOLOGIST H. Pietropaoli DATE DRILLED 6/2/15

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION	
					SG5.5	
0			Garden top soil			
2		0	CL, light brown silty clay, damp, slightly plastic			
4		0	CL, light olive gray, fine sandy clay <5% organics, damp, slight motor oil odor			
6	 <div style="position: absolute; top: 10px; left: 10px; border: 1px solid black; padding: 2px;">SG5.5-5</div> <div style="position: absolute; top: 15px; left: 10px; border: 1px solid black; border-radius: 50%; padding: 2px;">SG6</div>	0	Total depth = 6' bgs			
8						
10						
12						
14						
16						
18						
20						

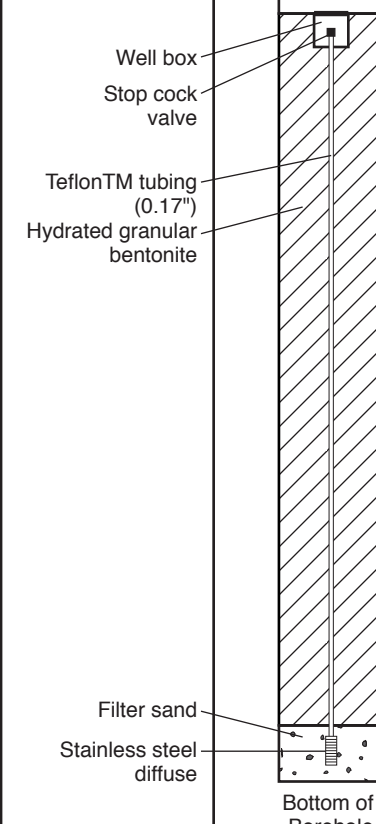

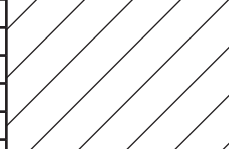
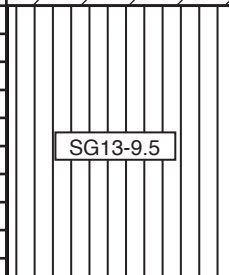


Notes:  
 PID = Photoionization Detector  
 "Readings" are in parts per million per volume air (ppmv)

SG5.5-5  
 Soil sample submitted for analysis

SG6  
 Soil-gas sample collected  
 bgs = below ground surface

BORING NUMBER SG13 Page 1 of 1

PROJECT Residential UST SI OWNER Mark Jacobson  
 LOCATION 811 Paramount Rd., Oakland, CA PROJECT NUMBER 2015-16  
 TOTAL DEPTH 13.5 ft. bgs BOREHOLE DIA. 3" inch diameter  
 SURFACE ELEV. ~211 feet amsl WATER FIRST ENCOUNTERED not encountered  
 DRILLING COMPANY Gregg Drilling DRILLING METHOD Hand-held auger  
 DRILLER Brandon GEOLOGIST H. Pietropaoli DATE DRILLED 6/2/15

DEPTH (feet)	GRAPHIC LOG	PID INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION	
					SG13	
0			Garden top soil			
2		0	CL, light brown silty to fine sandy clay, damp, slightly plastic			
4		0	CL, yellow brown silty clay, slightly plastic, damp to dry			
8		0	ML, yellow brown silt, loose, damp w/ 3-6" thick interbedded clay zones			
10		0	as above			
12		0	ML, yellow brown clayey silt, damp			
14			Total depth = 13.5' bgs			
16						
18						
20						

Notes:  
 PID = Photoionization Detector  
 "Readings" are in parts per million per volume air (ppmv)

SG13-9.5  
 Soil sample submitted for analysis

SG13  
 Soil-gas sample collected

bgs = below ground surface

## **ATTACHMENT D**

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### **Certified Laboratory Analytical Results and Chain-of-Custody Record**



Curtis & Tompkins, Ltd.  
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 290381
ANALYTICAL REPORT

Stellar Environmental Solutions Project : 2015-16
2198 6th Street Location : Residential Heating UST Investigation
Berkeley, CA 94710 Level : II

Table with 2 columns: Sample ID and Lab ID. Lists 14 sample entries from SB5-3-3.5 to SB7-13.5-14.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Patrick McCarthy
Project Manager
patrick.mccarthy@ctberk.com
(510) 204-2236

Date: 07/14/2017

## CASE NARRATIVE

Laboratory number: 290381  
Client: Stellar Environmental Solutions  
Project: 2015-16  
Location: Residential Heating UST Investigation  
Request Date: 07/06/17  
Samples Received: 07/06/17

This data package contains sample and QC results for thirteen soil samples, requested for the above referenced project on 07/06/17. The samples were received cold and intact.

### TPH-Purgeables and/or BTXE by GC (EPA 8015B):

High surrogate recovery was observed for bromofluorobenzene (FID) in SB7-12.5-13 (lab # 290381-012). SB7-8.5-9 (lab # 290381-011), SB7-12.5-13 (lab # 290381-012), and SB7-13.5-14 (lab # 290381-013) were diluted due to high non-target analytes. No other analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B):

A number of samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

### Volatile Organics by GC/MS (EPA 8260B):

Matrix spikes QC892831, QC892832 (batch 249574) were not reported because the parent sample was reanalyzed in another batch. High recoveries were observed for 1,1-dichloroethene in the MS/MSD of SB6-12.5-13 (lab # 290381-008); the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. High recoveries were observed for 1,1-dichloroethene in the MS/MSD for batch 249643; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. SB7-8.5-9 (lab # 290381-011) and SB7-13.5-14 (lab # 290381-013) were diluted due to high hydrocarbons. No other analytical problems were encountered.

### Moisture (ASTM D2216-98/CLP):

No analytical problems were encountered.

# 290381 Chain of Custody Record

Laboratory Curtis and Tompkins, Ltd Method of Shipment Lab Courier  
 Address 2323 Fifth Street Shipment No. \_\_\_\_\_  
Berkeley, California 94710 Airbill No. \_\_\_\_\_  
510-486-0900 Cooler No. \_\_\_\_\_  
 Project Owner Mark Jacobson Project Manager Richard Makdisi  
 Site Address 811 Paramount Road Telephone No. (510) 644-3123  
Oakland, CA Fax No. (510) 644-3859  
 Project Name Residential Heating UST Investigation Samplers: (Signature) SBitter  
 Project Number 2015-16

Lab job no. \_\_\_\_\_  
 Date \_\_\_\_\_  
 Page 1 of 1

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Filtered	No. of Containers	Analysis Required					Remarks
						Cooler	Chemical								
SB5-3-3.5		7/6/17		S	55 Linev	yes		No	1	X	X	X	X		
SB5-4.5-5						-		1	1	X	X	X	X		
SB5-8.5-9						-		1	1	X	X	X	X		
SB5-12.5-13						-		1	1	X	X	X	X		
SB6-3-3.5						-		1	1	X	X	X	X		
SB6-4.5-5						-		1	1	X	X	X	X		
SB6-8.5-9						-		1	1	X	X	X	X		
SB6-12.5-13						-		1	1	X	X	X	X		
SB7-3-3.5						-		1	1	X	X	X	X		
SB7-4.5-5						-		1	1	X	X	X	X		
SB7-8.5-9						-		1	1	X	X	X	X		
SB7-12.5-13		7/6/17		S	55 Linev	-		1	1	X	X	X	X		

Filtered  
 No. of Containers  
 TEH d, mo  
 TVH g  
 VOCs  
 moisture  
 8260  
 8260

Relinquished by: <u>Steve Bitter</u> Signature _____ Printed <u>Steve Bitter</u> Company <u>Stellar Environmental</u>	Date: <u>7/6/17</u> Time: <u>15:11</u>	Received by: <u>Pat Gonzalez</u> Signature _____ Printed <u>Pat Gonzalez</u> Company <u>CAT</u>	Date: <u>7/6/17</u> Time: <u>15:11</u>	Relinquished by: _____ Signature _____ Printed _____ Company _____	Date: _____ Time: _____	Received by: _____ Signature _____ Printed _____ Company _____	Date: _____ Time: _____
Turnaround Time: <u>Standard TAT</u>				Relinquished by: _____ Signature _____ Printed _____ Company _____			
Comments: <u>samples on Ice</u> <u>report on Dry wt basis</u> <u>meet residential ESLs</u>				Received by: _____ Signature _____ Printed _____ Company _____			

2000-00-01

290381

# Chain of Custody Record

Lab job no. \_\_\_\_\_  
Date 1 of 1  
Page \_\_\_\_\_ of \_\_\_\_\_

Laboratory Curtis and Tompkins, Ltd  
Address 2323 Fifth Street  
Berkeley, California 94710  
510-486-0900

Lab Courier

Method of Shipment \_\_\_\_\_

Shipment No. \_\_\_\_\_

Airbill No. \_\_\_\_\_

Cooler No. \_\_\_\_\_

Project Manager Richard Makdisi

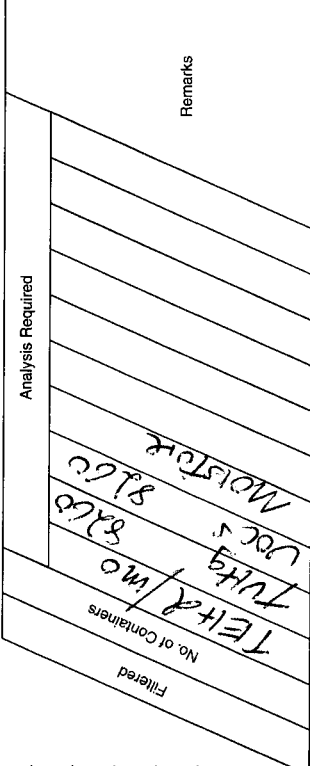
Telephone No. (510) 644-3123

Fax No. (510) 644-3859

Samplers: (Signature) StB

Project Owner Mark Jacobson  
Site Address 811 Paramount Road  
Oakland, CA

Project Name Residential Heating UST Investigation  
Project Number 2015-16

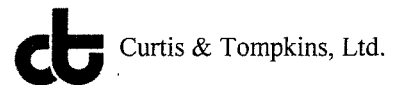


Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Remarks
						Cooler	Chemical	
<u>S87-13.5-14</u>		<u>7/6/17</u>		<u>J</u>	<u>55 liter</u>	<u>yes</u>		<u>No 1</u>

Relinquished by: StB Stellar Date 7/6/17 Time 15:11  
 Signature \_\_\_\_\_ Printed Pat Gonzalez Company CEI  
 Relinquished by: \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
 Signature \_\_\_\_\_ Printed \_\_\_\_\_ Company \_\_\_\_\_

Turnaround Time: Standard TAT  
 Comments: samples on ice  
report on dry went basic  
meet Residential ZSC

COOLER RECEIPT CHECKLIST



Login # 290381 Date Received 7.6.17 Number of coolers 1
Client SES Project 2015-16

Date Opened 7.6.17 By (print) DC (sign)
Date Logged in By (print) DC (sign)
Date Labelled By (print) am (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 15.5

Temperature blank(s) included? Thermometer# IR Gun# B

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? (pH strip lot# ) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

### Detections Summary for 290381

Results for any subcontracted analyses are not included in this summary.

Client : Stellar Environmental Solutions  
 Project : 2015-16  
 Location : Residential Heating UST Investigation

Client Sample ID : SB5-3-3.5                      Laboratory Sample ID :                      290381-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y	1.2		mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Moisture, Percent	18		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB5-4.5-5                      Laboratory Sample ID :                      290381-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Moisture, Percent	16		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB5-8.5-9                      Laboratory Sample ID :                      290381-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Moisture, Percent	15		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB5-12.5-13                      Laboratory Sample ID :                      290381-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Moisture, Percent	15		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB6-3-3.5                      Laboratory Sample ID :                      290381-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.7	Y	1.2		mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Moisture, Percent	15		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB6-4.5-5                      Laboratory Sample ID :                      290381-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.7	Y	1.2		mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB6-8.5-9                      Laboratory Sample ID :                      290381-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Moisture, Percent	21		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB6-12.5-13

Laboratory Sample ID :

290381-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB7-3-3.5

Laboratory Sample ID :

290381-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	44	Y	3.3		mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	180		17		mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Moisture, Percent	11		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB7-4.5-5

Laboratory Sample ID :

290381-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	21	Y	1.0		mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	79		5.2		mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Moisture, Percent	5		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB7-8.5-9

Laboratory Sample ID :

290381-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	860	Y	49		mg/Kg	Dry	200.0	EPA 8015B	EPA 5030B
Diesel C10-C24	4,700		25		mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	120	Y	120		mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B
sec-Butylbenzene	460		310		ug/Kg	Dry	50.00	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	480		310		ug/Kg	Dry	50.00	EPA 8260B	EPA 5030B
n-Butylbenzene	630	J	1,500	80	ug/Kg	Dry	250.0	EPA 8260B	EPA 5030B
Naphthalene	1,100		310		ug/Kg	Dry	50.00	EPA 8260B	EPA 5030B
Moisture, Percent	19		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB7-12.5-13

Laboratory Sample ID :

290381-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	2,000	Y	120		mg/Kg	Dry	500.0	EPA 8015B	EPA 5030B
Diesel C10-C24	20,000		240		mg/Kg	Dry	200.0	EPA 8015B	EPA 3550B
Propylbenzene	1,200		600		ug/Kg	Dry	100.0	EPA 8260B	EPA 5030B
1,2,4-Trimethylbenzene	9,400		600		ug/Kg	Dry	100.0	EPA 8260B	EPA 5030B
sec-Butylbenzene	2,300		600		ug/Kg	Dry	100.0	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	4,100		600		ug/Kg	Dry	100.0	EPA 8260B	EPA 5030B
n-Butylbenzene	5,800		3,000	150	ug/Kg	Dry	500.0	EPA 8260B	EPA 5030B
Naphthalene	38,000		3,000		ug/Kg	Dry	500.0	EPA 8260B	EPA 5030B
Moisture, Percent	16		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

Client Sample ID : SB7-13.5-14

Laboratory Sample ID :

290381-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1,000	Y	78		mg/Kg	Dry	333.3	EPA 8015B	EPA 5030B
Diesel C10-C24	7,400		23		mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B
Motor Oil C24-C36	480	Y	120		mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B
1,2,4-Trimethylbenzene	190		27		ug/Kg	Dry	4.673	EPA 8260B	EPA 5030B
sec-Butylbenzene	34		27		ug/Kg	Dry	4.673	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	62		27		ug/Kg	Dry	4.673	EPA 8260B	EPA 5030B
n-Butylbenzene	74		27	3.2	ug/Kg	Dry	4.673	EPA 8260B	EPA 5030B
Naphthalene	140		27		ug/Kg	Dry	4.673	EPA 8260B	EPA 5030B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216-98/CLP	METHOD

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard



Total Volatile Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	07/06/17
Units:	mg/Kg	Received:	07/06/17
Basis:	dry		

Field ID:	SB5-3-3.5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249456
Lab ID:	290381-001	Analyzed:	07/07/17
Moisture:	18%		

Analyte	Result	RL
Gasoline C7-C12	ND	1.2

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	70-138

Field ID:	SB5-4.5-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249456
Lab ID:	290381-002	Analyzed:	07/07/17
Moisture:	16%		

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	70-138

Field ID:	SB5-8.5-9	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249456
Lab ID:	290381-003	Analyzed:	07/07/17
Moisture:	15%		

Analyte	Result	RL
Gasoline C7-C12	ND	1.2

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	70-138

Field ID:	SB5-12.5-13	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249456
Lab ID:	290381-004	Analyzed:	07/07/17
Moisture:	15%		

Analyte	Result	RL
Gasoline C7-C12	ND	1.3

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	70-138

\*= Value outside of QC limits; see narrative  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 5030B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID: SB6-3-3.5 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249456  
 Lab ID: 290381-005 Analyzed: 07/07/17  
 Moisture: 15%

Analyte	Result	RL
Gasoline C7-C12	ND	1.3

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	70-138

Field ID: SB6-4.5-5 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249456  
 Lab ID: 290381-006 Analyzed: 07/08/17  
 Moisture: 14%

Analyte	Result	RL
Gasoline C7-C12	ND	1.2

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	70-138

Field ID: SB6-8.5-9 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249456  
 Lab ID: 290381-007 Analyzed: 07/08/17  
 Moisture: 21%

Analyte	Result	RL
Gasoline C7-C12	ND	1.2

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	70-138

Field ID: SB6-12.5-13 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249456  
 Lab ID: 290381-008 Analyzed: 07/08/17  
 Moisture: 17%

Analyte	Result	RL
Gasoline C7-C12	ND	1.2

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	70-138

\*= Value outside of QC limits; see narrative  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 5030B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID:	SB7-3-3.5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249456
Lab ID:	290381-009	Analyzed:	07/08/17
Moisture:	11%		

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	70-138

Field ID:	SB7-4.5-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249456
Lab ID:	290381-010	Analyzed:	07/08/17
Moisture:	5%		

Analyte	Result	RL
Gasoline C7-C12	ND	1.2

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	70-138

Field ID:	SB7-8.5-9	Diln Fac:	200.0
Type:	SAMPLE	Batch#:	249507
Lab ID:	290381-011	Analyzed:	07/10/17
Moisture:	19%		

Analyte	Result	RL
Gasoline C7-C12	860 Y	49

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	136	70-138

Field ID:	SB7-12.5-13	Diln Fac:	500.0
Type:	SAMPLE	Batch#:	249507
Lab ID:	290381-012	Analyzed:	07/10/17
Moisture:	16%		

Analyte	Result	RL
Gasoline C7-C12	2,000 Y	120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	146 *	70-138

\*= Value outside of QC limits; see narrative  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 5030B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID:	SB7-13.5-14	Diln Fac:	333.3
Type:	SAMPLE	Batch#:	249507
Lab ID:	290381-013	Analyzed:	07/10/17
Moisture:	14%		

Analyte	Result	RL
Gasoline C7-C12	1,000 Y	78

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	132	70-138

Type:	BLANK	Batch#:	249456
Lab ID:	QC892295	Analyzed:	07/07/17
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	70-138

Type:	BLANK	Batch#:	249507
Lab ID:	QC892490	Analyzed:	07/10/17
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	70-138

\*= Value outside of QC limits; see narrative  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249456
Units:	mg/Kg	Analyzed:	07/07/17
Diln Fac:	1.000		

Type: BS Lab ID: QC892477

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9381	94	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	70-138

Type: BSD Lab ID: QC892478

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2.000	1.899	95	80-120	1	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	70-138

RPD= Relative Percent Difference

## Batch QC Report

Total Volatile Hydrocarbons				
Lab #:	290381	Location:	Residential Heating UST Investigation	
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B	
Project#:	2015-16	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC892487	Batch#:	249507	
Matrix:	Soil	Analyzed:	07/10/17	
Units:	mg/Kg			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.020	102	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	70-138

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	290423-001	Batch#:	249507
Matrix:	Soil	Sampled:	07/07/17
Units:	mg/Kg	Received:	07/07/17
Basis:	as received	Analyzed:	07/10/17

Type: MS Lab ID: QC892488

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2165	10.31	8.794	83	49-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	70-138

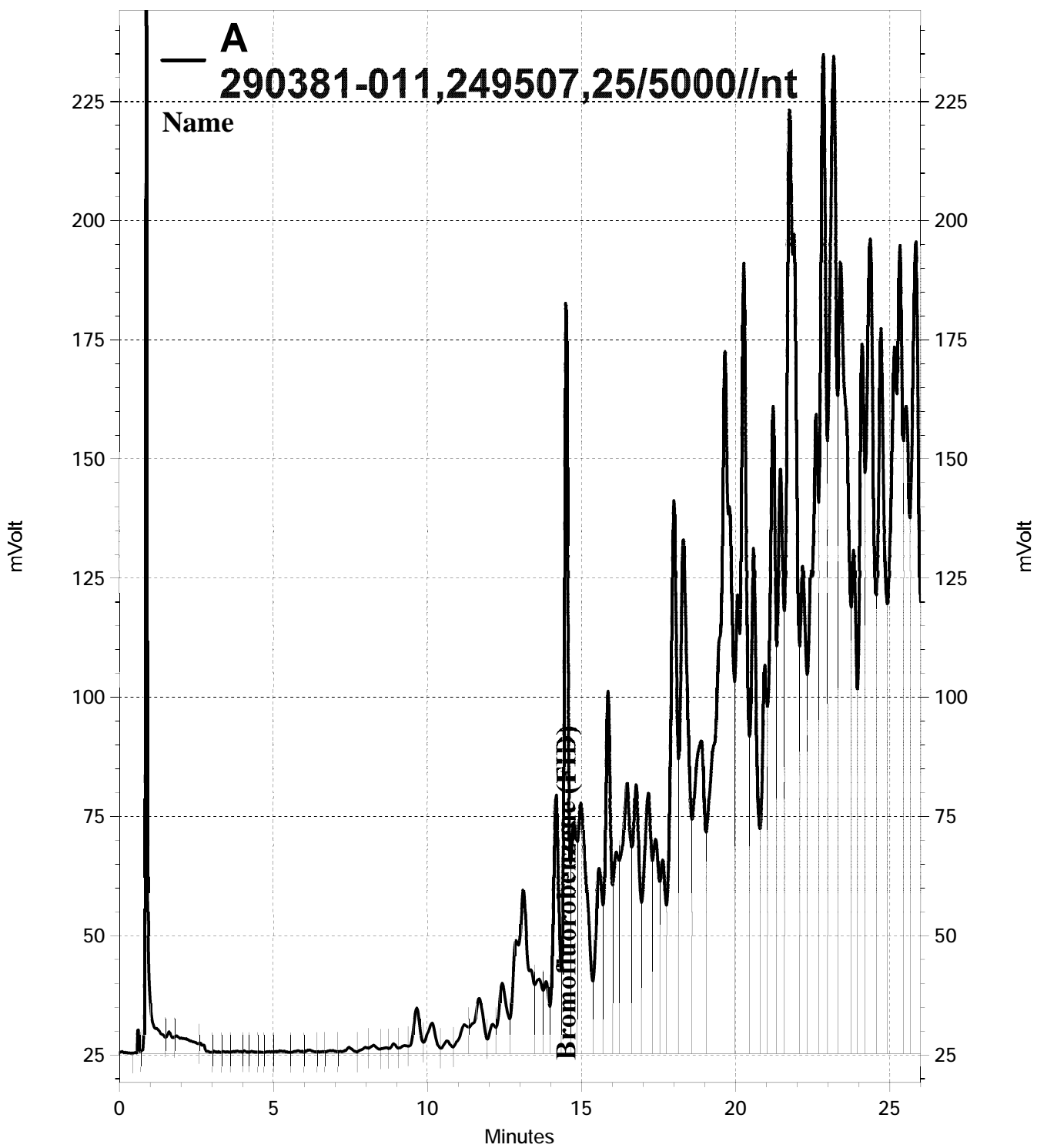
Type: MSD Lab ID: QC892489

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.804	8.323	83	49-120	1	32

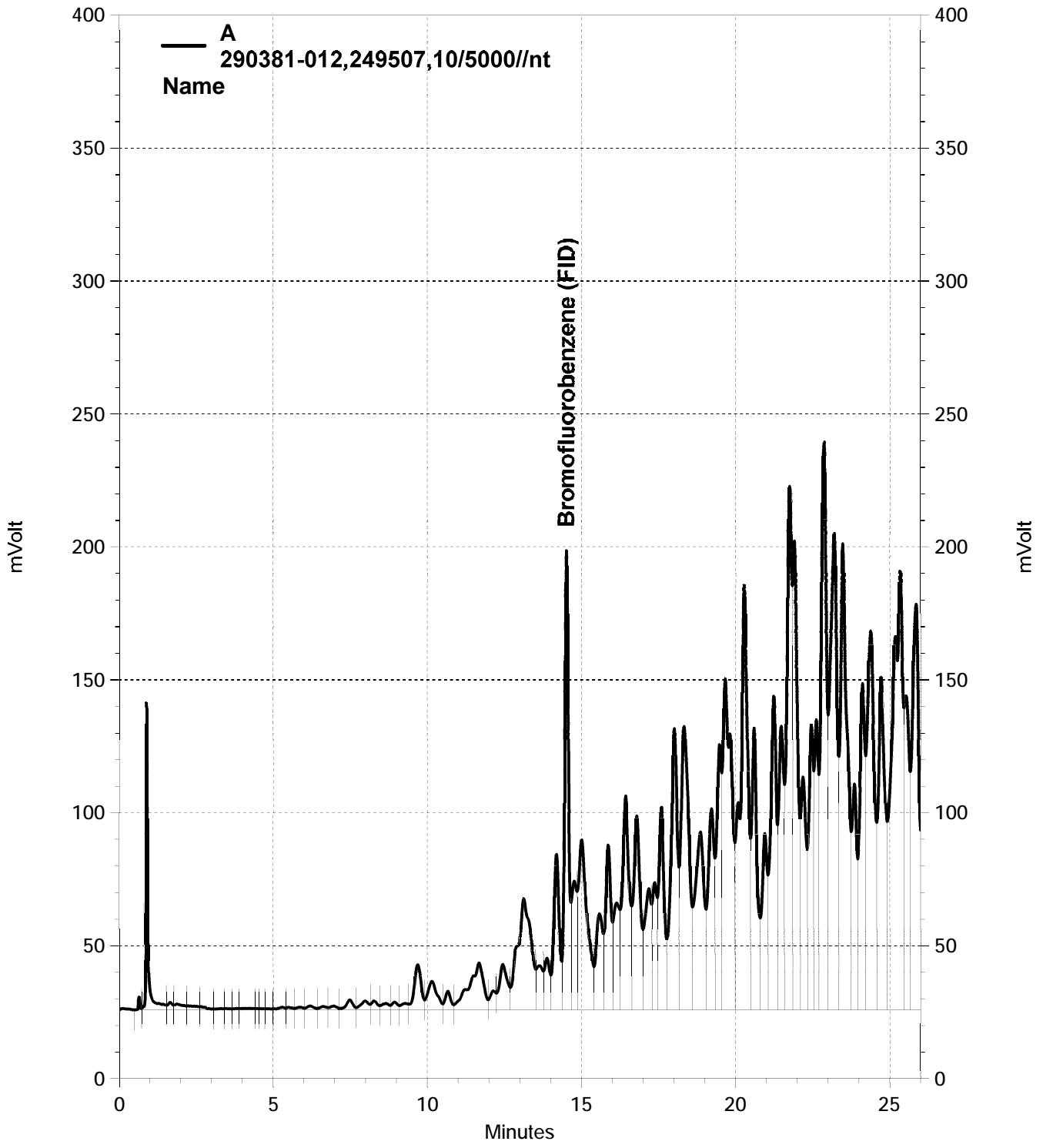
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	70-138

