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February 8, 2018

Mr. Mark Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Phase II Data Gap Investigation Report
for City of Emeryville Former Fire Station UST Site

Reference: Alameda County Fuel Leak Case No. RO0000068
GeoTracker Global ID T0600101848

Dear Mr. Detterman:

The City of Emeryville is pleased to submit the attached Phase II Data Gap Investigation Report for the City's former Fire Station UST site, which is located at 4331 San Pablo Avenue, Emeryville, CA. The report was prepared by OTG EnviroEngineering Solutions, Inc. (OTG) under a consultant service contract with the City of Emeryville.

ACKNOWLEDGEMENT

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

Please contact Mr. Xinggang Tong at (510) 465-8982 or myself at (510) 596-3728 if you have questions or comments.

Sincerely,
City of Emeryville

NHumphrey

Nancy Humphrey
Environmental Programs Supervisor

OTG EnviroEngineering Solutions, Inc.

February 7, 2018

Mr. Mark Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
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Dear Mr. Detterman:

OTG EnviroEngineering Solutions, Inc. (OTG) is pleased to present this *Phase II Data Gap Investigation Report* for the City of Emeryville formerly owned fire station UST site. The scope of investigation followed *Phase II Data Gap Investigation Work Plan* (OTG, April 6, 2017) and the approval letter from Alameda County Department of Environmental Health (ACDEH, June 6, 2017).

Certification

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please call Xinggang Tong at (510) 465-8982 or Nancy Humphrey at (510) 596-3728 if you have questions or comments.

Sincerely,
OTG EnviroEngineering Solutions, Inc.

Xinggang Tong, PhD, PE
Project Manager

Attachments

PHASE II
DATA GAP INVESTIGATION REPORT

CITY OF EMERYVILLE
FORMER FIRE STATION UST SITE

4331 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

Alameda County Fuel Leak Case No. RO0000068
Geotracker Global ID T0600101848

Prepared for

City of Emeryville
Public Works Department
1333 Park Avenue
Emeryville, CA94608

January 2018

Prepared by

oTG
EnviroEngineering Solutions, Inc.

7700 Edgewater Drive, Suite 260
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1 INTRODUCTION

This report presents the result of Phase II investigation conducted at the City of Emeryville former Fire Station located at 4331 San Pablo Avenue, Emeryville, California (the Site or the former Fire Station, Figure 1) in the Fourth Quarter of 2017. The scope of the investigation is presented in *Phase II Data Gap Investigation Work Plan* (OTG, April 6, 2017) and incorporates comments in the approval letter from Alameda County Department of Environmental Health (ACDEH, June 6, 2017). The purpose of the investigation is to delineate the extent of potential chemicals of concern (PCOCs) through the collection of additional soil and groundwater samples. Specific activities performed include installation of three boreholes and two groundwater monitoring wells, through which soil and groundwater samples were collected and analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-g), as diesel (TPH-d), and as motor oil (TPH-mo); for volatile organic compounds (VOCs) including chlorinated VOCs, Methyl Tert Butyl Either (MTBE), and Naphthalene; for polycyclic aromatic hydrocarbons (PAHs); and for LUFT five metals (Cd, Cr, Pb, Ni, and Zn).

2. BACKGROUND

The City operated a fire station at 4331 San Pablo Avenue from the early of 1910s to around 1995 (Lowney Associates, 1999). A 500-gallon underground fuel storage tank (UST) provided fueling services to the station's fire engines. The UST and associated equipment and underground piping were removed on July 26, 1994 under the supervision of ACDEH (SEACOR, 1994a & 1994b). Approximately 20 cubic yards of petroleum hydrocarbon impacted soil was also excavated at the time of the UST removal. A soil sample was collected from each of the four sidewalls of the UST excavation pit at the depth of seven (7) feet below ground surface (bgs). In addition, a soil sample was also collected from the base of excavation pit at the fuel dispenser island at 3 ft bgs. The five soil samples were analyzed for TPH-gas, TPH-diesel, and BTEX. TPH-gas ranged from 3 to 190 mg/kg, TPH-diesel from ND (10) to 260 mg/kg, and benzene from ND (0.005) to 0.38 mg/kg.

A 2"-diameter groundwater monitoring well (MW-1) was installed approximately 10 feet downgradient of the former UST to a depth of 23 feet bgs, with screen from 6 to 21 feet bgs, on February 21, 1995 (SEACOR, 1995). The well was monitored quarterly in 1995 for TPH-gas, TPH-diesel, and BTEX. Groundwater levels varied from 4.79 to 11.91 feet below grade. At the fourth and the last documented monitoring event conducted on December 11, 1995, TPH-gas was measured at 8.7 mg/L, TPH-diesel at 98 mg/L, and benzene at 230 ug/L (SEACOR, 1996). The well may have been destroyed during the site redevelopment in the early 2000s by the site developer, but documentation is unavailable. The Site is located within a redevelopment area called "Emery Village Center" and is now part of a parking lot of the CVS Pharmacy Store as shown on Figure 2.

Under the direction of ACDEH, two direct-push boreholes were installed to up to 25 feet bgs on October 4, 2016 to establish post-redevelopment site conditions. Their locations are shown

on figure 3. They are located in the downgradient direction of the former UST and the former sump, respectively. Soil samples were collected from 4-4.5ft bgs, 9.5-10 ft bgs, 13-13.5 ft bgs, and 22-22.5 ft bgs for the analyses of TPH-g, TPH-d, TPH-mo, and VOCs. Results are summarized in Table 1. TPH-g was detected at up to 330 mg/kg, TPH-d up to 100 mg/kg, TPH-mo up to 150 mg/kg, benzene up to 0.071 mg/kg, ethylbenzene up to 5.7 mg/kg, total xylenes up to 5.2 mg/kg, and naphthalene up to 3.3 mg/kg. Toluene, MTBE, and chlorinated VOCs were not detected at or above their respective reporting limits. The two boreholes were dry at the time of drilling and thus no groundwater sample was collected. Results were presented in *Data Gap Investigation Report* (OTG, November 11, 2016).

The approved scope of Phase II data gap investigation includes the following tasks:

- Drilling of three additional boreholes (SB-3, SB-4, & SB-5 on Figure 3) to delineate soil impact. SB-3 targets the former sump location for evaluation of potential impact of petroleum hydrocarbons, chlorinated VOCs, and heavy metals (LUFT five metals – Cd, Cr, Pb, Ni, & Zn). SB-4 and SB-5 are designed to assess the extent of secondary source removal from the former UST and associated fuel dispenser area.
- Installation of two groundwater monitoring wells (MW-2 and MW-3 on Figure 3) in the immediate downgradient areas of the former UST (MW-2) and the former Sump (MW-3) and collection of groundwater samples for analysis of PCOCs.

3. FIELD ACTIVITIES

Boreholes SB-3 through SB-5 and Wells MW-2 and MW-3 were drilled and installed on October 10, 2017 at the locations shown on Figure 3. MW-3 was installed at the same location of SB-2 and thus no additional soil samples were collected for chemical analysis from this location.

Pre-drilling activities included:

- Marking drilling locations with white paint on September 22, 2017;
- Notifying Underground Service Alert for the proposed drilling activities on September 25, 2017;
- Obtaining drilling permit from Alameda County Public Works Agency, a copy of the permit is included in Appendix A;
- Arranging OHJ Utility Locator of Oakland CA, a private utility surveyor, to survey underground utilities in the proposed drilling area on October 3, 2017.

PeneCore Drilling, Inc. of Woodland, California performed the drilling with a Geoprobe™ 6712DT combo rig under the supervision of an OTG professional civil engineer. Boreholes were drilled using the rig's direct-push method and equipped with DT22 dual-core samplers, which has a 2 ¼" outside diameter (O.D.). Continuous soil core samples were retrieved with 5'-long, 1 3/8"-O.D (1-1/8"-ID) clear PVC liners for inspection, lithologic logging, and analysis. The retrieved liners with core soil samples were first opened for visual inspection and screening for levels of volatile organic compounds (VOCs) with a miniRae 3000 photoionization detector

(PID) equipped with a 10.6 eV lamp. Soil samples selected based on visual inspection and PID readings were transferred into glass jars, which were then sealed with Teflon sheet lined caps, labeled, wrapped in individual Ziploc® plastic bags, and placed on ice in a cooler. The remaining core soil samples were further examined for lithologic logging. Boring logs are included in Appendix B. Soil samples were generally collected from 4.5 – 5.0 ft bgs, 8.5 – 9.0 ft bgs, and 13 – 13.5 ft bgs. A soil sample was collected from the highest PID reading location of each borehole. Boreholes SB-3 through SB-5 were drilled to 15 ft bgs and no free water was encountered. The boreholes were tremie-grouted with neat cement at the end of the day in the presence of a County drilling inspector. The top six inches were patched with the same material matching the surrounding.

The two wells were installed using the rig's rotary function with 8-inch diameter hollow stem augers to the total depth of 20 ft bgs. Well construction followed local and state well regulations. The wells were constructed with flush threaded 2-inch diameter Schedule 40 PVC casing and factory slotted 0.01-inch screen from 5 to 20 ft bgs, #2/16 filter sand pack from 4 to 20 ft bgs, one foot of hydrated bentonite pellets on top of the sand pack, and neat cement grout to 6-inch bgs. The wells were completed to grade with lockable wellheads in flush mounted, traffic rated and bolted well boxes. Well construction diagrams are included in Appendix B.

The two wells were developed on October 30, 2017. Development procedures included repeatedly surging (with a surge block) and purging (with disposal bailers). A total of 23.5 gallons of groundwater was removed from each well. Well development field logs are included in Appendix C. No sheen or LNAPL (light non-aqueous phase liquid) was observed throughout the development process from each well.

Well survey was conducted by PLS Surveys, Inc. of Oakland, CA on October 19, 2017. In accordance with State Water Resources Control Board GeoTracker requirement, latitude and longitude were surveyed to NAD 1983 datum, and elevation above mean sea level (top of PVC well casing and flush mounted traffic box) was surveyed to NAVD 1988 datum. Survey data is included in Appendix D.

Initial well sampling was performed on November 30, 2017. Prior to purging, static groundwater levels were measured to the nearest 0.01 foot in each well, using a Solinst™ water level sounder. Sampling procedures followed USEPA guideline for low-stress, minimal drawdown groundwater sample collection (EPA 542-S-02-001, May 2002). A peristaltic pump was used for purging and a Horiba U-52 multi-parameter instrument with flow-through cell was employed for monitoring pH, temperature, specific conductivity, turbidity, dissolved oxygen (D.O.), and oxidation-reduction potential (ORP) of purged water. All readings were recorded in field sampling logs, which are included in Appendix C. Each well is equipped with dedicated ¼"-diameter HDPE tubing for purging and sampling purposes. At the end of sample collection, a disposable bailer was used to retrieve approximately six inches of water in the bailer from each well for visual check. No sheen or LNAPL was observed from either of the two wells.

Sample containers were provided by Enthalpy Analytical (formerly Curtis & Tompkins Labs) of Berkeley, CA. Filled sample bottles were labeled, packaged, and stored in an iced cooler,

and were delivered to the laboratory under chain-of-custody protocols. Laboratory analyses included EPA Method 8260B for VOCs and EPA Method 8015B for TPH-g, TPH-d, and TPH-mo. To assess the potential impact of the former Sump, the water sample from MW-3 was also analyzed by EPA Method 8270C-SIM for PAHs and by EPA Method 6010 for LUFT five metals (Cd, Cr, Pb, Ni, and Zn). Laboratory analytical reports are included in Appendix E.

Drill cuttings and decontamination and purged water were contained in separate 55-gallon drums approved by Department of Transportation (DOT) for transportation. The drums were transported to the City of Emeryville Fire Station #35 for temporary storage pending analytical results for final disposition.

4. RESULTS

4.1 Soil

Organic data is summarized in Table 1 and metal data is presented in Table 2. Field PID screening results are included in boring logs in Appendix B.

Based on the laboratory analytical data and field PID screening results, it appears that a layer of subsurface soil between 8 feet and 15 feet bgs has been impacted by TPH-g, TPH-d, BTEX, and Naphthalene. Within this layer of soil, TPH-g was detected at up to 330 mg/kg (SB-1-13), TPH-d up to 800 mg/kg (SB-4-11), Benzene up to 190 ug/kg (SB-4-8), Ethylbenzene up to 5,700 ug/kg (SB-1-13), total Xylenes up to 5,200 ug/kg (SB-1-13) and Naphthalene up to 3,300 ug/kg (SB-1-13). TPH-mo was also detected up to 160 mg/kg from the 4.0-4.5 ft bgs shallow soil samples. MTBE and chlorinated VOCs were not detected from any of the 19 soil samples at or above their respective reporting limits.

Boring SB-3 targeted the former sump location. Analytical results indicate that soil from the sump location is not impacted by chlorinated VOCs and PAHs. Levels of LUFT metals were also not elevated. Impact by petroleum hydrocarbons is in the same range as for soil samples collected near the former UST location.

Boring SB-5 targeted the former UST excavation area. Its soil sample from 4.5 to 5.0 ft bgs indicates relatively clean, and the soil sample from 9.5 to 10 ft bgs has the same level of petroleum hydrocarbon impact as the soil samples collected outside the former excavation area (SB-4-11 and MW-2-13). This is consistent with the record that the former excavation was performed down to seven feet bgs.

4.1 Groundwater

Groundwater elevation data is summarized in Table 3, organic data included in Table 4, and LUFT metal data presented in Table 5. Field well development and sampling logs are included in Appendix C.

Groundwater was measured at 10.38 ft (MW-2) and 10.92 ft (MW-3) below top of casing (TOC) on November 30, 2017. After corrected to TOC's surveyed elevation, groundwater elevation data indicates that MW-3 is located downgradient of MW-2, and the suggested groundwater flow direction is consistent with the known groundwater flow direction in that general area.

No sheen or LNAPL was observed during well installation, development, and sampling. MW-2, which is located immediately downgradient of the former UST, reported 57 ug/L TPH-g and all other constituents below their respective reporting limits. MW-3, which is located immediately downgradient of the former sump and also downgradient of MW-2, reported 190 ug/L TPH-g, 140 ug/L TPH-d, 28 ug/L benzene, and 1.1 ug/L naphthalene. MTBE, chlorinated VOCs, and all PAHs (except naphthalene) were below their respective reporting limits. The water sample from MW-3 was also analyzed for LUFT 5 metals. Except Nickel (Ni), which was reported at 6.1 ug/L, the other four metals were not detected at or above their respective reporting limits.

5. CONCLUSIONS

- MTBE and chlorinated VOCs were not detected at or above their respective reporting limits from the two groundwater samples and from any of the 19 soil samples collected throughout the site.
- Except naphthalene, which is a component of gasoline and diesel, no other PAHs were reported in soil samples collected within the former sump location and in the groundwater sample collected from MW-3, which is located immediately downgradient of the former sump.
- Levels of the five LUFT metals were within background range from the soil samples collected within the former sump location. The groundwater sample from MW-3 also did not exhibit elevated concentrations for the metals.

It thus appears that the existence of the former sump did not contribute to the site contamination. The impact of petroleum hydrocarbons to the site soil and groundwater can be solely attributed to the former UST.

6. RECOMMENDATIONS

It is recommended to conduct four quarterly groundwater monitoring events to obtain sufficient water quality data for evaluation. At the completion of the four quarterly monitoring events, the Site Conceptual Model (SCM) will be updated to incorporate all relevant information generated from this additional data gap investigation. The updated SCM will be used for evaluation of case closure under the State Water Resources Control Board's Low Threat Underground Storage Tank Case Closure Policy (LTCP).

6. REFERENCES

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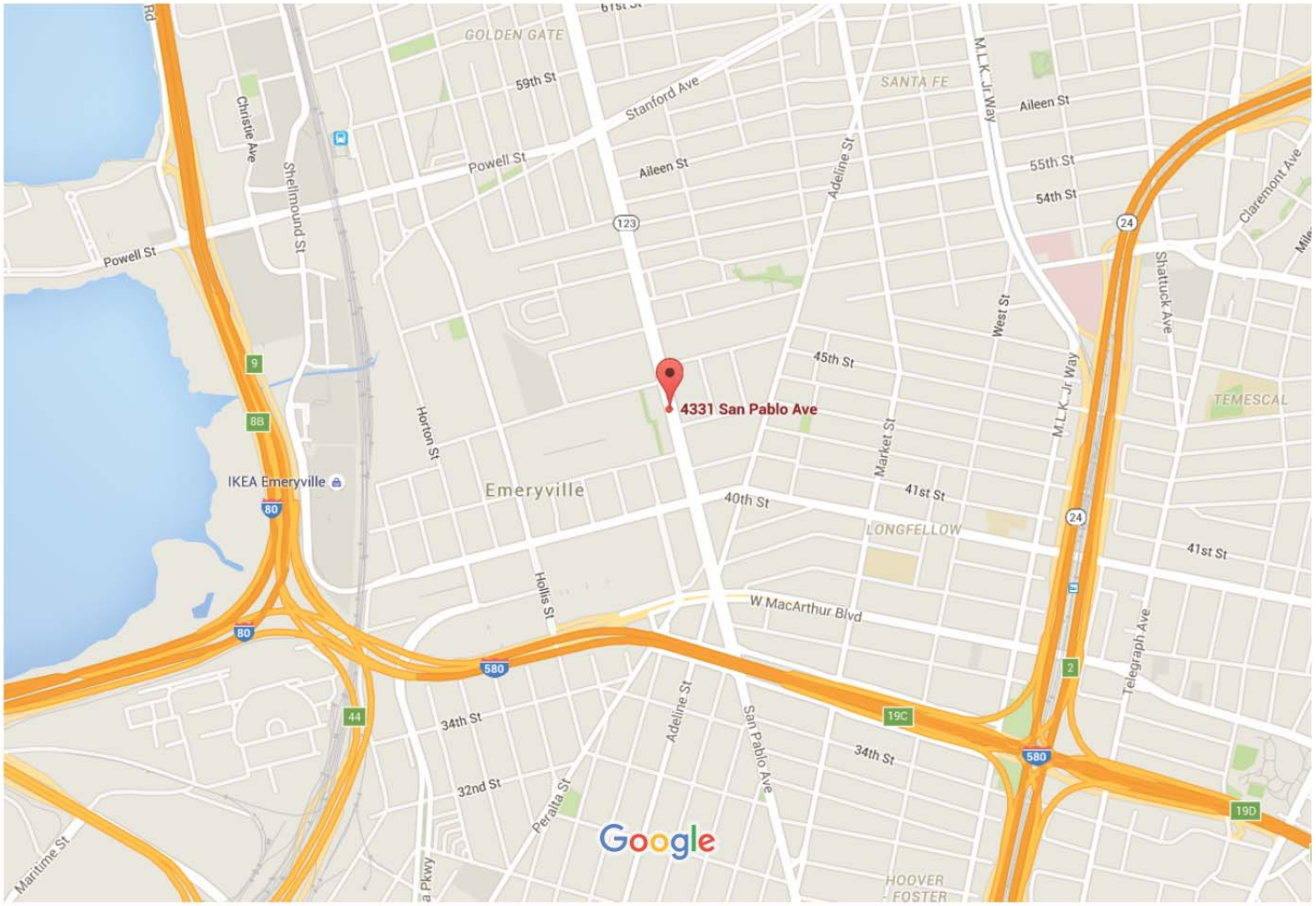
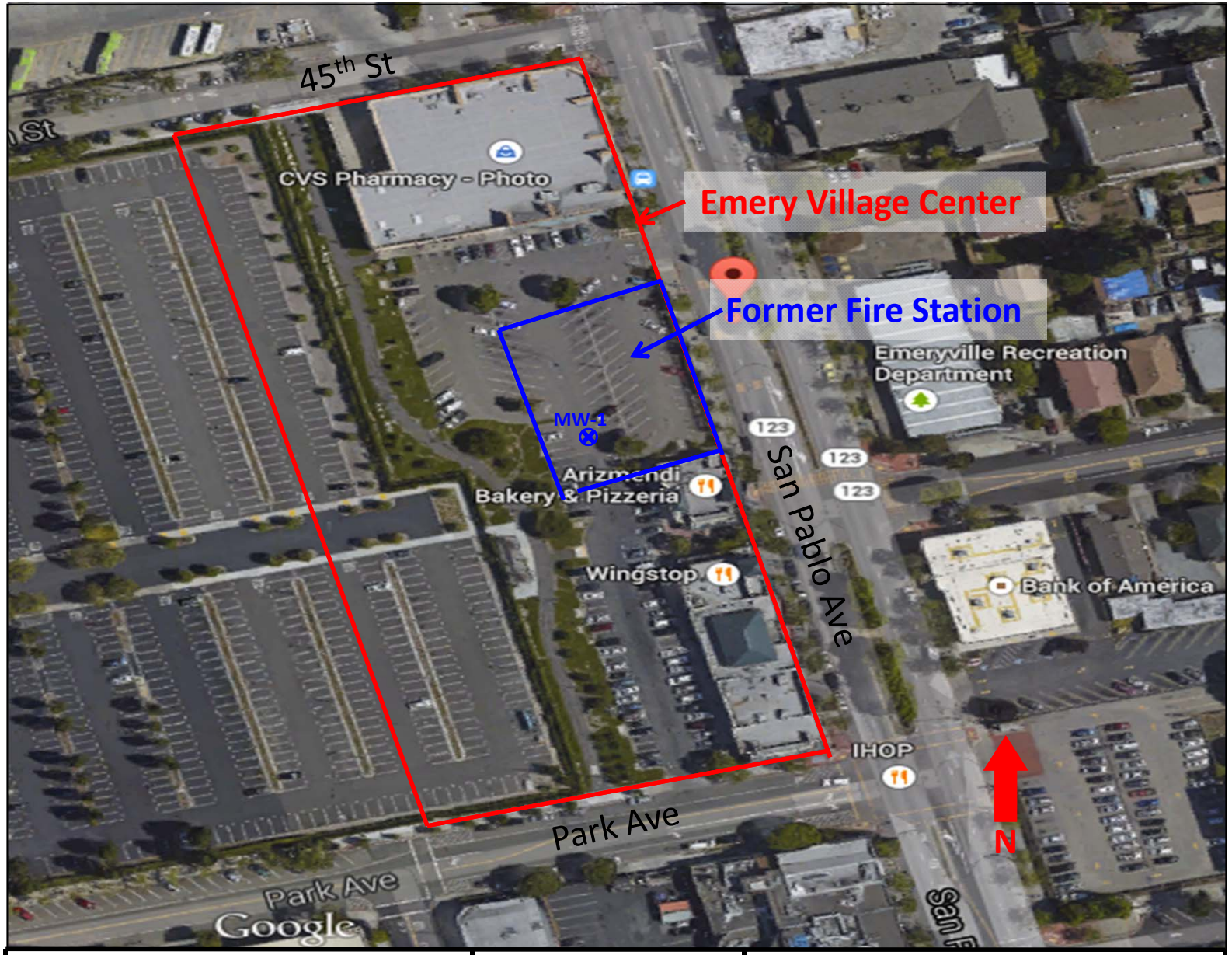
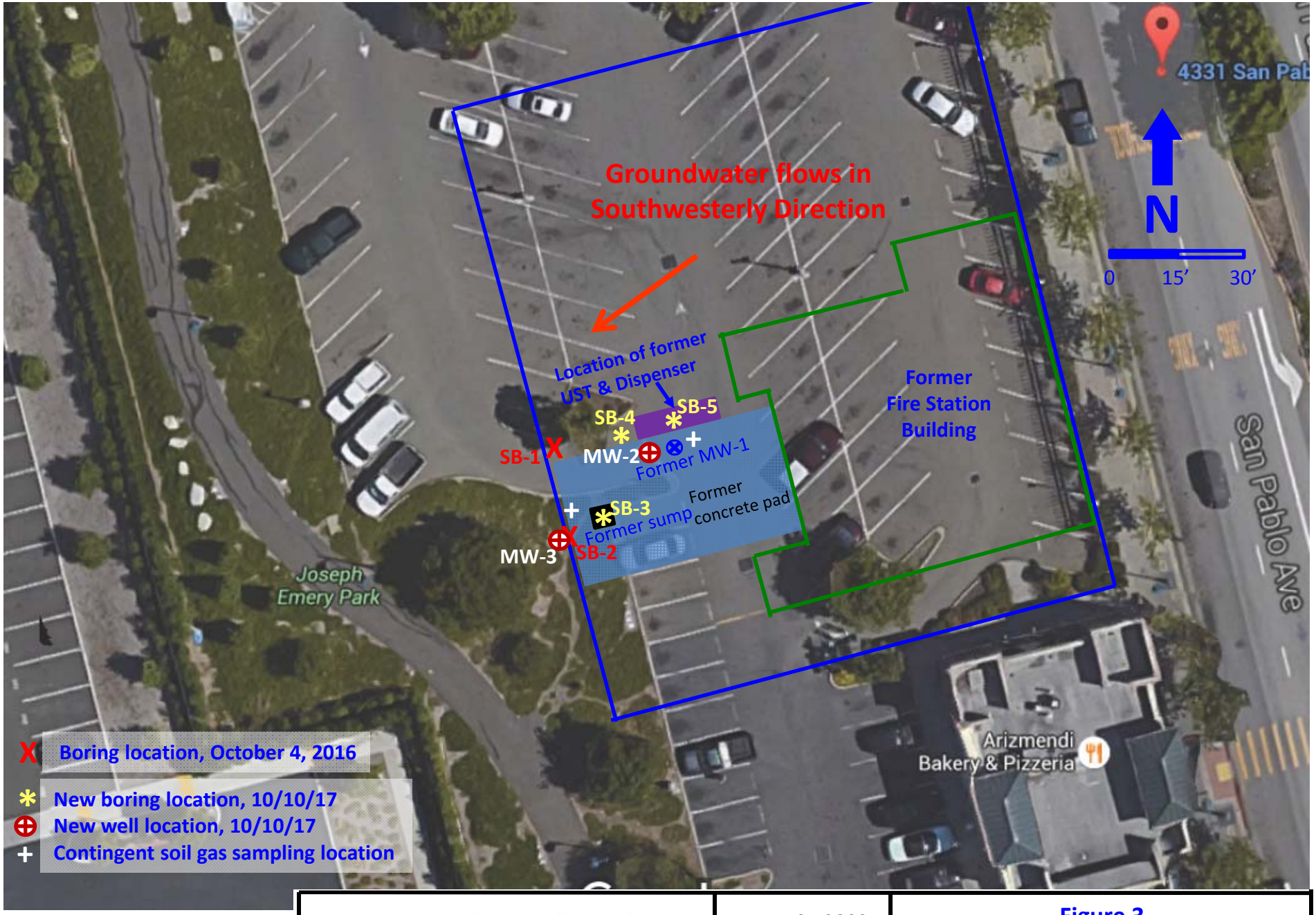