RPD= Relative Percent Difference



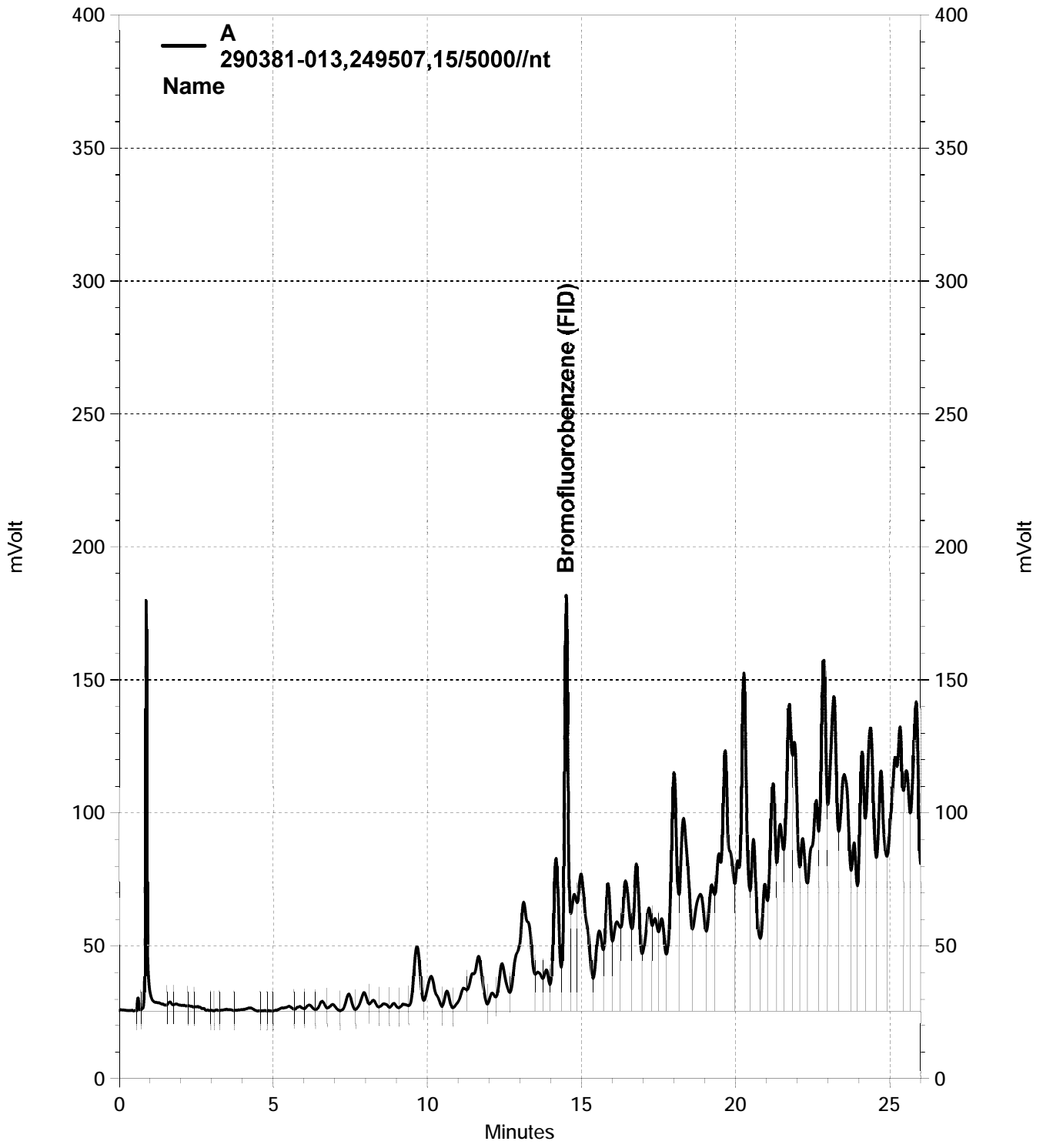


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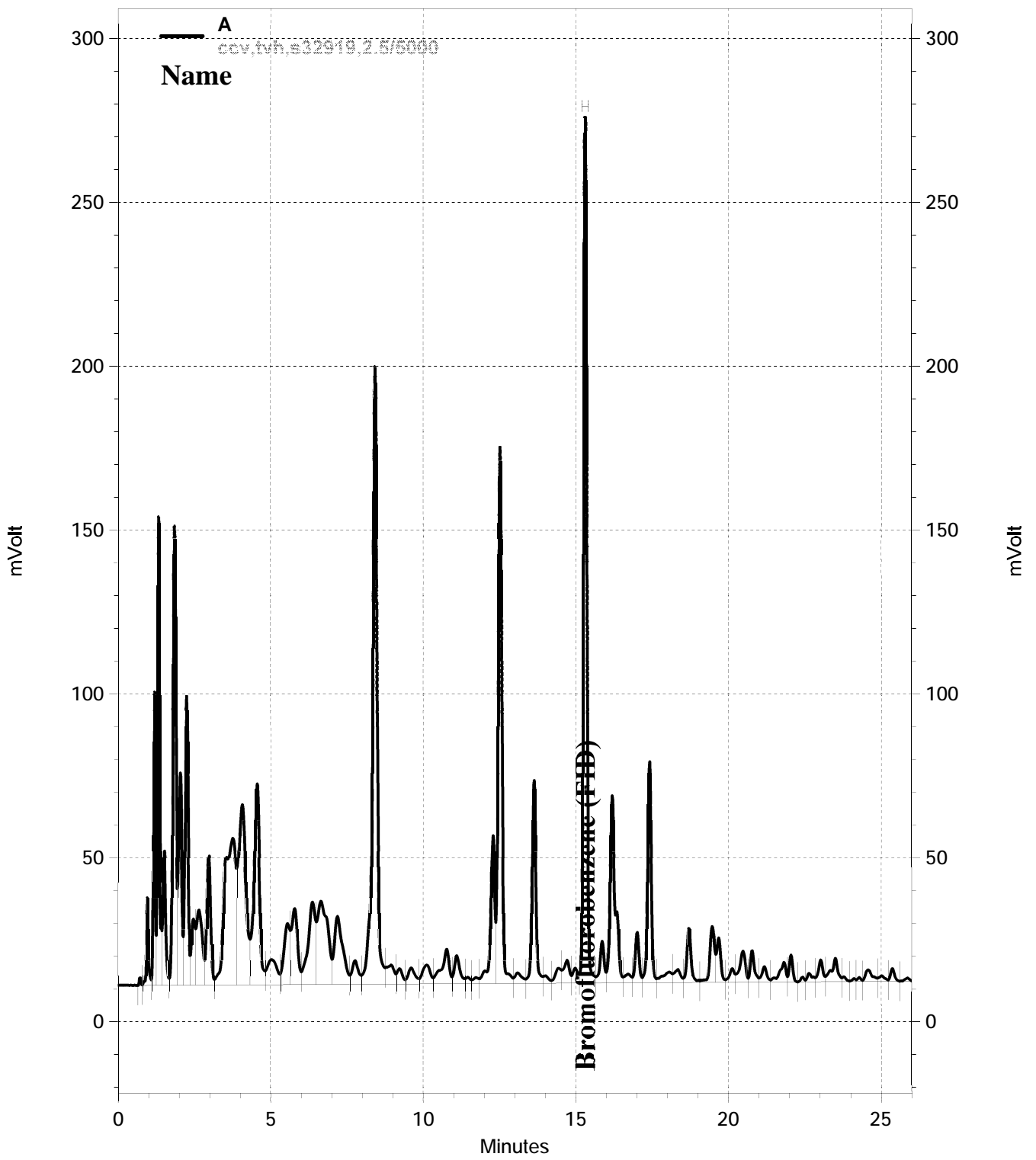


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Total Extractable Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 3550B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID: SB5-3-3.5 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249448  
 Lab ID: 290381-001 Prepared: 07/07/17  
 Moisture: 18% Analyzed: 07/07/17

Analyte	Result	RL
Diesel C10-C24	1.6 Y	1.2
Motor Oil C24-C36	ND	6.1

Surrogate	%REC	Limits
o-Terphenyl	90	58-136

Field ID: SB5-4.5-5 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249448  
 Lab ID: 290381-002 Prepared: 07/07/17  
 Moisture: 16% Analyzed: 07/07/17

Analyte	Result	RL
Diesel C10-C24	ND	1.2
Motor Oil C24-C36	ND	5.9

Surrogate	%REC	Limits
o-Terphenyl	105	58-136

Field ID: SB5-8.5-9 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249499  
 Lab ID: 290381-003 Prepared: 07/10/17  
 Moisture: 15% Analyzed: 07/10/17

Analyte	Result	RL
Diesel C10-C24	ND	1.2
Motor Oil C24-C36	ND	5.9

Surrogate	%REC	Limits
o-Terphenyl	82	58-136

Field ID: SB5-12.5-13 Diln Fac: 1.000  
 Type: SAMPLE Batch#: 249499  
 Lab ID: 290381-004 Prepared: 07/10/17  
 Moisture: 15% Analyzed: 07/10/17

Analyte	Result	RL
Diesel C10-C24	ND	1.2
Motor Oil C24-C36	ND	5.9

Surrogate	%REC	Limits
o-Terphenyl	80	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Total Extractable Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 3550B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID:	SB6-3-3.5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-005	Prepared:	07/10/17
Moisture:	15%	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	4.7 Y	1.2
Motor Oil C24-C36	ND	5.9

Surrogate	%REC	Limits
o-Terphenyl	92	58-136

Field ID:	SB6-4.5-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-006	Prepared:	07/10/17
Moisture:	14%	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	1.7 Y	1.2
Motor Oil C24-C36	ND	5.8

Surrogate	%REC	Limits
o-Terphenyl	95	58-136

Field ID:	SB6-8.5-9	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-007	Prepared:	07/10/17
Moisture:	21%	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	ND	1.3
Motor Oil C24-C36	ND	6.3

Surrogate	%REC	Limits
o-Terphenyl	78	58-136

Field ID:	SB6-12.5-13	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-008	Prepared:	07/10/17
Moisture:	17%	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	ND	1.2
Motor Oil C24-C36	ND	6.1

Surrogate	%REC	Limits
o-Terphenyl	73	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Total Extractable Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 3550B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID:	SB7-3-3.5	Diln Fac:	3.000
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-009	Prepared:	07/10/17
Moisture:	11%	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	44 Y	3.3
Motor Oil C24-C36	180	17

Surrogate	%REC	Limits
o-Terphenyl	109	58-136

Field ID:	SB7-4.5-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-010	Prepared:	07/10/17
Moisture:	5%	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	21 Y	1.0
Motor Oil C24-C36	79	5.2

Surrogate	%REC	Limits
o-Terphenyl	111	58-136

Field ID:	SB7-8.5-9	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-011	Prepared:	07/10/17
Moisture:	19%	Analyzed:	07/11/17

Analyte	Result	RL
Diesel C10-C24	4,700	25
Motor Oil C24-C36	120 Y	120

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	SB7-12.5-13	Diln Fac:	200.0
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-012	Prepared:	07/10/17
Moisture:	16%	Analyzed:	07/11/17

Analyte	Result	RL
Diesel C10-C24	20,000	240
Motor Oil C24-C36	ND	1,200

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Total Extractable Hydrocarbons		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 3550B
Project#:	2015-16	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 07/06/17
Units:	mg/Kg	Received: 07/06/17
Basis:	dry	

Field ID:	SB7-13.5-14	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	249499
Lab ID:	290381-013	Prepared:	07/10/17
Moisture:	14%	Analyzed:	07/11/17

Analyte	Result	RL
Diesel C10-C24	7,400	23
Motor Oil C24-C36	480 Y	120

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Type:	BLANK	Batch#:	249448
Lab ID:	QC892259	Prepared:	07/07/17
Diln Fac:	1.000	Analyzed:	07/07/17

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	94	58-136

Type:	BLANK	Batch#:	249499
Lab ID:	QC892443	Prepared:	07/10/17
Diln Fac:	1.000	Analyzed:	07/10/17

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	103	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 3550B
Project#:	2015-16	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC892260	Batch#:	249448
Matrix:	Soil	Prepared:	07/07/17
Units:	mg/Kg	Analyzed:	07/07/17

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.99	53.68	107	56-135

Surrogate	%REC	Limits
o-Terphenyl	103	58-136

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 3550B
Project#:	2015-16	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	249448
MSS Lab ID:	290298-007	Sampled:	06/27/17
Matrix:	Soil	Received:	06/30/17
Units:	mg/Kg	Prepared:	07/07/17
Basis:	dry	Analyzed:	07/07/17
Diln Fac:	1.000		

Type: MS Moisture: 10%  
 Lab ID: QC892261

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.9270	55.56	58.25	103	35-143
<b>Surrogate</b>					
o-Terphenyl	102			58-136	

Type: MSD Moisture: 10%  
 Lab ID: QC892262

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	55.32	55.85	99	35-143	4	59
<b>Surrogate</b>						
o-Terphenyl			97	58-136		

RPD= Relative Percent Difference

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 3550B
Project#:	2015-16	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	249448
MSS Lab ID:	290298-001	Sampled:	06/27/17
Matrix:	Soil	Received:	06/30/17
Units:	mg/Kg	Prepared:	07/07/17
Basis:	dry	Analyzed:	07/07/17
Diln Fac:	1.000		

Type: MS Moisture: 2%  
 Lab ID: QC892263

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	7.710	51.38	58.32	98	35-143

Surrogate	%REC	Limits
o-Terphenyl	95	58-136

Type: MSD Moisture: 2%  
 Lab ID: QC892264

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.62	57.26	98	35-143	1	59

Surrogate	%REC	Limits
o-Terphenyl	97	58-136

RPD= Relative Percent Difference

## Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	290381	Location:	Residential Heating UST Investigation	
Client:	Stellar Environmental Solutions	Prep:	EPA 3550B	
Project#:	2015-16	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC892444	Batch#:	249499	
Matrix:	Soil	Prepared:	07/10/17	
Units:	mg/Kg	Analyzed:	07/10/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.13	55.26	110	56-135

Surrogate	%REC	Limits
o-Terphenyl	108	58-136

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 3550B
Project#:	2015-16	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	249499
MSS Lab ID:	290405-003	Sampled:	07/06/17
Matrix:	Soil	Received:	07/07/17
Units:	mg/Kg	Prepared:	07/10/17
Basis:	as received	Analyzed:	07/10/17
Diln Fac:	1.000		

Type: MS Lab ID: QC892445

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	1.276	49.93	42.16	82	35-143

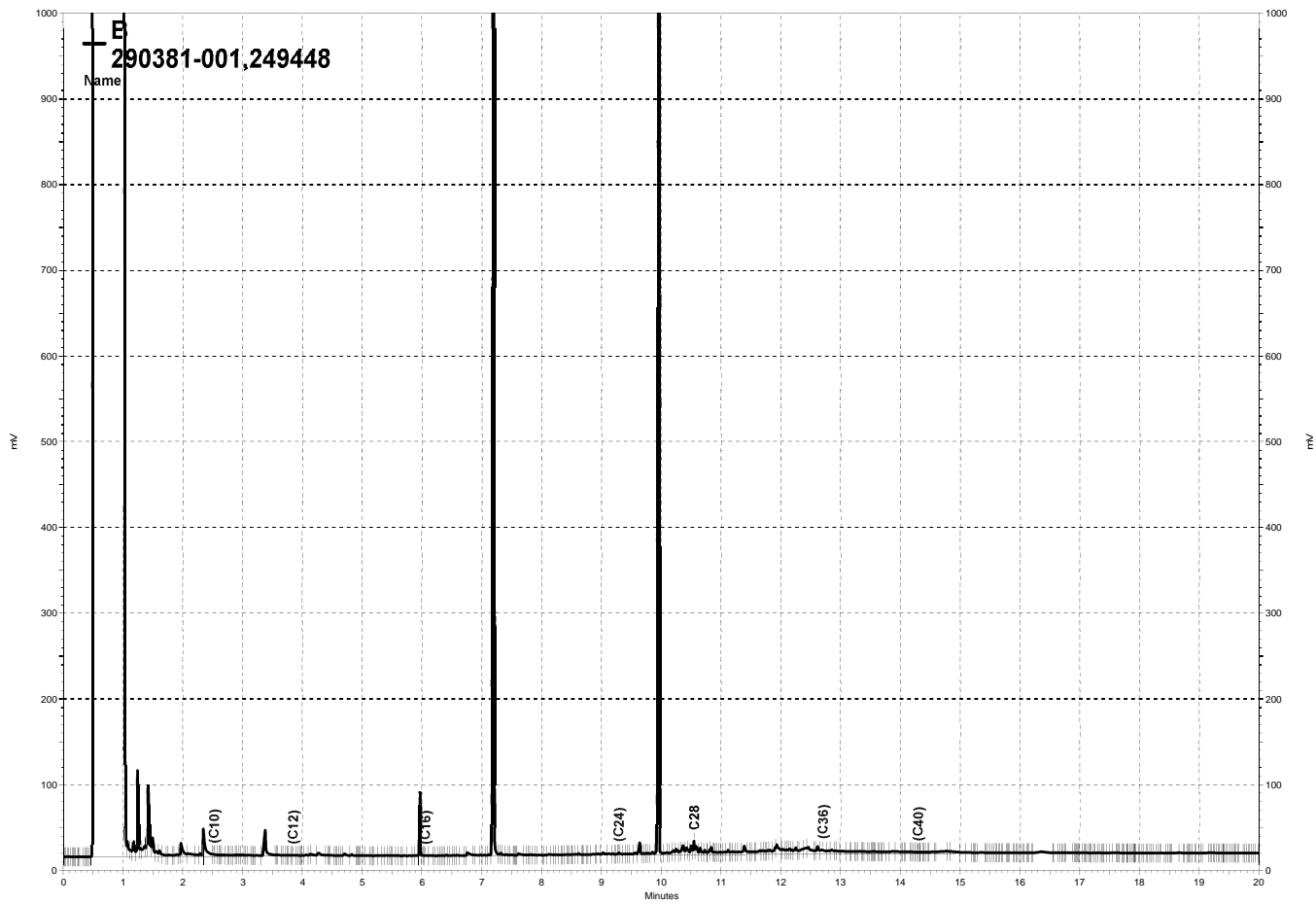
Surrogate	%REC	Limits
o-Terphenyl	97	58-136

Type: MSD Lab ID: QC892446

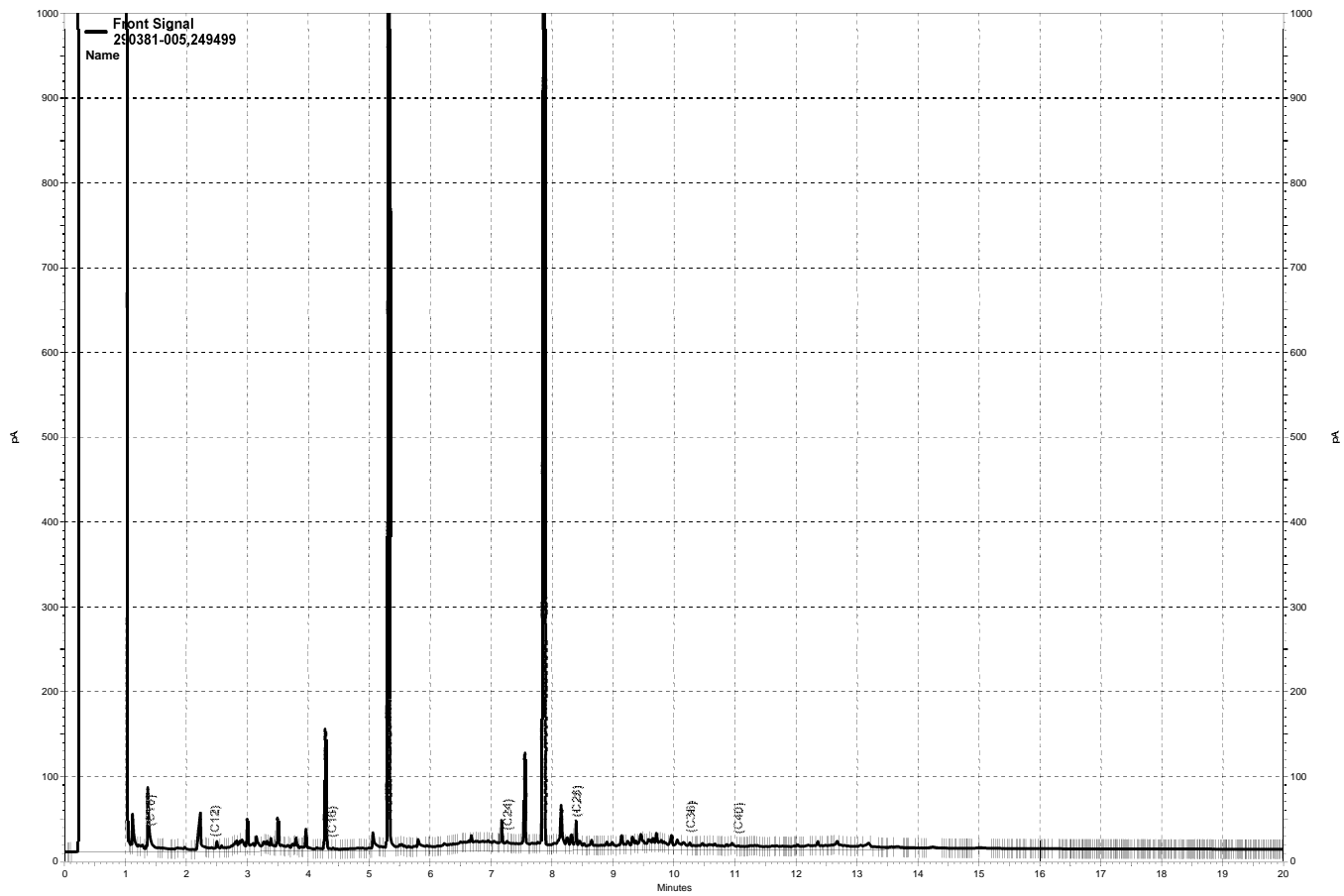
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.62	39.60	77	35-143	6	59

Surrogate	%REC	Limits
o-Terphenyl	92	58-136

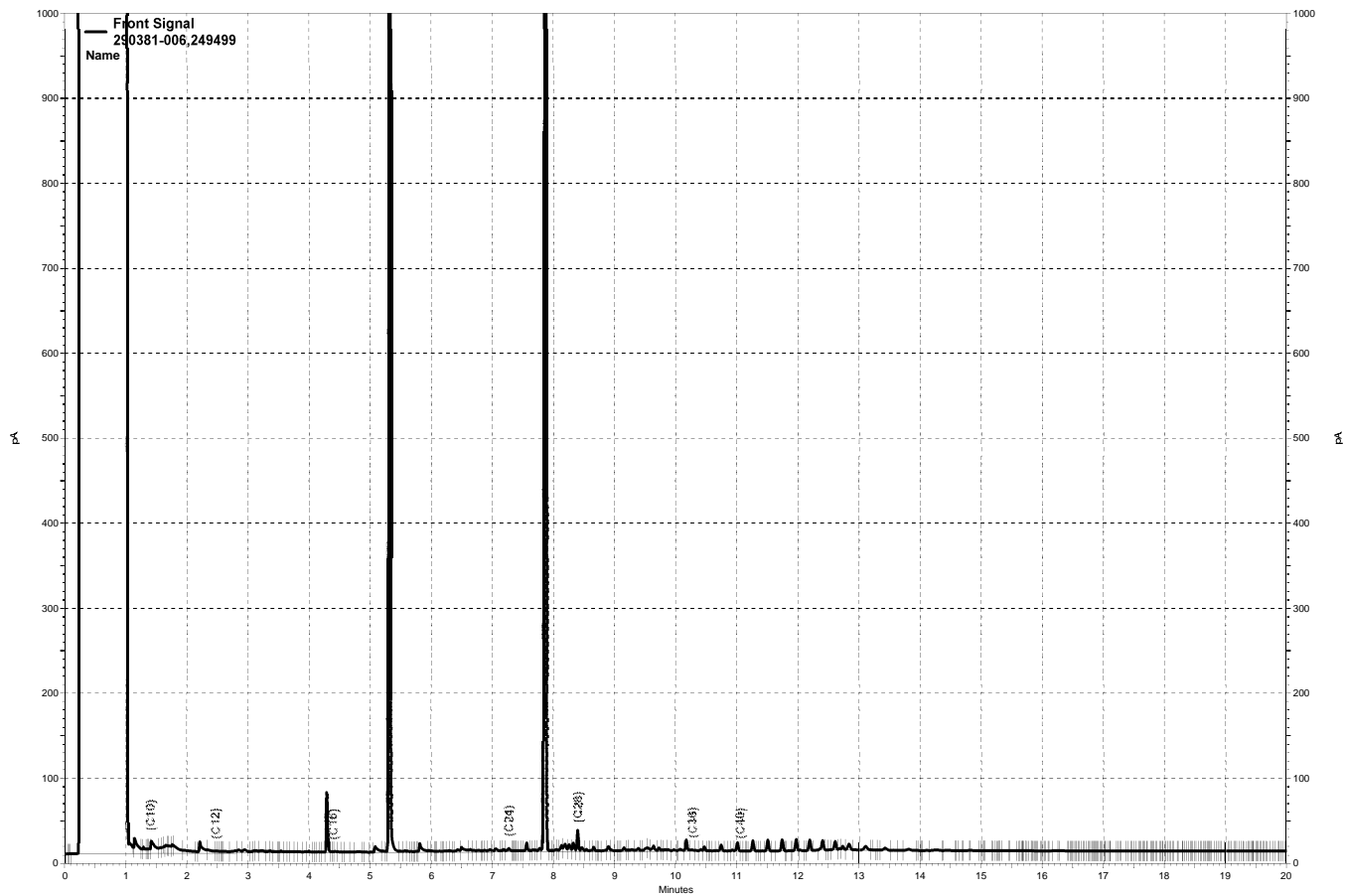
RPD= Relative Percent Difference



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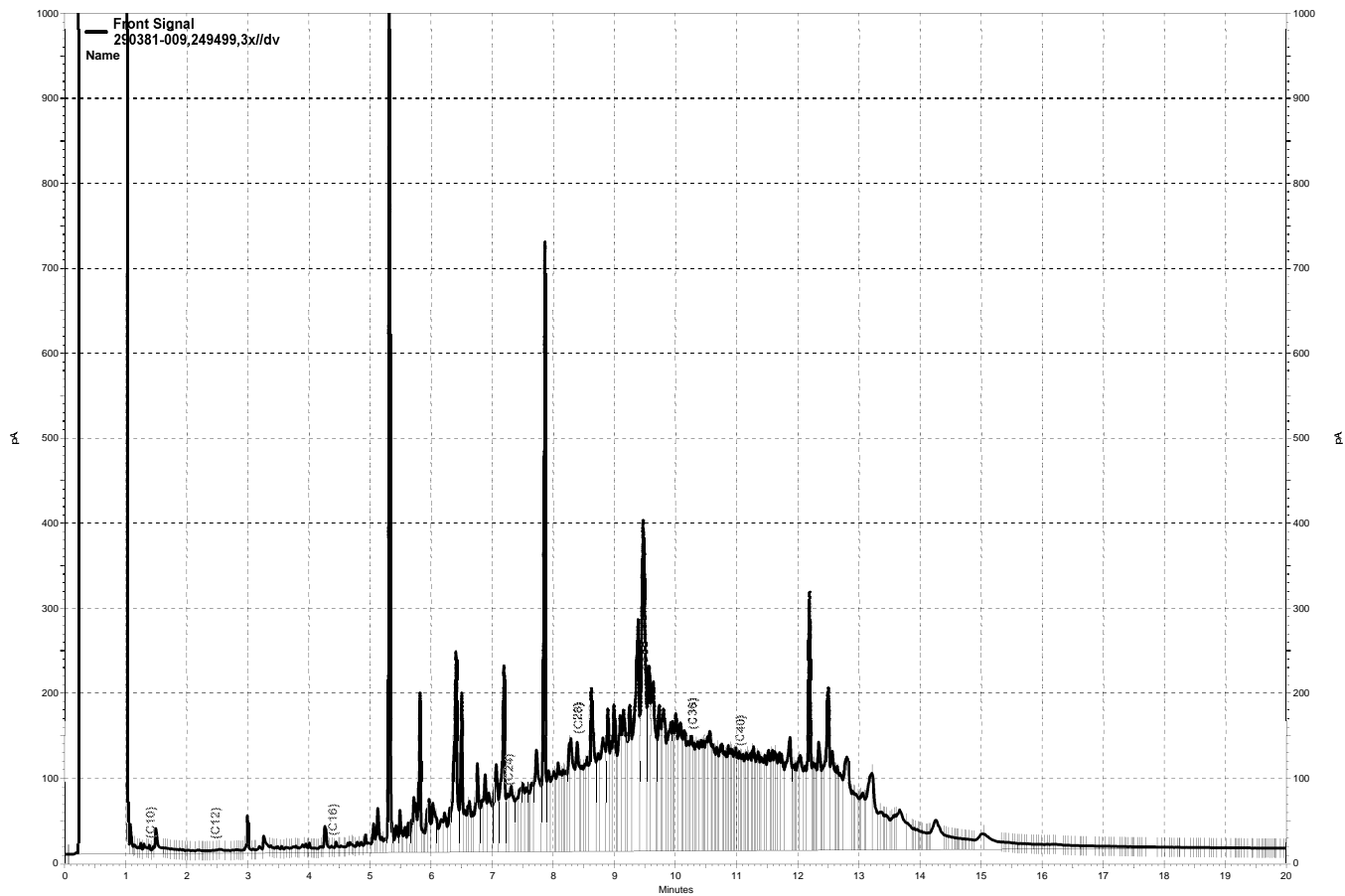


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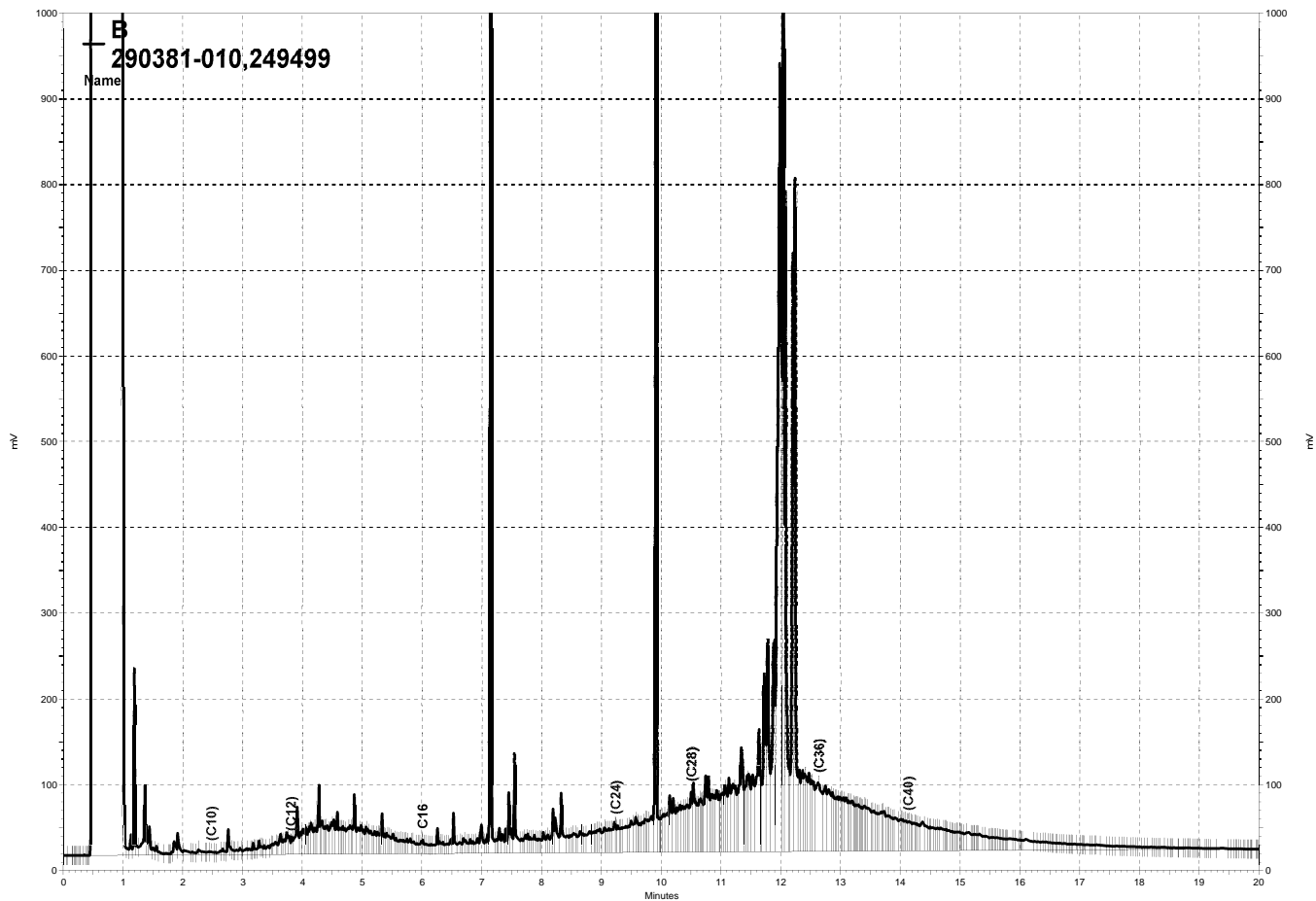


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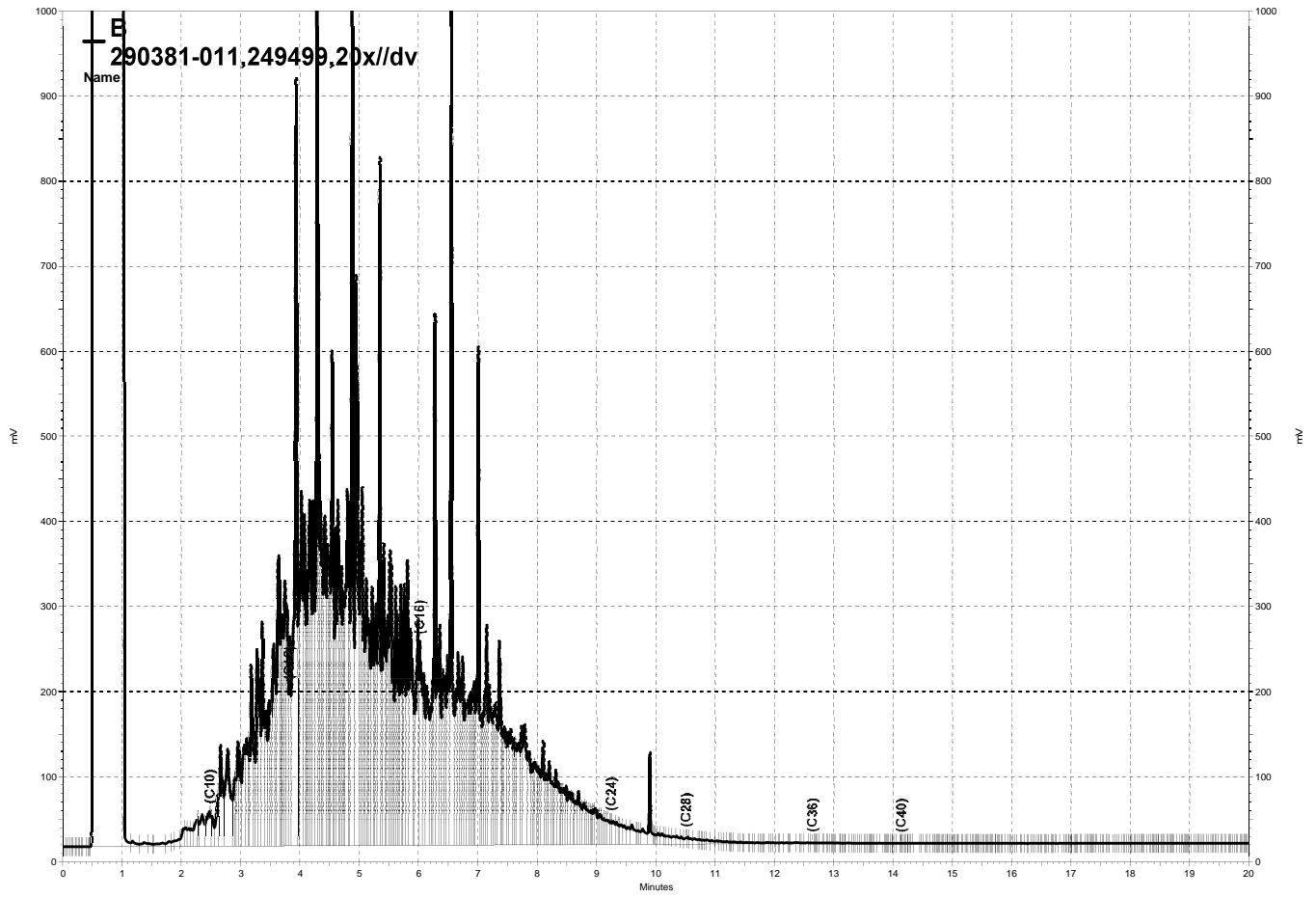




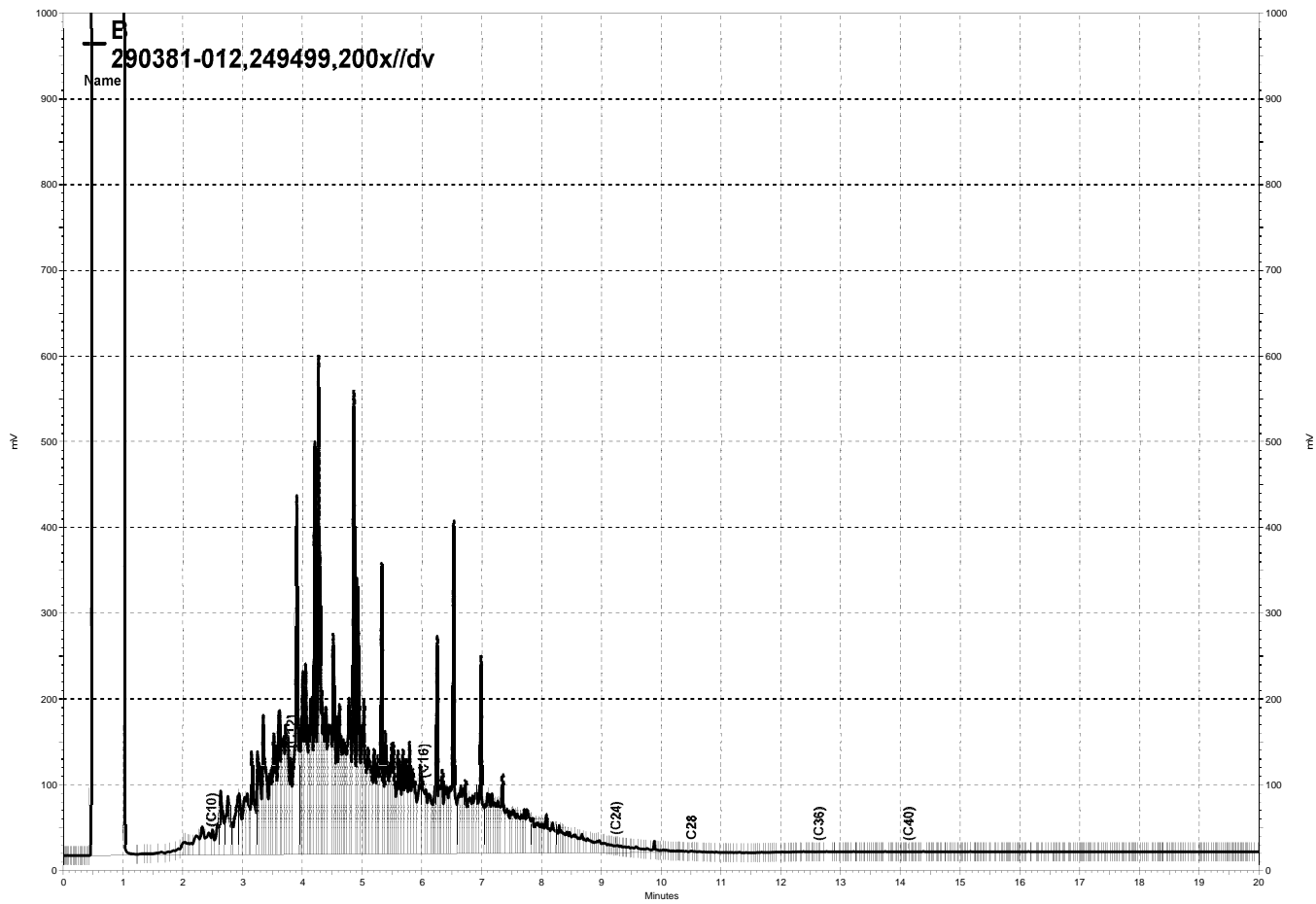
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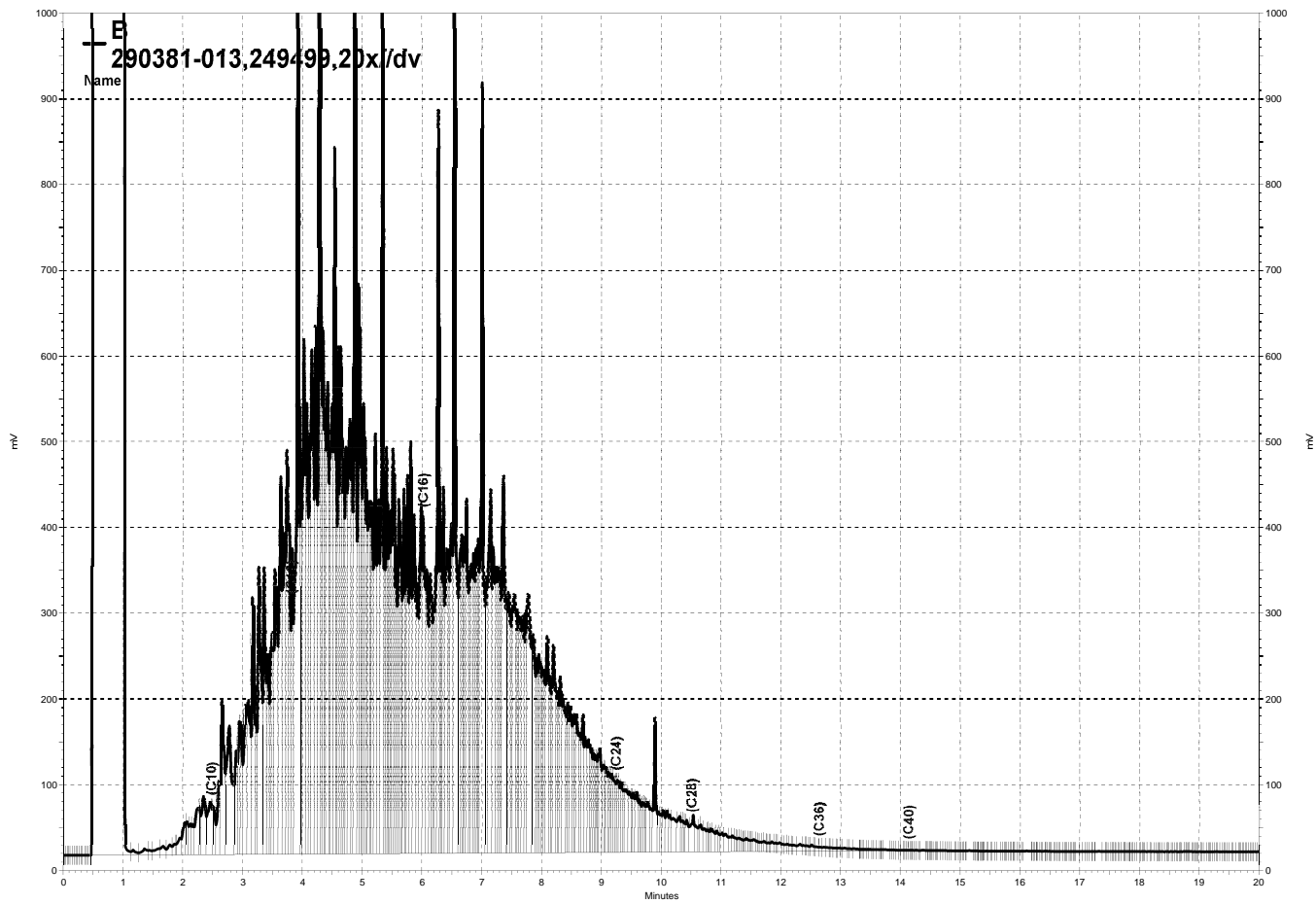
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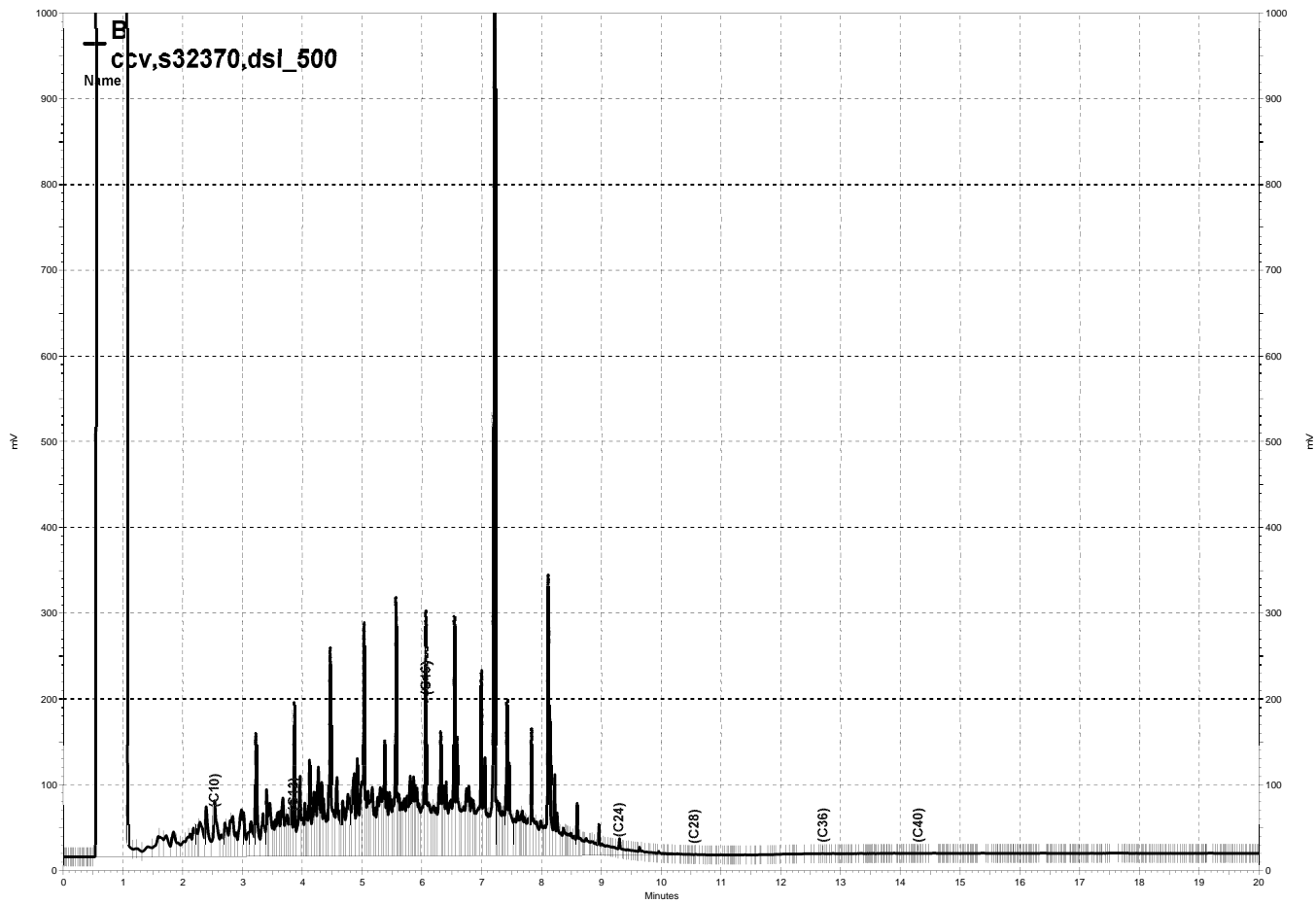
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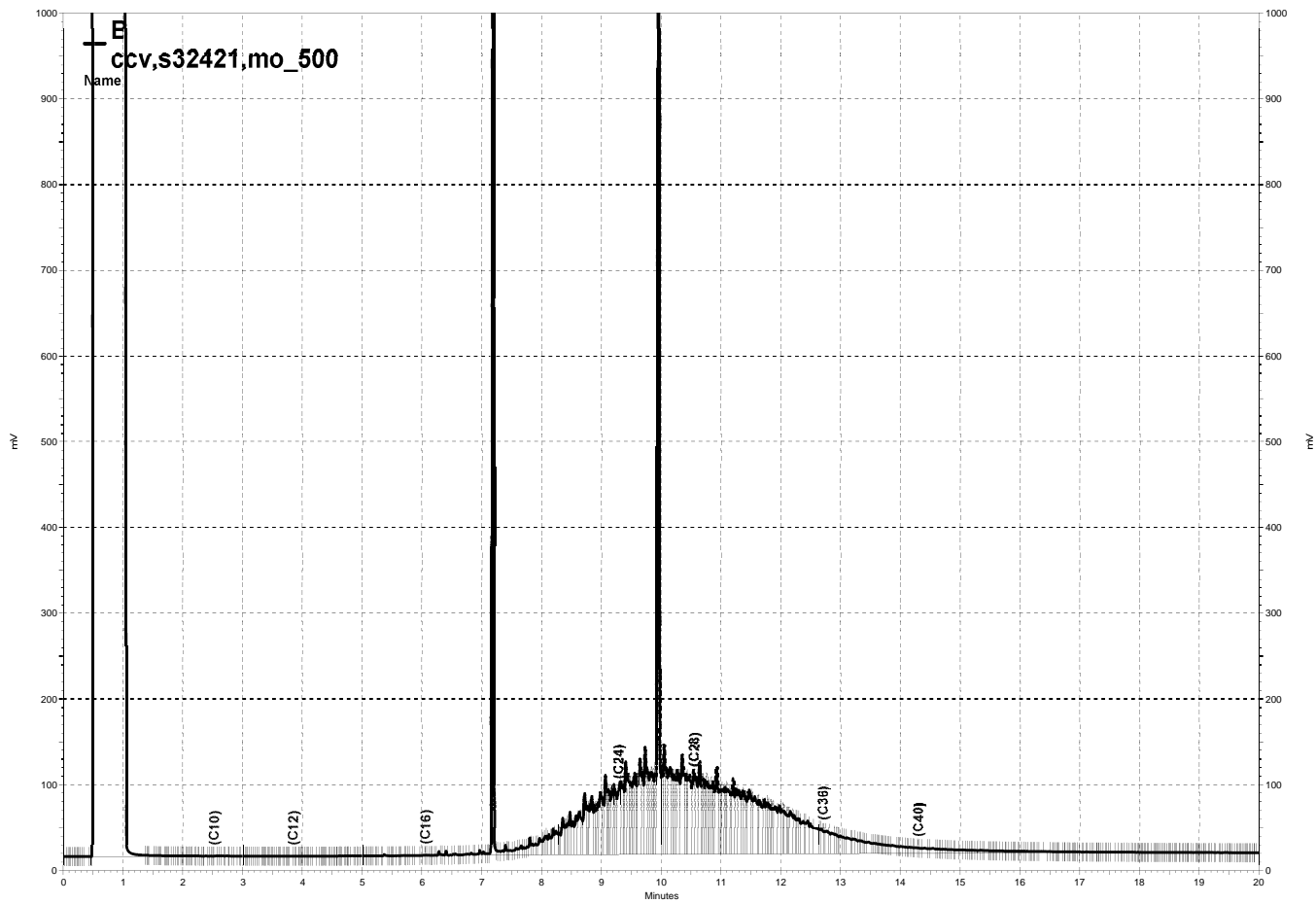
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### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB5-3-3.5	Diln Fac: 0.9785
Lab ID: 290381-001	Batch#: 249530
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 18%