EnviroEngineering Solutions, Inc.	14EMV03.3000	Figure 1 - Location of City of Emeryville Former Fire Station 4331 San Pablo Avenue, Emeryville, CA
	January, 2016	



EnviroEngineering Solutions, Inc.	14EMV03.3000	Figure 2 - Location of City of Emeryville Former Fire Station
	January, 2016	4331 San Pablo Avenue, Emeryville, CA



OTG EnviroEngineering Solutions, Inc.	17EMV05.2000	**Figure 3** **New Boring & Well Locations**
	November 2017	4331 San Pablo Avenue, Emeryville, CA

Table 1 - Summary of Soil Analytical Results - Organic Constituents
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

		Soil Sample ID, Collection Depth, and Sampling Date											
Chemicals		**SB-1-4**	**SB-1-9**	**SB-1-13**	**SB-1-22**	**SB-2-4**	**SB-2-9**	**SB-2-13**	**SB-3-4.5**	**SB-3-8.5**	**SB-3-13**	**SB-4-4.5**	**SB-4-8**
		(4-4.5 ft bgs)	(9.5-10 ft bgs)	(13-13.5 ft bgs)	(22-22.5 ft bgs)	(4-4.5 ft bgs)	(9.5-10 ft bgs)	(13-13.5 ft bgs)	(4.5-5.0 ft bgs)	(8.5-9.0 ft bgs)	(13-13.5 ft bgs)	(4.5-5.0 ft bgs)	(8.0-8.5 ft bgs)
		(10/4/16)	(10/4/16)	(10/4/16)	(10/4/16)	(10/4/16)	(10/4/16)	(10/4/16)	(10/10/17)	(10/10/17)	(10/10/17)	(10/10/17)	(10/10/17)
Total Petroleum Hydrocarbons by EPA Method 8015B													
TPH-gas	mg/kg	ND (0.93)	ND (1.0)	**330**	ND (1.0)	ND (1.0)	ND (1.0)	**93**	ND (0.9)	**18**	**130 (Y)**	ND (1.0)	**8.0**
TPH-diesel (Note A)	mg/kg	**12** (Y)	ND (1.0)	**56**	ND (1.0)	**14** (Y)	ND (1.0)	**120**	**18 (Y)**	**160**	**700**	**11 (Y)**	**42**
TPH-diesel (Note B)	mg/kg			**39**				**100**					
TPH-mo (Note A)	mg/kg	**120**	ND (5.0)	ND (5.0)	ND (5.0)	**150**	ND (5.0)	ND (5.0)	**130**	**12**	ND (50)	**92**	ND (5.0)
TPH-mo (Note B)	mg/kg			ND (5.0)				ND (5.0)					
VOCs by EPA Method 8260B													
Benzene	ug/kg	ND (4.9)	ND (4.5)	ND (1,000)	ND (4.6)	ND (4.9)	ND (4.5)	**71**	ND (4.7)	**50**	**110**	ND (4.9)	**190**
Toluene	ug/kg	ND (4.9)	ND (4.5)	ND (1,000)	ND (4.6)	ND (4.9)	ND (4.5)	ND (53)	ND (4.7)	ND (5.0)	ND (12)	ND (4.9)	ND (4.9)
Ethylbenzene	ug/kg	ND (4.9)	ND (4.5)	**5,700**	ND (4.6)	ND (4.9)	ND (4.5)	**1,200**	ND (4.7)	**14**	**41**	ND (4.9)	**38**
Total Xylenes	ug/kg	ND (4.9)	ND (4.5)	**5,200**	ND (4.6)	ND (4.9)	ND (4.5)	**980**	ND (4.7)	**5.5**	**13**	ND (4.9)	ND (4.9)
MTBE	ug/kg	ND (4.9)	ND (4.5)	ND (1,000)	ND (4.6)	ND (4.9)	ND (4.5)	ND (53)	ND (4.7)	ND (5.0)	ND (12)	ND (4.9)	ND (4.9)
Naphthalene	ug/kg	ND (4.9)	ND (4.5)	**3,300**	ND (4.6)	ND (4.9)	ND (4.5)	**1,300**	ND (4.7)	ND (5.0)	**34**	ND (4.9)	**310**
Acetone	ug/kg	ND (19)	**49**	ND (4,000)	ND (18)	ND (20)	**39**	ND (210)	ND (19)	**70**	**200**	ND (19)	**64**
2-Butanone	ug/kg	ND (9.7)	**13**	ND (2,000)	ND (9.2)	ND (9.8)	ND (9.0)	ND (110)	ND (9.4)	**26**	**68**	ND (9.7)	**24**
Isopropylbenzene	ug/kg	ND (4.9)	ND (4.5)	ND (1,000)	ND (4.6)	ND (4.9)	ND (4.5)	**270**	ND (4.7)	**100**	**140**	ND (4.9)	**47**
Propylbenzene	ug/kg	ND (4.9)	ND (4.5)	**4,400**	ND (4.6)	ND (4.9)	ND (4.5)	**1,500**	ND (4.7)	**370**	**1,500**	ND (4.9)	**160**
1,3,5-trimethyl benzene	ug/kg	ND (4.9)	ND (4.5)	**5,300**	ND (4.6)	ND (4.9)	ND (4.5)	**540**	ND (4.7)	ND (5.0)	**16**	ND (4.9)	ND (4.9)
1,2,4-trimethyl benzene	ug/kg	ND (4.9)	ND (4.5)	**21,000**	ND (4.6)	ND (4.9)	ND (4.5)	**770**	ND (4.7)	ND (5.0)	ND (12)	ND (4.9)	ND (4.9)
sec-Butylbenzene	ug/kg	ND (4.9)	ND (4.5)	ND (1,000)	ND (4.6)	ND (4.9)	ND (4.5)	**86**	ND (4.7)	**27**	**58**	ND (4.9)	**14**
para-Isopropyl toluene	ug/kg	ND (4.9)	ND (4.5)	ND (1,000)	ND (4.6)	ND (4.9)	ND (4.5)	**76**	ND (4.7)	**13**	**36**	ND (4.9)	**8.1**
n-Butylbenzene	ug/kg	ND (4.9)	ND (4.5)	**2,000**	ND (4.6)	ND (4.9)	ND (4.5)	**240**	ND (4.7)	**61**	**140**	ND (4.9)	**37**
All other VOCs	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PAHs by EPA Method 8270C-SIM													
All PAHs	ug/kg								ND (49)	ND (25)	ND (50)		

Table 1 - Summary of Soil Analytical Results - Organic Constituents
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

		Soil Sample ID, Collection Depth, and Sampling Date							LTCP	LTCP	ESLs (note C)		
Chemicals		**SB-4-11**	**SB-5-4.5**	**SB-5-10**	**MW-2-4**	**MW-2-9.5**	**MW-2-13**	**MW-2-20**	com/ind	com/ind	**direct**	**gross**	**odor**
		(11-11.5 ft bgs)	(4.5-5.0 ft bgs)	(9.5-10 ft bgs)	(4.0-4.5 ft bgs)	(9.5-9.0 ft bgs)	(13-13.5 ft bgs)	(19.5-20 ft bgs)	(0 - 5' bgs)	(5 - 10' bgs)	**exposure**	**contaminati**	**Nuisance**
		(10/10/17)	(10/10/17)	(10/10/17)	(10/10/17)	(10/10/17)	(10/10/17)	(10/10/17)					
Total Petroleum Hydrocarbon													
TPH-gas	mg/kg	**240 (Y)**	ND (1.0)	**120 (Y)**	ND (1.0)	ND (1.0)	**6.5 (Y)**	ND (1.0)			2,800	1,000	**500**
TPH-diesel (Note A)	mg/kg	**800**	**16 (Y)**	**51 (Y)**	**26 (Y)**	**14 (Y)**	**210**	**1.3 (Y)**			**880**	2,300	1,000
TPH-diesel (Note B)	mg/kg												
TPH-mo (Note A)	mg/kg	ND (50)	**86**	**8.4**	**160**	**56**	**6.5**	ND (5.0)			32,000	**5,100**	---
TPH-mo (Note B)	mg/kg												
VOCs by EPA Method 8260B													
Benzene	ug/kg	ND (48)	ND (5.0)	ND (26)	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)	**8,200**	**12,000**	**1,000**	870,000	1,000,000
Toluene	ug/kg	ND (48)	ND (5.0)	ND (26)	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)			4,100,000	**650,000**	1,000,000
Ethylbenzene	ug/kg	ND (48)	ND (5.0)	**600**	ND (4.6)	ND (4.8)	**38**	ND (4.8)	**89,000**	**134,000**	**22,000**	400,000	1,000,000
Total Xylenes	ug/kg	ND (48)	ND (5.0)	**42**	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)			2,400,000	**420,000**	1,000,000
MTBE	ug/kg	ND (48)	ND (5.0)	ND (26)	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)			**180,000**	21,000,000	500,000
Naphthalene	ug/kg	ND (48)	ND (5.0)	**150**	ND (4.6)	ND (4.8)	**7.5**	ND (4.8)	**45,000**	**45,000**	350,000	**220,000**	1,000,000
Acetone	ug/kg	ND (190)	**33**	**120**	ND (19)	ND (19)	**28**	ND (19)			2.60E+08	1.00E+08	1,000,000
2-Butanone	ug/kg	ND (96)	ND (10)	ND (53)	ND (9.3)	ND (9.5)		ND (9.7)			---	---	---
Isopropylbenzene	ug/kg	720	ND (5.0)	**440**	ND (4.6)	ND (4.8)	**11**	ND (4.8)			---	---	---
Propylbenzene	ug/kg	3,400	ND (5.0)	**1,200**	ND (4.6)	ND (4.8)	**46**	ND (4.8)			---	---	---
1,3,5-trimethyl benzene	ug/kg	ND (48)	ND (5.0)	**250**	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)			---	---	---
1,2,4-trimethyl benzene	ug/kg	ND (48)	ND (5.0)	**350**	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)			---	---	---
sec-Butylbenzene	ug/kg	**330**	ND (5.0)	**170**	ND (4.6)	ND (4.8)	**6.3**	ND (4.8)			---	---	---
para-Isopropyl toluene	ug/kg	**140**	ND (5.0)	**99**	ND (4.6)	ND (4.8)	ND (5.0)	ND (4.8)			---	---	---
n-Butylbenzene	ug/kg	**760**	ND (5.0)	**350**	ND (4.6)	ND (4.8)	**14**	ND (4.8)			---	---	---
All other VOCs	ug/kg	ND	ND	ND	ND	ND	ND	ND					
PAHs by EPA Method 8270C-S													
All PAHs	ug/kg												

Table 1 - Summary of Soil Analytical Results - Organic Constituents
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

Notes:
A = without silica gel cleanup
B = with silica gel cleanup
bgs = below ground surface
Y = Sample exhibits chromatographic pattern which does not resemble standard.
ND = Not Detected at or above the reporting limit shown in parentheses.
C = ESLs from San Francosco Bay Regional Water Quality Control Board February 2016 Edition.
ESL (direct exposure) is the lowest of Com/Ind shallow soil exposure and Any Land Use/Any Depth soil construction exposure.
ESL (gross contamination) is the residual saturation, above which LNAPL in soil may be mobile or migrating (i.e., free product).
ESL (odor nuisance) is the lowest of Com/Ind shallow soil exposure and Any Land Use deep soil exposure.

Table 2 - Summary of Soil Analytical Results - LUFT Metals
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

Chemicals		**SB-3-4.5**	**SB-3-8.5**	**SB-3-13**	**ESL**
		(4.5-5.0 ft bgs)	(8.5-9.0 ft bgs)	(13-13.5 ft bgs)	**Tier 1**
		(10/10/17)	(10/10/17)	(10/10/17)	
California LUFT Metals by EPA Method 6010B					
Cadmium (Cd)	mg/kg	0.3	ND (0.25)	ND (0.27)	**39**
Chromium, total	mg/kg	37	31	34	**NA**
Lead (Pb)	mg/kg	42	7.7	5.8	**80**
Nickel (Ni)	mg/kg	40	30	43	**86**
Zinc (Zn)	mg/kg	95	38	46	**23,000**
Notes:					
bgs = below ground surface					
ND = Not Detected at or above the reporting limit shown in parentheses.					
ESLs from San Francosco Bay Regional Water Quality Control Board February 2016 Edition.					

Table 3 - Groundwater Elevation Data
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

	MW-2			MW-3		
	Depth to	TOC	Water	Depth to	TOC	Water
Date	water	Elevation	Elevation	water	Elevation	Elevation
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
11/30/2017	10.38	51.84	41.46	10.92	52.19	41.27
Notes:						
TOC = top of casing, surveyed to NAVD88 on 10/19/17						

Table 4 - Summary of Groundwater Analytical Results - Organic Constituents
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

		Well ID				LTCP
Chemicals		**MW-2**		**MW-3**		groundwater
						Criteria
		(11/30/17)		(11/30/17)		
LNAPL Observation		none		none		
D.O.	mg/L	0.55		0.00		
Total Petroleum Hydrocarbons by EPA Method 8015B						
TPH-gas	ug/L	57		**190 (b')**		
TPH-diesel (Note A)	ug/L	ND (49)		**140 (Y)**		
TPH-diesel (Note B)	ug/L					
TPH-mo (Note A)	ug/L	ND (290)		ND (290)		
TPH-mo (Note B)	ug/L					
VOCs by EPA Method 8260B						
Benzene	ug/L	ND (0.5)		**28**		**1,000**
Toluene	ug/L	ND (0.5)		ND (0.5)		
Ethylbenzene	ug/L	ND (0.5)		**4.2**		
Total Xylenes	ug/L	ND (0.5)		**0.6**		
MTBE	ug/L	ND (0.5)		ND (0.5)		**1,000**
Naphthalene	ug/L	ND (2.0)		ND (2.0)		
Acetone	ug/L	ND (10)		ND (10)		
2-Butanone	ug/L	ND (10)		ND (10)		
Isopropylbenzene	ug/L	ND (0.5)		**2.3**		
Propylbenzene	ug/L	ND (0.5)		**1.2**		
1,3,5-trimethyl benzene	ug/L	ND (0.5)		ND (0.5)		
1,2,4-trimethyl benzene	ug/L	ND (0.5)		ND (0.5)		
sec-Butylbenzene	ug/L	ND (0.5)		ND (0.5)		
para-Isopropyl toluene	ug/L	ND (0.5)		ND (0.5)		
n-Butylbenzene	ug/L	ND (0.5)		**1.0**		
All other VOCs	ug/L	ND		ND		
PAHs by EPA Method 8270C-SIM						
Naphthalene	ug/L			**1.1**		
All other PAHs	ug/L			ND (0.1)		

Notes:

A = without silica gel cleanup

B = with silica gel cleanup

bgs = below ground surface

b' = Low response was observed for gasoline C7-C12

Y = Sample exhibits chromatographic pattern which does not resemble standard.

ND = Not Detected at or above the reporting limit shown in parentheses.

Table 5 - Summary of Groundwater Analytical Results - LUFT Metals
City of Emeryville Former Fire Station at 4331 San Pablo Ave, Emeryville, CA

		Well ID			
Chemicals			**MW-3**		
			(11/30/17)		
California LUFT Metals by EPA Method 6010B					
Cadmium (Cd)	ug/L		ND (5.0)		
Chromium, total	ug/L		ND (5.0)		
Lead (Pb)	ug/L		ND (5.0)		
Nickel (Ni)	ug/L		6.1		
Zinc (Zn)	ug/L		ND (20)		
ND = Not Detected at or above the reporting limit shown in parentheses.					

APPENDIX A

Copy of Drilling Permit

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 09/27/2017 By jamesy

Permit Numbers: W2017-0741 to W2017-0743
Permits Valid from 10/09/2017 to 10/20/2017

Application Id: 1506029028091 **City of Project Site:** Emeryville
Site Location: 4331 San Pablo Ave, Emeryville, CA 94608, USA
Project Start Date: 10/09/2017 **Completion Date:** 10/20/2017
Assigned Inspector: Contact Eneyew Amberber at (510) 670-5759 or eneyew@acpwa.org

Applicant:	OTG EnviroEngineering Solutions, Inc. - Xinggang Tong 7700 Edgewater Dr., Suite 260, Oakland, CA 94621	**Phone:** 510-465-8982
Property Owner:	Nancy Humphrey City of Emeryville, 1333 Park Avenue, Emeryville, CA 94608	**Phone:** 510-596-3728
Client:	Xinggang Tong 7700 Edgewater Dr., Suite 260, Oakland, CA 94621	**Phone:** 510-465-8982
Contact:	Xinggang Tong	**Phone:** 510-465-8982 **Cell:** 510-612-0857

Total Due: $1059.00
Receipt Number: WR2017-0447 **Total Amount Paid:** $1059.00
Payer Name : Xinggang Tong Paid By: MC **PAID IN FULL**

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 2 Wells
Driller: PeneCore Drilling Inc - Lic #: 906899 - Method: hstem **Work Total: $794.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2017-0741	09/27/2017	01/07/2018	MW-2	8.00 in.	2.00 in.	4.00 ft	20.00 ft
W2017-0742	09/27/2017	01/07/2018	MW-3	8.00 in.	2.00 in.	4.00 ft	20.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 30 days. Include permit number and site map.

5. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.

6. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

8. Minimum surface seal thickness is two inches of cement grout placed by tremie.

9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

11. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

Borehole(s) for Investigation-Environmental/Monitorinig Study - 3 Boreholes
Driller: PeneCore Drilling Inc - Lic #: 906899 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2017-0743	09/27/2017	01/07/2018	3	2.00 in.	15.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and

all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

7. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

APPENDIX B

Boring Logs & Well Construction Diagrams

OTG EnviroEngineering Solutions, Inc.	**BORING LOG**	Boring No. **SB-3** Well No. ____ Sheet 1 of 1

Site: **4331 San Pablo Ave., Emeryville, CA 94608**
Client **City of Emeryville**
Project Number: **17EMV05.2000**
Date(s) Drilled: **10/10/17**
Date(s) Installed: **10/10/17**
Drilling Co./Driller: **PeneCore Drilling**

Ground Elevation: **NA**
Coordinate (Latitude): **37.833213**
Coordinate (Longitude): **-122.281170**
Drilling Method: **Direct Push, Geoprobe 6712DT Rig**
Borehole Total Depth: **15 feet**
Final Borehole Diameter: **2.25 inches**

Drilling Summary: Advanced boring to target depth using direct push Geoprobe 6712DT rig equipped with 2.25-inch OD dual-core sampling rods. Continuous core samples were collected in 1.275-inch ID diameter 5 ft section cellulose liners. Tremie grouted borehole with neat cement within the same day of drilling.

Well Construction Details	Sample No.	Sample Interval	PID Reading, ppm	Recovery	Blow Counts	Petro Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
			0				1		**0 - 3'** gravel-sand-silt fill with plant roots (SP-SM), dark brown, moist 0 to 1', dry after 1'
			0				2		
			0.1				3		hand auger to 3'
			0	100			4		**3 - 5'** clayey fine sand with trace gravels (ML), dark brown, low plasticity, stiff
	SB-3-4.5	■	0.1				5		
			0.2				6		**5 - 10'** sandy silty clay with minor gravels (CL), dark brown to black, medium plasticity, dry & stiff
			2.5				7		
			15	100			8		
	SB-3-8.5	■	85			yes	9		
			12				10		
			85			yes	11		**10 - 15'** silty clay with minor gravels (CL), greenish, medium plasticity, stiff to 14 ft, soft 14 to 15 ft, but no free water
			80			yes	12		
			360	100		yes	13		
	SB-3-13	■					14		
			250			yes	15		
			160			yes	16		Bottom of boring at 15 ft
							17		
							18		
							19		
							20		
							21		
							22		
							23		
							24		
							25		

Logged by: X Tong Checked by: X Tong Date checked: November 3, 2017

OTG EnviroEngineering Solutions, Inc.	**BORING LOG**	Boring No. **SB-4** Well No. ____ Sheet 1 of 1

Site: **4331 San Pablo Ave., Emeryville, CA 94608**
Client **City of Emeryville**
Project Number: **17EMV05.2000**
Date(s) Drilled: **10/10/17**
Date(s) Installed: **10/10/17**
Drilling Co./Driller: **PeneCore Drilling**

Ground Elevation: **NA**
Coordinate (Latitude): **37.833275**
Coordinate (Longitude): **-122.281150**
Drilling Method: **Direct Push, Geoprobe 6712DT Rig**
Borehole Total Depth: **15 feet**
Final Borehole Diameter: **2.25 inches**

Drilling Summary: Advanced boring to target depth using direct push Geoprobe 6712DT rig equipped with 2.25-inch OD dual-core sampling rods. Continuous core samples were collected in 1.275-inch ID diameter 5 ft section cellulose liners. Tremie grouted borehole with neat cement within the same day of drilling.

Well Construction Details	Sample No.	Sample Interval	PID Reading, ppm	Recovery	Blow Counts	Petro Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
									3" asphalic concrete
			0				1		**3" - 1.5'** gravel road base (GM), light brown
									FILL
			0				2		**1.5' - 3'** clayey sand with some gravels (SC), dark brown, dry
			0.2				3		hand auger to 3'
									3 - 4.5' sandy silty clay with minor gravels (CL), light brown, low plasticity, dry & stiff
			0	100			4		
	SB-4-4.5		0.2				5		**4.5 - 10'** sandy silty clay with minor gravels (CL), dark brown to black, medium plasticity, dry & stiff
			0.4				6		
			100				7		
				100					
							8		
	SB-4-8		420			yes			
			120			yes	9		black mottled with yellow from 9 to 10'
			95			yes	10		
									10 - 15' clayey silt with minor gravels (ML), greenish, low plasticity, stiff to 13 ft, soft & moist 13 to 15 ft, but no free water
			650			yes	11		
	SB-4-11								
			650			yes	12		
				100					
			115			yes	13		
			100			yes	14		
			7				15		Bottom of boring at 15 ft
							16		
							17		
							18		
							19		
							20		
							21		
							22		
							23		
							24		
							25		

Logged by: X Tong Checked by: X Tong Date checked: November 3, 2017

OTG EnviroEngineering Solutions, Inc.	**BORING LOG**	Boring No. **SB-5** Well No. ____ Sheet 1 of 1

Site: **4331 San Pablo Ave., Emeryville, CA 94608**
Client **City of Emeryville**
Project Number: **17EMV05.2000**
Date(s) Drilled: **10/10/17**
Date(s) Installed: **10/10/17**
Drilling Co./Driller: **PeneCore Drilling**

Ground Elevation: **NA**
Coordinate (Latitude): **37.833282**
Coordinate (Longitude): **-122.281092**
Drilling Method: **Direct Push, Geoprobe 6712DT Rig**
Borehole Total Depth: **15 feet**
Final Borehole Diameter: **2.25 inches**

Drilling Summary: Advanced boring to target depth using direct push Geoprobe 6712DT rig equipped with 2.25-inch OD dual-core sampling rods. Continuous core samples were collected in 1.275-inch ID diameter 5 ft section cellulose liners. Tremie grouted borehole with neat cement within the same day of drilling.