Analyte	Result	RL	MDL
Freon 12	ND	12	
Chloromethane	ND	12	
Vinyl Chloride	ND	12	
Bromomethane	ND	12	
Chloroethane	ND	12	
Trichlorofluoromethane	ND	6.0	
Acetone	ND	30	
Freon 113	ND	6.0	
1,1-Dichloroethene	ND	6.0	
Carbon Disulfide	ND	6.0	
MTBE	ND	6.0	
trans-1,2-Dichloroethene	ND	6.0	
Vinyl Acetate	ND	60	
1,1-Dichloroethane	ND	6.0	
2-Butanone	ND	12	
cis-1,2-Dichloroethene	ND	6.0	
2,2-Dichloropropane	ND	6.0	
Chloroform	ND	6.0	
Bromochloromethane	ND	6.0	
1,1,1-Trichloroethane	ND	6.0	
1,1-Dichloropropene	ND	6.0	
Carbon Tetrachloride	ND	6.0	
1,2-Dichloroethane	ND	6.0	
Benzene	ND	6.0	
Trichloroethene	ND	6.0	
1,2-Dichloropropane	ND	6.0	
Bromodichloromethane	ND	6.0	
Dibromomethane	ND	6.0	
4-Methyl-2-Pentanone	ND	12	
cis-1,3-Dichloropropene	ND	6.0	
Toluene	ND	6.0	
trans-1,3-Dichloropropene	ND	6.0	
1,1,2-Trichloroethane	ND	6.0	
2-Hexanone	ND	12	
1,3-Dichloropropane	ND	6.0	
Tetrachloroethene	ND	6.0	
Dibromochloromethane	ND	6.0	
1,2-Dibromoethane	ND	6.0	
Chlorobenzene	ND	6.0	
1,1,1,2-Tetrachloroethane	ND	6.0	
Ethylbenzene	ND	6.0	
m,p-Xylenes	ND	6.0	
o-Xylene	ND	6.0	
Styrene	ND	6.0	
Bromoform	ND	6.0	
Isopropylbenzene	ND	6.0	
1,1,2,2-Tetrachloroethane	ND	6.0	
1,2,3-Trichloropropane	ND	6.0	
Propylbenzene	ND	6.0	
Bromobenzene	ND	6.0	
1,3,5-Trimethylbenzene	ND	6.0	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit



**Purgeable Organics by GC/MS**

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB5-3-3.5	Diln Fac: 0.9785
Lab ID: 290381-001	Batch#: 249530
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	6.0	
4-Chlorotoluene	ND	6.0	
tert-Butylbenzene	ND	6.0	
1,2,4-Trimethylbenzene	ND	6.0	
sec-Butylbenzene	ND	6.0	
para-Isopropyl Toluene	ND	6.0	
1,3-Dichlorobenzene	ND	6.0	
1,4-Dichlorobenzene	ND	6.0	
n-Butylbenzene	ND	6.0	0.7
1,2-Dichlorobenzene	ND	6.0	
1,2-Dibromo-3-Chloropropane	ND	6.0	
1,2,4-Trichlorobenzene	ND	6.0	
Hexachlorobutadiene	ND	6.0	
Naphthalene	ND	6.0	
1,2,3-Trichlorobenzene	ND	6.0	

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-128
1,2-Dichloroethane-d4	86	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	96	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB5-4.5-5	Diln Fac: 0.9597
Lab ID: 290381-002	Batch#: 249530
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 16%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.7	
Acetone	ND	29	
Freon 113	ND	5.7	
1,1-Dichloroethene	ND	5.7	
Carbon Disulfide	ND	5.7	
MTBE	ND	5.7	
trans-1,2-Dichloroethene	ND	5.7	
Vinyl Acetate	ND	57	
1,1-Dichloroethane	ND	5.7	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.7	
2,2-Dichloropropane	ND	5.7	
Chloroform	ND	5.7	
Bromochloromethane	ND	5.7	
1,1,1-Trichloroethane	ND	5.7	
1,1-Dichloropropene	ND	5.7	
Carbon Tetrachloride	ND	5.7	
1,2-Dichloroethane	ND	5.7	
Benzene	ND	5.7	
Trichloroethene	ND	5.7	
1,2-Dichloropropane	ND	5.7	
Bromodichloromethane	ND	5.7	
Dibromomethane	ND	5.7	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.7	
Toluene	ND	5.7	
trans-1,3-Dichloropropene	ND	5.7	
1,1,2-Trichloroethane	ND	5.7	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.7	
Tetrachloroethene	ND	5.7	
Dibromochloromethane	ND	5.7	
1,2-Dibromoethane	ND	5.7	
Chlorobenzene	ND	5.7	
1,1,1,2-Tetrachloroethane	ND	5.7	
Ethylbenzene	ND	5.7	
m,p-Xylenes	ND	5.7	
o-Xylene	ND	5.7	
Styrene	ND	5.7	
Bromoform	ND	5.7	
Isopropylbenzene	ND	5.7	
1,1,2,2-Tetrachloroethane	ND	5.7	
1,2,3-Trichloropropane	ND	5.7	
Propylbenzene	ND	5.7	
Bromobenzene	ND	5.7	
1,3,5-Trimethylbenzene	ND	5.7	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB5-4.5-5	Diln Fac:	0.9597
Lab ID:	290381-002	Batch#:	249530
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.7	
4-Chlorotoluene	ND	5.7	
tert-Butylbenzene	ND	5.7	
1,2,4-Trimethylbenzene	ND	5.7	
sec-Butylbenzene	ND	5.7	
para-Isopropyl Toluene	ND	5.7	
1,3-Dichlorobenzene	ND	5.7	
1,4-Dichlorobenzene	ND	5.7	
n-Butylbenzene	ND	5.7	0.7
1,2-Dichlorobenzene	ND	5.7	
1,2-Dibromo-3-Chloropropane	ND	5.7	
1,2,4-Trichlorobenzene	ND	5.7	
Hexachlorobutadiene	ND	5.7	
Naphthalene	ND	5.7	
1,2,3-Trichlorobenzene	ND	5.7	

Surrogate	%REC	Limits
Dibromofluoromethane	87	80-128
1,2-Dichloroethane-d4	90	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	98	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB5-8.5-9	Diln Fac: 0.9615
Lab ID: 290381-003	Batch#: 249565
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 15%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.7	
Acetone	ND	28	
Freon 113	ND	5.7	
1,1-Dichloroethene	ND	5.7	
Carbon Disulfide	ND	5.7	
MTBE	ND	5.7	
trans-1,2-Dichloroethene	ND	5.7	
Vinyl Acetate	ND	57	
1,1-Dichloroethane	ND	5.7	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.7	
2,2-Dichloropropane	ND	5.7	
Chloroform	ND	5.7	
Bromochloromethane	ND	5.7	
1,1,1-Trichloroethane	ND	5.7	
1,1-Dichloropropene	ND	5.7	
Carbon Tetrachloride	ND	5.7	
1,2-Dichloroethane	ND	5.7	
Benzene	ND	5.7	
Trichloroethene	ND	5.7	
1,2-Dichloropropane	ND	5.7	
Bromodichloromethane	ND	5.7	
Dibromomethane	ND	5.7	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.7	
Toluene	ND	5.7	
trans-1,3-Dichloropropene	ND	5.7	
1,1,2-Trichloroethane	ND	5.7	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.7	
Tetrachloroethene	ND	5.7	
Dibromochloromethane	ND	5.7	
1,2-Dibromoethane	ND	5.7	
Chlorobenzene	ND	5.7	
1,1,1,2-Tetrachloroethane	ND	5.7	
Ethylbenzene	ND	5.7	
m,p-Xylenes	ND	5.7	
o-Xylene	ND	5.7	
Styrene	ND	5.7	
Bromoform	ND	5.7	
Isopropylbenzene	ND	5.7	
1,1,2,2-Tetrachloroethane	ND	5.7	
1,2,3-Trichloropropane	ND	5.7	
Propylbenzene	ND	5.7	
Bromobenzene	ND	5.7	
1,3,5-Trimethylbenzene	ND	5.7	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB5-8.5-9	Diln Fac:	0.9615
Lab ID:	290381-003	Batch#:	249565
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.7	
4-Chlorotoluene	ND	5.7	
tert-Butylbenzene	ND	5.7	
1,2,4-Trimethylbenzene	ND	5.7	
sec-Butylbenzene	ND	5.7	
para-Isopropyl Toluene	ND	5.7	
1,3-Dichlorobenzene	ND	5.7	
1,4-Dichlorobenzene	ND	5.7	
n-Butylbenzene	ND	5.7	0.4
1,2-Dichlorobenzene	ND	5.7	
1,2-Dibromo-3-Chloropropane	ND	5.7	
1,2,4-Trichlorobenzene	ND	5.7	
Hexachlorobutadiene	ND	5.7	
Naphthalene	ND	5.7	
1,2,3-Trichlorobenzene	ND	5.7	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	100	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB5-12.5-13	Diln Fac: 0.8945
Lab ID: 290381-004	Batch#: 249565
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 15%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.3	
Acetone	ND	26	
Freon 113	ND	5.3	
1,1-Dichloroethene	ND	5.3	
Carbon Disulfide	ND	5.3	
MTBE	ND	5.3	
trans-1,2-Dichloroethene	ND	5.3	
Vinyl Acetate	ND	53	
1,1-Dichloroethane	ND	5.3	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.3	
2,2-Dichloropropane	ND	5.3	
Chloroform	ND	5.3	
Bromochloromethane	ND	5.3	
1,1,1-Trichloroethane	ND	5.3	
1,1-Dichloropropene	ND	5.3	
Carbon Tetrachloride	ND	5.3	
1,2-Dichloroethane	ND	5.3	
Benzene	ND	5.3	
Trichloroethene	ND	5.3	
1,2-Dichloropropane	ND	5.3	
Bromodichloromethane	ND	5.3	
Dibromomethane	ND	5.3	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.3	
Toluene	ND	5.3	
trans-1,3-Dichloropropene	ND	5.3	
1,1,2-Trichloroethane	ND	5.3	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.3	
Tetrachloroethene	ND	5.3	
Dibromochloromethane	ND	5.3	
1,2-Dibromoethane	ND	5.3	
Chlorobenzene	ND	5.3	
1,1,1,2-Tetrachloroethane	ND	5.3	
Ethylbenzene	ND	5.3	
m,p-Xylenes	ND	5.3	
o-Xylene	ND	5.3	
Styrene	ND	5.3	
Bromoform	ND	5.3	
Isopropylbenzene	ND	5.3	
1,1,2,2-Tetrachloroethane	ND	5.3	
1,2,3-Trichloropropane	ND	5.3	
Propylbenzene	ND	5.3	
Bromobenzene	ND	5.3	
1,3,5-Trimethylbenzene	ND	5.3	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB5-12.5-13	Diln Fac:	0.8945
Lab ID:	290381-004	Batch#:	249565
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.3	
4-Chlorotoluene	ND	5.3	
tert-Butylbenzene	ND	5.3	
1,2,4-Trimethylbenzene	ND	5.3	
sec-Butylbenzene	ND	5.3	
para-Isopropyl Toluene	ND	5.3	
1,3-Dichlorobenzene	ND	5.3	
1,4-Dichlorobenzene	ND	5.3	
n-Butylbenzene	ND	5.3	0.4
1,2-Dichlorobenzene	ND	5.3	
1,2-Dibromo-3-Chloropropane	ND	5.3	
1,2,4-Trichlorobenzene	ND	5.3	
Hexachlorobutadiene	ND	5.3	
Naphthalene	ND	5.3	
1,2,3-Trichlorobenzene	ND	5.3	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB6-3-3.5	Diln Fac: 0.8929
Lab ID: 290381-005	Batch#: 249565
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 15%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.3	
Acetone	ND	26	
Freon 113	ND	5.3	
1,1-Dichloroethene	ND	5.3	
Carbon Disulfide	ND	5.3	
MTBE	ND	5.3	
trans-1,2-Dichloroethene	ND	5.3	
Vinyl Acetate	ND	53	
1,1-Dichloroethane	ND	5.3	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.3	
2,2-Dichloropropane	ND	5.3	
Chloroform	ND	5.3	
Bromochloromethane	ND	5.3	
1,1,1-Trichloroethane	ND	5.3	
1,1-Dichloropropene	ND	5.3	
Carbon Tetrachloride	ND	5.3	
1,2-Dichloroethane	ND	5.3	
Benzene	ND	5.3	
Trichloroethene	ND	5.3	
1,2-Dichloropropane	ND	5.3	
Bromodichloromethane	ND	5.3	
Dibromomethane	ND	5.3	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.3	
Toluene	ND	5.3	
trans-1,3-Dichloropropene	ND	5.3	
1,1,2-Trichloroethane	ND	5.3	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.3	
Tetrachloroethene	ND	5.3	
Dibromochloromethane	ND	5.3	
1,2-Dibromoethane	ND	5.3	
Chlorobenzene	ND	5.3	
1,1,1,2-Tetrachloroethane	ND	5.3	
Ethylbenzene	ND	5.3	
m,p-Xylenes	ND	5.3	
o-Xylene	ND	5.3	
Styrene	ND	5.3	
Bromoform	ND	5.3	
Isopropylbenzene	ND	5.3	
1,1,2,2-Tetrachloroethane	ND	5.3	
1,2,3-Trichloropropane	ND	5.3	
Propylbenzene	ND	5.3	
Bromobenzene	ND	5.3	
1,3,5-Trimethylbenzene	ND	5.3	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit



**Purgeable Organics by GC/MS**

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB6-3-3.5	Diln Fac: 0.8929
Lab ID: 290381-005	Batch#: 249565
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.3	
4-Chlorotoluene	ND	5.3	
tert-Butylbenzene	ND	5.3	
1,2,4-Trimethylbenzene	ND	5.3	
sec-Butylbenzene	ND	5.3	
para-Isopropyl Toluene	ND	5.3	
1,3-Dichlorobenzene	ND	5.3	
1,4-Dichlorobenzene	ND	5.3	
n-Butylbenzene	ND	5.3	0.4
1,2-Dichlorobenzene	ND	5.3	
1,2-Dibromo-3-Chloropropane	ND	5.3	
1,2,4-Trichlorobenzene	ND	5.3	
Hexachlorobutadiene	ND	5.3	
Naphthalene	ND	5.3	
1,2,3-Trichlorobenzene	ND	5.3	

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB6-4.5-5	Diln Fac:	0.9615
Lab ID:	290381-006	Batch#:	249565
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Moisture: 14%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.6	
Acetone	ND	28	
Freon 113	ND	5.6	
1,1-Dichloroethene	ND	5.6	
Carbon Disulfide	ND	5.6	
MTBE	ND	5.6	
trans-1,2-Dichloroethene	ND	5.6	
Vinyl Acetate	ND	56	
1,1-Dichloroethane	ND	5.6	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.6	
2,2-Dichloropropane	ND	5.6	
Chloroform	ND	5.6	
Bromochloromethane	ND	5.6	
1,1,1-Trichloroethane	ND	5.6	
1,1-Dichloropropene	ND	5.6	
Carbon Tetrachloride	ND	5.6	
1,2-Dichloroethane	ND	5.6	
Benzene	ND	5.6	
Trichloroethene	ND	5.6	
1,2-Dichloropropane	ND	5.6	
Bromodichloromethane	ND	5.6	
Dibromomethane	ND	5.6	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.6	
Toluene	ND	5.6	
trans-1,3-Dichloropropene	ND	5.6	
1,1,2-Trichloroethane	ND	5.6	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.6	
Tetrachloroethene	ND	5.6	
Dibromochloromethane	ND	5.6	
1,2-Dibromoethane	ND	5.6	
Chlorobenzene	ND	5.6	
1,1,1,2-Tetrachloroethane	ND	5.6	
Ethylbenzene	ND	5.6	
m,p-Xylenes	ND	5.6	
o-Xylene	ND	5.6	
Styrene	ND	5.6	
Bromoform	ND	5.6	
Isopropylbenzene	ND	5.6	
1,1,2,2-Tetrachloroethane	ND	5.6	
1,2,3-Trichloropropane	ND	5.6	
Propylbenzene	ND	5.6	
Bromobenzene	ND	5.6	
1,3,5-Trimethylbenzene	ND	5.6	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB6-4.5-5	Diln Fac:	0.9615
Lab ID:	290381-006	Batch#:	249565
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.6	
4-Chlorotoluene	ND	5.6	
tert-Butylbenzene	ND	5.6	
1,2,4-Trimethylbenzene	ND	5.6	
sec-Butylbenzene	ND	5.6	
para-Isopropyl Toluene	ND	5.6	
1,3-Dichlorobenzene	ND	5.6	
1,4-Dichlorobenzene	ND	5.6	
n-Butylbenzene	ND	5.6	0.4
1,2-Dichlorobenzene	ND	5.6	
1,2-Dibromo-3-Chloropropane	ND	5.6	
1,2,4-Trichlorobenzene	ND	5.6	
Hexachlorobutadiene	ND	5.6	
Naphthalene	ND	5.6	
1,2,3-Trichlorobenzene	ND	5.6	

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB6-8.5-9	Diln Fac: 0.9470
Lab ID: 290381-007	Batch#: 249565
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 21%

Analyte	Result	RL	MDL
Freon 12	ND	12	
Chloromethane	ND	12	
Vinyl Chloride	ND	12	
Bromomethane	ND	12	
Chloroethane	ND	12	
Trichlorofluoromethane	ND	6.0	
Acetone	ND	30	
Freon 113	ND	6.0	
1,1-Dichloroethene	ND	6.0	
Carbon Disulfide	ND	6.0	
MTBE	ND	6.0	
trans-1,2-Dichloroethene	ND	6.0	
Vinyl Acetate	ND	60	
1,1-Dichloroethane	ND	6.0	
2-Butanone	ND	12	
cis-1,2-Dichloroethene	ND	6.0	
2,2-Dichloropropane	ND	6.0	
Chloroform	ND	6.0	
Bromochloromethane	ND	6.0	
1,1,1-Trichloroethane	ND	6.0	
1,1-Dichloropropene	ND	6.0	
Carbon Tetrachloride	ND	6.0	
1,2-Dichloroethane	ND	6.0	
Benzene	ND	6.0	
Trichloroethene	ND	6.0	
1,2-Dichloropropane	ND	6.0	
Bromodichloromethane	ND	6.0	
Dibromomethane	ND	6.0	
4-Methyl-2-Pentanone	ND	12	
cis-1,3-Dichloropropene	ND	6.0	
Toluene	ND	6.0	
trans-1,3-Dichloropropene	ND	6.0	
1,1,2-Trichloroethane	ND	6.0	
2-Hexanone	ND	12	
1,3-Dichloropropane	ND	6.0	
Tetrachloroethene	ND	6.0	
Dibromochloromethane	ND	6.0	
1,2-Dibromoethane	ND	6.0	
Chlorobenzene	ND	6.0	
1,1,1,2-Tetrachloroethane	ND	6.0	
Ethylbenzene	ND	6.0	
m,p-Xylenes	ND	6.0	
o-Xylene	ND	6.0	
Styrene	ND	6.0	
Bromoform	ND	6.0	
Isopropylbenzene	ND	6.0	
1,1,2,2-Tetrachloroethane	ND	6.0	
1,2,3-Trichloropropane	ND	6.0	
Propylbenzene	ND	6.0	
Bromobenzene	ND	6.0	
1,3,5-Trimethylbenzene	ND	6.0	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Purgeable Organics by GC/MS**

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB6-8.5-9	Diln Fac: 0.9470
Lab ID: 290381-007	Batch#: 249565
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	6.0	
4-Chlorotoluene	ND	6.0	
tert-Butylbenzene	ND	6.0	
1,2,4-Trimethylbenzene	ND	6.0	
sec-Butylbenzene	ND	6.0	
para-Isopropyl Toluene	ND	6.0	
1,3-Dichlorobenzene	ND	6.0	
1,4-Dichlorobenzene	ND	6.0	
n-Butylbenzene	ND	6.0	0.5
1,2-Dichlorobenzene	ND	6.0	
1,2-Dibromo-3-Chloropropane	ND	6.0	
1,2,4-Trichlorobenzene	ND	6.0	
Hexachlorobutadiene	ND	6.0	
Naphthalene	ND	6.0	
1,2,3-Trichlorobenzene	ND	6.0	

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB6-12.5-13	Diln Fac:	0.9398
Lab ID:	290381-008	Batch#:	249565
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Moisture: 17%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.7	
Acetone	ND	28	
Freon 113	ND	5.7	
1,1-Dichloroethene	ND	5.7	
Carbon Disulfide	ND	5.7	
MTBE	ND	5.7	
trans-1,2-Dichloroethene	ND	5.7	
Vinyl Acetate	ND	57	
1,1-Dichloroethane	ND	5.7	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.7	
2,2-Dichloropropane	ND	5.7	
Chloroform	ND	5.7	
Bromochloromethane	ND	5.7	
1,1,1-Trichloroethane	ND	5.7	
1,1-Dichloropropene	ND	5.7	
Carbon Tetrachloride	ND	5.7	
1,2-Dichloroethane	ND	5.7	
Benzene	ND	5.7	
Trichloroethene	ND	5.7	
1,2-Dichloropropane	ND	5.7	
Bromodichloromethane	ND	5.7	
Dibromomethane	ND	5.7	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.7	
Toluene	ND	5.7	
trans-1,3-Dichloropropene	ND	5.7	
1,1,2-Trichloroethane	ND	5.7	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.7	
Tetrachloroethene	ND	5.7	
Dibromochloromethane	ND	5.7	
1,2-Dibromoethane	ND	5.7	
Chlorobenzene	ND	5.7	
1,1,1,2-Tetrachloroethane	ND	5.7	
Ethylbenzene	ND	5.7	
m,p-Xylenes	ND	5.7	
o-Xylene	ND	5.7	
Styrene	ND	5.7	
Bromoform	ND	5.7	
Isopropylbenzene	ND	5.7	
1,1,2,2-Tetrachloroethane	ND	5.7	
1,2,3-Trichloropropane	ND	5.7	
Propylbenzene	ND	5.7	
Bromobenzene	ND	5.7	
1,3,5-Trimethylbenzene	ND	5.7	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB6-12.5-13	Diln Fac:	0.9398
Lab ID:	290381-008	Batch#:	249565
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.7	
4-Chlorotoluene	ND	5.7	
tert-Butylbenzene	ND	5.7	
1,2,4-Trimethylbenzene	ND	5.7	
sec-Butylbenzene	ND	5.7	
para-Isopropyl Toluene	ND	5.7	
1,3-Dichlorobenzene	ND	5.7	
1,4-Dichlorobenzene	ND	5.7	
n-Butylbenzene	ND	5.7	0.4
1,2-Dichlorobenzene	ND	5.7	
1,2-Dibromo-3-Chloropropane	ND	5.7	
1,2,4-Trichlorobenzene	ND	5.7	
Hexachlorobutadiene	ND	5.7	
Naphthalene	ND	5.7	
1,2,3-Trichlorobenzene	ND	5.7	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	99	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-3-3.5	Diln Fac: 0.9960
Lab ID: 290381-009	Batch#: 249633
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/13/17

Moisture: 11%

Analyte	Result	RL	MDL
Freon 12	ND	11	
Chloromethane	ND	11	
Vinyl Chloride	ND	11	
Bromomethane	ND	11	
Chloroethane	ND	11	
Trichlorofluoromethane	ND	5.6	
Acetone	ND	28	
Freon 113	ND	5.6	
1,1-Dichloroethene	ND	5.6	
Carbon Disulfide	ND	5.6	
MTBE	ND	5.6	
trans-1,2-Dichloroethene	ND	5.6	
Vinyl Acetate	ND	56	
1,1-Dichloroethane	ND	5.6	
2-Butanone	ND	11	
cis-1,2-Dichloroethene	ND	5.6	
2,2-Dichloropropane	ND	5.6	
Chloroform	ND	5.6	
Bromochloromethane	ND	5.6	
1,1,1-Trichloroethane	ND	5.6	
1,1-Dichloropropene	ND	5.6	
Carbon Tetrachloride	ND	5.6	
1,2-Dichloroethane	ND	5.6	
Benzene	ND	5.6	
Trichloroethene	ND	5.6	
1,2-Dichloropropane	ND	5.6	
Bromodichloromethane	ND	5.6	
Dibromomethane	ND	5.6	
4-Methyl-2-Pentanone	ND	11	
cis-1,3-Dichloropropene	ND	5.6	
Toluene	ND	5.6	
trans-1,3-Dichloropropene	ND	5.6	
1,1,2-Trichloroethane	ND	5.6	
2-Hexanone	ND	11	
1,3-Dichloropropane	ND	5.6	
Tetrachloroethene	ND	5.6	
Dibromochloromethane	ND	5.6	
1,2-Dibromoethane	ND	5.6	
Chlorobenzene	ND	5.6	
1,1,1,2-Tetrachloroethane	ND	5.6	
Ethylbenzene	ND	5.6	
m,p-Xylenes	ND	5.6	
o-Xylene	ND	5.6	
Styrene	ND	5.6	
Bromoform	ND	5.6	
Isopropylbenzene	ND	5.6	
1,1,2,2-Tetrachloroethane	ND	5.6	
1,2,3-Trichloropropane	ND	5.6	
Propylbenzene	ND	5.6	
Bromobenzene	ND	5.6	
1,3,5-Trimethylbenzene	ND	5.6	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit



**Purgeable Organics by GC/MS**

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-3-3.5	Diln Fac: 0.9960
Lab ID: 290381-009	Batch#: 249633
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/13/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.6	
4-Chlorotoluene	ND	5.6	
tert-Butylbenzene	ND	5.6	
1,2,4-Trimethylbenzene	ND	5.6	
sec-Butylbenzene	ND	5.6	
para-Isopropyl Toluene	ND	5.6	
1,3-Dichlorobenzene	ND	5.6	
1,4-Dichlorobenzene	ND	5.6	
n-Butylbenzene	ND	5.6	0.7
1,2-Dichlorobenzene	ND	5.6	
1,2-Dibromo-3-Chloropropane	ND	5.6	
1,2,4-Trichlorobenzene	ND	5.6	
Hexachlorobutadiene	ND	5.6	
Naphthalene	ND	5.6	
1,2,3-Trichlorobenzene	ND	5.6	

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	100	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	106	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-4.5-5	Diln Fac: 0.9506
Lab ID: 290381-010	Batch#: 249633
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/13/17

Moisture: 5%

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB7-4.5-5	Diln Fac:	0.9506
Lab ID:	290381-010	Batch#:	249633
Matrix:	Soil	Sampled:	07/06/17
Units:	ug/Kg	Received:	07/06/17
Basis:	dry	Analyzed:	07/13/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.6
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-128
1,2-Dichloroethane-d4	96	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-8.5-9	Basis: dry
Lab ID: 290381-011	Sampled: 07/06/17
Matrix: Soil	Received: 07/06/17
Units: ug/Kg	

Moisture: 19%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Analyzed
Freon 12	ND	620		50.00	249643	07/13/17
Chloromethane	ND	620		50.00	249643	07/13/17
Vinyl Chloride	ND	620		50.00	249643	07/13/17
Bromomethane	ND	620		50.00	249643	07/13/17
Chloroethane	ND	620		50.00	249643	07/13/17
Trichlorofluoromethane	ND	310		50.00	249643	07/13/17
Acetone	ND	1,200		50.00	249643	07/13/17
Freon 113	ND	310		50.00	249643	07/13/17
1,1-Dichloroethene	ND	310		50.00	249643	07/13/17
Carbon Disulfide	ND	310		50.00	249643	07/13/17
MTBE	ND	310		50.00	249643	07/13/17
trans-1,2-Dichloroethene	ND	310		50.00	249643	07/13/17
Vinyl Acetate	ND	3,100		50.00	249643	07/13/17
1,1-Dichloroethane	ND	310		50.00	249643	07/13/17
2-Butanone	ND	620		50.00	249643	07/13/17
cis-1,2-Dichloroethene	ND	310		50.00	249643	07/13/17
2,2-Dichloropropane	ND	310		50.00	249643	07/13/17
Chloroform	ND	310		50.00	249643	07/13/17
Bromochloromethane	ND	310		50.00	249643	07/13/17
1,1,1-Trichloroethane	ND	310		50.00	249643	07/13/17
1,1-Dichloropropene	ND	310		50.00	249643	07/13/17
Carbon Tetrachloride	ND	310		50.00	249643	07/13/17
1,2-Dichloroethane	ND	310		50.00	249643	07/13/17
Benzene	ND	310		50.00	249643	07/13/17
Trichloroethene	ND	310		50.00	249643	07/13/17
1,2-Dichloropropane	ND	310		50.00	249643	07/13/17
Bromodichloromethane	ND	310		50.00	249643	07/13/17
Dibromomethane	ND	310		50.00	249643	07/13/17
4-Methyl-2-Pentanone	ND	620		50.00	249643	07/13/17
cis-1,3-Dichloropropene	ND	310		50.00	249643	07/13/17
Toluene	ND	310		50.00	249643	07/13/17
trans-1,3-Dichloropropene	ND	310		50.00	249643	07/13/17
1,1,2-Trichloroethane	ND	310		50.00	249643	07/13/17
2-Hexanone	ND	620		50.00	249643	07/13/17
1,3-Dichloropropane	ND	310		50.00	249643	07/13/17
Tetrachloroethene	ND	310		50.00	249643	07/13/17
Dibromochloromethane	ND	310		50.00	249643	07/13/17
1,2-Dibromoethane	ND	310		50.00	249643	07/13/17
Chlorobenzene	ND	310		50.00	249643	07/13/17
1,1,1,2-Tetrachloroethane	ND	310		50.00	249643	07/13/17
Ethylbenzene	ND	310		50.00	249643	07/13/17
m,p-Xylenes	ND	310		50.00	249643	07/13/17
o-Xylene	ND	310		50.00	249643	07/13/17
Styrene	ND	310		50.00	249643	07/13/17
Bromoform	ND	310		50.00	249643	07/13/17
Isopropylbenzene	ND	310		50.00	249643	07/13/17
1,1,2,2-Tetrachloroethane	ND	310		50.00	249643	07/13/17
1,2,3-Trichloropropane	ND	310		50.00	249643	07/13/17
Propylbenzene	ND	310		50.00	249643	07/13/17
Bromobenzene	ND	310		50.00	249643	07/13/17
1,3,5-Trimethylbenzene	ND	310		50.00	249643	07/13/17

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

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**Purgeable Organics by GC/MS**

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-8.5-9	Basis: dry
Lab ID: 290381-011	Sampled: 07/06/17
Matrix: Soil	Received: 07/06/17
Units: ug/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Analyzed
2-Chlorotoluene	ND	310		50.00	249643	07/13/17
4-Chlorotoluene	ND	310		50.00	249643	07/13/17
tert-Butylbenzene	ND	310		50.00	249643	07/13/17
1,2,4-Trimethylbenzene	ND	310		50.00	249643	07/13/17
sec-Butylbenzene	460	310		50.00	249643	07/13/17
para-Isopropyl Toluene	480	310		50.00	249643	07/13/17
1,3-Dichlorobenzene	ND	310		50.00	249643	07/13/17
1,4-Dichlorobenzene	ND	310		50.00	249643	07/13/17
n-Butylbenzene	630 J	1,500	80	250.0	249663	07/14/17
1,2-Dichlorobenzene	ND	310		50.00	249643	07/13/17
1,2-Dibromo-3-Chloropropane	ND	310		50.00	249643	07/13/17
1,2,4-Trichlorobenzene	ND	310		50.00	249643	07/13/17
Hexachlorobutadiene	ND	310		50.00	249643	07/13/17
Naphthalene	1,100	310		50.00	249643	07/13/17
1,2,3-Trichlorobenzene	ND	310		50.00	249643	07/13/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	102	80-128	50.00	249643	07/13/17
1,2-Dichloroethane-d4	97	80-136	50.00	249643	07/13/17
Toluene-d8	92	80-120	50.00	249643	07/13/17
Bromofluorobenzene	116	80-132	50.00	249643	07/13/17
Trifluorotoluene (MeOH)	109	56-129	50.00	249643	07/13/17

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-12.5-13	Basis: dry
Lab ID: 290381-012	Sampled: 07/06/17
Matrix: Soil	Received: 07/06/17
Units: ug/Kg	

Moisture: 16%

Analyte	Result	RL	MDL	Diln Fac	Batch#	Analyzed
Freon 12	ND	1,200		100.0	249643	07/13/17
Chloromethane	ND	1,200		100.0	249643	07/13/17
Vinyl Chloride	ND	1,200		100.0	249643	07/13/17
Bromomethane	ND	1,200		100.0	249643	07/13/17
Chloroethane	ND	1,200		100.0	249643	07/13/17
Trichlorofluoromethane	ND	600		100.0	249643	07/13/17
Acetone	ND	3,000		100.0	249643	07/13/17
Freon 113	ND	600		100.0	249643	07/13/17
1,1-Dichloroethene	ND	600		100.0	249643	07/13/17
Carbon Disulfide	ND	600		100.0	249643	07/13/17
MTBE	ND	600		100.0	249643	07/13/17
trans-1,2-Dichloroethene	ND	600		100.0	249643	07/13/17
Vinyl Acetate	ND	6,000		100.0	249643	07/13/17
1,1-Dichloroethane	ND	600		100.0	249643	07/13/17
2-Butanone	ND	1,200		100.0	249643	07/13/17
cis-1,2-Dichloroethene	ND	600		100.0	249643	07/13/17
2,2-Dichloropropane	ND	600		100.0	249643	07/13/17
Chloroform	ND	600		100.0	249643	07/13/17
Bromochloromethane	ND	600		100.0	249643	07/13/17
1,1,1-Trichloroethane	ND	600		100.0	249643	07/13/17
1,1-Dichloropropene	ND	600		100.0	249643	07/13/17
Carbon Tetrachloride	ND	600		100.0	249643	07/13/17
1,2-Dichloroethane	ND	600		100.0	249643	07/13/17
Benzene	ND	600		100.0	249643	07/13/17
Trichloroethene	ND	600		100.0	249643	07/13/17
1,2-Dichloropropane	ND	600		100.0	249643	07/13/17
Bromodichloromethane	ND	600		100.0	249643	07/13/17
Dibromomethane	ND	600		100.0	249643	07/13/17
4-Methyl-2-Pentanone	ND	1,200		100.0	249643	07/13/17
cis-1,3-Dichloropropene	ND	600		100.0	249643	07/13/17
Toluene	ND	600		100.0	249643	07/13/17
trans-1,3-Dichloropropene	ND	600		100.0	249643	07/13/17
1,1,2-Trichloroethane	ND	600		100.0	249643	07/13/17
2-Hexanone	ND	1,200		100.0	249643	07/13/17
1,3-Dichloropropane	ND	600		100.0	249643	07/13/17
Tetrachloroethene	ND	600		100.0	249643	07/13/17
Dibromochloromethane	ND	600		100.0	249643	07/13/17
1,2-Dibromoethane	ND	600		100.0	249643	07/13/17
Chlorobenzene	ND	600		100.0	249643	07/13/17
1,1,1,2-Tetrachloroethane	ND	600		100.0	249643	07/13/17
Ethylbenzene	ND	600		100.0	249643	07/13/17
m,p-Xylenes	ND	600		100.0	249643	07/13/17
o-Xylene	ND	600		100.0	249643	07/13/17
Styrene	ND	600		100.0	249643	07/13/17
Bromoform	ND	600		100.0	249643	07/13/17
Isopropylbenzene	ND	600		100.0	249643	07/13/17
1,1,2,2-Tetrachloroethane	ND	600		100.0	249643	07/13/17
1,2,3-Trichloropropane	ND	600		100.0	249643	07/13/17
Propylbenzene	1,200	600		100.0	249643	07/13/17
Bromobenzene	ND	600		100.0	249643	07/13/17
1,3,5-Trimethylbenzene	ND	600		100.0	249643	07/13/17
2-Chlorotoluene	ND	600		100.0	249643	07/13/17

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Purgeable Organics by GC/MS**

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-12.5-13	Basis: dry
Lab ID: 290381-012	Sampled: 07/06/17
Matrix: Soil	Received: 07/06/17
Units: ug/Kg	

Analyte	Result	RL	MDL	Diln Fac	Batch#	Analyzed
4-Chlorotoluene	ND	600		100.0	249643	07/13/17
tert-Butylbenzene	ND	600		100.0	249643	07/13/17
1,2,4-Trimethylbenzene	9,400	600		100.0	249643	07/13/17
sec-Butylbenzene	2,300	600		100.0	249643	07/13/17
para-Isopropyl Toluene	4,100	600		100.0	249643	07/13/17
1,3-Dichlorobenzene	ND	600		100.0	249643	07/13/17
1,4-Dichlorobenzene	ND	600		100.0	249643	07/13/17
n-Butylbenzene	5,800	3,000	150	500.0	249663	07/14/17
1,2-Dichlorobenzene	ND	600		100.0	249643	07/13/17
1,2-Dibromo-3-Chloropropane	ND	600		100.0	249643	07/13/17
1,2,4-Trichlorobenzene	ND	600		100.0	249643	07/13/17
Hexachlorobutadiene	ND	600		100.0	249643	07/13/17
Naphthalene	38,000	3,000		500.0	249663	07/14/17
1,2,3-Trichlorobenzene	ND	600		100.0	249643	07/13/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	92	80-128	100.0	249643	07/13/17
1,2-Dichloroethane-d4	86	80-136	100.0	249643	07/13/17
Toluene-d8	92	80-120	100.0	249643	07/13/17
Bromofluorobenzene	131	80-132	100.0	249643	07/13/17
Trifluorotoluene (MeOH)	119	56-129	100.0	249643	07/13/17

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-13.5-14	Diln Fac: 4.673
Lab ID: 290381-013	Batch#: 249574
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Moisture: 14%

Analyte	Result	RL	MDL
Freon 12	ND	54	
Chloromethane	ND	54	
Vinyl Chloride	ND	54	
Bromomethane	ND	54	
Chloroethane	ND	54	
Trichlorofluoromethane	ND	27	
Acetone	ND	140	
Freon 113	ND	27	
1,1-Dichloroethene	ND	27	
Carbon Disulfide	ND	27	
MTBE	ND	27	
trans-1,2-Dichloroethene	ND	27	
Vinyl Acetate	ND	270	
1,1-Dichloroethane	ND	27	
2-Butanone	ND	54	
cis-1,2-Dichloroethene	ND	27	
2,2-Dichloropropane	ND	27	
Chloroform	ND	27	
Bromochloromethane	ND	27	
1,1,1-Trichloroethane	ND	27	
1,1-Dichloropropene	ND	27	
Carbon Tetrachloride	ND	27	
1,2-Dichloroethane	ND	27	
Benzene	ND	27	
Trichloroethene	ND	27	
1,2-Dichloropropane	ND	27	
Bromodichloromethane	ND	27	
Dibromomethane	ND	27	
4-Methyl-2-Pentanone	ND	54	
cis-1,3-Dichloropropene	ND	27	
Toluene	ND	27	
trans-1,3-Dichloropropene	ND	27	
1,1,2-Trichloroethane	ND	27	
2-Hexanone	ND	54	
1,3-Dichloropropane	ND	27	
Tetrachloroethene	ND	27	
Dibromochloromethane	ND	27	
1,2-Dibromoethane	ND	27	
Chlorobenzene	ND	27	
1,1,1,2-Tetrachloroethane	ND	27	
Ethylbenzene	ND	27	
m,p-Xylenes	ND	27	
o-Xylene	ND	27	
Styrene	ND	27	
Bromoform	ND	27	
Isopropylbenzene	ND	27	
1,1,2,2-Tetrachloroethane	ND	27	
1,2,3-Trichloropropane	ND	27	
Propylbenzene	ND	27	
Bromobenzene	ND	27	
1,3,5-Trimethylbenzene	ND	27	

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit



### Purgeable Organics by GC/MS

Lab #: 290381	Location: Residential Heating UST Investigation
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2015-16	Analysis: EPA 8260B
Field ID: SB7-13.5-14	Diln Fac: 4.673
Lab ID: 290381-013	Batch#: 249574
Matrix: Soil	Sampled: 07/06/17
Units: ug/Kg	Received: 07/06/17
Basis: dry	Analyzed: 07/12/17

Analyte	Result	RL	MDL
2-Chlorotoluene	ND	27	
4-Chlorotoluene	ND	27	
tert-Butylbenzene	ND	27	
1,2,4-Trimethylbenzene	190	27	
sec-Butylbenzene	34	27	
para-Isopropyl Toluene	62	27	
1,3-Dichlorobenzene	ND	27	
1,4-Dichlorobenzene	ND	27	
n-Butylbenzene	74	27	3.2
1,2-Dichlorobenzene	ND	27	
1,2-Dibromo-3-Chloropropane	ND	27	
1,2,4-Trichlorobenzene	ND	27	
Hexachlorobutadiene	ND	27	
Naphthalene	140	27	
1,2,3-Trichlorobenzene	ND	27	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	100	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	111	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit



**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892573	Batch#:	249530
Matrix:	Soil	Analyzed:	07/11/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892573	Batch#:	249530
Matrix:	Soil	Analyzed:	07/11/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.6
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-128
1,2-Dichloroethane-d4	97	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-132

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249530
MSS Lab ID:	290432-001	Sampled:	07/10/17
Matrix:	Soil	Received:	07/10/17
Units:	ug/Kg	Analyzed:	07/12/17
Basis:	as received		

Type: MS Diln Fac: 0.9597  
 Lab ID: QC892661

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5494	23.99	25.98	108	65-131
Benzene	<0.4902	23.99	19.06	79	68-123
Trichloroethene	<0.5924	23.99	22.00	92	60-136
Toluene	<0.5269	23.99	19.31	80	64-120
Chlorobenzene	<0.3306	23.99	18.16	76	59-120

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-128
1,2-Dichloroethane-d4	89	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-132

Type: MSD Diln Fac: 0.9766  
 Lab ID: QC892662

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	24.41	26.79	110	65-131	1	33
Benzene	24.41	19.38	79	68-123	0	30
Trichloroethene	24.41	22.32	91	60-136	0	34
Toluene	24.41	19.81	81	64-120	1	31
Chlorobenzene	24.41	18.67	76	59-120	1	33

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-128
1,2-Dichloroethane-d4	89	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	95	80-132

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892715	Batch#:	249530
Matrix:	Soil	Analyzed:	07/11/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892715	Batch#:	249530
Matrix:	Soil	Analyzed:	07/11/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.6
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-128
1,2-Dichloroethane-d4	94	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-132

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249565
Units:	ug/Kg	Analyzed:	07/11/17
Diln Fac:	1.000		

Type: BS Lab ID: QC892716

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.30	106	65-127
Benzene	12.50	12.42	99	75-124
Trichloroethene	12.50	13.24	106	76-122
Toluene	12.50	12.50	100	77-120
Chlorobenzene	12.50	12.62	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	96	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-132

Type: BSD Lab ID: QC892717

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	13.69	110	65-127	3	28
Benzene	12.50	12.59	101	75-124	1	25
Trichloroethene	12.50	13.48	108	76-122	2	26
Toluene	12.50	12.32	99	77-120	1	25
Chlorobenzene	12.50	12.09	97	80-120	4	24

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	95	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-132

RPD= Relative Percent Difference



**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892718	Batch#:	249565
Matrix:	Soil	Analyzed:	07/11/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892718	Batch#:	249565
Matrix:	Soil	Analyzed:	07/11/17
Units:	ug/Kg		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.4
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	99	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	SB6-12.5-13	Batch#:	249565
MSS Lab ID:	290381-008	Sampled:	07/06/17
Matrix:	Soil	Received:	07/06/17
Units:	ug/Kg	Analyzed:	07/12/17
Basis:	dry		

Type: MS  
 Lab ID: QC892719  
 Moisture: 17%  
 Diln Fac: 0.9381

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<1.064	56.51	79.13	140 *	65-131
Benzene	<1.022	56.51	66.66	118	68-123
Trichloroethene	<0.9457	56.51	69.93	124	60-136
Toluene	<0.8055	56.51	64.31	114	64-120
Chlorobenzene	<0.7769	56.51	58.20	103	59-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	105	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-132

Type: MSD  
 Lab ID: QC892720  
 Moisture: 17%  
 Diln Fac: 0.9191

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	55.37	73.83	133 *	65-131	5	33
Benzene	55.37	54.55	99	68-123	18	30
Trichloroethene	55.37	55.77	101	60-136	21	34
Toluene	55.37	51.89	94	64-120	19	31
Chlorobenzene	55.37	44.65	81	59-120	24	33

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-132

\*= Value outside of QC limits; see narrative  
 RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249574
Units:	ug/Kg	Analyzed:	07/12/17
Diln Fac:	1.000		

Type: BS Lab ID: QC892745

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	23.20	93	65-127
Benzene	25.00	24.61	98	75-124
Trichloroethene	25.00	25.62	102	76-122
Toluene	25.00	25.61	102	77-120
Chlorobenzene	25.00	25.70	103	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	95	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-132