Well Construction Details	Sample No.	Sample Interval	PID Reading, ppm	Recovery	Blow Counts	Petro Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
									3" asphalic concrete
			0				1		**3" - 1.5'** gravel road base (GM), light brown
									FILL
			0				2		**1.5' - 3'** clayey sand with some gravels (SC), dark brown, dry
			0				3		hand auger to 3'
									3 - 12.5' sandy silty clay with minor gravels (CL), dark brown to black to 9.5', then change to greenish from 9.5', dry & stiff
			0.3	100			4		
	SB-5-4.5		1				5		
			2.1				6		
			4.2				7		
				100					
			5				8		
			25				9		
	SB-5-10		250			yes	10		
			100			yes	11		
			40				12		
				100					
			10				13		**12.5 - 14'** clayey silt with minor gravels (ML), greenish, low plasticity, dry & stiff to 13.5 ft, soft & moist 13.5 to 14 ft, but no free water
			1.5				14		
									14 to 15' silty clay with minor gravels (CL), yellowish, medium plasticity, medium soft & moist, not free water
			0				15		Bottom of boring at 15 ft
							16		
							17		
							18		
							19		
							20		
							21		
							22		
							23		
							24		
							25		

Logged by: X Tong Checked by: X Tong Date checked: November 3, 2017

OTG EnviroEngineering Solutions, Inc.

BORING LOG

Site Location: 6303 Hollis St, Emeryville, CA 94608

Boring No.
Well No. **MW-2**
Sheet 1 of 1
Project # 17EMV05.2000

Client:	**City of Emeryville**	Well Borehole Diameter:	**8 inches**	Ground Elevation:	**52.03 ft**
Date(s) Drilled:	**10/10/2017**	Well Diameter	**2 inches**	TOC Elevation:	**51.84 ft**
Date(s) Installed:	**10/10/2017**	Well Casing Material:	**Schedule 40 PVC**	Coordinates (Lati):	**37.83323682**
Drilling Co./Driller:	**PeneCore Drilling**	Well Total Depth:	**20 feet**	Coordinates (Long)	**-122.28109730**
Drilling Method:	**Hollow-stem Auger**	Well Screen:	**0.01-inch slotted 5 to 20 ft bgs**	Initial boring (direct push) total depth:	20 ft
Drilling Equipment:	**Geoprobe 6712 DT Combo**	Sand pack:	**#2/16 Lonestar sand 4 to 20 ft bgs**	Initial boring (direct push) diameter:	2.5 inches

Drilling Summary: Advance well boring to 20 feet below ground surface (bgs) using 8-inch hollow-stem augers. Install 2-inch diameter groundwater monitoring well with Schedule 40 PVC casing and 0.01-inch slot screen (5 to 20 ft bgs), #2/16 filter sand from bottom to 4 ft bgs, bentonite pellets to 3 ft bgs, neat cement grout to 6 inch bgs. 8-inch diameter well box to surface contained in concrete collar.

Well Construction Details	Sample No.	Sample Interval	PID Reading, ppm	Recovery	Blow Counts	Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
bentor; 2-inch dia. Sch 40 PVC blank; neat cement			0				1		**0 - 1'** landscape fill soil with some angular gravels and with plant roots, moist
			0				2		**1 - 2'** fine sand with angular gravels (SW), dry
							3		**2 - 3'** gravel-sand-silt mixture (SP), brown, dry hand auger to 3'
			0	100			4		**3 - 6'** silty clay with some gravels (CL), dark brown to black, medium plasticity, dry & stiff
	MW-2-4		0				5		
			0				6		**6 - 10'** silty clay with some gravels (CL), yellowish to light brown, medium plasticity, dry & stiff
			0				7		
			0.1	100			8		
			0.1				9		
	MW-2-9.5		0.1				10		**10 - 17'** silty clay with trace gravels (CL), greenish & transition to brown at 15', medium plasticity, dry & stiff
			5				11		
			15				12		
#2/16 filter sand			89	100		yes	13		
	MW-2-13		92			yes	14		
			35			yes	15		
			1				16		
			0.2				17		▽ water level at completion of borehole
			0.1	100			18		**17 - 20'** clayey sand with some gravels (ML-SC), yellowish to light gray, low plasticity, medium soft, wet from 18.5 to 20'
			0.1				19		
	MW-2-20		0.1				20		Bottom of boring at 20 feet
cap							21		
							22		
							23		
							24		
							25		

Logged by: X Tong Checked by: X Tong Date checked: November 3, 2017

OTG EnviroEngineering Solutions, Inc.

BORING LOG

Site Location: 6303 Hollis St, Emeryville, CA 94608

Boring No. **SB-2**
Well No. **MW-3**
Sheet 1 of 1
Project # 17EMV05.2000

Client:	**City of Emeryville**	Well Borehole Diameter:	**8 inches**	Ground Elevation:	**52.42 ft**
Date(s) Drilled:	**10/10/2017**	Well Diameter	**2 inches**	TOC Elevation:	**52.19 ft**
Date(s) Installed:	**10/10/2017**	Well Casing Material:	**Schedule 40 PVC**	Coordinates (Lati):	**37.83318558**
Drilling Co./Driller:	**PeneCore Drilling**	Well Total Depth:	**20 feet**	Coordinates (Long)	**-122.28116790**
Drilling Method:	**Hollow-stem Auger**	Well Screen:	**0.01-inch slotted 5 to 20 ft bgs**	Initial boring (direct push) total depth:	20 ft
Drilling Equipment:	**Geoprobe 6712 DT Combo**	Sand pack:	**#2/16 Lonestar sand 4 to 20 ft bgs**	Initial boring (direct push) diameter:	2.5 inches

Drilling Summary: Advance well boring to 20 feet below ground surface (bgs) using 8-inch hollow-stem augers. Install 2-inch diameter groundwater monitoring well with Schedule 40 PVC casing and 0.01-inch slot screen (5 to 20 ft bgs), #2/16 filter sand from bottom to 4 ft bgs, bentonite pellets to 3 ft bgs, neat cement grout to 6 inch bgs. 8-inch diameter well box to surface contained in concrete collar.

Well Construction Details	Sample No.	Sample Interval	PID Reading, ppm	Recovery	Blow Counts	Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
bentor; 2-inch dia. Sch 40 PVC blank; neat cement; #2/16 filter sand; cap							1		**0 - 5'** gravel-sand-silt mixture with plant roots (SP-SM), dark brown, moist 0 to 2', dry after 2'
			0						hand auger to 2'
			0.1				2		
				70			3		
			1.5						
							4		
	SB-2-4								
			2.5				5		
									5 - 11' sandy silty clay with minor gravels (CL), dark brown to black, dry & stiff
							6		
			1.5						
							7		
				100					
			2.5				8		
							9		
	SB-2-9		3.5				10		
			16				11		**11 - 15'** sandy silty clay with minor gravels (CL), gray, moist, but stiff
									petroleum odor between 13 and 15'
			25				12		water level 3 hours after completion of well construction
				100					
							13		
	SB-2-13		350			yes			
							14		
			170				15		
			45				16		
							17		water level at completion of borehole
				70					
			3				18		**15 - 20'** clayey sand with some gravels (SC), light gray at 15' & transition to pale yellow after 16', moist, & slightly soft
							19		
			3				20		Bottom of boring at 20 feet
							21		
							22		
							23		
							24		
							25		

Logged by: X Tong Checked by: X Tong Date checked: November 3, 2017

APPENDIX C

Well Development & Sampling Logs

OTG EnviroEngineering Solutions, Inc.

Weather Partly cloudy

FIELD SAMPLING LOG SHEET Well Development

WELL ID MW-2	**Date of Sampling** 10/30/2017
Site Location 4331 San Pablo Ave, Emeryville, CA	
Project # 17EMV05 Task # 2000	Title Former FS
OTG Project Manager Xinggang Tong	Phone # 510-465-8982
Client: City of Emeryville	
Client Contact:	Phone #
Laboratory:	
Well Diameter (2") 3" 4" 6" other	Well Material: sch (40 PVC) sch 80 PVC, other
Is well secured? (Yes) no Bolt size:	Type of lock/Lock # Master lock
Comments:	
Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other	
Pump lines: (NA) New, Dedicated, Cleaned	Bailer line: NA, (New) Dedicated, Cleaned
Method of cleaning pump: NA, Alconox, Liqui-nox, Tap water DI rinse, other	
Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other	
Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other	
pH meter serial # / Spec cond meter serial # / Calibrated at:	
Water level meter:	P.I.D. reading: ppm at well head
Total Depth = 19.85' to TOC, Horiba U-52 multi-parameter rented from Pine Env	
Water level before purging (TOC, ft) 11.71 at 10:53	Water level prior to sampling
19.85 (TD) - 11.71 (TOC) = 8.14 (ft of water) x k 0.163 = 1.33 gallons/CV x 18 (# of CV) = 13.3 gallons	
k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well)	

FIELD WATER QUALITY PARAMETERS

Time	Discharge (gallons)	pH	Temp (°C)	Specific conductivity (mS or ~~uS~~)	Turbidity (NTU)	D.O. (mg/L)	ORP ~~Color~~ mV	Comments
11:00	0.5	7.24	20.60	0.544	90.5	6.00	2	clear, No petro odor
11:15	5	7.30	21.10	0.735	>1000	5.81	42	brown, No petro oder
11:35	10	7.35	20.97	0.716	>1000	5.96	53	water level at 14.95 TOC
11:48	15	7.30	20.92	0.654	>1000	6.62	56	light brown, No petro oder
12:00	20	7.30	20.88	0.629	>1000	6.53	60	" "
13:17								Water level at 12.02' TOC
13:25	23	7.29	20.82	0.620	>1000	6.95	109	brown, No petro odor
14:35								Water level at 11.87' TOC
14:40	23.5	7.21	20.77	0.603	538	5.01	139	slight milk, No petro odor
								No free product

Total discharge: 23.5 gallons	Casing volumes removed: 17.7
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site	
Date/time sampled:	QA: duplicate, Eq. blank, trip blank, other
Sample containers filled:	
Recorded by: Xinggang Tong Signature:	Date: 10/30/17

OTG EnviroEngineering Solutions, Inc.

Weather partly cloudy

FIELD SAMPLING LOG SHEET Well Development

WELL ID MW-3	**Date of Sampling** 10/30/2017
Site Location 4331 San Pablo Ave, Emeryville, CA	
Project # 17EMV05 / Task # 2.000	Title Former FS
OTG Project Manager Xingang Tong	Phone # 510-465-8982
Client: City of Emeryville	
Client Contact:	Phone #
Laboratory:	
Well Diameter: (2") 3" 4" 6" other	Well Material: (sch 40 PVC) sch 80 PVC, other
Is well secured? (Yes) no Bolt size:	Type of lock/Lock # Master Locks
Comments:	
Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other	
Pump lines: (NA), New, Dedicated, Cleaned	Bailer line: NA, (New), Dedicated, Cleaned
Method of cleaning pump: (NA), Alconox, Liqui-nox, Tap water DI rinse, other	
Method of cleaning Bailer: (NA), Alconox, Liqui-nox, Tap water DI rinse, other	
Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other	
pH meter serial # / Spec cond meter serial #	Calibrated at:
Water level meter:	P.I.D. reading: ppm at well head
Total Depth: 19.73' to TOC	Horiba U-52 multi-Parameter rented from Pine-Env
Water level before purging (TOC, ft) 12.20 at 10:48	Water level prior to sampling
19.73(TD) - 12.20(TOC) = 7.53 (ft of water) x k (0.163) = 1.23 gallons/CV x 10 (# of CV) = 12.3 gallons	
k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well)	

FIELD WATER QUALITY PARAMETERS

Time	Discharge (gallons)	pH	Temp (°C)	Specific conductivity (mS or ~~uS~~)	Turbidity (NTU)	D.O. (mg/L)	ORP ~~Color~~ mV	Comments
12:12	0.5	7.31	18.74	1.51	96	9.10	35	clear, petro odor
12:24	.5	7.44	18.53	2.26	>1000	5.67	28	brown "
12:35	10	7.38	18.52	1.67	>1000	6.32	70	water level at 16.90' TOC
12:50	15	7.34	18.55	1.10	>1000	6.68	82	brown, petro odor
13:04	20	7.35	18.53	0.86	>1000	7.65	101	water level at 17.2' TOC
13:45								water level at 12.65' TOC
13:50	23	7.35	18.51	0.76	>1000	7.69	121	brown, petro odor
14:38								water level at 12.41' TOC
14:52	23.5	7.23	18.80	0.759	567	8.29	130	slight milk, no odor
								No free product

Total discharge: 23.5 gallons	Casing volumes removed: 19.6
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site	
Date/time sampled:	QA: duplicate, Eq. blank, trip blank, other
Sample containers filled:	
Recorded by: Xingang Tong Signature:	Date: 10/30/17

OTG EnviroEngineering Solutions, Inc.

Weather Sunny

FIELD SAMPLING LOG SHEET

WELL ID MW-2	**Date of Sampling** 11/30/2017
Site Location 4331 San Pablo Ave, Emeryville	
Project # 17EMV05 Task # 2300	Title San Pablo Ave FS
OTG Project Manager Xinggang Tong	Phone # 510-465-8982
Client: City of Emeryville	
Client Contact:	Phone #
Laboratory: Enthalpy Analytical	
Well Diameter (2") 3" 4" 6" other	Well Material: sch 40 PVC, sch 80 PVC, other
Is well secured? (Yes) no Bolt size:	Type of lock/Lock # Master Lock
Comments:	
Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other	
Pump lines: NA, (New), Dedicated, Cleaned	Bailer line: NA, New, Dedicated, Cleaned
Method of cleaning pump: NA, Alconox, Liqui-nox, Tap water DI rinse, other	
Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other	
Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other	
pH meter serial # / Spec cond meter serial # / Calibrated at:	
Water level meter:	P.I.D. reading: ppm at well head
Horiba U-52 multi Parameter rented from Pine Environmental	
Water level before purging (TOC, ft) 10.38 at 7:55	Water level prior to sampling 11.18' at 9:12
(TD) - (TOC) = (ft of water) x k ( ) = gallons/CV x 3 (# of CV) = gallons	
k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) Low-stress purging	

FIELD WATER QUALITY PARAMETERS

Time	Liters Discharge (~~gallons~~)	pH	Temp (°C)	Specific conductivity (mS or ~~uS~~)	Turbidity (NTU)	D.O. (mg/L)	ORP ~~Color~~ mV	Comments
8:45	3.0	5.98	17.13	0.716	29.6	1.65	83	clear
8:50	5.0	6.55	16.49	0.703	9.2	1.79	67	"
8:52	6.0	6.99	16.49	0.705	8.0	1.41	49	"
8:55	7.5	7.07	1652	0.725	8.1	0.86	-13	"
8:57	8.5	6.89	1685	0.687	6.5	087	20	"
9:00	10.0	687	16.97	0.677	6.1	0.51	35	"
9:02	10.0	6.86	17.1	0.668	5.0	0.62	51	"
9:04	12.0	6.85	17.11	0.665	4.5	0.56	55	"
9:10	15.0	6.87	17.14	0.662	4.2	0.55	54	"
9:12	Sampling							

Total discharge: ~~gallons~~ 15 liters	Casing volumes removed:
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site	
Date/time sampled: 11/30/17 at 9:12	QA: duplicate, Eq. blank, trip blank, other
Sample containers filled: 6 40-ml Vials with HCl, 2 500-ml amber glass bottles	
boiled water out of end of sampling; no sheen, no free product, faint petro odor	
Recorded by: Xinggang Tong Signature:	Date: 11/30/17

OTG EnviroEngineering Solutions, Inc.

Weather sunny

FIELD SAMPLING LOG SHEET

WELL ID MW-3	**Date of Sampling** 11/30/17
Site Location 4331 San Pablo Ave, Emeryville	
Project # 17EMV05 Task # 2300	Title San Pablo Ave FS
OTG Project Manager Xinggang Tang	Phone # 510-465-8982
Client: City of Emeryville	
Client Contact:	Phone #
Laboratory: Enthalpy Analytical	
Well Diameter: (2") 3" 4" 6" other	Well Material: sch 40 PVC, sch 80 PVC, other
Is well secured? (Yes) no Bolt size:	Type of lock/Lock # Master Lock
Comments:	
Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, (Peristaltic pump), Grundfos pump, Other	
Pump lines: NA, (New), Dedicated, Cleaned	Bailer line: NA, New, Dedicated, Cleaned
Method of cleaning pump: NA, Alconox, Liqui-nox, Tap water DI rinse, other	
Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other	
Sampling method: PE/PVC disp bailer, Teflon bailer, (Peristaltic pump), other	
pH meter serial #	Spec cond meter serial # / Calibrated at:
Water level meter:	P.I.D. reading: ppm at well head
Horiba U-52 multiparameter rented from Pine Environmental	
Water level before purging (TOC, ft) 10.92 at 7:57	Water level prior to sampling 12.16 at 10:04
(TD) - (TOC) = (ft of water) x k ( ) = gallons/CV x 3 (# of CV) = gallons	
k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well)	Low-stress purging

FIELD WATER QUALITY PARAMETERS

Time	Liters Discharge (~~gallons~~)	pH	Temp (°C)	Specific conductivity (mS or ~~uS~~)	Turbidity (NTU)	D.O. (mg/L)	ORP ~~Color~~ mV	Comments
9:45	1.0	8.12	19.31	1.30	8.0	0.55	104	clear
9:47	2.0	7.37	19.36	1.32	6.5	0.22	102	"
9:50	3.0	7.23	19.39	1.32	6.9	0.14	83	"
9:52	4.0	7.16	19.40	1.30	6.5	0.08	69	"
9:54	5.0	7.14	19.39	1.27	6.4	0.06	64	"
9:56	6.0	7.12	19.38	1.23	5.9	0.02	61	"
9:58	7.0	7.12	19.34	1.18	4.7	0.01	59	"
10:00	8.0	7.11	19.32	1.17	4.9	0.00	55	"
10:05	collect samples							

Total discharge: ~~gallons~~ 8 liters	Casing volumes removed:
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site	
Date/time sampled: 11/30/17 at 10:05	QA: duplicate, Eq. blank, trip blank, other
Sample containers filled: 6 40-ml Vials w/HCl, 2 500-ml amber, 2 1-l amber, 1 plastic w/HNO3	
bailer water out for Oxam; no sheen, no product, but faint Petro odor	
Recorded by: Xinggang Tang Signature:	Date: 11/30/17

APPENDIX D

Well Survey Results

PLS Surveys Inc.

4331 SAN PABLO AVE.
EMERYVILLE CA

10-19-2017

GLOBAL_ID	FIELD_PT_NAME	FIELD_PT_CLASS	XY_SURVEY_DATE	LATITUDE	LONGITUDE	XY_METHOD	XY_DATUM	XY_ACC_VAL	XY_SURVEY_ORG	GPS_EQUIP_TYPE	XY_SURVEY_DESC
T0600101848	MW-2	MW	10/19/2017	37.83323682	-122.2810973	CGPS	NAD83	1	PLS Surveys Inc.	LGS15	#11
T0600101848	MW-3	MW	10/19/2017	37.83318558	-122.2811679	CGPS	NAD83	1	PLS Surveys Inc.	LGS15	#13

PLS Surveys Inc.

4331 SAN PABLO AVE.
EMERYVILLE, CA

10-19-2017

GLOBAL_ID	FIELD_PT_NAME	ELEV_SURVEY_DATE	ELEVATION	ELEV_METHOD	ELEV_DATUM	ELEV_ACC_VAL	ELEV_SURVEY_ORG	RISER_HT	ELEV_DESC	EFF_DATE
T0600101848	MW2	10/19/2017	51.84	TRIG	88	3	PLS Surveys Inc.		#11	
T0600101848	MW3	10/19/2017	52.19	TRIG	88	3	PLS Surveys Inc.		#13	

APPENDIX E

Laboratory Analytical Reports

ENTHALPY

ANALYTICAL

Enthalpy Analytical

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

Laboratory Job Number 293362
ANALYTICAL REPORT

OTG Enviroengineering Solutions, Inc
7700 Edgewater Drive
Oakland, CA 94621

Project : 17EMV05.2000
Location : 4331 San Pablo
Level : II

Sample ID	Lab ID
MW-2-4	293362-001
MW-2-9.5	293362-002
MW-2-13	293362-003
MW-2-20	293362-004
SB-5-4.5	293362-005
SB-5-10	293362-006
SB-4-4.5	293362-007
SB-4-8	293362-008
SB-4-11	293362-009
SB-3-4.5	293362-010
SB-3-8.5	293362-011
SB-3-13	293362-012

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 NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 10/18/2017

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

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**293362**
Client:	**OTG Enviroengineering Solutions, Inc**
Project:	**17EMV05.2000**
Location:	**4331 San Pablo**
Request Date:	**10/11/17**
Samples Received:	**10/11/17**

This data package contains sample and QC results for twelve soil samples, requested for the above referenced project on 10/11/17. The samples were received cold and intact. This report was revised and reissued on 10/19/17 to include revised client sample IDs.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
No 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):
No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
High surrogate recovery was observed for nitrobenzene-d5 in SB-3-8.5 (lab # 293362-011); no target analytes were detected in the sample. SB-3-8.5 (lab # 293362-011) and SB-3-13 (lab # 293362-012) were diluted due to high non-target analytes. SB-3-4.5 (lab # 293362-010) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 293362

Project No.: 17EMV05.2000
Project Name: 4331 San Pablo
Project P.O.:
Turnaround Time: Standard

Sampler: Xinggang Tong
Report To: Xinggang Tong
Company: OTG EnviroEngineering Solutions
Telephone: 510-465-8982
Fax: xtong.otg@gmail.com

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analysis: EPA 8260B for VOCs (including MTBE & naphthalene)	EPA 8015B for TPH-gas, TPH-diesel & mo	EPA 8270 for PAHs only	EPA 6010 for LUFT 5 metals (Cd, Cr, Pb, Ni & Zn)
	MW-2-4	10/10/17, 9:02	✓			1				✓	X	X		
	MW-2-9.5	10/10/17, 9:15	✓			1				✓	X	X		
	MW-2-13	10/10/17, 9:25	✓			1				✓	X	X		
	MW-2-20	10/10/17, 9:40	✓			1				✓	X	X		
	SB-5-4.5	10/10/17, 13:45	✓			1				✓	X	X		
	~~SB-5-9.5~~	~~13:53~~	✓			1				✓	X	X		
	SB-5-10	14:10	✓			1				✓	X	X		
	SB-4-4.5	14:25	✓			1				✓	X	X		
	SB-4-8	14:32	✓			1				✓	X	X		
	SB-4-11	14:45	✓			1				✓	X	X		

Notes:
please provide edf file for GeoTracker upload
Global ID: T0600101848

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:
SIGNATURE — 10/11/17, 11:30 DATE / TIME
DATE / TIME
DATE / TIME

RECEIVED BY:
Pat Kamp — 10/11/17 11:30 DATE / TIME
LP — 10-11-17 1135 DATE / TIME
DATE / TIME

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 293362

Project No.: 17EMV05.2000
Project Name: 4331 San Pablo
Project P.O.:
Turnaround Time: Standard

Sampler: Xinggang Tong
Report To: Xinggang Tong
Company: OTG EnviroEngineering Solutions
Telephone: 510-465-8982
~~Fax~~ email: xtong.otg@gmail.com