Type: BSD Lab ID: QC892746

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	23.39	94	65-127	1	28
Benzene	25.00	24.01	96	75-124	2	25
Trichloroethene	25.00	23.62	94	76-122	8	26
Toluene	25.00	25.43	102	77-120	1	25
Chlorobenzene	25.00	25.52	102	80-120	1	24

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	99	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-132

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892747	Batch#:	249574
Matrix:	Soil	Analyzed:	07/12/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892747	Batch#:	249574
Matrix:	Soil	Analyzed:	07/12/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.6
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	93	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249633
Units:	ug/Kg	Analyzed:	07/13/17
Diln Fac:	1.000		

Type: BS Lab ID: QC892976

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.41	102	65-127
Benzene	25.00	21.82	87	75-124
Trichloroethene	25.00	23.03	92	76-122
Toluene	25.00	22.39	90	77-120
Chlorobenzene	25.00	22.71	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-128
1,2-Dichloroethane-d4	95	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-132

Type: BSD Lab ID: QC892977

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	24.76	99	65-127	3	28
Benzene	25.00	21.23	85	75-124	3	25
Trichloroethene	25.00	22.98	92	76-122	0	26
Toluene	25.00	22.13	89	77-120	1	25
Chlorobenzene	25.00	22.11	88	80-120	3	24

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-128
1,2-Dichloroethane-d4	94	80-136
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-132

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892978	Batch#:	249633
Matrix:	Soil	Analyzed:	07/13/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	20	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit



**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC892978	Batch#:	249633
Matrix:	Soil	Analyzed:	07/13/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.6
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-128
1,2-Dichloroethane-d4	94	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

## Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	290381	Location: Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep: EPA 5030B
Project#:	2015-16	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC893029	Batch#: 249643
Matrix:	Soil	Analyzed: 07/13/17
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	14.80	118	65-127
Benzene	12.50	12.26	98	75-124
Trichloroethene	12.50	12.54	100	76-122
Toluene	12.50	11.88	95	77-120
Chlorobenzene	12.50	11.73	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	98	80-136
Toluene-d8	98	80-120
Bromofluorobenzene	99	80-132

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893030	Batch#:	249643
Matrix:	Soil	Analyzed:	07/13/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893030	Batch#:	249643
Matrix:	Soil	Analyzed:	07/13/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.4
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249643
MSS Lab ID:	290421-035	Sampled:	07/07/17
Matrix:	Soil	Received:	07/07/17
Units:	ug/Kg	Analyzed:	07/14/17
Basis:	as received		

Type: MS Diln Fac: 0.9615  
 Lab ID: QC893056

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.8542	48.08	63.50	132 *	65-131
Benzene	<0.8203	48.08	52.43	109	68-123
Trichloroethene	<0.7592	48.08	54.37	113	60-136
Toluene	<0.6467	48.08	51.64	107	64-120
Chlorobenzene	<0.6237	48.08	49.60	103	59-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	93	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-132

Type: MSD Diln Fac: 0.9634  
 Lab ID: QC893057

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.17	64.60	134 *	65-131	2	33
Benzene	48.17	53.01	110	68-123	1	30
Trichloroethene	48.17	54.49	113	60-136	0	34
Toluene	48.17	50.72	105	64-120	2	31
Chlorobenzene	48.17	49.85	103	59-120	0	33

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	93	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-132

\*= Value outside of QC limits; see narrative  
 RPD= Relative Percent Difference

**Batch QC Report**

Purgeable Organics by GC/MS					
Lab #:	290381	Location:	Residential Heating UST Investigation		
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B		
Project#:	2015-16	Analysis:	EPA 8260B		
Field ID:	ZZZZZZZZZZ	Batch#:	249633		
MSS Lab ID:	290405-018	Sampled:	07/06/17		
Matrix:	Soil	Received:	07/07/17		
Units:	ug/Kg	Analyzed:	07/13/17		
Basis:	as received				

Type: MS Diln Fac: 0.9728  
 Lab ID: QC893063

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5822	24.32	23.14	95	65-131
Benzene	<0.5194	24.32	19.67	81	68-123
Trichloroethene	<0.6278	24.32	20.79	85	60-136
Toluene	<0.5583	24.32	19.92	82	64-120
Chlorobenzene	<0.3503	24.32	19.69	81	59-120

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-128
1,2-Dichloroethane-d4	89	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-132

Type: MSD Diln Fac: 0.9766  
 Lab ID: QC893064

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	24.41	27.41	112	65-131	16	33
Benzene	24.41	22.17	91	68-123	12	30
Trichloroethene	24.41	23.72	97	60-136	13	34
Toluene	24.41	22.64	93	64-120	12	31
Chlorobenzene	24.41	22.42	92	59-120	13	33

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	94	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-132

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249663
Units:	ug/Kg	Analyzed:	07/14/17
Diln Fac:	1.000		

Type: BS Lab ID: QC893105

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.30	97	65-127
Benzene	25.00	24.77	99	75-124
Trichloroethene	25.00	26.99	108	76-122
Toluene	25.00	26.99	108	77-120
Chlorobenzene	25.00	26.39	106	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	94	80-136
Toluene-d8	102	80-120
Bromofluorobenzene	105	80-132

Type: BSD Lab ID: QC893106

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	24.82	99	65-127	2	28
Benzene	25.00	26.07	104	75-124	5	25
Trichloroethene	25.00	28.64	115	76-122	6	26
Toluene	25.00	28.27	113	77-120	5	25
Chlorobenzene	25.00	27.85	111	80-120	5	24

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	92	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-132

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893107	Batch#:	249663
Matrix:	Soil	Analyzed:	07/14/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	10	
Chloromethane	ND	10	
Vinyl Chloride	ND	10	
Bromomethane	ND	10	
Chloroethane	ND	10	
Trichlorofluoromethane	ND	5.0	
Acetone	ND	25	
Freon 113	ND	5.0	
1,1-Dichloroethene	ND	5.0	
Carbon Disulfide	ND	5.0	
MTBE	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
Vinyl Acetate	ND	50	
1,1-Dichloroethane	ND	5.0	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	5.0	
2,2-Dichloropropane	ND	5.0	
Chloroform	ND	5.0	
Bromochloromethane	ND	5.0	
1,1,1-Trichloroethane	ND	5.0	
1,1-Dichloropropene	ND	5.0	
Carbon Tetrachloride	ND	5.0	
1,2-Dichloroethane	ND	5.0	
Benzene	ND	5.0	
Trichloroethene	ND	5.0	
1,2-Dichloropropane	ND	5.0	
Bromodichloromethane	ND	5.0	
Dibromomethane	ND	5.0	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	5.0	
Toluene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
1,1,2-Trichloroethane	ND	5.0	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	5.0	
Tetrachloroethene	ND	5.0	

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit



**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2015-16	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893107	Batch#:	249663
Matrix:	Soil	Analyzed:	07/14/17
Units:	ug/Kg		

Analyte	Result	RL	MDL
Dibromochloromethane	ND	5.0	
1,2-Dibromoethane	ND	5.0	
Chlorobenzene	ND	5.0	
1,1,1,2-Tetrachloroethane	ND	5.0	
Ethylbenzene	ND	5.0	
m,p-Xylenes	ND	5.0	
o-Xylene	ND	5.0	
Styrene	ND	5.0	
Bromoform	ND	5.0	
Isopropylbenzene	ND	5.0	
1,1,2,2-Tetrachloroethane	ND	5.0	
1,2,3-Trichloropropane	ND	5.0	
Propylbenzene	ND	5.0	
Bromobenzene	ND	5.0	
1,3,5-Trimethylbenzene	ND	5.0	
2-Chlorotoluene	ND	5.0	
4-Chlorotoluene	ND	5.0	
tert-Butylbenzene	ND	5.0	
1,2,4-Trimethylbenzene	ND	5.0	
sec-Butylbenzene	ND	5.0	
para-Isopropyl Toluene	ND	5.0	
1,3-Dichlorobenzene	ND	5.0	
1,4-Dichlorobenzene	ND	5.0	
n-Butylbenzene	ND	5.0	0.6
1,2-Dichlorobenzene	ND	5.0	
1,2-Dibromo-3-Chloropropane	ND	5.0	
1,2,4-Trichlorobenzene	ND	5.0	
Hexachlorobutadiene	ND	5.0	
Naphthalene	ND	5.0	
1,2,3-Trichlorobenzene	ND	5.0	

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	103	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	116	80-132

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Moisture			
Lab #:	290381	Location:	Residential Heating UST Investigation
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	ASTM D2216-98/CLP
Analyte:	Moisture, Percent	Batch#:	249433
Matrix:	Soil	Sampled:	07/06/17
Units:	%	Received:	07/06/17
Diln Fac:	1.000	Analyzed:	07/07/17

Field ID	Lab ID	Result	RL
SB5-3-3.5	290381-001	18	1
SB5-4.5-5	290381-002	16	1
SB5-8.5-9	290381-003	15	1
SB5-12.5-13	290381-004	15	1
SB6-3-3.5	290381-005	15	1
SB6-4.5-5	290381-006	14	1
SB6-8.5-9	290381-007	21	1
SB6-12.5-13	290381-008	17	1
SB7-3-3.5	290381-009	11	1
SB7-4.5-5	290381-010	5	1
SB7-8.5-9	290381-011	19	1
SB7-12.5-13	290381-012	16	1
SB7-13.5-14	290381-013	14	1

RL= Reporting Limit

## Batch QC Report

Moisture				
Lab #:	290381	Location:	Residential Heating UST Investigation	
Client:	Stellar Environmental Solutions	Prep:	METHOD	
Project#:	2015-16	Analysis:	ASTM D2216-98/CLP	
Analyte:	Moisture, Percent	Units:	%	
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000	
Type:	SDUP	Batch#:	249433	
MSS Lab ID:	290364-001	Sampled:	07/03/17	
Lab ID:	QC892205	Received:	07/05/17	
Matrix:	Soil	Analyzed:	07/07/17	
MSS Result	Result	RL	RPD	Lim
11.73	11.32	1.000	4	26

RL= Reporting Limit

RPD= Relative Percent Difference



**Curtis & Tompkins, Ltd.**  
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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 290387  
ANALYTICAL REPORT

Stellar Environmental Solutions  
2198 6th Street  
Berkeley, CA 94710

Project : 2015-16  
Location : Paramount  
Level : II

Sample ID

SSG2

SSG1

Lab ID

290387-001

290387-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: \_\_\_\_\_

Patrick McCarthy  
Project Manager  
patrick.mccarthy@ctberk.com  
(510) 204-2236

Date: 07/12/2017

CA ELAP# 2896, NELAP# 4044-001

### CASE NARRATIVE

Laboratory number: 290387  
Client: Stellar Environmental Solutions  
Project: 2015-16  
Location: Paramount  
Request Date: 07/06/17  
Samples Received: 07/06/17

This data package contains sample and QC results for two air samples, requested for the above referenced project on 07/06/17. The samples were received cold and intact.

#### Volatile Organics in Air by MS (EPA TO-15):

High responses were observed for a number of analytes in the CCV analyzed 07/10/17 11:20; affected data was qualified with "b". Low response was observed for carbon tetrachloride in the CCV analyzed 07/11/17 11:53; affected data was qualified with "b". High response was observed for 2-hexanone; affected data was qualified with "b". High recoveries were observed for a number of analytes in the BS/BSD for batch 249486; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. Low recoveries were observed for carbon tetrachloride in the BS/BSD for batch 249528; the associated RPD was within limits, and these low recoveries were not associated with any reported results. High recoveries were observed for 2-hexanone, 4-methyl-2-pentanone, and tetrachloroethene; the associated RPDs were within limits, and these high recoveries were not associated with any reported results. No other analytical problems were encountered.

#### Volatile Organics in Air GC (ASTM D1946-90 and EPA TO-3):

No analytical problems were encountered.

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(510)488-0532 Fax

**AIR TESTING CHAIN OF CUSTODY  
& PURCHASE ORDER**

Page 1 of 1  
Chain of Custody # \_\_\_\_\_

TESTING REQUESTED

O<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub> (Leak detect)  
T015-GR0

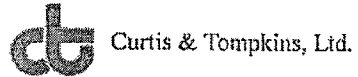
C&T LOGIN # 290387  
Sampler: A. Petrograd  
Report To: Petrograd  
Company: Shell At Convent  
Telephone: 510 644 3123  
Email: on file

Project No: 2015-16  
Project Name: PARAMOUNT  
EDD Format: III IV Rpt Level: II III IV  
Turnaround Time:  RUSH  Standard

Lab No.	Sample ID.	Sampling Information				Sample Volume (Gauge Reading)
		Date Collected	Firms Collected	Canister ID (see code #)	Flow Controller ID	
1	5568	7/6/17	1200	151	A0299	2.15
2	5561	7/6	1330	134	A0202	0.5

Notes: \_\_\_\_\_  
RELINQUISHED BY: [Signature] DATE/TIME: 7/6/17 1540  
RECEIVED BY: [Signature] DATE/TIME: 7/6/17 1540

**COOLER RECEIPT CHECKLIST**



Login # 290387 Date Received 7/6/17 Number of coolers 0  
 Client SES Project 2015-16  
 Date Opened 7/6/17 By (print) BLM (sign) [Signature]  
 Date Logged in ↓ By (print) ↓ (sign) ↓  
 Date Labeled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) \_\_\_\_\_ YES  NO
- Shipping info \_\_\_\_\_
- 2A. Were custody seals present? ....  YES (circle) on cooler on samples  NO  
 How many \_\_\_\_\_ Name \_\_\_\_\_ Date \_\_\_\_\_
- 2B. Were custody seals intact upon arrival? \_\_\_\_\_ YES NO  N/A
3. Were custody papers dry and intact when received? \_\_\_\_\_  YES NO
4. Were custody papers filled out properly (ink, signed, etc)? \_\_\_\_\_  YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) \_\_\_\_\_  YES NO
6. Indicate the packing in cooler: (if other, describe) \_\_\_\_\_  
 Bubble Wrap  Foam blocks  Bags  None  
 Cloth material  Cardboard  Styrofoam  Paper towels
7. Temperature documentation: \* Notify PM if temperature exceeds 6°C  
 Type of ice used:  Wet  Blue/Gel  None Temp(°C) \_\_\_\_\_  
 Temperature blank(s) included?  Thermometer# \_\_\_\_\_  IR Gun# \_\_\_\_\_  
 Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES  NO  
 If YES, what time were they transferred to freezer? \_\_\_\_\_
9. Did all bottles arrive unbroken/unopened? \_\_\_\_\_  YES NO
10. Are there any missing / extra samples? \_\_\_\_\_ YES  NO
11. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_  YES NO
12. Are sample labels present, in good condition and complete? \_\_\_\_\_  YES NO
13. Do the sample labels agree with custody papers? \_\_\_\_\_  YES NO
14. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_  YES NO
15. Are the samples appropriately preserved? \_\_\_\_\_ YES NO  N/A
16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_ YES NO  N/A
17. Did you document your preservative check? (pH strip lot# \_\_\_\_\_) YES NO  N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES NO  N/A
19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES NO  N/A
20. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ YES NO  N/A
21. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES  NO  
 If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

COMMENTS  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Field ID:	SSG2	Units (M):	ug/m3
Lab ID:	290387-001	Diln Fac:	1.770
Matrix:	Air	Sampled:	07/06/17
Units (V):	ppbv	Received:	07/06/17

Analyte	Result (V)	RL	Result (M)	RL	Batch#	Analyzed
Freon 12	ND	0.89	ND	4.4	249486	07/10/17
Freon 114	ND	0.89	ND	6.2	249486	07/10/17
Chloromethane	ND	0.89	ND	1.8	249486	07/10/17
Vinyl Chloride	ND	0.89	ND	2.3	249486	07/10/17
Bromomethane	ND	0.89	ND	3.4	249486	07/10/17
Chloroethane	ND	0.89	ND	2.3	249486	07/10/17
Trichlorofluoromethane	5.7	0.89	32	5.0	249486	07/10/17
Acrolein	ND	3.5	ND	8.1	249486	07/10/17
1,1-Dichloroethene	ND	3.0	ND	12	249486	07/10/17
Freon 113	ND	0.89	ND	6.8	249486	07/10/17
Acetone	18	3.5	43	8.4	249486	07/10/17
Carbon Disulfide	1.1	0.89	3.5	2.8	249486	07/10/17
Isopropanol	ND	3.5	ND	8.7	249486	07/10/17
Methylene Chloride	ND	0.89	ND	3.1	249486	07/10/17
trans-1,2-Dichloroethene	ND	0.89	ND	3.5	249486	07/10/17
MTBE	ND	0.89	ND	3.2	249486	07/10/17
n-Hexane	ND	0.89	ND	3.1	249486	07/10/17
1,1-Dichloroethane	ND	0.89	ND	3.6	249486	07/10/17
Vinyl Acetate	ND	0.89	ND	3.1	249486	07/10/17
cis-1,2-Dichloroethene	ND	0.89	ND	3.5	249528	07/12/17
2-Butanone	ND	3.0	ND	8.7	249486	07/10/17
Ethyl Acetate	ND	0.89	ND	3.2	249486	07/10/17
Tetrahydrofuran	ND	0.89	ND	2.6	249486	07/10/17
Chloroform	1.0	0.89	5.0	4.3	249486	07/10/17
1,1,1-Trichloroethane	ND	0.89	ND	4.8	249486	07/10/17
Cyclohexane	ND	0.89	ND	3.0	249486	07/10/17
Carbon Tetrachloride	ND	0.89	ND	5.6	249486	07/10/17
Benzene	ND	0.89	ND	2.8	249486	07/10/17
1,2-Dichloroethane	ND	0.89	ND	3.6	249486	07/10/17
n-Heptane	ND	0.89	ND	3.6	249486	07/10/17
Trichloroethene	3.9	0.89	21	4.8	249486	07/10/17
1,2-Dichloropropane	ND	0.89	ND	4.1	249486	07/10/17
Bromodichloromethane	ND	0.89	ND	5.9	249486	07/10/17
cis-1,3-Dichloropropene	ND	0.89	ND	4.0	249486	07/10/17
4-Methyl-2-Pentanone	ND	0.89	ND	3.6	249486	07/10/17
Toluene	2.3	0.89	8.5	3.3	249528	07/12/17

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Field ID:	SSG2	Units (M):	ug/m3
Lab ID:	290387-001	Diln Fac:	1.770
Matrix:	Air	Sampled:	07/06/17
Units (V):	ppbv	Received:	07/06/17

Analyte	Result (V)	RL	Result (M)	RL	Batch#	Analyzed
trans-1,3-Dichloropropene	ND	0.89	ND	4.0	249486	07/10/17
1,1,2-Trichloroethane	ND	0.89	ND	4.8	249486	07/10/17
Tetrachloroethene	ND	0.89	ND	6.0	249486	07/10/17
2-Hexanone	ND	0.89	ND	3.6	249486	07/10/17
Dibromochloromethane	ND	0.89	ND	7.5	249486	07/10/17
1,2-Dibromoethane	ND	0.89	ND	6.8	249486	07/10/17
Chlorobenzene	ND	0.89	ND	4.1	249486	07/10/17
Ethylbenzene	ND	0.89	ND	3.8	249486	07/10/17
m,p-Xylenes	1.3	0.89	5.6	3.8	249486	07/10/17
o-Xylene	ND	0.89	ND	3.8	249486	07/10/17
Styrene	ND	0.89	ND	3.8	249486	07/10/17
Bromoform	ND	0.89	ND	9.1	249486	07/10/17
1,1,2,2-Tetrachloroethane	ND	0.89	ND	6.1	249486	07/10/17
4-Ethyltoluene	ND	0.89	ND	4.4	249486	07/10/17
1,3,5-Trimethylbenzene	ND	0.89	ND	4.4	249486	07/10/17
1,2,4-Trimethylbenzene	ND	0.89	ND	4.4	249486	07/10/17
1,3-Dichlorobenzene	ND	0.89	ND	5.3	249486	07/10/17
1,4-Dichlorobenzene	ND	0.89	ND	5.3	249486	07/10/17
Benzyl chloride	ND	0.89	ND	4.6	249486	07/10/17
1,2-Dichlorobenzene	ND	0.89	ND	5.3	249486	07/10/17
1,2,4-Trichlorobenzene	ND	0.89	ND	6.6	249486	07/10/17
Hexachlorobutadiene	ND	0.89	ND	9.4	249486	07/10/17
Naphthalene	ND	3.5	ND	19	249486	07/10/17

Surrogate	%REC	Limits	Batch#	Analyzed
Bromofluorobenzene	89	80-120	249486	07/10/17

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

### Volatile Organics in Air

Lab #: 290387	Location: Paramount
Client: Stellar Environmental Solutions	Prep: METHOD
Project#: 2015-16	Analysis: EPA TO-15
Field ID: SSG1	Units (M): ug/m3
Lab ID: 290387-002	Diln Fac: 1.760
Matrix: Air	Sampled: 07/06/17
Units (V): ppbv	Received: 07/06/17

Analyte	Result (V)	RL	Result (M)	RL	Batch#	Analyzed
Freon 12	ND	0.88	ND	4.4	249486	07/10/17
Freon 114	ND	0.88	ND	6.2	249486	07/10/17
Chloromethane	ND	0.88	ND	1.8	249486	07/10/17
Vinyl Chloride	ND	0.88	ND	2.2	249486	07/10/17
Bromomethane	ND	0.88	ND	3.4	249486	07/10/17
Chloroethane	ND	0.88	ND	2.3	249486	07/10/17
Trichlorofluoromethane	ND	0.88	ND	4.9	249486	07/10/17
Acrolein	ND	3.5	ND	8.1	249486	07/10/17
1,1-Dichloroethene	ND	2.9	ND	12	249486	07/10/17
Freon 113	ND	0.88	ND	6.7	249486	07/10/17
Acetone	27	3.5	65	8.4	249486	07/10/17
Carbon Disulfide	ND	0.88	ND	2.7	249486	07/10/17
Isopropanol	ND	3.5	ND	8.7	249486	07/10/17
Methylene Chloride	ND	0.88	ND	3.1	249486	07/10/17
trans-1,2-Dichloroethene	ND	0.88	ND	3.5	249486	07/10/17
MTBE	ND	0.88	ND	3.2	249486	07/10/17
n-Hexane	ND	0.88	ND	3.1	249486	07/10/17
1,1-Dichloroethane	ND	0.88	ND	3.6	249486	07/10/17
Vinyl Acetate	ND	0.88	ND	3.1	249486	07/10/17
cis-1,2-Dichloroethene	ND	0.88	ND	3.5	249486	07/10/17
2-Butanone	14	2.9	42	8.7	249486	07/10/17
Ethyl Acetate	ND	0.88	ND	3.2	249486	07/10/17
Tetrahydrofuran	14	0.88	40	2.6	249486	07/10/17
Chloroform	ND	0.88	ND	4.3	249486	07/10/17
1,1,1-Trichloroethane	ND	0.88	ND	4.8	249486	07/10/17
Cyclohexane	ND	0.88	ND	3.0	249486	07/10/17
Carbon Tetrachloride	ND	0.88	ND	5.5	249486	07/10/17
Benzene	ND	0.88	ND	2.8	249486	07/10/17
1,2-Dichloroethane	ND	0.88	ND	3.6	249486	07/10/17
n-Heptane	ND	0.88	ND	3.6	249486	07/10/17
Trichloroethene	ND	0.88	ND	4.7	249486	07/10/17
1,2-Dichloropropane	ND	0.88	ND	4.1	249486	07/10/17
Bromodichloromethane	ND	0.88	ND	5.9	249486	07/10/17
cis-1,3-Dichloropropene	ND	0.88	ND	4.0	249486	07/10/17
4-Methyl-2-Pentanone	ND	0.88	ND	3.6	249486	07/10/17
Toluene	5.9	0.88	22	3.3	249528	07/12/17

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Field ID:	SSG1	Units (M):	ug/m3
Lab ID:	290387-002	Diln Fac:	1.760
Matrix:	Air	Sampled:	07/06/17
Units (V):	ppbv	Received:	07/06/17