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analysis: EPA 8260B for VOCs (including MTBE & naphthalene)	EPA 8015B for TPH-gas, TPH-diesel & mo	EPA 8270 for PAHs only (EPA 8270-SIM)	EPA 6010 for LUFT 5 metals (Cd, Cr, Pb, Ni, & Zn)
	SB-3-4.5	10/10/17, 14:55	✓			1				✓	X	X	X	X
	SB-3-8.5	15:05	✓			1				✓	X	X	X	X
	SB-3-13	15:15	✓			1				✓	X	X	X	X
	~~SB-3-15~~	~~15:25~~	✓			1				✓				

Notes:
Please provide edf file for GeoTracker upload
Global ID: T0600101848

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:
SIGNATURE — 10/11/17 11:30 DATE / TIME
DATE / TIME
DATE / TIME

RECEIVED BY:
Pat Hamp — 10/11/17 11:30 DATE / TIME
LP — 10-11-17 1135 DATE / TIME
DATE / TIME

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 293362 Date Received 10-11-17 Number of coolers 1
Client OTG Project 4331 San Pablo

Date Opened 10-11-17 By (print) bp (sign) bp
Date Logged in 1 By (print) TY (sign) TY
Date Labelled 1 By (print) TY (sign) TY

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) 3.6

☐ 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 ____

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 293362

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

Client : OTG Enviroengineering Solutions, Inc
Project : 17EMV05.2000
Location : 4331 San Pablo

Client Sample ID : MW-2-4 Laboratory Sample ID : 293362-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	26	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	160		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C

Client Sample ID : MW-2-9.5 Laboratory Sample ID : 293362-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	56		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : MW-2-13 Laboratory Sample ID : 293362-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	6.5	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	210		1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	6.5		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Acetone	28		20	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B
Ethylbenzene	38		5.0	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B
Isopropylbenzene	11		5.0	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B
Propylbenzene	46		5.0	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B
sec-Butylbenzene	6.3		5.0	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B
n-Butylbenzene	14		5.0	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B
Naphthalene	7.5		5.0	ug/Kg	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : MW-2-20 Laboratory Sample ID : 293362-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : SB-5-4.5 Laboratory Sample ID : 293362-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	16	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	86		9.9	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Acetone	33		20	ug/Kg	As Recd	0.9960	EPA 8260B	EPA 5030B

Client Sample ID : SB-5-10 Laboratory Sample ID : 293362-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	120	Y	9.9	mg/Kg	As Recd	50.00	EPA 8015B	EPA 5030B
Diesel C10-C24	51	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	8.4		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Acetone	120		110	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
Ethylbenzene	600		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
m,p-Xylenes	42		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
Isopropylbenzene	440		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
Propylbenzene	1,200		49	ug/Kg	As Recd	9.804	EPA 8260B	EPA 5030B
1,3,5-Trimethylbenzene	250		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
1,2,4-Trimethylbenzene	350		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
sec-Butylbenzene	170		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	99		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
n-Butylbenzene	350		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B
Naphthalene	150		26	ug/Kg	As Recd	5.263	EPA 8260B	EPA 5030B

Client Sample ID : SB-4-4.5 Laboratory Sample ID : 293362-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	11	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	92		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C

Client Sample ID : SB-4-8 Laboratory Sample ID : 293362-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	8.0		0.96	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	42		1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Acetone	64		19	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
2-Butanone	24		9.7	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
Benzene	190		25	ug/Kg	As Recd	4.950	EPA 8260B	EPA 5030B
Ethylbenzene	38		4.9	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
Isopropylbenzene	47		4.9	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
Propylbenzene	160		4.9	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
sec-Butylbenzene	14		4.9	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	8.1		4.9	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
n-Butylbenzene	37		4.9	ug/Kg	As Recd	0.9709	EPA 8260B	EPA 5030B
Naphthalene	310		25	ug/Kg	As Recd	4.950	EPA 8260B	EPA 5030B

Client Sample ID : SB-4-11 Laboratory Sample ID : 293362-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	240	Y	9.9	mg/Kg	As Recd	50.00	EPA 8015B	EPA 5030B
Diesel C10-C24	800		10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Isopropylbenzene	720		48	ug/Kg	As Recd	9.615	EPA 8260B	EPA 5030B
Propylbenzene	3,400		250	ug/Kg	As Recd	49.56	EPA 8260B	EPA 5030B
sec-Butylbenzene	330		48	ug/Kg	As Recd	9.615	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	140		48	ug/Kg	As Recd	9.615	EPA 8260B	EPA 5030B
n-Butylbenzene	760		48	ug/Kg	As Recd	9.615	EPA 8260B	EPA 5030B

Client Sample ID : SB-3-4.5 Laboratory Sample ID : 293362-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	18	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	130		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Cadmium	0.30		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	42		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	95		1.1	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-3-8.5 Laboratory Sample ID : 293362-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	18		0.96	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	160		1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Acetone	70		20	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
2-Butanone	26		9.9	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
Benzene	50		12	ug/Kg	As Recd	2.404	EPA 8260B	EPA 5030B
Ethylbenzene	14		5.0	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
m,p-Xylenes	5.5		5.0	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
Isopropylbenzene	100		5.0	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
Propylbenzene	370		12	ug/Kg	As Recd	2.404	EPA 8260B	EPA 5030B
sec-Butylbenzene	27		5.0	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	13		5.0	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
n-Butylbenzene	61		5.0	ug/Kg	As Recd	0.9921	EPA 8260B	EPA 5030B
Chromium	31		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	7.7		0.98	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	30		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	38		0.98	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : SB-3-13 Laboratory Sample ID : 293362-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	130	Y	10	mg/Kg	As Recd	50.00	EPA 8015B	EPA 5030B
Diesel C10-C24	700		10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Acetone	200		49	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
2-Butanone	68		25	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
Benzene	110		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
Ethylbenzene	41		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
m,p-Xylenes	13		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
Isopropylbenzene	140		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
Propylbenzene	1,500		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B
1,3,5-Trimethylbenzene	16		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
sec-Butylbenzene	58		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	36		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
n-Butylbenzene	140		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
Naphthalene	34		12	ug/Kg	As Recd	2.451	EPA 8260B	EPA 5030B
Chromium	34		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	5.8		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	43		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	46		1.1	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Volatile Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	252593
Units:	mg/Kg	Sampled:	10/10/17
Basis:	as received	Received:	10/11/17

Field ID: MW-2-4 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/11/17
Lab ID: 293362-001

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	65-136

Field ID: MW-2-9.5 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/11/17
Lab ID: 293362-002

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	76	65-136

Field ID: MW-2-13 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-003

Analyte	Result	RL
Gasoline C7-C12	6.5 Y	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

Field ID: MW-2-20 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-004

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	65-136

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

Total Volatile Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	252593
Units:	mg/Kg	Sampled:	10/10/17
Basis:	as received	Received:	10/11/17

Field ID: SB-5-4.5 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-005

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	70	65-136

Field ID: SB-5-10 | Diln Fac: 50.00
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-006

Analyte	Result	RL
Gasoline C7-C12	120 Y	9.9

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	65-136

Field ID: SB-4-4.5 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-007

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	65-136

Field ID: SB-4-8 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-008

Analyte	Result	RL
Gasoline C7-C12	8.0	0.96

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

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

ENTHALPY ANALYTICAL

Total Volatile Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	252593
Units:	mg/Kg	Sampled:	10/10/17
Basis:	as received	Received:	10/11/17

Field ID: SB-4-11 | Diln Fac: 50.00
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-009

Analyte	Result	RL
Gasoline C7-C12	240 Y	9.9

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	65-136

Field ID: SB-3-4.5 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-010

Analyte	Result	RL
Gasoline C7-C12	ND	0.92

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

Field ID: SB-3-8.5 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-011

Analyte	Result	RL
Gasoline C7-C12	18	0.96

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	65-136

Field ID: SB-3-13 | Diln Fac: 50.00
Type: SAMPLE | Analyzed: 10/12/17
Lab ID: 293362-012

Analyte	Result	RL
Gasoline C7-C12	130 Y	10

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	65-136

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

ENTHALPY ANALYTICAL

Total Volatile Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	252593
Units:	mg/Kg	Sampled:	10/10/17
Basis:	as received	Received:	10/11/17

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904613	Analyzed:	10/11/17

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

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

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC904610	Batch#:	252593
Matrix:	Soil	Analyzed:	10/11/17
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9140	91	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Field ID:	MW-2-20	Diln Fac:	1.000
MSS Lab ID:	293362-004	Batch#:	252593
Matrix:	Soil	Sampled:	10/10/17
Units:	mg/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/13/17

Type: MS Lab ID: QC904611

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.3650	9.091	7.014	73	52-120

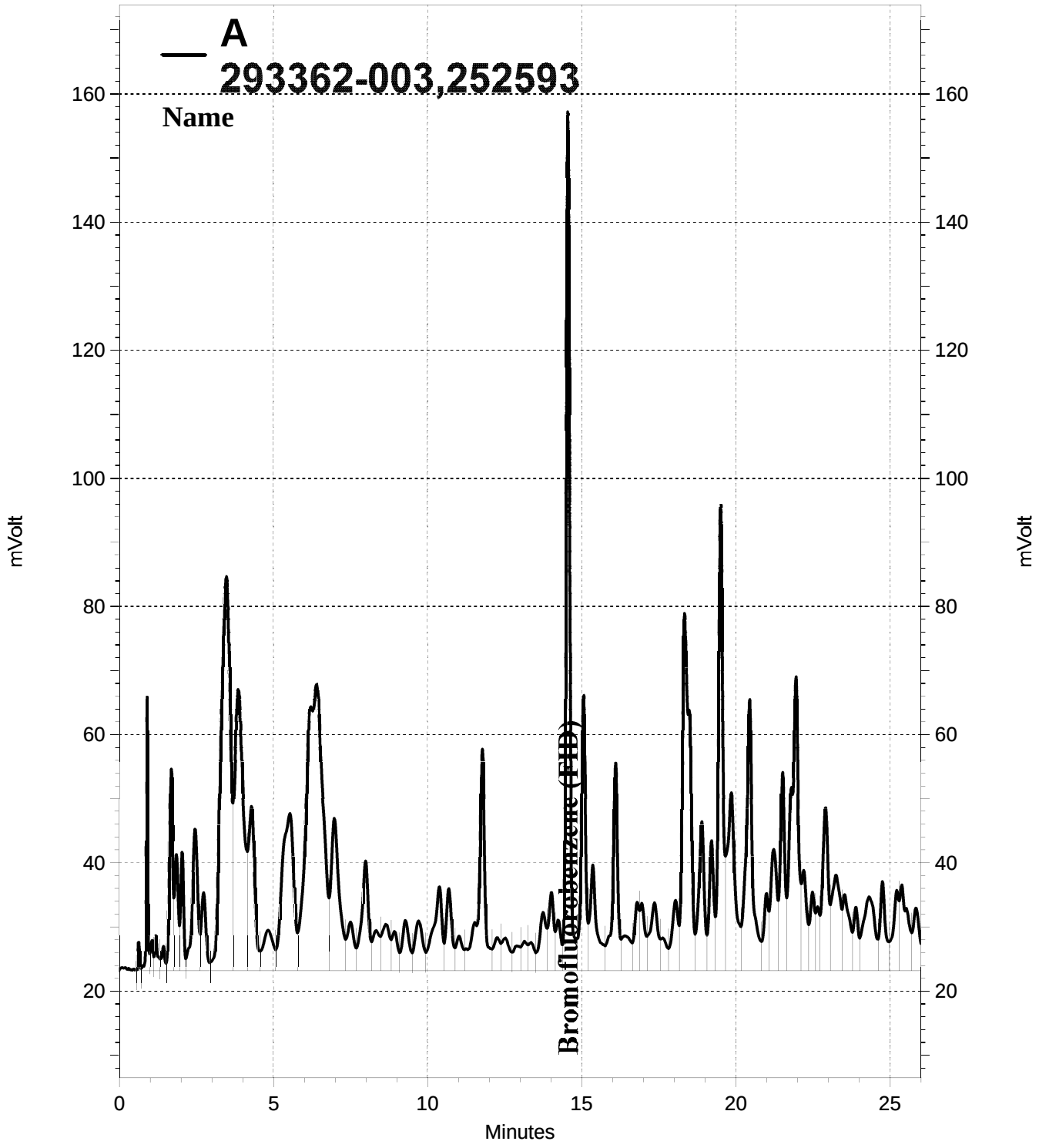
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

Type: MSD Lab ID: QC904612

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.091	7.097	74	52-120	1	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	77	65-136

RPD= Relative Percent Difference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293362-003,252593
Name
Bromofluorobenzene (FHB)
mVolt
mVolt
Minutes
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140
120
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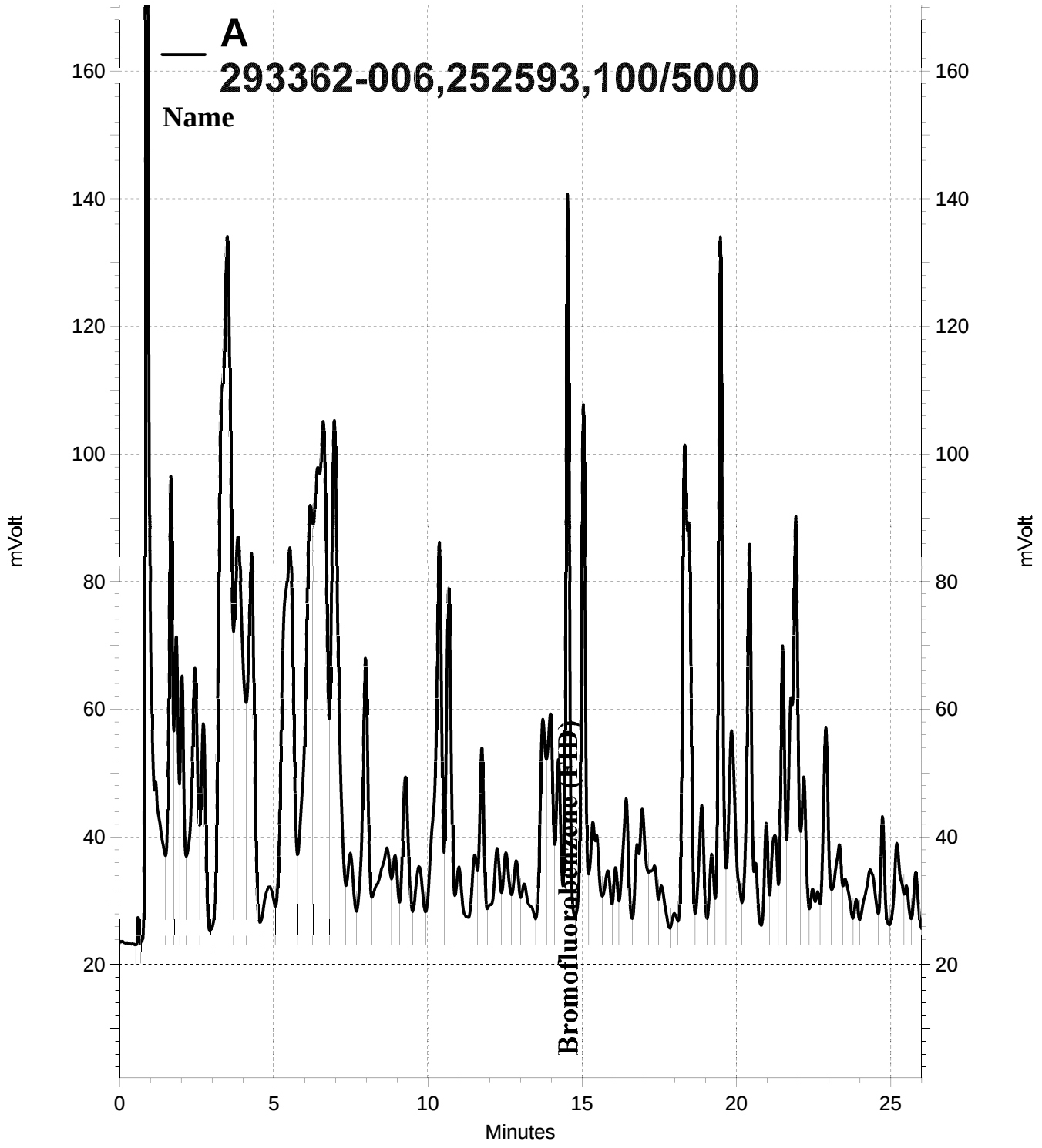
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Name
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140
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Minutes
Bromofluorobenzene (FID)
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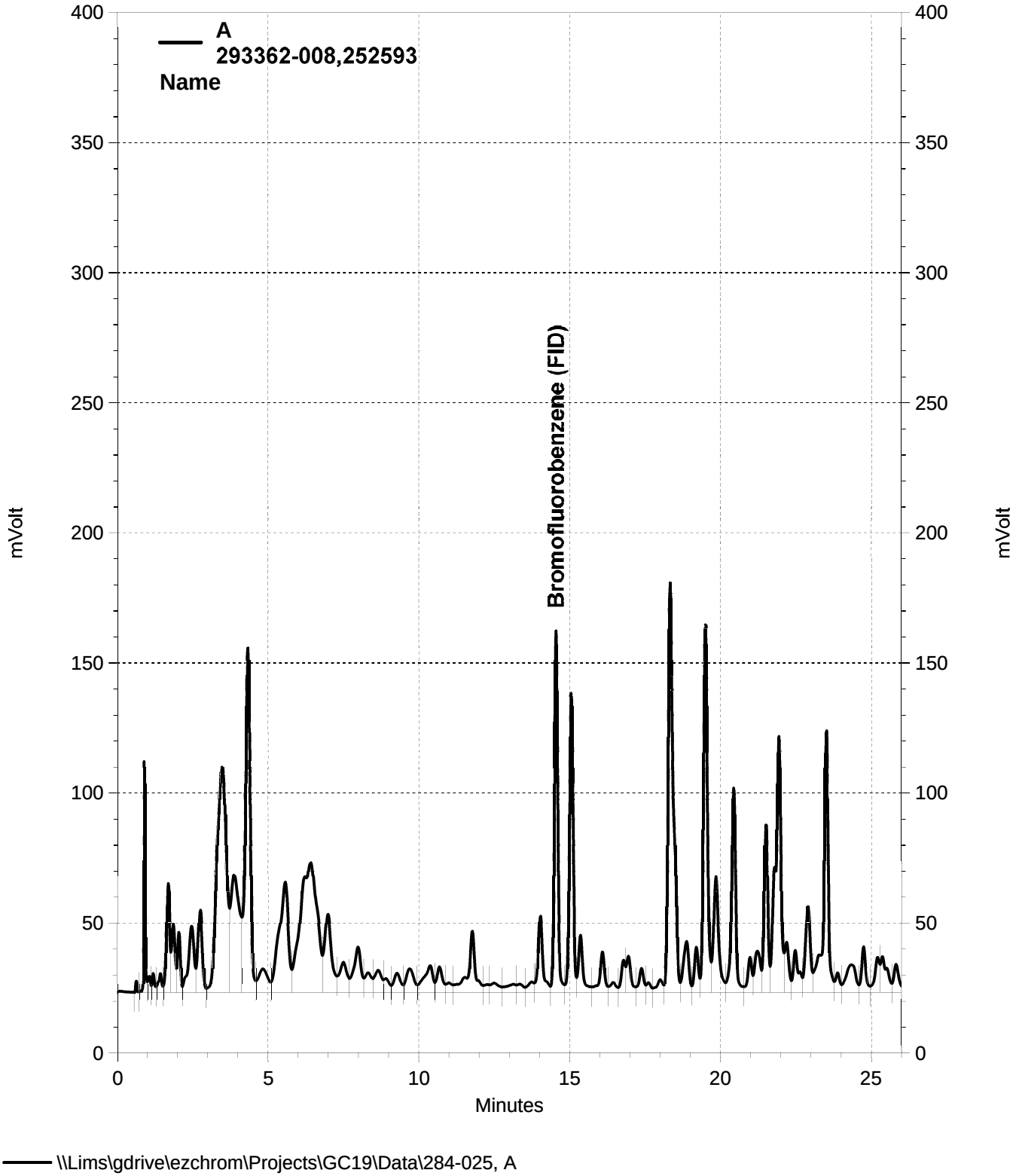
A
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Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
400
350
300
250
200
150
100
50
0
0
5
10
15
20
25
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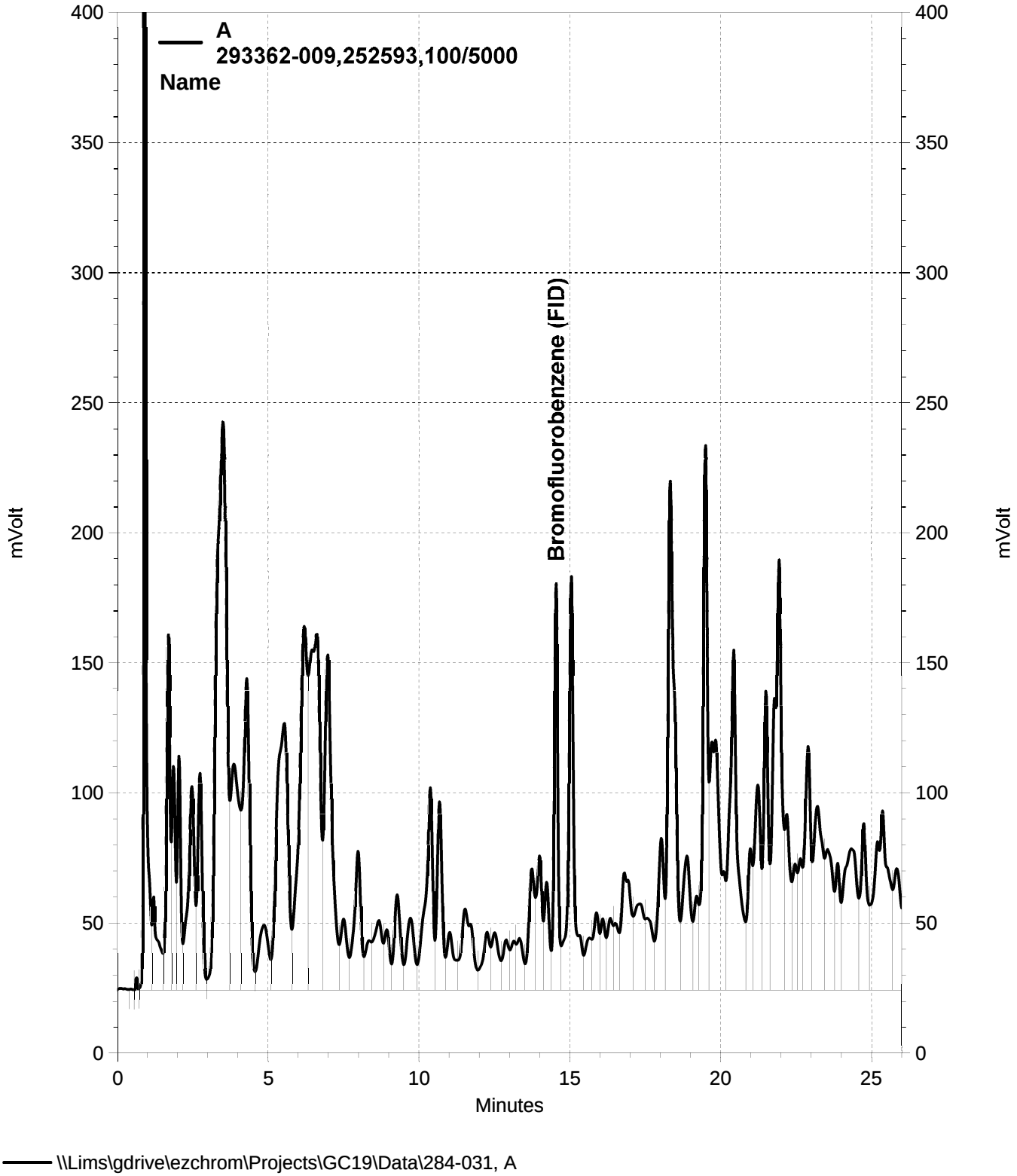

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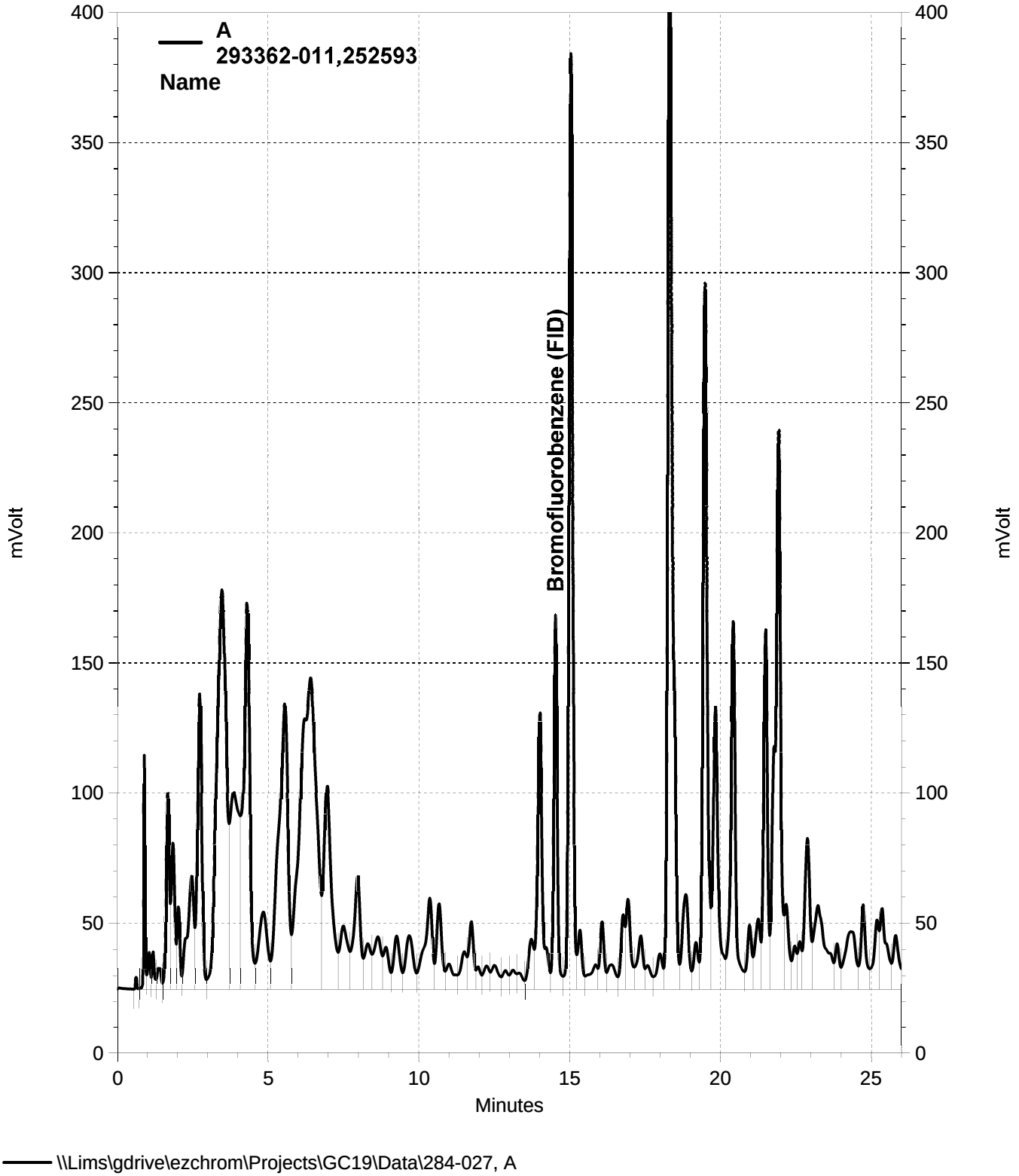
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Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
0
50
100
150
200
250
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350
400
0
5
10
15
20
25
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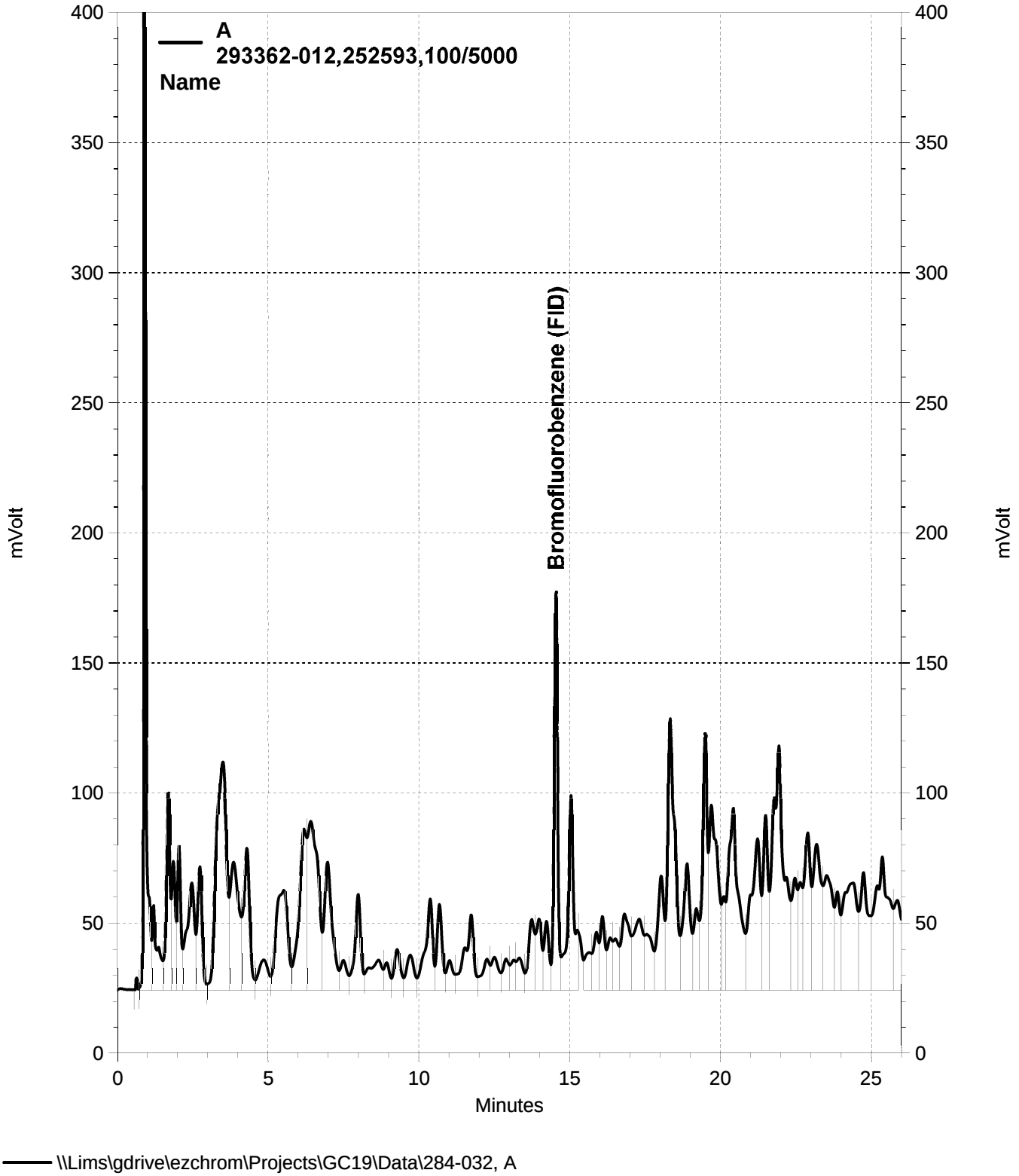
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Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
0
50
100
150
200
250
300
350
400
0
5
10
15
20
25
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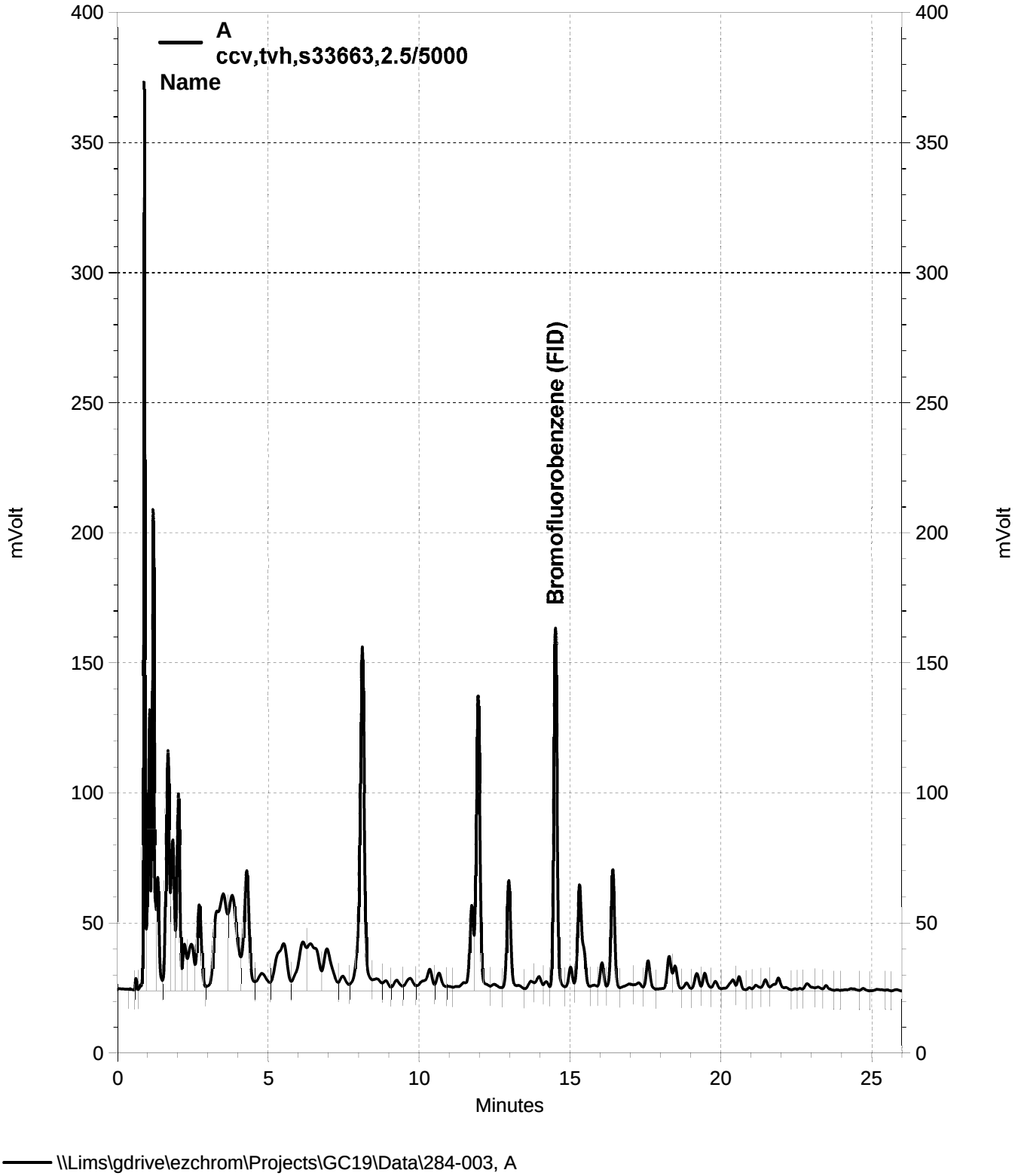
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Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
400
350
300
250
200
150
100
50
0
0
5
10
15
20
25
\\Lims\gdrive\ezchrom\Projects\GC19\Data\284-003, A

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/10/17
Units:	mg/Kg	Received:	10/11/17
Basis:	as received	Prepared:	10/13/17
Batch#:	252681		

Field ID: MW-2-4 Diln Fac: 3.000
Type: SAMPLE Analyzed: 10/16/17
Lab ID: 293362-001

Analyte	Result	RL
Diesel C10-C24	26 Y	3.0
Motor Oil C24-C36	160	15

Surrogate	%REC	Limits
o-Terphenyl	104	55-133

Field ID: MW-2-9.5 Diln Fac: 1.000
Type: SAMPLE Analyzed: 10/16/17
Lab ID: 293362-002

Analyte	Result	RL
Diesel C10-C24	14 Y	1.0
Motor Oil C24-C36	56	5.0

Surrogate	%REC	Limits
o-Terphenyl	105	55-133

Field ID: MW-2-13 Diln Fac: 1.000
Type: SAMPLE Analyzed: 10/16/17
Lab ID: 293362-003

Analyte	Result	RL
Diesel C10-C24	210	1.0
Motor Oil C24-C36	6.5	5.0

Surrogate	%REC	Limits
o-Terphenyl	123	55-133

Field ID: MW-2-20 Diln Fac: 1.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-004

Analyte	Result	RL
Diesel C10-C24	1.3 Y	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	105	55-133

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

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/10/17
Units:	mg/Kg	Received:	10/11/17
Basis:	as received	Prepared:	10/13/17
Batch#:	252681		

Field ID: SB-5-4.5 Diln Fac: 2.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-005

Analyte	Result	RL
Diesel C10-C24	16 Y	2.0
Motor Oil C24-C36	86	9.9

Surrogate	%REC	Limits
o-Terphenyl	101	55-133

Field ID: SB-5-10 Diln Fac: 1.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-006

Analyte	Result	RL
Diesel C10-C24	51 Y	1.0
Motor Oil C24-C36	8.4	5.0

Surrogate	%REC	Limits
o-Terphenyl	108	55-133

Field ID: SB-4-4.5 Diln Fac: 3.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-007

Analyte	Result	RL
Diesel C10-C24	11 Y	3.0
Motor Oil C24-C36	92	15

Surrogate	%REC	Limits
o-Terphenyl	102	55-133

Field ID: SB-4-8 Diln Fac: 1.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-008

Analyte	Result	RL
Diesel C10-C24	42	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	103	55-133

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

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/10/17
Units:	mg/Kg	Received:	10/11/17
Basis:	as received	Prepared:	10/13/17
Batch#:	252681		

Field ID: SB-4-11 Diln Fac: 10.00
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-009

Analyte	Result	RL
Diesel C10-C24	800	10
Motor Oil C24-C36	ND	50

Surrogate	%REC	Limits
o-Terphenyl	DO	55-133

Field ID: SB-3-4.5 Diln Fac: 3.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-010

Analyte	Result	RL
Diesel C10-C24	18 Y	3.0
Motor Oil C24-C36	130	15

Surrogate	%REC	Limits
o-Terphenyl	98	55-133

Field ID: SB-3-8.5 Diln Fac: 1.000
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-011

Analyte	Result	RL
Diesel C10-C24	160	1.0
Motor Oil C24-C36	12	5.0

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

Field ID: SB-3-13 Diln Fac: 10.00
Type: SAMPLE Analyzed: 10/17/17
Lab ID: 293362-012

Analyte	Result	RL
Diesel C10-C24	700	10
Motor Oil C24-C36	ND	50

Surrogate	%REC	Limits
o-Terphenyl	DO	55-133

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

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/10/17
Units:	mg/Kg	Received:	10/11/17
Basis:	as received	Prepared:	10/13/17
Batch#:	252681		

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904974	Analyzed:	10/16/17

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

Surrogate	%REC	Limits
o-Terphenyl	118	55-133

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

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC904975	Batch#:	252681
Matrix:	Soil	Prepared:	10/13/17
Units:	mg/Kg	Analyzed:	10/16/17

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	56.83	114	51-137

Surrogate	%REC	Limits
o-Terphenyl	121	55-133

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Field ID:	MW-2-9.5	Batch#:	252681
MSS Lab ID:	293362-002	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	mg/Kg	Prepared:	10/13/17
Basis:	as received	Analyzed:	10/16/17
Diln Fac:	1.000		

Type: MS Lab ID: QC904976

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	13.61	49.91	52.96	79	36-143

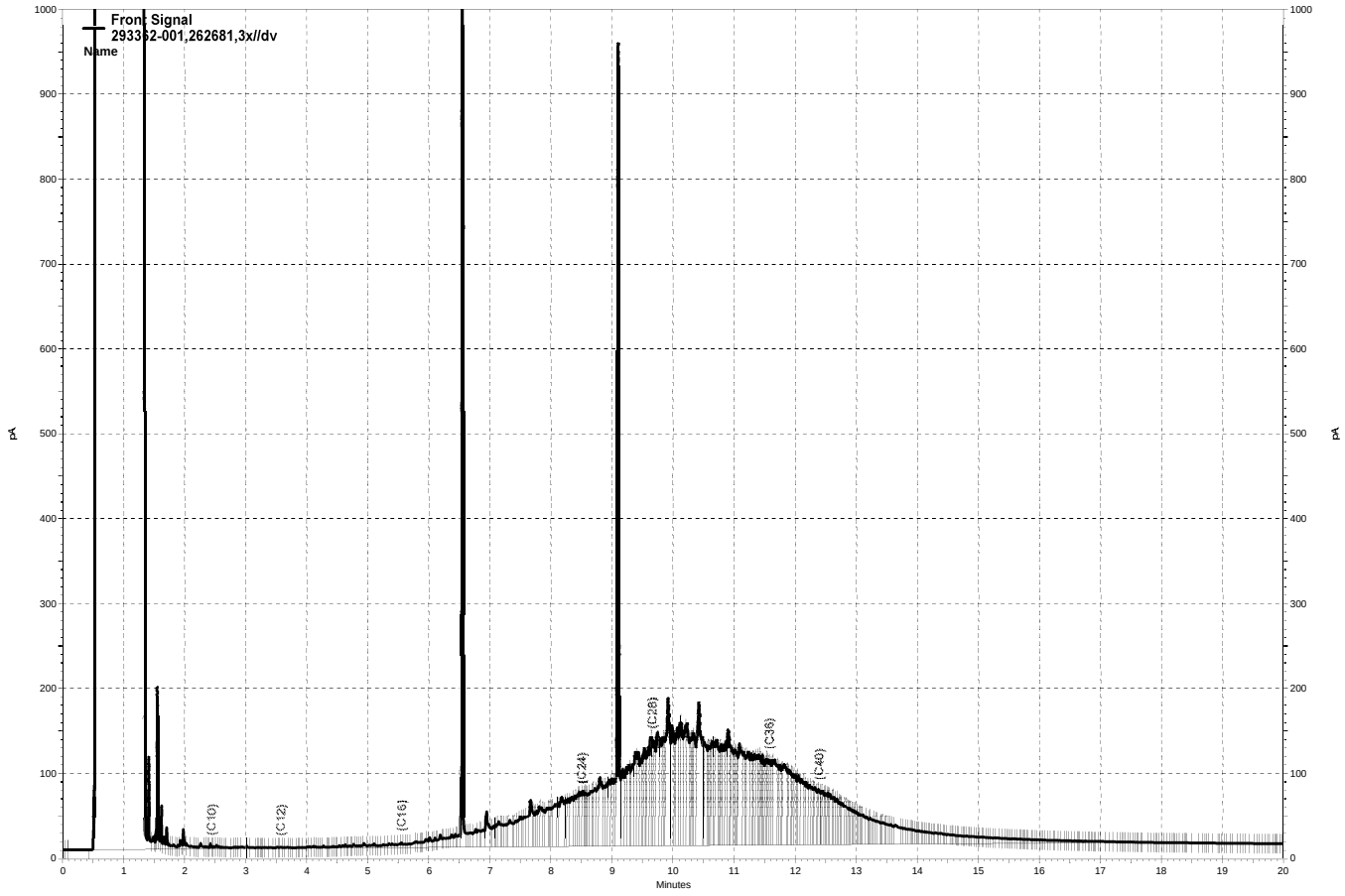
Surrogate	%REC	Limits
o-Terphenyl	104	55-133

Type: MSD Lab ID: QC904977

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.30	57.03	86	36-143	7	55

Surrogate	%REC	Limits
o-Terphenyl	110	55-133

RPD= Relative Percent Difference



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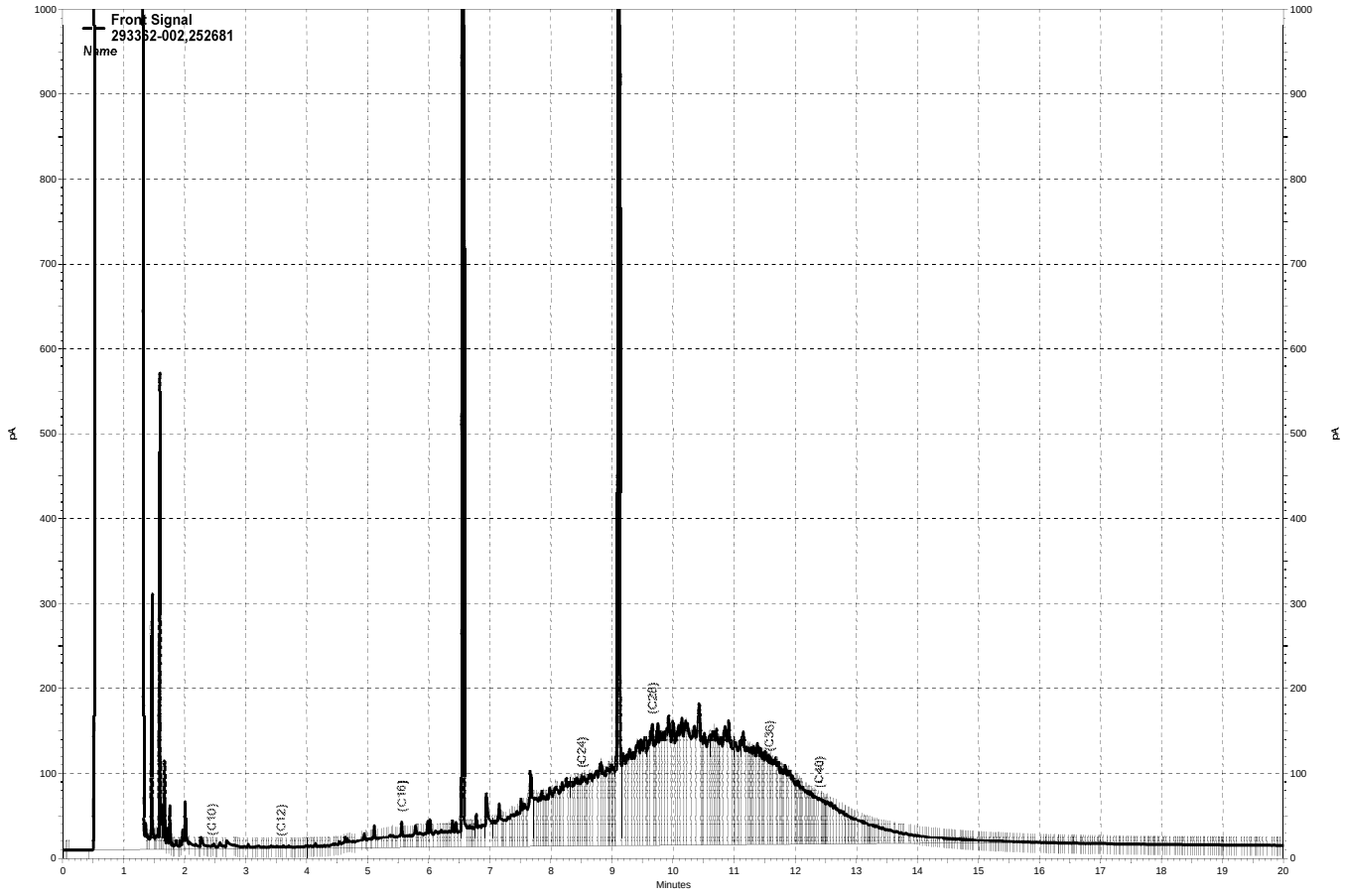