Analyte	Result (V)	RL	Result (M)	RL	Batch#	Analyzed
trans-1,3-Dichloropropene	ND	0.88	ND	4.0	249486	07/10/17
1,1,2-Trichloroethane	ND	0.88	ND	4.8	249486	07/10/17
Tetrachloroethene	ND	0.88	ND	6.0	249486	07/10/17
2-Hexanone	ND	0.88	ND	3.6	249486	07/10/17
Dibromochloromethane	ND	0.88	ND	7.5	249486	07/10/17
1,2-Dibromoethane	ND	0.88	ND	6.8	249486	07/10/17
Chlorobenzene	ND	0.88	ND	4.1	249486	07/10/17
Ethylbenzene	ND	0.88	ND	3.8	249486	07/10/17
m,p-Xylenes	1.6	0.88	7.0	3.8	249486	07/10/17
o-Xylene	ND	0.88	ND	3.8	249486	07/10/17
Styrene	ND	0.88	ND	3.7	249486	07/10/17
Bromoform	ND	0.88	ND	9.1	249486	07/10/17
1,1,2,2-Tetrachloroethane	ND	0.88	ND	6.0	249486	07/10/17
4-Ethyltoluene	ND	0.88	ND	4.3	249486	07/10/17
1,3,5-Trimethylbenzene	ND	0.88	ND	4.3	249486	07/10/17
1,2,4-Trimethylbenzene	1.9	0.88	9.3	4.3	249486	07/10/17
1,3-Dichlorobenzene	ND	0.88	ND	5.3	249486	07/10/17
1,4-Dichlorobenzene	ND	0.88	ND	5.3	249486	07/10/17
Benzyl chloride	ND	0.88	ND	4.6	249486	07/10/17
1,2-Dichlorobenzene	ND	0.88	ND	5.3	249486	07/10/17
1,2,4-Trichlorobenzene	ND	0.88	ND	6.5	249486	07/10/17
Hexachlorobutadiene	ND	0.88	ND	9.4	249486	07/10/17
Naphthalene	ND	3.5	ND	18	249486	07/10/17

Surrogate	%REC	Limits	Batch#	Analyzed
Bromofluorobenzene	90	80-120	249486	07/10/17

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units



**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249486
Units (V):	ppbv	Analyzed:	07/10/17
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits
Bromodichloromethane	5.000	4.820	96	70-130
cis-1,3-Dichloropropene	5.000	4.944	99	70-130
4-Methyl-2-Pentanone	5.000	5.708	114	70-130
Toluene	5.000	7.005 b	140 *	70-130
trans-1,3-Dichloropropene	5.000	4.930	99	70-130
1,1,2-Trichloroethane	5.000	5.497	110	70-130
Tetrachloroethene	5.000	7.685 b	154 *	70-130
2-Hexanone	5.000	6.022	120	70-130
Dibromochloromethane	5.000	4.944	99	70-130
1,2-Dibromoethane	5.000	5.022	100	70-130
Chlorobenzene	5.000	5.101	102	70-130
Ethylbenzene	5.000	5.364	107	70-130
m,p-Xylenes	10.00	10.90	109	70-130
o-Xylene	5.000	5.163	103	70-130
Styrene	5.000	4.019	80	70-130
Bromoform	5.000	5.387	108	70-130
1,1,2,2-Tetrachloroethane	5.000	4.941	99	70-130
4-Ethyltoluene	5.000	5.445	109	70-130
1,3,5-Trimethylbenzene	5.000	5.127	103	70-130
1,2,4-Trimethylbenzene	5.000	5.491	110	70-130
1,3-Dichlorobenzene	5.000	5.122	102	70-130
1,4-Dichlorobenzene	5.000	5.071	101	70-130
Benzyl chloride	5.000	5.000	100	70-130
1,2-Dichlorobenzene	5.000	5.127	103	70-130
1,2,4-Trichlorobenzene	5.000	5.997	120	70-130
Hexachlorobutadiene	5.000	6.153	123	70-130
Naphthalene	5.000	5.738	115	70-130

Surrogate	%REC	Limits
Bromofluorobenzene	84	70-130

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249486
Units (V):	ppbv	Analyzed:	07/10/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC892390

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Freon 12	5.000	4.589	92	70-130	3	25
Freon 114	5.000	4.681	94	70-130	3	25
Chloromethane	5.000	3.956	79	70-130	3	25
Vinyl Chloride	5.000	7.004 b	140 *	70-130	4	25
Bromomethane	5.000	4.308	86	70-130	2	25
Chloroethane	5.000	4.904	98	70-130	7	25
Trichlorofluoromethane	5.000	4.764	95	70-130	4	25
Acrolein	5.000	3.680	74	70-130	1	25
1,1-Dichloroethene	5.000	4.613	92	70-130	1	25
Freon 113	5.000	5.390	108	70-130	4	25
Acetone	5.000	5.318	106	70-130	1	25
Carbon Disulfide	5.000	4.640	93	70-130	1	25
Isopropanol	5.000	4.333	87	70-130	0	25
Methylene Chloride	5.000	3.792	76	70-130	2	25
trans-1,2-Dichloroethene	5.000	5.108	102	70-130	1	25
MTBE	5.000	4.645	93	70-130	3	25
n-Hexane	5.000	4.610	92	70-130	2	25
1,1-Dichloroethane	5.000	4.755	95	70-130	0	25
Vinyl Acetate	5.000	4.372	87	70-130	3	25
cis-1,2-Dichloroethene	5.000	9.337 b	187 *	70-130	4	25
2-Butanone	5.000	5.105	102	70-130	3	25
Ethyl Acetate	5.000	5.196	104	70-130	2	25
Tetrahydrofuran	5.000	5.217	104	70-130	1	25
Chloroform	5.000	4.969	99	70-130	1	25
1,1,1-Trichloroethane	5.000	4.892	98	70-130	0	25
Cyclohexane	5.000	4.730	95	70-130	0	25
Carbon Tetrachloride	5.000	4.908	98	70-130	0	25
Benzene	5.000	4.621	92	70-130	1	25
1,2-Dichloroethane	5.000	4.665	93	70-130	1	25
n-Heptane	5.000	5.716	114	70-130	1	25
Trichloroethene	5.000	6.252	125	70-130	1	25
1,2-Dichloropropane	5.000	5.103	102	70-130	2	25

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units



**Batch QC Report**

<b>Volatile Organics in Air</b>			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249486
Units (V):	ppbv	Analyzed:	07/10/17
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Bromodichloromethane	5.000	4.724	94	70-130	2	25
cis-1,3-Dichloropropene	5.000	4.825	97	70-130	2	25
4-Methyl-2-Pentanone	5.000	5.747	115	70-130	1	25
Toluene	5.000	7.090 b	142 *	70-130	1	25
trans-1,3-Dichloropropene	5.000	4.967	99	70-130	1	25
1,1,2-Trichloroethane	5.000	5.769	115	70-130	5	25
Tetrachloroethene	5.000	7.782 b	156 *	70-130	1	25
2-Hexanone	5.000	6.143	123	70-130	2	25
Dibromochloromethane	5.000	5.138	103	70-130	4	25
1,2-Dibromoethane	5.000	5.123	102	70-130	2	25
Chlorobenzene	5.000	5.235	105	70-130	3	25
Ethylbenzene	5.000	5.530	111	70-130	3	25
m,p-Xylenes	10.000	11.19	112	70-130	3	25
o-Xylene	5.000	5.349	107	70-130	4	25
Styrene	5.000	4.156	83	70-130	3	25
Bromoform	5.000	5.441	109	70-130	1	25
1,1,2,2-Tetrachloroethane	5.000	5.071	101	70-130	3	25
4-Ethyltoluene	5.000	5.528	111	70-130	2	25
1,3,5-Trimethylbenzene	5.000	5.337	107	70-130	4	25
1,2,4-Trimethylbenzene	5.000	5.704	114	70-130	4	25
1,3-Dichlorobenzene	5.000	5.296	106	70-130	3	25
1,4-Dichlorobenzene	5.000	5.340	107	70-130	5	25
Benzyl chloride	5.000	5.210	104	70-130	4	25
1,2-Dichlorobenzene	5.000	5.249	105	70-130	2	25
1,2,4-Trichlorobenzene	5.000	6.297	126	70-130	5	25
Hexachlorobutadiene	5.000	6.708	134 *	70-130	9	25
Naphthalene	5.000	5.845	117	70-130	2	25

Surrogate	%REC	Limits
Bromofluorobenzene	88	70-130

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC892391	Diln Fac:	1.000
Matrix:	Air	Batch#:	249486
Units (V):	ppbv	Analyzed:	07/10/17

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	ND	2.0	ND	4.6
1,1-Dichloroethene	ND	1.7	ND	6.6
Freon 113	ND	0.50	ND	3.8
Acetone	ND	2.0	ND	4.8
Carbon Disulfide	ND	0.50	ND	1.6
Isopropanol	ND	2.0	ND	4.9
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	ND	0.50	ND	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	ND	1.7	ND	4.9
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	ND	0.50	ND	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	ND	0.50	ND	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	ND	0.50	ND	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3
4-Methyl-2-Pentanone	ND	0.50	ND	2.0

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC892391	Diln Fac:	1.000
Matrix:	Air	Batch#:	249486
Units (V):	ppbv	Analyzed:	07/10/17

Analyte	Result (V)	RL	Result (M)	RL
Toluene	ND	0.50	ND	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	ND	0.50	ND	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	ND	0.50	ND	2.2
m,p-Xylenes	ND	0.50	ND	2.2
o-Xylene	ND	0.50	ND	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	0.50	ND	5.2
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	ND	0.50	ND	2.5
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	%REC	Limits
Bromofluorobenzene	89	70-130

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

## Batch QC Report

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249528
Units (V):	ppbv	Analyzed:	07/11/17
Diln Fac:	1.000		

Type: BS Lab ID: QC892565

Analyte	Spiked	Result (V)	%REC	Limits
Freon 12	5.000	5.137	103	70-130
Freon 114	5.000	5.155	103	70-130
Chloromethane	5.000	4.407	88	70-130
Vinyl Chloride	5.000	5.603	112	70-130
Bromomethane	5.000	4.594	92	70-130
Chloroethane	5.000	4.326	87	70-130
Trichlorofluoromethane	5.000	5.137	103	70-130
Acrolein	5.000	4.179	84	70-130
1,1-Dichloroethene	5.000	4.593	92	70-130
Freon 113	5.000	5.193	104	70-130
Acetone	5.000	5.017	100	70-130
Carbon Disulfide	5.000	5.075	102	70-130
Isopropanol	5.000	4.537	91	70-130
Methylene Chloride	5.000	4.214	84	70-130
trans-1,2-Dichloroethene	5.000	5.670	113	70-130
MTBE	5.000	5.129	103	70-130
n-Hexane	5.000	5.044	101	70-130
1,1-Dichloroethane	5.000	5.134	103	70-130
Vinyl Acetate	5.000	4.710	94	70-130
cis-1,2-Dichloroethene	5.000	5.801	116	70-130
2-Butanone	5.000	4.565	91	70-130
Ethyl Acetate	5.000	5.835	117	70-130
Tetrahydrofuran	5.000	6.062	121	70-130
Chloroform	5.000	5.115	102	70-130
1,1,1-Trichloroethane	5.000	5.354	107	70-130
Cyclohexane	5.000	5.425	109	70-130
Carbon Tetrachloride	5.000	0.8460 b	17 *	70-130
Benzene	5.000	5.186	104	70-130
1,2-Dichloroethane	5.000	5.271	105	70-130
n-Heptane	5.000	6.066	121	70-130
Trichloroethene	5.000	5.620	112	70-130
1,2-Dichloropropane	5.000	5.787	116	70-130

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

**Batch QC Report**

<b>Volatile Organics in Air</b>			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249528
Units (V):	ppbv	Analyzed:	07/11/17
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits
Bromodichloromethane	5.000	4.966	99	70-130
cis-1,3-Dichloropropene	5.000	5.456	109	70-130
4-Methyl-2-Pentanone	5.000	6.454	129	70-130
Toluene	5.000	5.954	119	70-130
trans-1,3-Dichloropropene	5.000	5.488	110	70-130
1,1,2-Trichloroethane	5.000	5.874	117	70-130
Tetrachloroethene	5.000	5.932	119	70-130
2-Hexanone	5.000	6.688 b	134 *	70-130
Dibromochloromethane	5.000	4.534	91	70-130
1,2-Dibromoethane	5.000	5.511	110	70-130
Chlorobenzene	5.000	5.524	110	70-130
Ethylbenzene	5.000	5.799	116	70-130
m,p-Xylenes	10.000	11.75	118	70-130
o-Xylene	5.000	5.661	113	70-130
Styrene	5.000	4.579	92	70-130
Bromoform	5.000	4.076	82	70-130
1,1,2,2-Tetrachloroethane	5.000	5.345	107	70-130
4-Ethyltoluene	5.000	5.851	117	70-130
1,3,5-Trimethylbenzene	5.000	5.488	110	70-130
1,2,4-Trimethylbenzene	5.000	5.916	118	70-130
1,3-Dichlorobenzene	5.000	5.676	114	70-130
1,4-Dichlorobenzene	5.000	5.459	109	70-130
Benzyl chloride	5.000	5.287	106	70-130
1,2-Dichlorobenzene	5.000	5.477	110	70-130
1,2,4-Trichlorobenzene	5.000	5.987	120	70-130
Hexachlorobutadiene	5.000	6.171	123	70-130
Naphthalene	5.000	5.514	110	70-130

Surrogate	%REC	Limits
Bromofluorobenzene	88	70-130

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

**Batch QC Report**

<b>Volatile Organics in Air</b>			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249528
Units (V):	ppbv	Analyzed:	07/11/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC892566

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Freon 12	5.000	5.292	106	70-130	3	25
Freon 114	5.000	5.411	108	70-130	5	25
Chloromethane	5.000	4.769	95	70-130	8	25
Vinyl Chloride	5.000	5.947	119	70-130	6	25
Bromomethane	5.000	4.821	96	70-130	5	25
Chloroethane	5.000	4.462	89	70-130	3	25
Trichlorofluoromethane	5.000	5.493	110	70-130	7	25
Acrolein	5.000	4.182	84	70-130	0	25
1,1-Dichloroethene	5.000	5.037	101	70-130	9	25
Freon 113	5.000	5.520	110	70-130	6	25
Acetone	5.000	5.251	105	70-130	5	25
Carbon Disulfide	5.000	5.217	104	70-130	3	25
Isopropanol	5.000	4.728	95	70-130	4	25
Methylene Chloride	5.000	4.421	88	70-130	5	25
trans-1,2-Dichloroethene	5.000	5.984	120	70-130	5	25
MTBE	5.000	5.564	111	70-130	8	25
n-Hexane	5.000	5.318	106	70-130	5	25
1,1-Dichloroethane	5.000	5.335	107	70-130	4	25
Vinyl Acetate	5.000	4.971	99	70-130	5	25
cis-1,2-Dichloroethene	5.000	6.206	124	70-130	7	25
2-Butanone	5.000	4.916	98	70-130	7	25
Ethyl Acetate	5.000	6.038	121	70-130	3	25
Tetrahydrofuran	5.000	6.153	123	70-130	1	25
Chloroform	5.000	5.341	107	70-130	4	25
1,1,1-Trichloroethane	5.000	5.561	111	70-130	4	25
Cyclohexane	5.000	5.524	110	70-130	2	25
Carbon Tetrachloride	5.000	0.8600 b	17 *	70-130	2	25
Benzene	5.000	5.404	108	70-130	4	25
1,2-Dichloroethane	5.000	5.354	107	70-130	2	25
n-Heptane	5.000	6.180	124	70-130	2	25
Trichloroethene	5.000	5.681	114	70-130	1	25
1,2-Dichloropropane	5.000	6.059	121	70-130	5	25

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	249528
Units (V):	ppbv	Analyzed:	07/11/17
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Bromodichloromethane	5.000	5.067	101	70-130	2	25
cis-1,3-Dichloropropene	5.000	5.573	111	70-130	2	25
4-Methyl-2-Pentanone	5.000	6.543	131 *	70-130	1	25
Toluene	5.000	6.225	125	70-130	4	25
trans-1,3-Dichloropropene	5.000	5.578	112	70-130	2	25
1,1,2-Trichloroethane	5.000	6.386	128	70-130	8	25
Tetrachloroethene	5.000	6.645	133 *	70-130	11	25
2-Hexanone	5.000	7.091 b	142 *	70-130	6	25
Dibromochloromethane	5.000	4.803	96	70-130	6	25
1,2-Dibromoethane	5.000	5.894	118	70-130	7	25
Chlorobenzene	5.000	5.967	119	70-130	8	25
Ethylbenzene	5.000	6.335	127	70-130	9	25
m,p-Xylenes	10.000	12.49	125	70-130	6	25
o-Xylene	5.000	6.107	122	70-130	8	25
Styrene	5.000	4.876	98	70-130	6	25
Bromoform	5.000	4.445	89	70-130	9	25
1,1,2,2-Tetrachloroethane	5.000	5.841	117	70-130	9	25
4-Ethyltoluene	5.000	6.236	125	70-130	6	25
1,3,5-Trimethylbenzene	5.000	6.039	121	70-130	10	25
1,2,4-Trimethylbenzene	5.000	6.501	130	70-130	9	25
1,3-Dichlorobenzene	5.000	6.077	122	70-130	7	25
1,4-Dichlorobenzene	5.000	6.078	122	70-130	11	25
Benzyl chloride	5.000	5.957	119	70-130	12	25
1,2-Dichlorobenzene	5.000	5.909	118	70-130	8	25
1,2,4-Trichlorobenzene	5.000	6.365	127	70-130	6	25
Hexachlorobutadiene	5.000	6.521	130	70-130	6	25
Naphthalene	5.000	6.081	122	70-130	10	25

Surrogate	%REC	Limits
Bromofluorobenzene	85	70-130

\*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Result V= Result in volume units

**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC892567	Diln Fac:	1.000
Matrix:	Air	Batch#:	249528
Units (V):	ppbv	Analyzed:	07/11/17

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	ND	2.0	ND	4.6
1,1-Dichloroethene	ND	1.7	ND	6.6
Freon 113	ND	0.50	ND	3.8
Acetone	ND	2.0	ND	4.8
Carbon Disulfide	ND	0.50	ND	1.6
Isopropanol	ND	2.0	ND	4.9
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	ND	0.50	ND	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	ND	1.7	ND	4.9
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	ND	0.50	ND	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	ND	0.50	ND	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	ND	0.50	ND	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3
4-Methyl-2-Pentanone	ND	0.50	ND	2.0

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units



**Batch QC Report**

Volatile Organics in Air			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC892567	Diln Fac:	1.000
Matrix:	Air	Batch#:	249528
Units (V):	ppbv	Analyzed:	07/11/17

Analyte	Result (V)	RL	Result (M)	RL
Toluene	ND	0.50	ND	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	ND	0.50	ND	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	ND	0.50	ND	2.2
m,p-Xylenes	ND	0.50	ND	2.2
o-Xylene	ND	0.50	ND	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	0.50	ND	5.2
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	ND	0.50	ND	2.5
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	%REC	Limits
Bromofluorobenzene	87	70-130

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Fixed Gas Analysis			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	ASTM D1946-90
Matrix:	Air	Sampled:	07/06/17
Units:	ppmv	Received:	07/06/17
Units (Mol %):	MOL %	Analyzed:	07/10/17
Batch#:	249517		

Field ID: SSG2                      Lab ID: 290387-001  
 Type: SAMPLE                      Diln Fac: 1.770

Analyte	Result	RL	Result (Mol %)	RL
Helium	ND	1,800	ND	0.18
Carbon Dioxide	17,000	1,800	1.7	0.18
Oxygen	150,000	1,800	15	0.18
Methane	ND	1,800	ND	0.18

Field ID: SSG1                      Lab ID: 290387-002  
 Type: SAMPLE                      Diln Fac: 1.760

Analyte	Result	RL	Result (Mol %)	RL
Helium	ND	1,800	ND	0.18
Carbon Dioxide	9,200	1,800	0.92	0.18
Oxygen	160,000	1,800	16	0.18
Methane	ND	1,800	ND	0.18

Type: BLANK                      Diln Fac: 1.000  
 Lab ID: QC892532

Analyte	Result	RL	Result (Mol %)	RL
Helium	ND	1,000	ND	0.10
Carbon Dioxide	ND	1,000	ND	0.10
Oxygen	ND	1,000	ND	0.10
Methane	ND	1,000	ND	0.10

ND= Not Detected

RL= Reporting Limit

Result Mol %= Result in Mole Percent

**Aromatic / Petroleum Hydrocarbons in Air**

Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-3
Analyte:	Gasoline Range Organics C6-C12	Batch#:	249461
Matrix:	Air	Sampled:	07/06/17
Units (V):	ppbv	Received:	07/06/17
Units (M):	ug/m3	Analyzed:	07/07/17

Field ID	Type	Lab ID	Result (V)	RL	MDL	Result (M)	RL	MDL	Diln Fac
SSG2	SAMPLE	290387-001	100	89	13	420	360	54	1.770
SSG1	SAMPLE	290387-002	130	88	13	540	360	54	1.760
	BLANK	QC892315	ND	50	7.4	ND	200	30	1.000

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit

Result M= Result in mass units

Result V= Result in volume units

## Batch QC Report

**Aromatic / Petroleum Hydrocarbons in Air**

Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	EPA TO-3
Analyte:	Gasoline Range Organics C6-C12	Diln Fac:	1.000
Matrix:	Air	Batch#:	249461
Units (V):	ppbv	Analyzed:	07/07/17

Type	Lab ID	Spiked	Result (V)	%REC	Limits	RPD	Lim
BS	QC892313	210.0	266.3	127	70-130		
BSD	QC892314	210.0	263.3	125	70-130	1	25

RPD= Relative Percent Difference

Result V= Result in volume units

## Batch QC Report

Fixed Gas Analysis			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	ASTM D1946-90
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC892528	Batch#:	249517
Matrix:	Air	Analyzed:	07/10/17
Units:	ppmv		

Analyte	Spiked	Result	%REC	Limits
Helium		NA		
Carbon Dioxide	2,000	1,806	90	70-130
Oxygen	2,000	1,747	87	70-130
Methane	2,000	1,828	91	70-130

NA= Not Analyzed

## Batch QC Report

Fixed Gas Analysis			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	ASTM D1946-90
Matrix:	Air	Batch#:	249517
Units:	ppmv	Analyzed:	07/10/17
Diln Fac:	1.000		

Type: BS Lab ID: QC892529

Analyte	Spiked	Result	%REC	Limits
Helium	100,000	87,130	87	70-130
Carbon Dioxide		NA		
Oxygen		NA		
Methane		NA		

Type: BSD Lab ID: QC892530

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Helium	100,000	88,070	88	70-130	1	20
Carbon Dioxide		NA				
Oxygen		NA				
Methane		NA				

NA= Not Analyzed

RPD= Relative Percent Difference

## Batch QC Report

Fixed Gas Analysis			
Lab #:	290387	Location:	Paramount
Client:	Stellar Environmental Solutions	Prep:	METHOD
Project#:	2015-16	Analysis:	ASTM D1946-90
Field ID:	SSG2	Units (Mol %):	MOL %
Type:	SDUP	Diln Fac:	1.770
MSS Lab ID:	290387-001	Batch#:	249517
Lab ID:	QC892531	Sampled:	07/06/17
Matrix:	Air	Received:	07/06/17
Units:	ppmv	Analyzed:	07/10/17

Analyte	MSS Result	Result	RL	Result (Mol %)	RL	RPD	Lim
Helium	<1,770	ND	1,770	ND	0.1770	NC	30
Carbon Dioxide	17,340	17,330	1,770	1.733	0.1770	0	30
Oxygen	146,400	146,300	1,770	14.63	0.1770	0	30
Methane	<1,770	ND	1,770	ND	0.1770	NC	30

NC= Not Calculated

ND= Not Detected

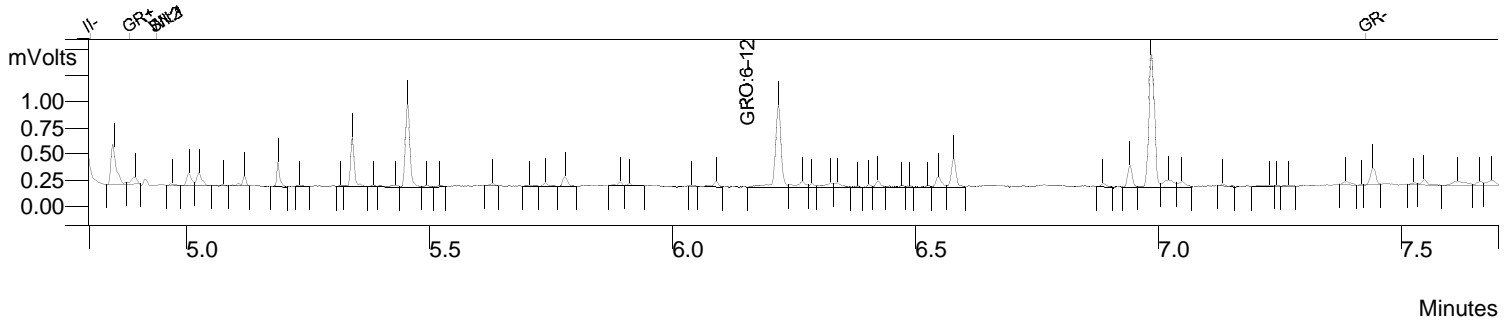
RL= Reporting Limit

RPD= Relative Percent Difference

Result Mol %= Result in Mole Percent

# GRO by TO-3

Sample ID: 290387-001,249461  
 Data File: c:\varianws\data\070717\188\_005.run  
 Sample List: c:\varianws\070717.smp  
 Method: c:\varianws\methods\to3\_063017.mth  
 Acquisition Date: 07/07/2017 16:11:48  
 Calculation Date: 07/07/2017 16:21:43  
 Instrument ID: GC32 Operator: TO-15  
 Injection Notes: 1.77X,C00151 Divisor: 1.000  
 Multiplier: 1.000