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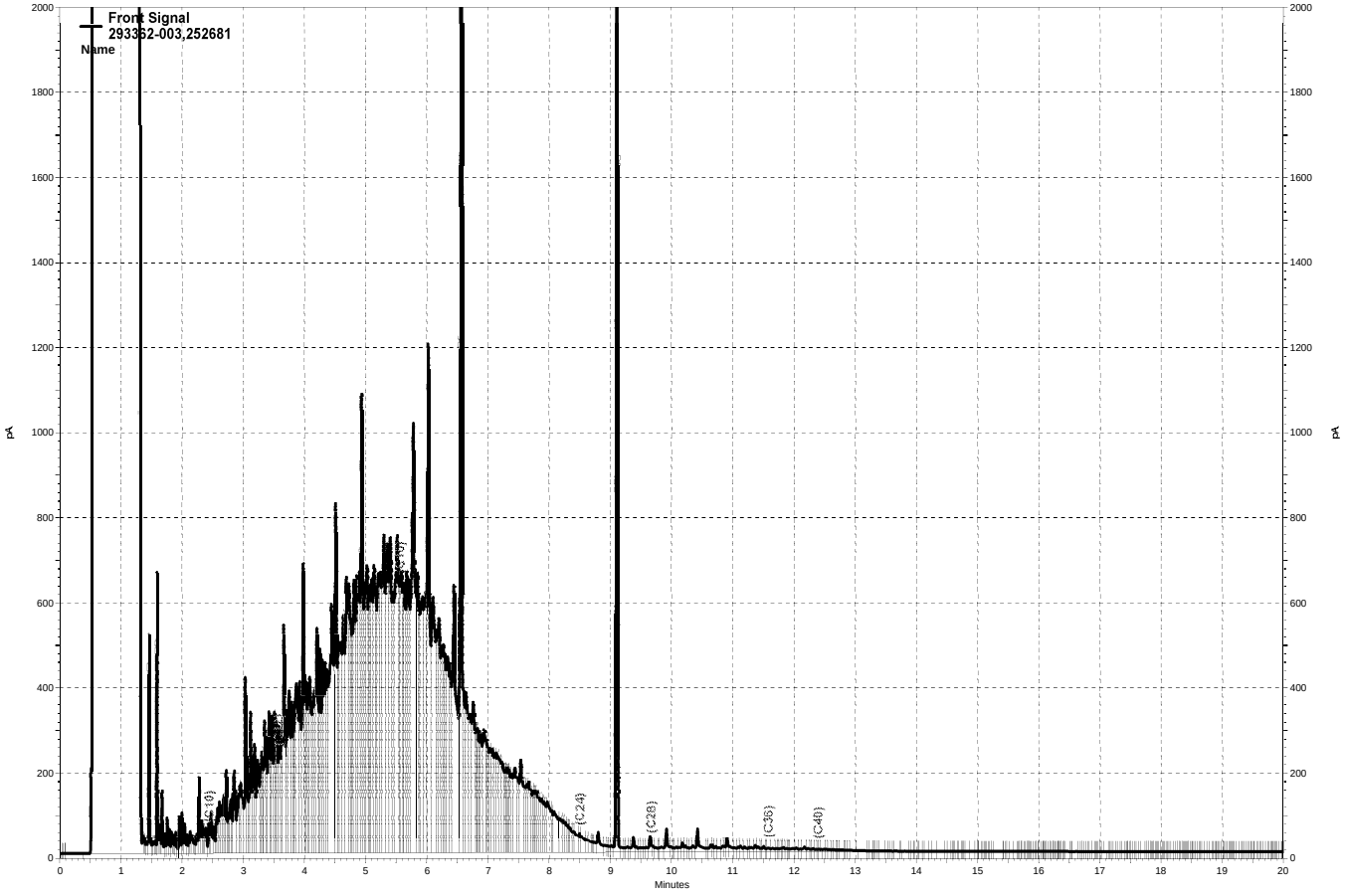

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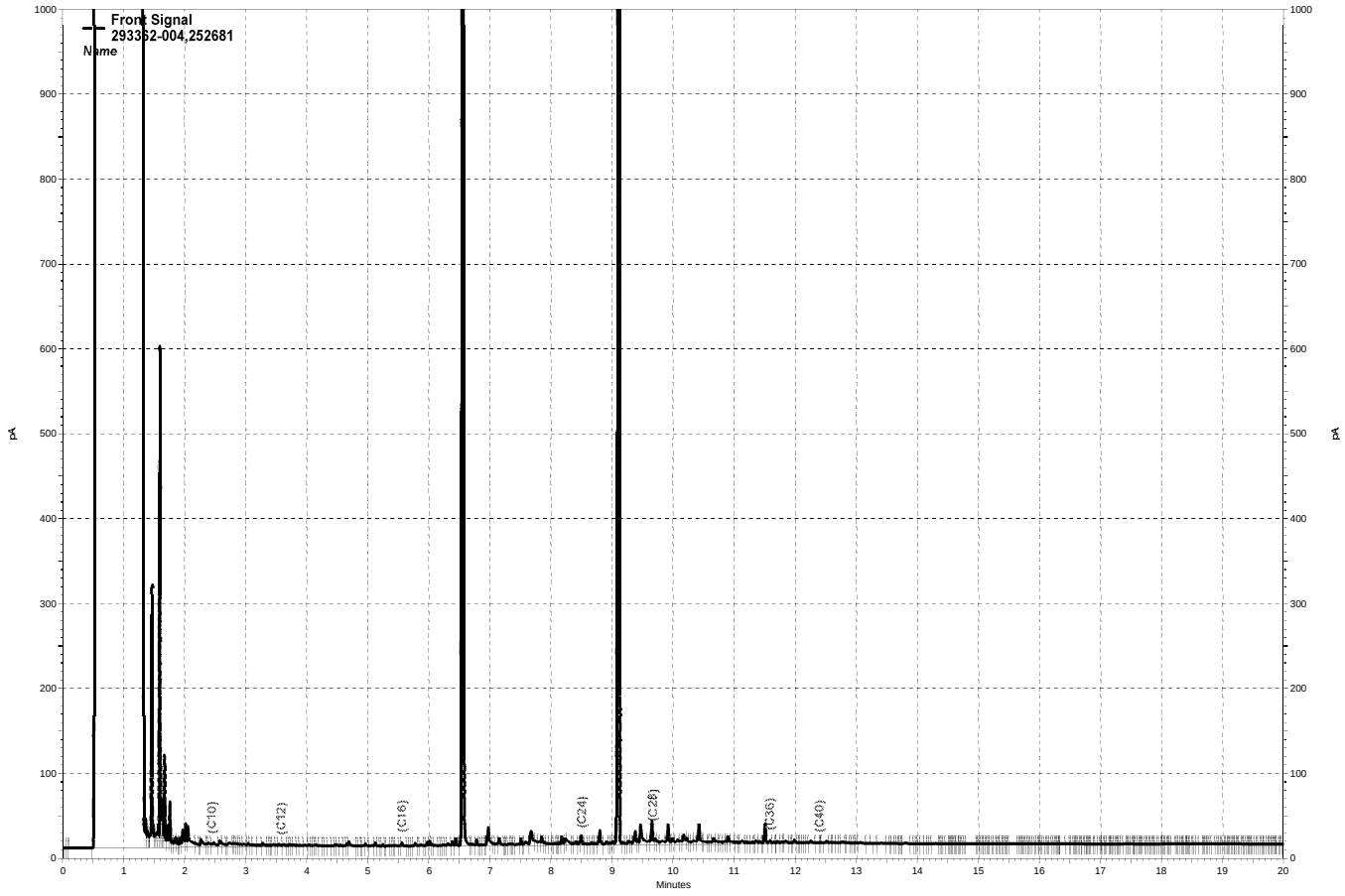

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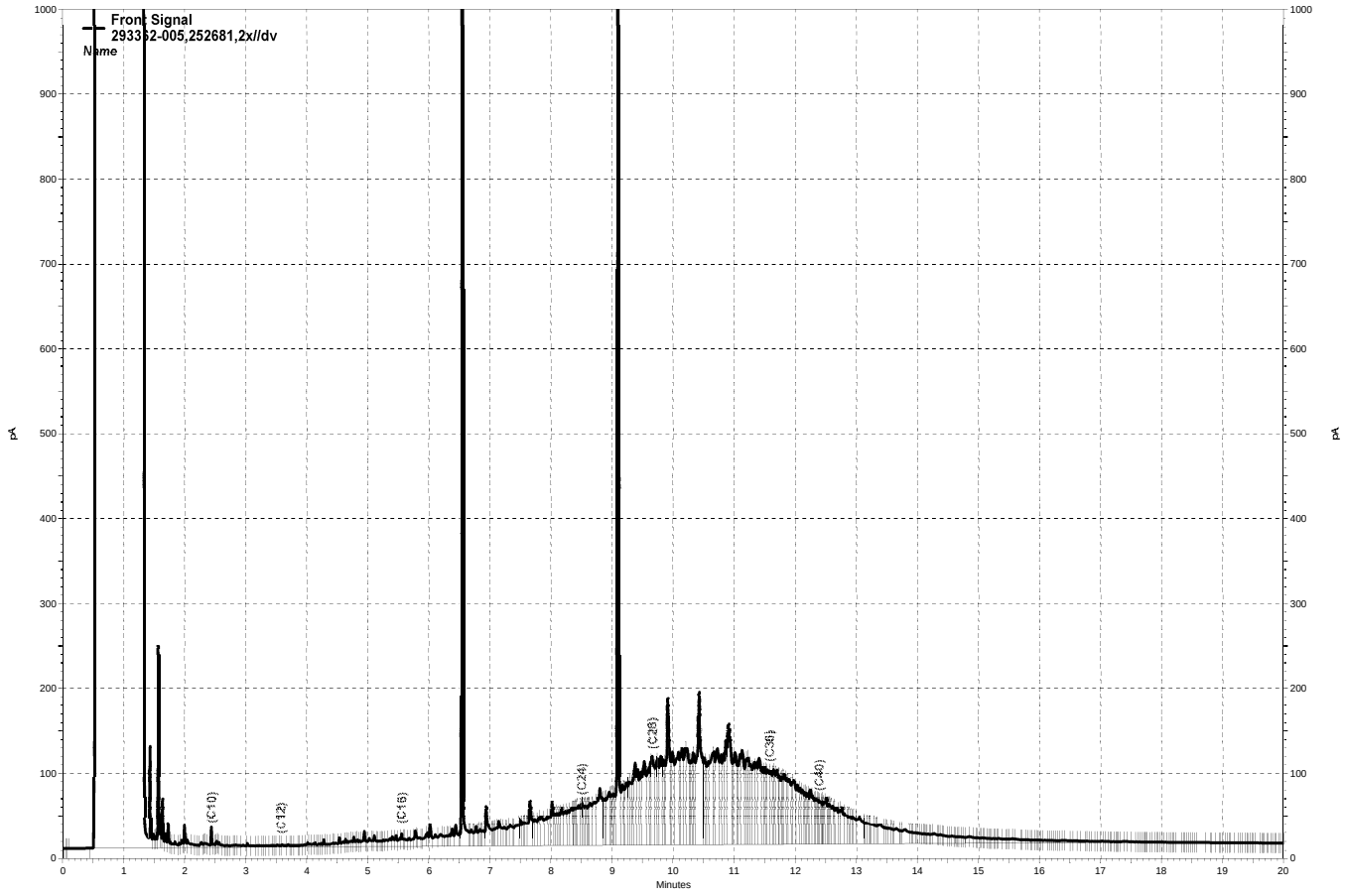

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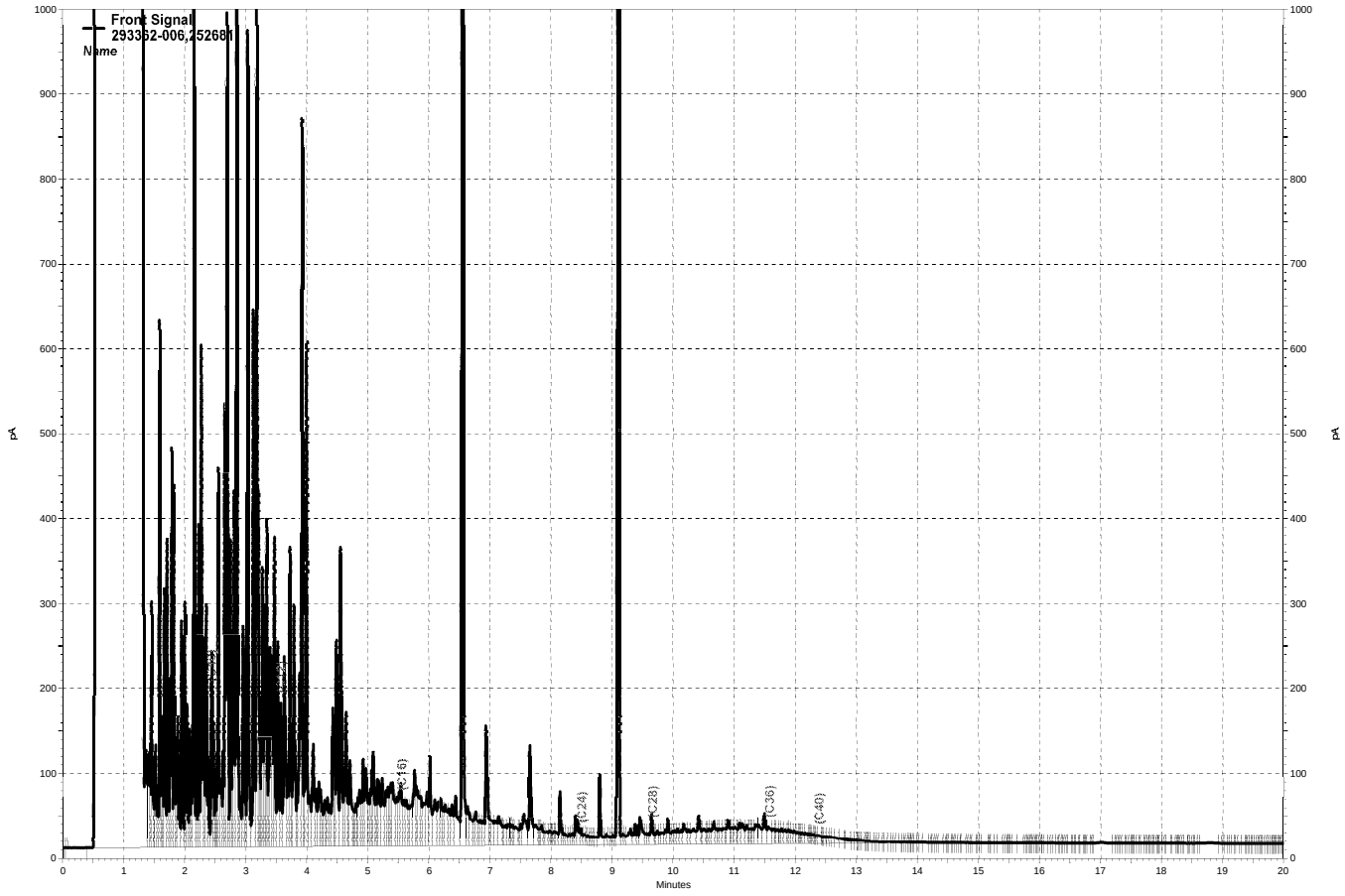

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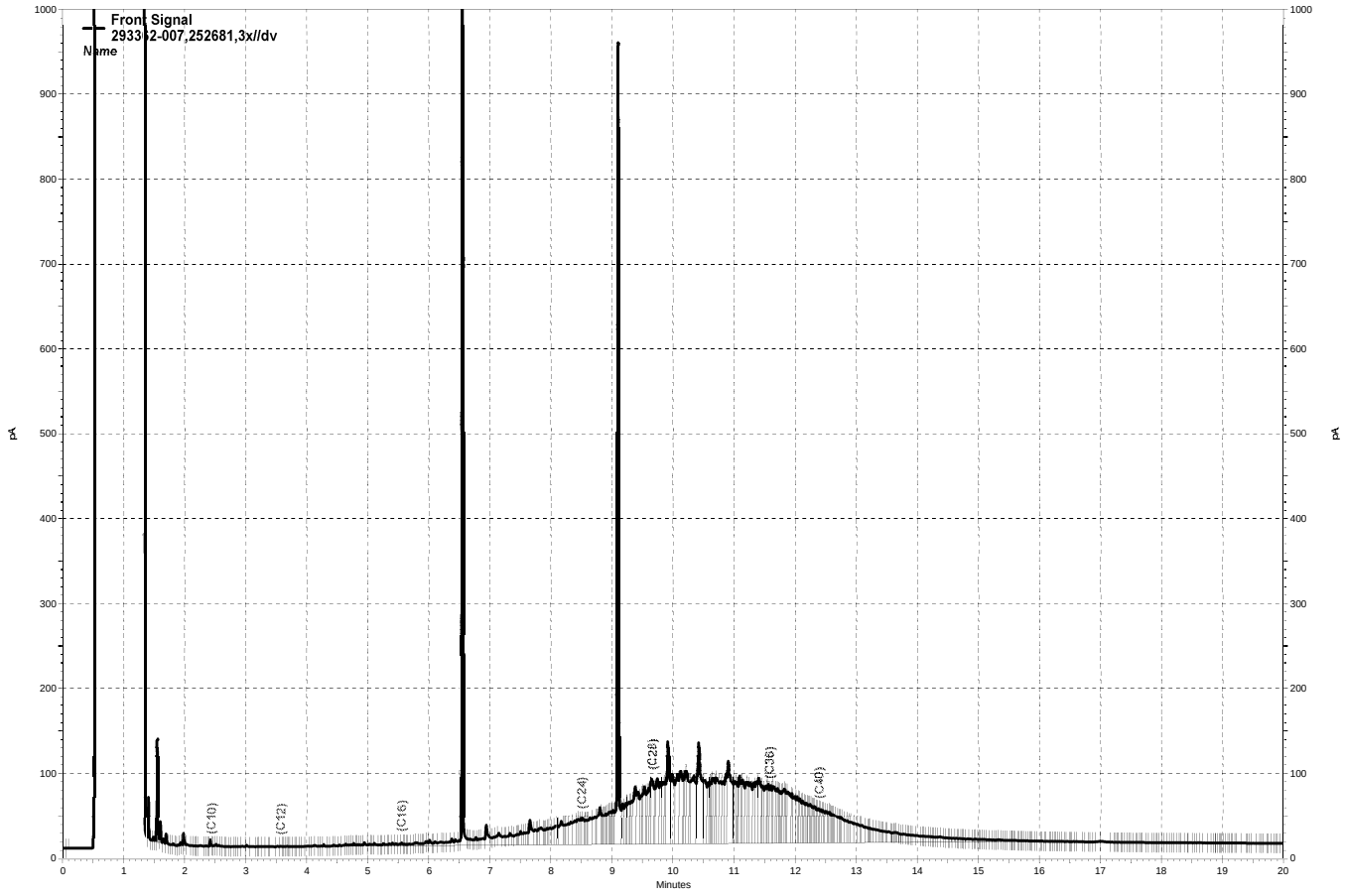

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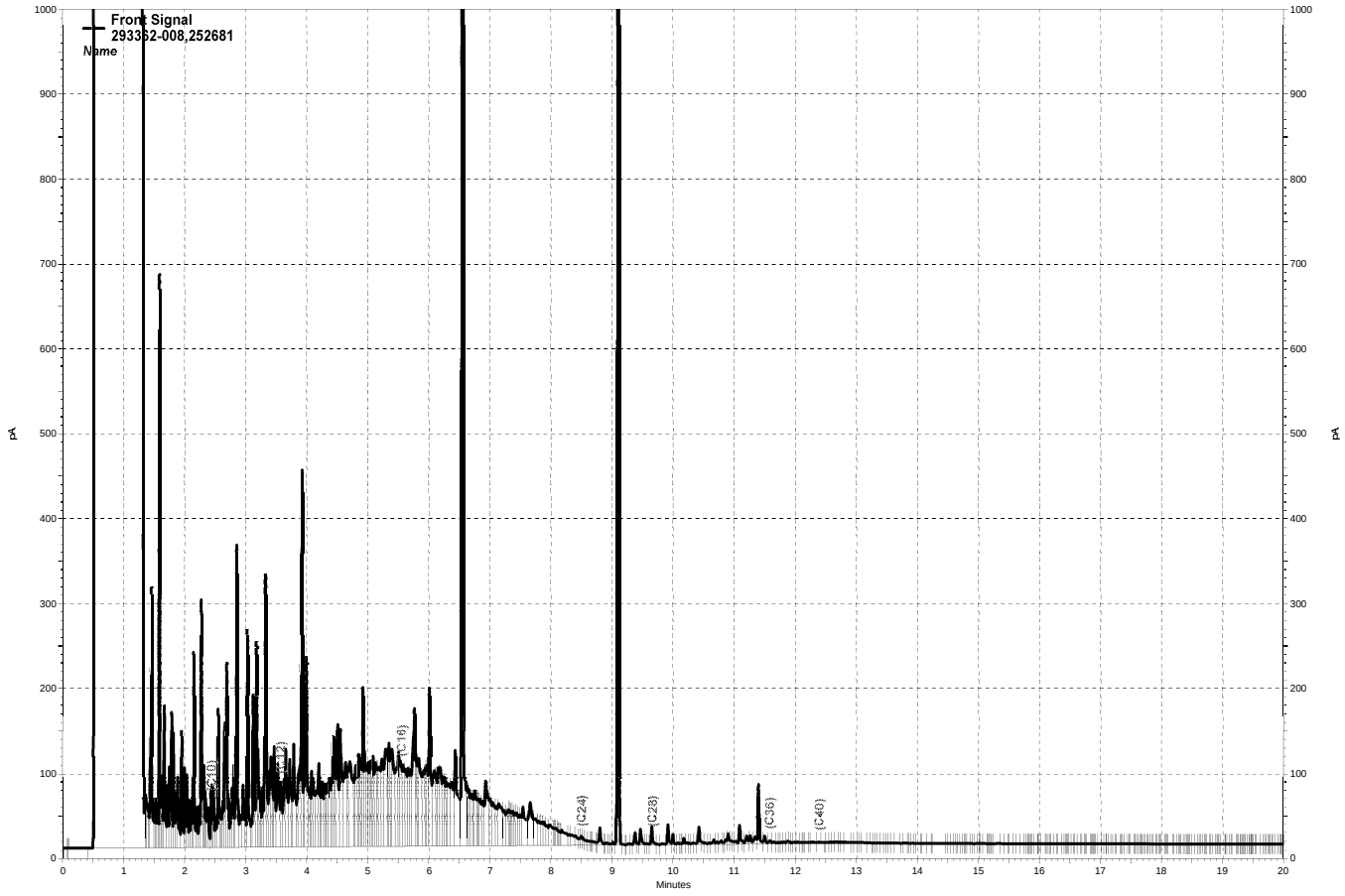

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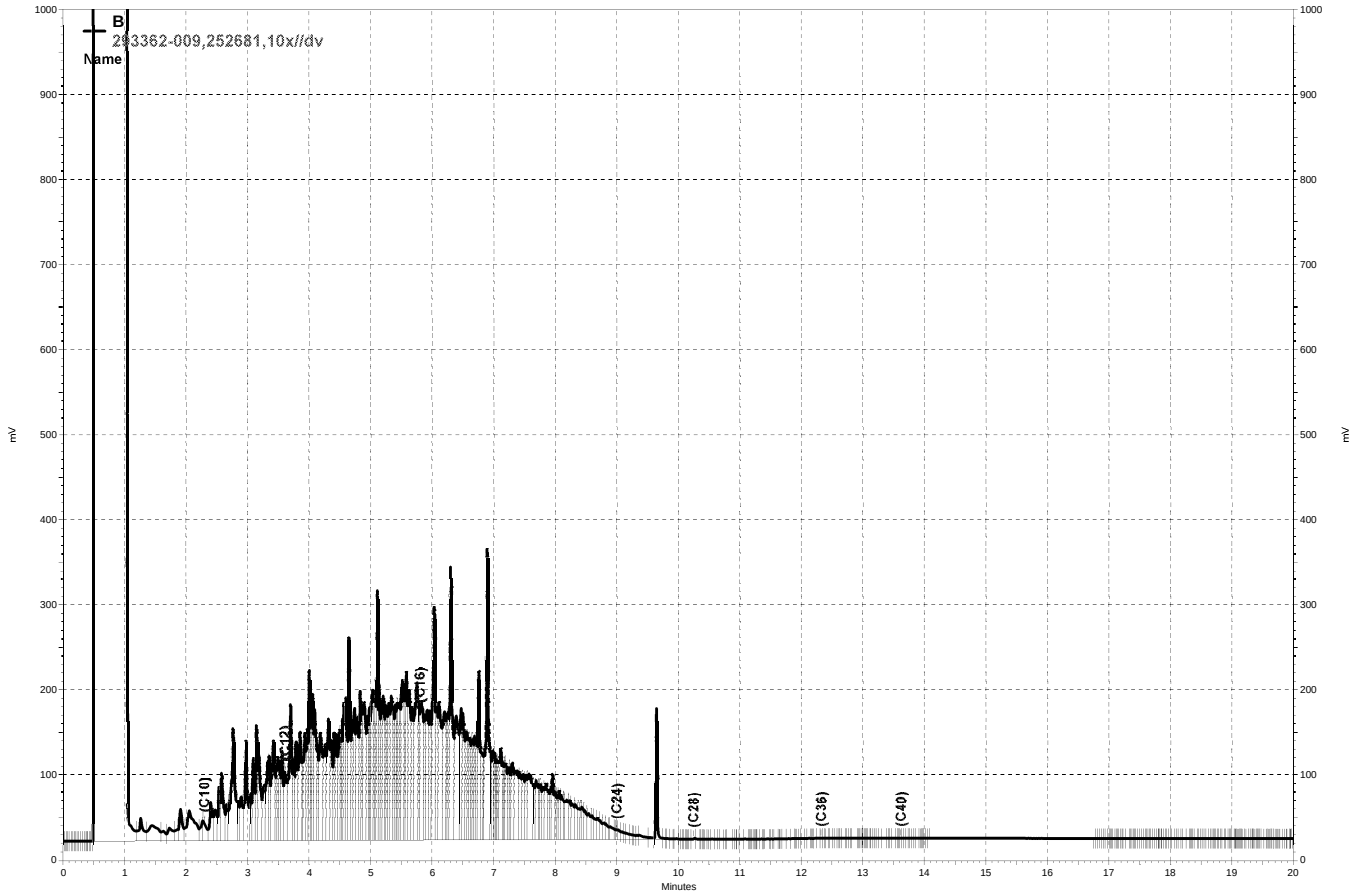

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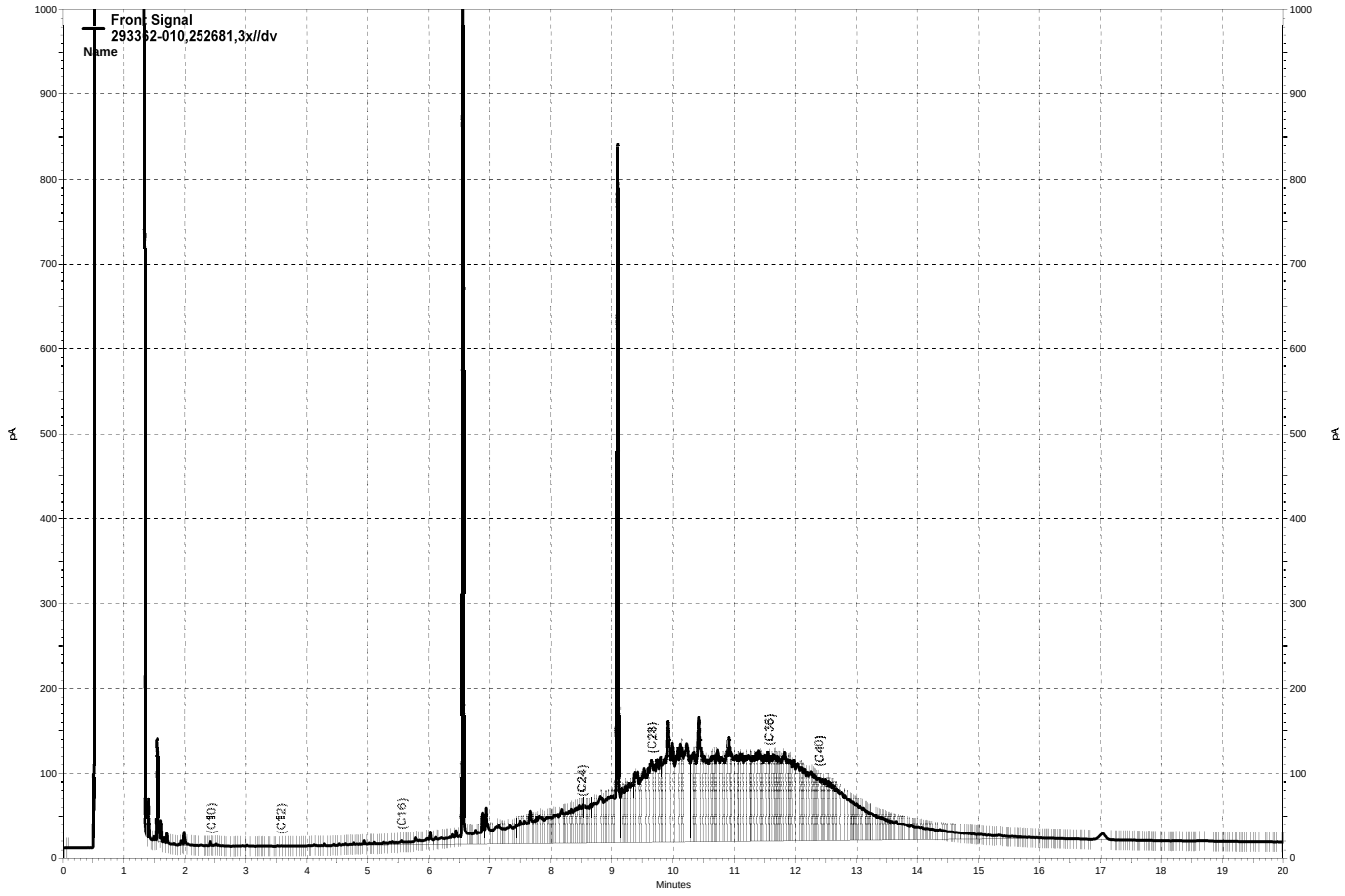

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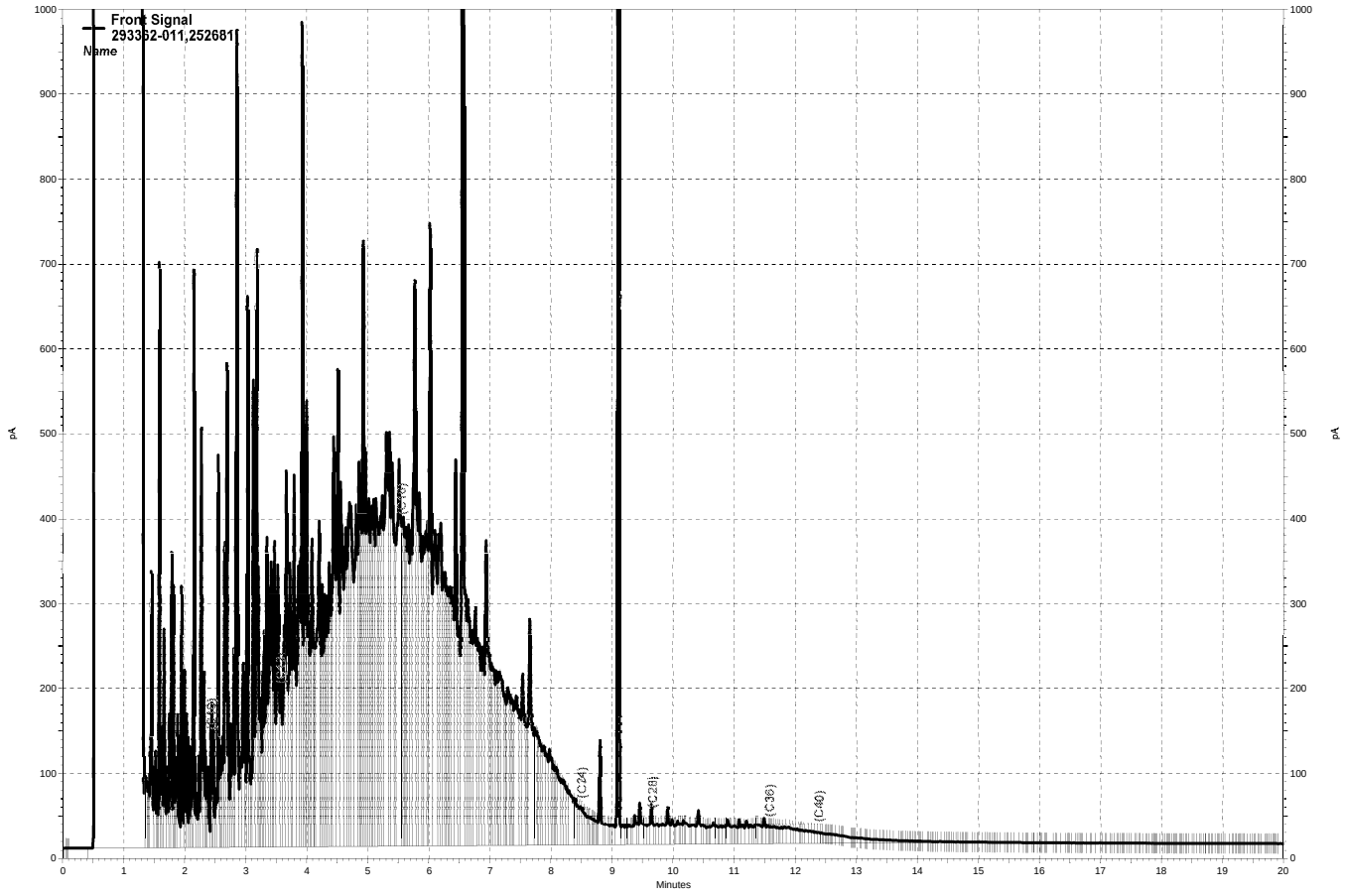

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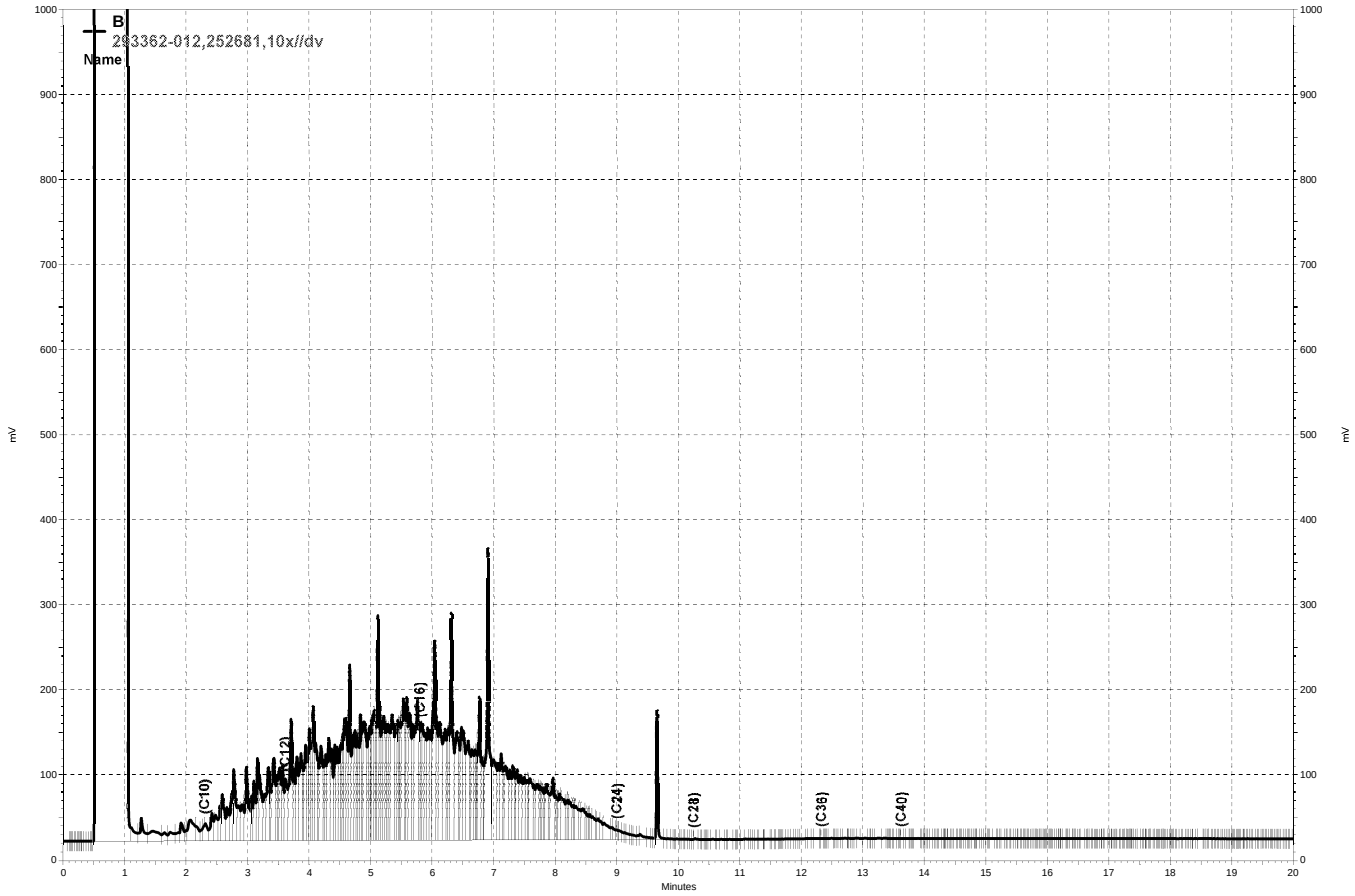

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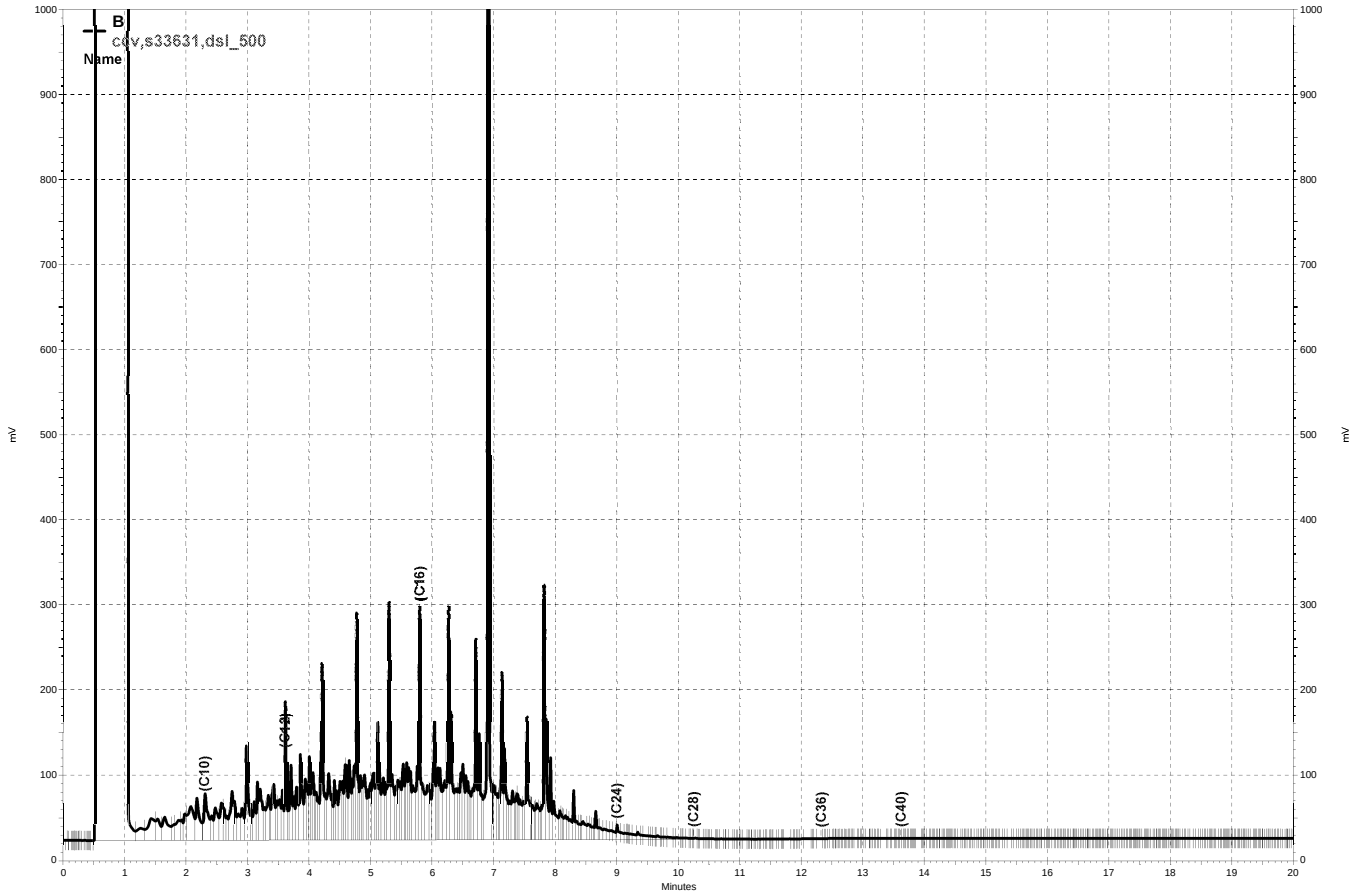

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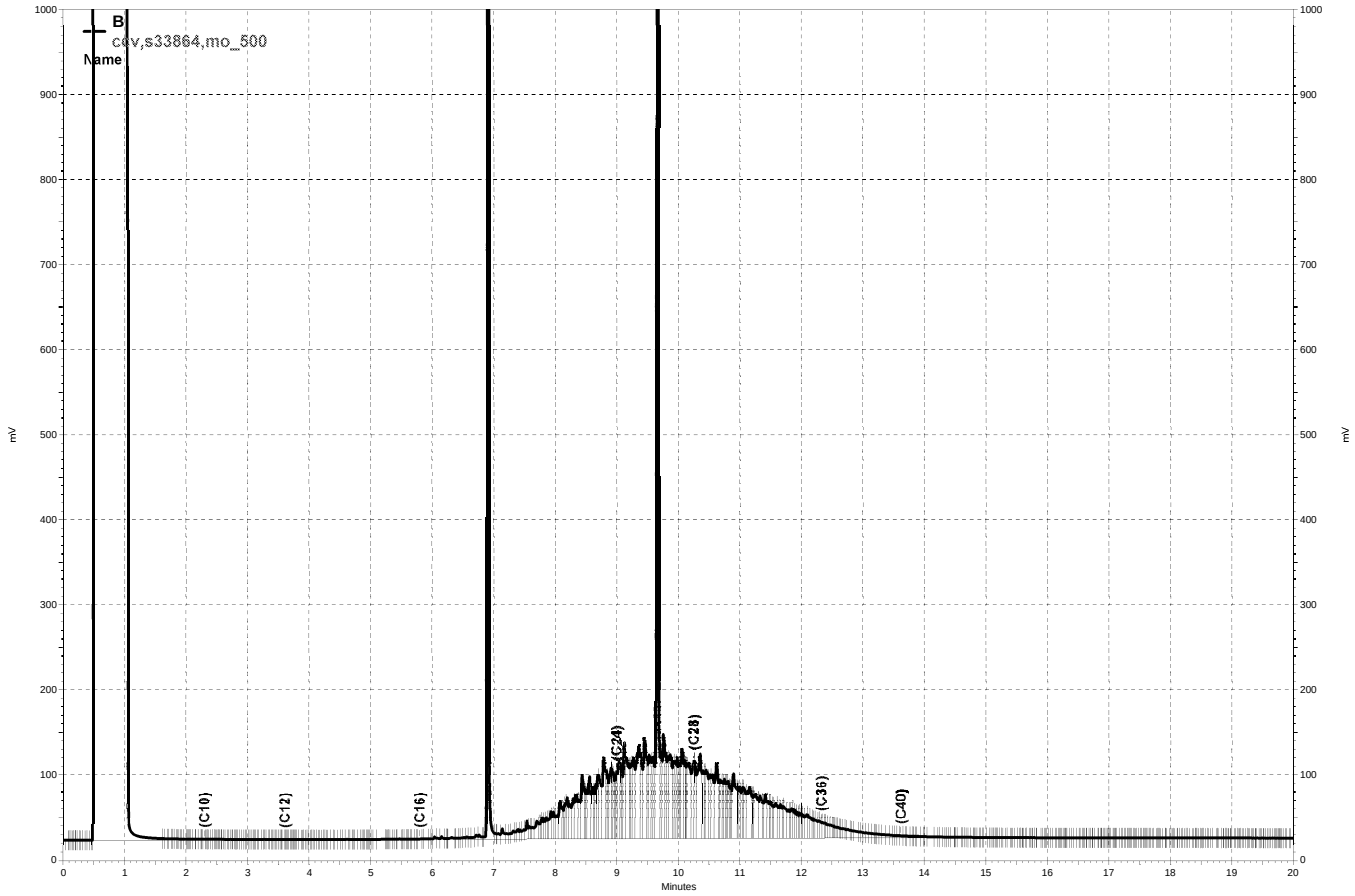

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ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-4	Diln Fac:	0.9276
Lab ID:	293362-001	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	ND	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-4	Diln Fac:	0.9276
Lab ID:	293362-001	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	103	74-149
Toluene-d8	92	80-120
Bromofluorobenzene	99	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-9.5	Diln Fac:	0.9524
Lab ID:	293362-002	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-9.5	Diln Fac:	0.9524
Lab ID:	293362-002	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	105	76-132
1,2-Dichloroethane-d4	105	74-149
Toluene-d8	90	80-120
Bromofluorobenzene	99	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-13	Diln Fac:	1.000
Lab ID:	293362-003	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	28	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
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

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-13	Diln Fac:	1.000
Lab ID:	293362-003	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	38	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	11	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	46	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	6.3	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	14	5.0
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	7.5	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-132
1,2-Dichloroethane-d4	104	74-149
Toluene-d8	91	80-120
Bromofluorobenzene	99	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-20	Diln Fac:	0.9653
Lab ID:	293362-004	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	9.7
Chloromethane	ND	9.7
Vinyl Chloride	ND	9.7
Bromomethane	ND	9.7
Chloroethane	ND	9.7
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.7
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.7
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.7
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2-20	Diln Fac:	0.9653
Lab ID:	293362-004	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	101	76-132
1,2-Dichloroethane-d4	100	74-149
Toluene-d8	92	80-120
Bromofluorobenzene	97	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-5-4.5	Diln Fac:	0.9960
Lab ID:	293362-005	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	33	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
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