Channel: Front = FID RESULTS

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.155	GRO:6-12	4376	57.662
		<b>Totals</b>	<b>4376</b>	<b>57.662</b>

**Integration Parameters**

Initial Tangent %: 0  
 Initial Peak Width (sec): 4  
 Initial Peak Reject Value: 50.000  
 Initial S/N Ratio: 5

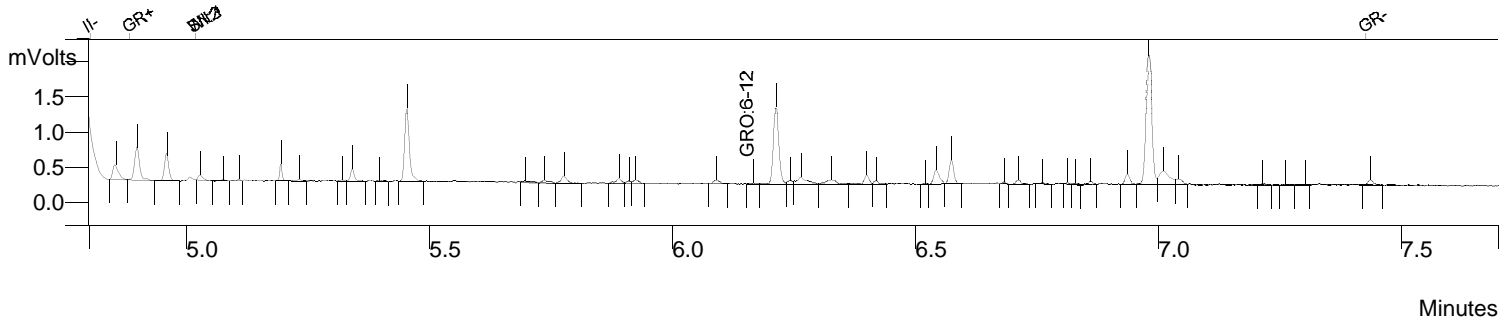
**Data Handling Time Events**

Time (min)	Event
0.012	II on
4.802	II off
4.883	GR on
4.938	WI 2.0 sec
4.938	SN 1
7.426	GR off



# GRO by TO-3

Sample ID: 290387-002,249461  
 Data File: c:\varianws\data\070717\188\_006.run  
 Sample List: c:\varianws\070717.smp  
 Method: c:\varianws\methods\to3\_063017.mth  
 Acquisition Date: 07/07/2017 16:24:39  
 Calculation Date: 07/07/2017 16:34:33  
 Instrument ID: GC32 Operator: TO-15  
 Injection Notes: 1.76x,C00134  
 Multiplier: 1.000 Divisor: 1.000



**Channel: Front = FID RESULTS**

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.155	GRO:6-12	5647	74.416
		<b>Totals</b>	<b>5647</b>	<b>74.416</b>

**Integration Parameters**

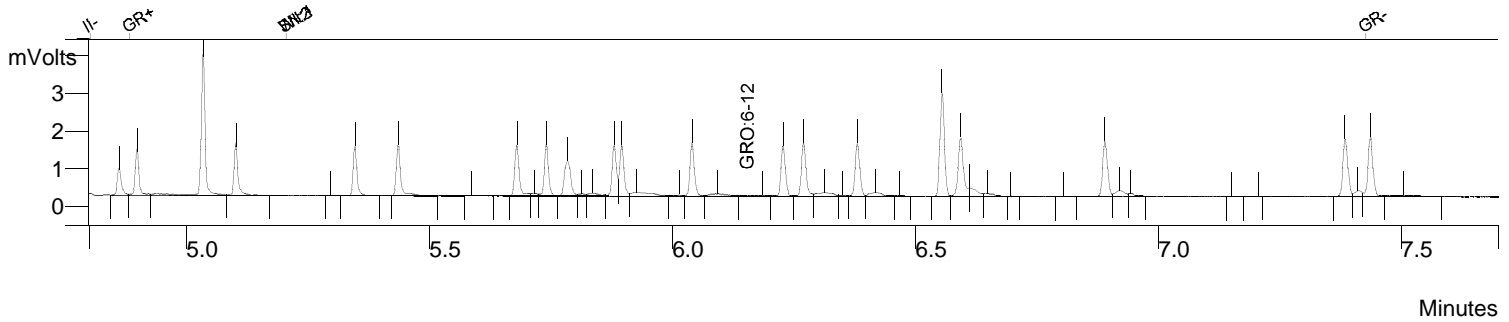
Initial Tangent %: 0  
 Initial Peak Width (sec): 4  
 Initial Peak Reject Value: 50.000  
 Initial S/N Ratio: 5

**Data Handling Time Events**

Time (min)	Event
0.012	II on
4.802	II off
4.883	GR on
5.018	WI 2.0 sec
5.018	SN 1
7.426	GR off

# GRO by TO-3

Sample ID: ccv/bs,qc892313  
 Data File: c:\varianws\data\070717\188\_002.run  
 Sample List: c:\varianws\070717.smp  
 Method: c:\varianws\methods\to3\_063017.mth  
 Acquisition Date: 07/07/2017 15:33:49  
 Calculation Date: 07/07/2017 15:43:43  
 Instrument ID: GC32 Operator: TO-15  
 Injection Notes: 249461,s33570,1x  
 Multiplier: 1.000 Divisor: 1.000



Channel: Front = FID RESULTS

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.155	GRO:6-12	20209	266.320
		<b>Totals</b>	<b>20209</b>	<b>266.320</b>

**Integration Parameters**

Initial Tangent %: 0  
 Initial Peak Width (sec): 4  
 Initial Peak Reject Value: 50.000  
 Initial S/N Ratio: 5

**Data Handling Time Events**

Time (min)	Event
0.012	II on
4.802	II off
4.883	GR on
5.205	WI 2.0 sec
5.205	SN 1
7.426	GR off



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1707223

**Report Created for:** Stellar Environmental Solutions

2198 Sixth St. #201  
Berkeley, CA 94710

**Project Contact:** Richard Makdisi

**Project P.O.:**

**Project Name:** 2015-016; Residential Heating UST Investigation

**Project Received:** 07/07/2017

Analytical Report reviewed & approved for release on 07/14/2017 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Stellar Environmental Solutions  
**Project:** 2015-016; Residential Heating UST Investigation  
**WorkOrder:** 1707223

### Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



## **Glossary of Terms & Qualifier Definitions**

**Client:** Stellar Environmental Solutions  
**Project:** 2015-016; Residential Heating UST Investigation  
**WorkOrder:** 1707223

### **Analytical Qualifiers**

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.  
a10 Reporting limit changed due to variable volume of air that pumped through each filter / sorbent tube.  
j1 See attached narrative



## Case Narrative

**Client:** Stellar Environmental Solutions  
**Project:** 2015-016; Residential Heating UST Investigation

**Work Order:** 1707223  
July 14, 2017

7/11/17 TO-17 V.O.C's and TPH-Diesel Range Organics (C10-C23) Analysis GC-37

Samples: SSG2 (1707223-001A), SSG1 (1707223-002A), and SSG1d (1707223-003A)

The majority of the concentrations reported for the diesel range organics analyses are derived from peaks not typically found in a diesel fuel pattern. Large siloxane (octamethyl-cyclotetrasiloxane, decamethyl-cyclopentasiloxane, and dodecamethyl-cyclohexasiloxane) peaks were present within the C10 to C23 range. The concentration of the siloxane peaks in sample SSG2 is visually approximately five times higher than samples SSG1 and SSG1d. Siloxane peaks were not present in any method blanks or quality control standards bracketing the samples suggesting the siloxane peaks were present in the samples are not from the instrument.



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Date Received:** 7/7/17 15:20  
**Date Prepared:** 7/11/17  
**Project:** 2015-016; Residential Heating UST Investigation

**WorkOrder:** 1707223  
**Extraction Method:** TO17  
**Analytical Method:** TO17  
**Unit:** µg/m<sup>3</sup>

### TPH-Diesel by TO17

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SSG2	1707223-001A	Sorbent Tube	07/06/2017 12:20	GC37	141841

Analytes	Result	MDL	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1300	140	1000	1	07/11/2017 16:48

Surrogates	REC (%)	Limits
4-BFB	75	70-130

**Analyst(s):** KBO **Analytical Comments:** j1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SSG1	1707223-002A	Sorbent Tube	07/06/2017 13:50	GC37	141841

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	340	J	150	1100	1	07/11/2017 18:22

Surrogates	REC (%)	Limits
4-BFB	76	70-130

**Analyst(s):** KBO **Analytical Comments:** a10,j1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SSG1d	1707223-003A	Sorbent Tube	07/06/2017 14:00	GC37	141841

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	300	J	150	1100	1	07/11/2017 19:55

Surrogates	REC (%)	Limits
4-BFB	76	70-130

**Analyst(s):** KBO **Analytical Comments:** a10,j1

 Angela Rydelius, Lab Manager



# Analytical Report

**Client:** Stellar Environmental Solutions  
**Date Received:** 7/7/17 15:20  
**Date Prepared:** 7/11/17  
**Project:** 2015-016; Residential Heating UST Investigation

**WorkOrder:** 1707223  
**Extraction Method:** TO17  
**Analytical Method:** TO17  
**Unit:** µg/m<sup>3</sup>

## Volatile Organic Compounds by TO17

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SSG2	1707223-001A	Sorbent Tube	07/06/2017 12:20	GC37	141841

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Naphthalene	0.52	J	0.48	2.0	1	07/11/2017 16:48

Surrogates	REC (%)	Limits
1,2-DCA-d4	98	70-130

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SSG1	1707223-002A	Sorbent Tube	07/06/2017 13:50	GC37	141841

Analytes	Result	MDL	RL	DF	Date Analyzed
Naphthalene	ND	0.52	2.2	1	07/11/2017 18:22

Surrogates	REC (%)	Limits
1,2-DCA-d4	98	70-130

Analyst(s): KBO

Analytical Comments: a10

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SSG1d	1707223-003A	Sorbent Tube	07/06/2017 14:00	GC37	141841

Analytes	Result	MDL	RL	DF	Date Analyzed
Naphthalene	ND	0.52	2.2	1	07/11/2017 19:55

Surrogates	REC (%)	Limits
1,2-DCA-d4	99	70-130

Analyst(s): KBO

Analytical Comments: a10

 Angela Rydelius, Lab Manager





## Quality Control Report

<b>Client:</b> Stellar Environmental Solutions	<b>WorkOrder:</b> 1707223
<b>Date Prepared:</b> 7/11/17	<b>BatchID:</b> 141841
<b>Date Analyzed:</b> 7/11/17	<b>Extraction Method:</b> TO17
<b>Instrument:</b> GC37	<b>Analytical Method:</b> TO17
<b>Matrix:</b> Sorbent Tube	<b>Unit:</b> µg/m <sup>3</sup>
<b>Project:</b> 2015-016; Residential Heating UST Investigation	<b>Sample ID:</b> MB/LCS-141841

### QC Summary Report for TPH-Diesel by TO17

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	10,000	140	1000	10000	-	100	60-140
<b>Surrogate Recovery</b>								
4-BFB	77.94	83.6			100	78	84	60-140

QA/QC Officer



## Quality Control Report

<b>Client:</b>	Stellar Environmental Solutions	<b>WorkOrder:</b>	1707223
<b>Date Prepared:</b>	7/11/17	<b>BatchID:</b>	141841
<b>Date Analyzed:</b>	7/11/17	<b>Extraction Method:</b>	TO17
<b>Instrument:</b>	GC37	<b>Analytical Method:</b>	TO17
<b>Matrix:</b>	Sorbent Tube	<b>Unit:</b>	µg/m <sup>3</sup>
<b>Project:</b>	2015-016; Residential Heating UST Investigation	<b>Sample ID:</b>	MB/LCS-141841

### QC Summary Report for VOCs by TO17

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1,1-Trichloroethane	ND	51.1	0.24	2.0	50	-	102	60-140
1,1-Dichloroethane	ND	58.8	0.61	2.0	50	-	118	60-140
1,1-Dichloroethene	ND	60.4	0.33	2.0	50	-	121	60-140
1,1-Dichloropropene	ND	49.6	0.37	2.0	50	-	99	60-140
2,2-Dichloropropane	ND	49.0	0.52	2.0	50	-	98	60-140
2-Butanone (MEK)	ND	216	2.5	8.0	200	-	108	60-140
2-Hexanone	ND	48.9	0.62	2.0	50	-	98	60-140
4-Methyl-2-pentanone (MIBK)	ND	49.9	1.2	2.0	50	-	100	60-140
Bromochloromethane	ND	50.8	0.27	2.0	50	-	102	60-140
Carbon Disulfide	ND	61.8	0.45	2.0	50	-	124	60-140
Carbon Tetrachloride	ND	46.4	0.88	2.0	50	-	93	60-140
Chloroform	ND	47.9	0.40	2.0	50	-	96	60-140
cis-1,2-Dichloroethene	ND	59.9	0.42	2.0	50	-	120	60-140
Dibromomethane	ND	50.5	0.34	2.0	50	-	101	60-140
Dichlorodifluoromethane	ND	52.3	0.63	2.0	50	-	105	60-140
Diisopropyl ether (DIPE)	ND	52.6	0.42	2.0	50	-	105	60-140
Ethyl tert-butyl ether (ETBE)	ND	58.4	0.42	2.0	50	-	117	60-140
Methylene chloride	ND	61.2	0.74	2.0	50	-	122	60-140
n-Butyl benzene	ND	53.0	0.46	2.0	50	-	106	60-140
t-Butyl alcohol (TBA)	ND	240	3.2	8.0	200	-	120	60-140
tert-Amyl methyl ether (TAME)	ND	55.4	0.70	2.0	50	-	111	60-140
Tetrahydrofuran	ND	471	0.79	2.0	500	-	94	60-140
trans-1,2-Dichloroethene	ND	49.1	0.42	2.0	50	-	98	60-140
Trichlorofluoromethane	ND	58.1	0.20	2.0	50	-	116	60-140
Benzene	ND	48.7	0.99	2.0	50	-	97	60-140
Bromobenzene	ND	49.8	0.47	2.0	50	-	100	60-140
Bromodichloromethane	ND	38.2	0.38	2.0	50	-	77	60-140
Bromoform	ND	52.2	0.40	2.0	50	-	104	60-140
sec-Butyl benzene	ND	54.5	0.42	2.0	50	-	109	60-140
tert-Butyl benzene	ND	54.4	0.46	2.0	50	-	109	60-140
Chlorobenzene	ND	52.1	0.36	2.0	50	-	104	60-140
2-Chlorotoluene	ND	50.6	0.39	2.0	50	-	101	60-140
4-Chlorotoluene	ND	53.6	0.43	2.0	50	-	107	60-140
Dibromochloromethane	ND	51.6	0.37	2.0	50	-	103	60-140
1,2-Dibromo-3-chloropropane	ND	21.1	0.56	2.0	20	-	105	60-140
1,2-Dibromoethane (EDB)	ND	55.5	0.44	2.0	50	-	111	60-140
1,2-Dichlorobenzene	ND	50.7	0.53	2.0	50	-	101	60-140

(Cont.)

QA/QC Officer



## Quality Control Report

<b>Client:</b>	Stellar Environmental Solutions	<b>WorkOrder:</b>	1707223
<b>Date Prepared:</b>	7/11/17	<b>BatchID:</b>	141841
<b>Date Analyzed:</b>	7/11/17	<b>Extraction Method:</b>	TO17
<b>Instrument:</b>	GC37	<b>Analytical Method:</b>	TO17
<b>Matrix:</b>	Sorbent Tube	<b>Unit:</b>	µg/m <sup>3</sup>
<b>Project:</b>	2015-016; Residential Heating UST Investigation	<b>Sample ID:</b>	MB/LCS-141841

### QC Summary Report for VOCs by TO17

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,3-Dichlorobenzene	ND	51.0	0.47	2.0	50	-	102	60-140
1,4-Dichlorobenzene	ND	54.7	0.47	2.0	50	-	109	60-140
1,2-Dichloroethane (1,2-DCA)	ND	55.6	0.48	2.0	50	-	111	60-140
1,2-Dichloropropane	ND	56.7	0.38	2.0	50	-	113	60-140
1,3-Dichloropropane	ND	48.4	0.39	2.0	50	-	97	60-140
cis-1,3-Dichloropropene	ND	51.2	0.72	2.0	50	-	103	60-140
trans-1,3-Dichloropropene	ND	55.4	0.55	2.0	50	-	111	60-140
Ethylbenzene	ND	53.1	0.81	2.0	50	-	106	60-140
Hexachlorobutadiene	ND	49.4	0.44	2.0	50	-	99	60-140
Isopropylbenzene	ND	49.6	0.34	2.0	50	-	99	60-140
4-Isopropyl toluene	ND	58.0	0.38	2.0	50	-	116	60-140
Methyl-t-butyl ether (MTBE)	ND	54.3	1.9	2.0	50	-	109	60-140
Naphthalene	ND	55.8	0.48	2.0	50	-	112	60-140
n-Propyl benzene	ND	54.4	0.35	2.0	50	-	109	60-140
Styrene	ND	56.3	0.33	2.0	50	-	113	60-140
1,1,1,2-Tetrachloroethane	ND	53.6	0.41	2.0	50	-	107	60-140
1,1,2,2-Tetrachloroethane	ND	53.8	0.47	2.0	50	-	108	60-140
Tetrachloroethene	ND	51.0	0.41	2.0	50	-	102	60-140
Toluene	ND	50.7	1.5	2.0	50	-	101	60-140
1,2,3-Trichlorobenzene	ND	51.7	0.44	2.0	50	-	103	60-140
1,2,4-Trichlorobenzene	ND	52.5	0.49	2.0	50	-	105	60-140
1,1,2-Trichloroethane	ND	52.8	0.33	2.0	50	-	106	60-140
Trichloroethene	ND	50.6	0.36	2.0	50	-	101	60-140
1,2,3-Trichloropropane	ND	53.9	0.42	2.0	50	-	108	60-140
1,2,4-Trimethylbenzene	ND	53.2	0.40	2.0	50	-	106	60-140
1,3,5-Trimethylbenzene	ND	53.1	0.41	2.0	50	-	106	60-140
Xylenes, Total	ND	153	1.0	6.0	150	-	102	60-140
<b>Surrogate Recovery</b>								
1,2-DCA-d4	97.52	104			100	98	104	70-130
toluene-d8	95.81	102			100	96	102	70-130
4-BFB	91.26	96.2			100	91	96	70-130

QA/QC Officer



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1707223

ClientCode: SESB

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQuIS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Richard Makdisi  
Stellar Environmental Solutions  
2198 Sixth St. #201  
Berkeley, CA 94710  
(510) 644-3123    FAX: (510) 644-3859

Email: rmakdisi@stellar-environmental.com;sbitm  
cc/3rd Party:  
PO:  
ProjectNo: 2015-016; Residential Heating UST Investigation

**Bill to:**

Accounts Payable  
Stellar Enviornmental Solutions  
2198 Sixth St. #201  
Berkeley, CA 94710  
lwheeler@stellar-environmental.com

**Requested TAT: 5 days;**

**Date Received: 07/07/2017**

**Date Logged: 07/10/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1707223-001	SSG2	Sorbent Tube	7/6/2017 12:20	<input type="checkbox"/>	A	A											
1707223-002	SSG1	Sorbent Tube	7/6/2017 13:50	<input type="checkbox"/>	A	A											
1707223-003	SSG1d	Sorbent Tube	7/6/2017 14:00	<input type="checkbox"/>	A	A											

**Test Legend:**

1	TO17DIESEL_ST(UG/M3)	2	TO17VOC_ST(UGM3)	3		4	
5		6		7		8	
9		10		11		12	

**Prepared by: Jena Alfaro**

The following SampIDs: 001A, 002A, 003A contain testgroup TO17VOC+DIESEL.

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



### WORK ORDER SUMMARY

**Client Name:** STELLAR ENVIRONMENTAL SOLUTIONS

**Project:** 2015-016; Residential Heating UST Investigation

**Work Order:** 1707223

**Client Contact:** Richard Makdisi

**QC Level:** LEVEL 2

**Contact's Email:** rmakdisi@stellar-environmental.com;sbittman@stellar-environmental.com;hpietropaoli@stellar-

**Comments:**

**Date Logged:** 7/10/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1707223-001A	SSG2	Sorbent Tube	TO17VOC+DIESEL	1	Sorbent Tube	<input type="checkbox"/>	7/6/2017 12:20	5 days		<input type="checkbox"/>	
1707223-002A	SSG1	Sorbent Tube	TO17VOC+DIESEL	1	Sorbent Tube	<input type="checkbox"/>	7/6/2017 13:50	5 days		<input type="checkbox"/>	
1707223-003A	SSG1d	Sorbent Tube	TO17VOC+DIESEL	1	Sorbent Tube	<input type="checkbox"/>	7/6/2017 14:00	5 days		<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.





### Sample Receipt Checklist

Client Name: **Stellar Environmental Solutions**  
 Project Name: **2015-016; Residential Heating UST Investigation**  
 WorkOrder No: **1707223** Matrix: Sorbent Tube  
 Carrier: Bernie Cummins (MAI Courier)

Date and Time Received: **7/7/2017 15:20**  
 Date Logged: **7/10/2017**  
 Received by: Jena Alfaro  
 Logged by: Jena Alfaro

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No  NA   
 Sample/Temp Blank temperature Temp: 6.2°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No   
 (Ice Type: WET ICE )

#### UCMR Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

Comments:

7/20/2017

Mr. Henry Pietropaoli  
Stellar Environmental Solutions, Inc.  
2198 6th Street  
Suite 201  
Berkeley CA 94710

Project Name: Paramount  
Project #:  
Workorder #: 1707101

Dear Mr. Henry Pietropaoli

The following report includes the data for the above referenced project for sample(s) received on 7/7/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Rachel Selenis  
Project Manager



**WORK ORDER #: 1707101**

Work Order Summary

<b>CLIENT:</b>	Mr. Henry Pietropaoli Stellar Environmental Solutions, Inc. 2198 6th Street Suite 201 Berkeley, CA 94710	<b>BILL TO:</b>	Mr. Henry Pietropaoli Stellar Environmental Solutions, Inc. 2198 6th Street Suite 201 Berkeley, CA 94710
<b>PHONE:</b>	510-644-3123	<b>P.O. #</b>	2015-16
<b>FAX:</b>		<b>PROJECT #</b>	Paramount
<b>DATE RECEIVED:</b>	07/07/2017	<b>CONTACT:</b>	Rachel Selenis
<b>DATE COMPLETED:</b>	07/20/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSG2	Modified ASTM D-1946	0.8 "Hg	15 psi
02A	SSG1	Modified ASTM D-1946	0.2 psi	15 psi
03A	SSG1d	Modified ASTM D-1946	0.2 psi	14.8 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 07/20/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified ASTM D-1946**  
**Stellar Environmental Solutions, Inc.**  
**Workorder# 1707101**

Three 1 Liter Summa Canister samples were received on July 07, 2017. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 X$ 's the RL.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds**  
**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

**Client Sample ID: SSG2**

**Lab ID#: 1707101-01A**

No Detections Were Found.

**Client Sample ID: SSG1**

**Lab ID#: 1707101-02A**

No Detections Were Found.

**Client Sample ID: SSG1d**

**Lab ID#: 1707101-03A**

No Detections Were Found.



Air Toxics

Client Sample ID: SSG2

Lab ID#: 1707101-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	10070807c	Date of Collection:	7/6/17 12:20:00 PM
Dil. Factor:	2.08	Date of Analysis:	7/8/17 10:17 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.10	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SSG1

Lab ID#: 1707101-02A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	10070808c	Date of Collection:	7/6/17 1:50:00 PM
Dil. Factor:	1.99	Date of Analysis:	7/8/17 10:42 AM

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.10	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SSG1d

Lab ID#: 1707101-03A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	10070809c	Date of Collection:	7/6/17 2:00:00 PM
Dil. Factor:	1.98	Date of Analysis:	7/8/17 11:17 AM

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Helium	0.099	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1707101-04A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	10070803c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/8/17 08:21 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable





Air Toxics

Client Sample ID: LCS

Lab ID#: 1707101-05A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	10070802c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/8/17 07:53 AM

Compound	%Recovery	Method Limits
Helium	100	85-115

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1707101-05AA

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	10070815c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/8/17 02:01 PM

Compound	%Recovery	Method Limits
Helium	101	85-115

Container Type: NA - Not Applicable