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-5-4.5	Diln Fac:	0.9960
Lab ID:	293362-005	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
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
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	102	76-132
1,2-Dichloroethane-d4	97	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	97	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-5-10	Basis:	as received
Lab ID:	293362-006	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	53	5.263	252623	10/12/17
Chloromethane	ND	53	5.263	252623	10/12/17
Vinyl Chloride	ND	53	5.263	252623	10/12/17
Bromomethane	ND	53	5.263	252623	10/12/17
Chloroethane	ND	53	5.263	252623	10/12/17
Trichlorofluoromethane	ND	26	5.263	252623	10/12/17
Acetone	120	110	5.263	252623	10/12/17
Freon 113	ND	26	5.263	252623	10/12/17
1,1-Dichloroethene	ND	26	5.263	252623	10/12/17
Methylene Chloride	ND	110	5.263	252623	10/12/17
Carbon Disulfide	ND	26	5.263	252623	10/12/17
MTBE	ND	26	5.263	252623	10/12/17
trans-1,2-Dichloroethene	ND	26	5.263	252623	10/12/17
Vinyl Acetate	ND	260	5.263	252623	10/12/17
1,1-Dichloroethane	ND	26	5.263	252623	10/12/17
2-Butanone	ND	53	5.263	252623	10/12/17
cis-1,2-Dichloroethene	ND	26	5.263	252623	10/12/17
2,2-Dichloropropane	ND	26	5.263	252623	10/12/17
Chloroform	ND	26	5.263	252623	10/12/17
Bromochloromethane	ND	26	5.263	252623	10/12/17
1,1,1-Trichloroethane	ND	26	5.263	252623	10/12/17
1,1-Dichloropropene	ND	26	5.263	252623	10/12/17
Carbon Tetrachloride	ND	26	5.263	252623	10/12/17
1,2-Dichloroethane	ND	26	5.263	252623	10/12/17
Benzene	ND	26	5.263	252623	10/12/17
Trichloroethene	ND	26	5.263	252623	10/12/17
1,2-Dichloropropane	ND	26	5.263	252623	10/12/17
Bromodichloromethane	ND	26	5.263	252623	10/12/17
Dibromomethane	ND	26	5.263	252623	10/12/17
4-Methyl-2-Pentanone	ND	53	5.263	252623	10/12/17
cis-1,3-Dichloropropene	ND	26	5.263	252623	10/12/17
Toluene	ND	26	5.263	252623	10/12/17
trans-1,3-Dichloropropene	ND	26	5.263	252623	10/12/17
1,1,2-Trichloroethane	ND	26	5.263	252623	10/12/17
2-Hexanone	ND	53	5.263	252623	10/12/17
1,3-Dichloropropane	ND	26	5.263	252623	10/12/17
Tetrachloroethene	ND	26	5.263	252623	10/12/17
Dibromochloromethane	ND	26	5.263	252623	10/12/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-5-10	Basis:	as received
Lab ID:	293362-006	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	26	5.263	252623	10/12/17
Chlorobenzene	ND	26	5.263	252623	10/12/17
1,1,1,2-Tetrachloroethane	ND	26	5.263	252623	10/12/17
Ethylbenzene	600	26	5.263	252623	10/12/17
m,p-Xylenes	42	26	5.263	252623	10/12/17
o-Xylene	ND	26	5.263	252623	10/12/17
Styrene	ND	26	5.263	252623	10/12/17
Bromoform	ND	26	5.263	252623	10/12/17
Isopropylbenzene	440	26	5.263	252623	10/12/17
1,1,2,2-Tetrachloroethane	ND	26	5.263	252623	10/12/17
1,2,3-Trichloropropane	ND	26	5.263	252623	10/12/17
Propylbenzene	1,200	49	9.804	252662	10/13/17
Bromobenzene	ND	26	5.263	252623	10/12/17
1,3,5-Trimethylbenzene	250	26	5.263	252623	10/12/17
2-Chlorotoluene	ND	26	5.263	252623	10/12/17
4-Chlorotoluene	ND	26	5.263	252623	10/12/17
tert-Butylbenzene	ND	26	5.263	252623	10/12/17
1,2,4-Trimethylbenzene	350	26	5.263	252623	10/12/17
sec-Butylbenzene	170	26	5.263	252623	10/12/17
para-Isopropyl Toluene	99	26	5.263	252623	10/12/17
1,3-Dichlorobenzene	ND	26	5.263	252623	10/12/17
1,4-Dichlorobenzene	ND	26	5.263	252623	10/12/17
n-Butylbenzene	350	26	5.263	252623	10/12/17
1,2-Dichlorobenzene	ND	26	5.263	252623	10/12/17
1,2-Dibromo-3-Chloropropane	ND	26	5.263	252623	10/12/17
1,2,4-Trichlorobenzene	ND	26	5.263	252623	10/12/17
Hexachlorobutadiene	ND	26	5.263	252623	10/12/17
Naphthalene	150	26	5.263	252623	10/12/17
1,2,3-Trichlorobenzene	ND	26	5.263	252623	10/12/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	93	76-132	5.263	252623	10/12/17
1,2-Dichloroethane-d4	99	74-149	5.263	252623	10/12/17
Toluene-d8	91	80-120	5.263	252623	10/12/17
Bromofluorobenzene	97	78-134	5.263	252623	10/12/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-4-4.5	Diln Fac:	0.9709
Lab ID:	293362-007	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	9.7
Chloromethane	ND	9.7
Vinyl Chloride	ND	9.7
Bromomethane	ND	9.7
Chloroethane	ND	9.7
Trichlorofluoromethane	ND	4.9
Acetone	ND	19
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.9
MTBE	ND	4.9
trans-1,2-Dichloroethene	ND	4.9
Vinyl Acetate	ND	49
1,1-Dichloroethane	ND	4.9
2-Butanone	ND	9.7
cis-1,2-Dichloroethene	ND	4.9
2,2-Dichloropropane	ND	4.9
Chloroform	ND	4.9
Bromochloromethane	ND	4.9
1,1,1-Trichloroethane	ND	4.9
1,1-Dichloropropene	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
Dibromomethane	ND	4.9
4-Methyl-2-Pentanone	ND	9.7
cis-1,3-Dichloropropene	ND	4.9
Toluene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
2-Hexanone	ND	9.7
1,3-Dichloropropane	ND	4.9
Tetrachloroethene	ND	4.9

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-4-4.5	Diln Fac:	0.9709
Lab ID:	293362-007	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Dibromochloromethane	ND	4.9
1,2-Dibromoethane	ND	4.9
Chlorobenzene	ND	4.9
1,1,1,2-Tetrachloroethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Styrene	ND	4.9
Bromoform	ND	4.9
Isopropylbenzene	ND	4.9
1,1,2,2-Tetrachloroethane	ND	4.9
1,2,3-Trichloropropane	ND	4.9
Propylbenzene	ND	4.9
Bromobenzene	ND	4.9
1,3,5-Trimethylbenzene	ND	4.9
2-Chlorotoluene	ND	4.9
4-Chlorotoluene	ND	4.9
tert-Butylbenzene	ND	4.9
1,2,4-Trimethylbenzene	ND	4.9
sec-Butylbenzene	ND	4.9
para-Isopropyl Toluene	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
n-Butylbenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9
1,2-Dibromo-3-Chloropropane	ND	4.9
1,2,4-Trichlorobenzene	ND	4.9
Hexachlorobutadiene	ND	4.9
Naphthalene	ND	4.9
1,2,3-Trichlorobenzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-132
1,2-Dichloroethane-d4	95	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	93	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-4-8	Basis:	as received
Lab ID:	293362-008	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	9.7	0.9709	252588	10/11/17
Chloromethane	ND	9.7	0.9709	252588	10/11/17
Vinyl Chloride	ND	9.7	0.9709	252588	10/11/17
Bromomethane	ND	9.7	0.9709	252588	10/11/17
Chloroethane	ND	9.7	0.9709	252588	10/11/17
Trichlorofluoromethane	ND	4.9	0.9709	252588	10/11/17
Acetone	64	19	0.9709	252588	10/11/17
Freon 113	ND	4.9	0.9709	252588	10/11/17
1,1-Dichloroethene	ND	4.9	0.9709	252588	10/11/17
Methylene Chloride	ND	19	0.9709	252588	10/11/17
Carbon Disulfide	ND	4.9	0.9709	252588	10/11/17
MTBE	ND	4.9	0.9709	252588	10/11/17
trans-1,2-Dichloroethene	ND	4.9	0.9709	252588	10/11/17
Vinyl Acetate	ND	49	0.9709	252588	10/11/17
1,1-Dichloroethane	ND	4.9	0.9709	252588	10/11/17
2-Butanone	24	9.7	0.9709	252588	10/11/17
cis-1,2-Dichloroethene	ND	4.9	0.9709	252588	10/11/17
2,2-Dichloropropane	ND	4.9	0.9709	252588	10/11/17
Chloroform	ND	4.9	0.9709	252588	10/11/17
Bromochloromethane	ND	4.9	0.9709	252588	10/11/17
1,1,1-Trichloroethane	ND	4.9	0.9709	252588	10/11/17
1,1-Dichloropropene	ND	4.9	0.9709	252588	10/11/17
Carbon Tetrachloride	ND	4.9	0.9709	252588	10/11/17
1,2-Dichloroethane	ND	4.9	0.9709	252588	10/11/17
Benzene	190	25	4.950	252623	10/12/17
Trichloroethene	ND	4.9	0.9709	252588	10/11/17
1,2-Dichloropropane	ND	4.9	0.9709	252588	10/11/17
Bromodichloromethane	ND	4.9	0.9709	252588	10/11/17
Dibromomethane	ND	4.9	0.9709	252588	10/11/17
4-Methyl-2-Pentanone	ND	9.7	0.9709	252588	10/11/17
cis-1,3-Dichloropropene	ND	4.9	0.9709	252588	10/11/17
Toluene	ND	4.9	0.9709	252588	10/11/17
trans-1,3-Dichloropropene	ND	4.9	0.9709	252588	10/11/17
1,1,2-Trichloroethane	ND	4.9	0.9709	252588	10/11/17
2-Hexanone	ND	9.7	0.9709	252588	10/11/17
1,3-Dichloropropane	ND	4.9	0.9709	252588	10/11/17
Tetrachloroethene	ND	4.9	0.9709	252588	10/11/17
Dibromochloromethane	ND	4.9	0.9709	252588	10/11/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-4-8	Basis:	as received
Lab ID:	293362-008	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	4.9	0.9709	252588	10/11/17
Chlorobenzene	ND	4.9	0.9709	252588	10/11/17
1,1,1,2-Tetrachloroethane	ND	4.9	0.9709	252588	10/11/17
Ethylbenzene	38	4.9	0.9709	252588	10/11/17
m,p-Xylenes	ND	4.9	0.9709	252588	10/11/17
o-Xylene	ND	4.9	0.9709	252588	10/11/17
Styrene	ND	4.9	0.9709	252588	10/11/17
Bromoform	ND	4.9	0.9709	252588	10/11/17
Isopropylbenzene	47	4.9	0.9709	252588	10/11/17
1,1,2,2-Tetrachloroethane	ND	4.9	0.9709	252588	10/11/17
1,2,3-Trichloropropane	ND	4.9	0.9709	252588	10/11/17
Propylbenzene	160	4.9	0.9709	252588	10/11/17
Bromobenzene	ND	4.9	0.9709	252588	10/11/17
1,3,5-Trimethylbenzene	ND	4.9	0.9709	252588	10/11/17
2-Chlorotoluene	ND	4.9	0.9709	252588	10/11/17
4-Chlorotoluene	ND	4.9	0.9709	252588	10/11/17
tert-Butylbenzene	ND	4.9	0.9709	252588	10/11/17
1,2,4-Trimethylbenzene	ND	4.9	0.9709	252588	10/11/17
sec-Butylbenzene	14	4.9	0.9709	252588	10/11/17
para-Isopropyl Toluene	8.1	4.9	0.9709	252588	10/11/17
1,3-Dichlorobenzene	ND	4.9	0.9709	252588	10/11/17
1,4-Dichlorobenzene	ND	4.9	0.9709	252588	10/11/17
n-Butylbenzene	37	4.9	0.9709	252588	10/11/17
1,2-Dichlorobenzene	ND	4.9	0.9709	252588	10/11/17
1,2-Dibromo-3-Chloropropane	ND	4.9	0.9709	252588	10/11/17
1,2,4-Trichlorobenzene	ND	4.9	0.9709	252588	10/11/17
Hexachlorobutadiene	ND	4.9	0.9709	252588	10/11/17
Naphthalene	310	25	4.950	252623	10/12/17
1,2,3-Trichlorobenzene	ND	4.9	0.9709	252588	10/11/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	93	76-132	0.9709	252588	10/11/17
1,2-Dichloroethane-d4	91	74-149	0.9709	252588	10/11/17
Toluene-d8	95	80-120	0.9709	252588	10/11/17
Bromofluorobenzene	96	78-134	0.9709	252588	10/11/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-4-11	Basis:	as received
Lab ID:	293362-009	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	96	9.615	252623	10/12/17
Chloromethane	ND	96	9.615	252623	10/12/17
Vinyl Chloride	ND	96	9.615	252623	10/12/17
Bromomethane	ND	96	9.615	252623	10/12/17
Chloroethane	ND	96	9.615	252623	10/12/17
Trichlorofluoromethane	ND	48	9.615	252623	10/12/17
Acetone	ND	190	9.615	252623	10/12/17
Freon 113	ND	48	9.615	252623	10/12/17
1,1-Dichloroethene	ND	48	9.615	252623	10/12/17
Methylene Chloride	ND	190	9.615	252623	10/12/17
Carbon Disulfide	ND	48	9.615	252623	10/12/17
MTBE	ND	48	9.615	252623	10/12/17
trans-1,2-Dichloroethene	ND	48	9.615	252623	10/12/17
Vinyl Acetate	ND	480	9.615	252623	10/12/17
1,1-Dichloroethane	ND	48	9.615	252623	10/12/17
2-Butanone	ND	96	9.615	252623	10/12/17
cis-1,2-Dichloroethene	ND	48	9.615	252623	10/12/17
2,2-Dichloropropane	ND	48	9.615	252623	10/12/17
Chloroform	ND	48	9.615	252623	10/12/17
Bromochloromethane	ND	48	9.615	252623	10/12/17
1,1,1-Trichloroethane	ND	48	9.615	252623	10/12/17
1,1-Dichloropropene	ND	48	9.615	252623	10/12/17
Carbon Tetrachloride	ND	48	9.615	252623	10/12/17
1,2-Dichloroethane	ND	48	9.615	252623	10/12/17
Benzene	ND	48	9.615	252623	10/12/17
Trichloroethene	ND	48	9.615	252623	10/12/17
1,2-Dichloropropane	ND	48	9.615	252623	10/12/17
Bromodichloromethane	ND	48	9.615	252623	10/12/17
Dibromomethane	ND	48	9.615	252623	10/12/17
4-Methyl-2-Pentanone	ND	96	9.615	252623	10/12/17
cis-1,3-Dichloropropene	ND	48	9.615	252623	10/12/17
Toluene	ND	48	9.615	252623	10/12/17
trans-1,3-Dichloropropene	ND	48	9.615	252623	10/12/17
1,1,2-Trichloroethane	ND	48	9.615	252623	10/12/17
2-Hexanone	ND	96	9.615	252623	10/12/17
1,3-Dichloropropane	ND	48	9.615	252623	10/12/17
Tetrachloroethene	ND	48	9.615	252623	10/12/17
Dibromochloromethane	ND	48	9.615	252623	10/12/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-4-11	Basis:	as received
Lab ID:	293362-009	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	48	9.615	252623	10/12/17
Chlorobenzene	ND	48	9.615	252623	10/12/17
1,1,1,2-Tetrachloroethane	ND	48	9.615	252623	10/12/17
Ethylbenzene	ND	48	9.615	252623	10/12/17
m,p-Xylenes	ND	48	9.615	252623	10/12/17
o-Xylene	ND	48	9.615	252623	10/12/17
Styrene	ND	48	9.615	252623	10/12/17
Bromoform	ND	48	9.615	252623	10/12/17
Isopropylbenzene	720	48	9.615	252623	10/12/17
1,1,2,2-Tetrachloroethane	ND	48	9.615	252623	10/12/17
1,2,3-Trichloropropane	ND	48	9.615	252623	10/12/17
Propylbenzene	3,400	250	49.56	252662	10/13/17
Bromobenzene	ND	48	9.615	252623	10/12/17
1,3,5-Trimethylbenzene	ND	48	9.615	252623	10/12/17
2-Chlorotoluene	ND	48	9.615	252623	10/12/17
4-Chlorotoluene	ND	48	9.615	252623	10/12/17
tert-Butylbenzene	ND	48	9.615	252623	10/12/17
1,2,4-Trimethylbenzene	ND	48	9.615	252623	10/12/17
sec-Butylbenzene	330	48	9.615	252623	10/12/17
para-Isopropyl Toluene	140	48	9.615	252623	10/12/17
1,3-Dichlorobenzene	ND	48	9.615	252623	10/12/17
1,4-Dichlorobenzene	ND	48	9.615	252623	10/12/17
n-Butylbenzene	760	48	9.615	252623	10/12/17
1,2-Dichlorobenzene	ND	48	9.615	252623	10/12/17
1,2-Dibromo-3-Chloropropane	ND	48	9.615	252623	10/12/17
1,2,4-Trichlorobenzene	ND	48	9.615	252623	10/12/17
Hexachlorobutadiene	ND	48	9.615	252623	10/12/17
Naphthalene	ND	48	9.615	252623	10/12/17
1,2,3-Trichlorobenzene	ND	48	9.615	252623	10/12/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	94	76-132	9.615	252623	10/12/17
1,2-Dichloroethane-d4	98	74-149	9.615	252623	10/12/17
Toluene-d8	91	80-120	9.615	252623	10/12/17
Bromofluorobenzene	103	78-134	9.615	252623	10/12/17
Trifluorotoluene (MeOH)	98	54-131	49.56	252662	10/13/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-3-4.5	Diln Fac:	0.9416
Lab ID:	293362-010	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Freon 12	ND	9.4
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.4
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.4
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.4
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-3-4.5	Diln Fac:	0.9416
Lab ID:	293362-010	Batch#:	252588
Matrix:	Soil	Sampled:	10/10/17
Units:	ug/Kg	Received:	10/11/17
Basis:	as received	Analyzed:	10/11/17

Analyte	Result	RL
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	90	76-132
1,2-Dichloroethane-d4	95	74-149
Toluene-d8	95	80-120
Bromofluorobenzene	96	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-3-8.5	Basis:	as received
Lab ID:	293362-011	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	9.9	0.9921	252588	10/11/17
Chloromethane	ND	9.9	0.9921	252588	10/11/17
Vinyl Chloride	ND	9.9	0.9921	252588	10/11/17
Bromomethane	ND	9.9	0.9921	252588	10/11/17
Chloroethane	ND	9.9	0.9921	252588	10/11/17
Trichlorofluoromethane	ND	5.0	0.9921	252588	10/11/17
Acetone	70	20	0.9921	252588	10/11/17
Freon 113	ND	5.0	0.9921	252588	10/11/17
1,1-Dichloroethene	ND	5.0	0.9921	252588	10/11/17
Methylene Chloride	ND	20	0.9921	252588	10/11/17
Carbon Disulfide	ND	5.0	0.9921	252588	10/11/17
MTBE	ND	5.0	0.9921	252588	10/11/17
trans-1,2-Dichloroethene	ND	5.0	0.9921	252588	10/11/17
Vinyl Acetate	ND	50	0.9921	252588	10/11/17
1,1-Dichloroethane	ND	5.0	0.9921	252588	10/11/17
2-Butanone	26	9.9	0.9921	252588	10/11/17
cis-1,2-Dichloroethene	ND	5.0	0.9921	252588	10/11/17
2,2-Dichloropropane	ND	5.0	0.9921	252588	10/11/17
Chloroform	ND	5.0	0.9921	252588	10/11/17
Bromochloromethane	ND	5.0	0.9921	252588	10/11/17
1,1,1-Trichloroethane	ND	5.0	0.9921	252588	10/11/17
1,1-Dichloropropene	ND	5.0	0.9921	252588	10/11/17
Carbon Tetrachloride	ND	5.0	0.9921	252588	10/11/17
1,2-Dichloroethane	ND	5.0	0.9921	252588	10/11/17
Benzene	50	12	2.404	252623	10/12/17
Trichloroethene	ND	5.0	0.9921	252588	10/11/17
1,2-Dichloropropane	ND	5.0	0.9921	252588	10/11/17
Bromodichloromethane	ND	5.0	0.9921	252588	10/11/17
Dibromomethane	ND	5.0	0.9921	252588	10/11/17
4-Methyl-2-Pentanone	ND	9.9	0.9921	252588	10/11/17
cis-1,3-Dichloropropene	ND	5.0	0.9921	252588	10/11/17
Toluene	ND	5.0	0.9921	252588	10/11/17
trans-1,3-Dichloropropene	ND	5.0	0.9921	252588	10/11/17
1,1,2-Trichloroethane	ND	5.0	0.9921	252588	10/11/17
2-Hexanone	ND	9.9	0.9921	252588	10/11/17
1,3-Dichloropropane	ND	5.0	0.9921	252588	10/11/17
Tetrachloroethene	ND	5.0	0.9921	252588	10/11/17
Dibromochloromethane	ND	5.0	0.9921	252588	10/11/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-3-8.5	Basis:	as received
Lab ID:	293362-011	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	5.0	0.9921	252588	10/11/17
Chlorobenzene	ND	5.0	0.9921	252588	10/11/17
1,1,1,2-Tetrachloroethane	ND	5.0	0.9921	252588	10/11/17
Ethylbenzene	14	5.0	0.9921	252588	10/11/17
m,p-Xylenes	5.5	5.0	0.9921	252588	10/11/17
o-Xylene	ND	5.0	0.9921	252588	10/11/17
Styrene	ND	5.0	0.9921	252588	10/11/17
Bromoform	ND	5.0	0.9921	252588	10/11/17
Isopropylbenzene	100	5.0	0.9921	252588	10/11/17
1,1,2,2-Tetrachloroethane	ND	5.0	0.9921	252588	10/11/17
1,2,3-Trichloropropane	ND	5.0	0.9921	252588	10/11/17
Propylbenzene	370	12	2.404	252623	10/12/17
Bromobenzene	ND	5.0	0.9921	252588	10/11/17
1,3,5-Trimethylbenzene	ND	5.0	0.9921	252588	10/11/17
2-Chlorotoluene	ND	5.0	0.9921	252588	10/11/17
4-Chlorotoluene	ND	5.0	0.9921	252588	10/11/17
tert-Butylbenzene	ND	5.0	0.9921	252588	10/11/17
1,2,4-Trimethylbenzene	ND	5.0	0.9921	252588	10/11/17
sec-Butylbenzene	27	5.0	0.9921	252588	10/11/17
para-Isopropyl Toluene	13	5.0	0.9921	252588	10/11/17
1,3-Dichlorobenzene	ND	5.0	0.9921	252588	10/11/17
1,4-Dichlorobenzene	ND	5.0	0.9921	252588	10/11/17
n-Butylbenzene	61	5.0	0.9921	252588	10/11/17
1,2-Dichlorobenzene	ND	5.0	0.9921	252588	10/11/17
1,2-Dibromo-3-Chloropropane	ND	5.0	0.9921	252588	10/11/17
1,2,4-Trichlorobenzene	ND	5.0	0.9921	252588	10/11/17
Hexachlorobutadiene	ND	5.0	0.9921	252588	10/11/17
Naphthalene	ND	5.0	0.9921	252588	10/11/17
1,2,3-Trichlorobenzene	ND	5.0	0.9921	252588	10/11/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	94	76-132	0.9921	252588	10/11/17
1,2-Dichloroethane-d4	98	74-149	0.9921	252588	10/11/17
Toluene-d8	96	80-120	0.9921	252588	10/11/17
Bromofluorobenzene	96	78-134	0.9921	252588	10/11/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-3-13	Basis:	as received
Lab ID:	293362-012	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	25	2.451	252623	10/12/17
Chloromethane	ND	25	2.451	252623	10/12/17
Vinyl Chloride	ND	25	2.451	252623	10/12/17
Bromomethane	ND	25	2.451	252623	10/12/17
Chloroethane	ND	25	2.451	252623	10/12/17
Trichlorofluoromethane	ND	12	2.451	252623	10/12/17
Acetone	200	49	2.451	252623	10/12/17
Freon 113	ND	12	2.451	252623	10/12/17
1,1-Dichloroethene	ND	12	2.451	252623	10/12/17
Methylene Chloride	ND	49	2.451	252623	10/12/17
Carbon Disulfide	ND	12	2.451	252623	10/12/17
MTBE	ND	12	2.451	252623	10/12/17
trans-1,2-Dichloroethene	ND	12	2.451	252623	10/12/17
Vinyl Acetate	ND	120	2.451	252623	10/12/17
1,1-Dichloroethane	ND	12	2.451	252623	10/12/17
2-Butanone	68	25	2.451	252623	10/12/17
cis-1,2-Dichloroethene	ND	12	2.451	252623	10/12/17
2,2-Dichloropropane	ND	12	2.451	252623	10/12/17
Chloroform	ND	12	2.451	252623	10/12/17
Bromochloromethane	ND	12	2.451	252623	10/12/17
1,1,1-Trichloroethane	ND	12	2.451	252623	10/12/17
1,1-Dichloropropene	ND	12	2.451	252623	10/12/17
Carbon Tetrachloride	ND	12	2.451	252623	10/12/17
1,2-Dichloroethane	ND	12	2.451	252623	10/12/17
Benzene	110	12	2.451	252623	10/12/17
Trichloroethene	ND	12	2.451	252623	10/12/17
1,2-Dichloropropane	ND	12	2.451	252623	10/12/17
Bromodichloromethane	ND	12	2.451	252623	10/12/17
Dibromomethane	ND	12	2.451	252623	10/12/17
4-Methyl-2-Pentanone	ND	25	2.451	252623	10/12/17
cis-1,3-Dichloropropene	ND	12	2.451	252623	10/12/17
Toluene	ND	12	2.451	252623	10/12/17
trans-1,3-Dichloropropene	ND	12	2.451	252623	10/12/17
1,1,2-Trichloroethane	ND	12	2.451	252623	10/12/17
2-Hexanone	ND	25	2.451	252623	10/12/17
1,3-Dichloropropane	ND	12	2.451	252623	10/12/17
Tetrachloroethene	ND	12	2.451	252623	10/12/17
Dibromochloromethane	ND	12	2.451	252623	10/12/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	SB-3-13	Basis:	as received
Lab ID:	293362-012	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
1,2-Dibromoethane	ND	12	2.451	252623	10/12/17
Chlorobenzene	ND	12	2.451	252623	10/12/17
1,1,1,2-Tetrachloroethane	ND	12	2.451	252623	10/12/17
Ethylbenzene	41	12	2.451	252623	10/12/17
m,p-Xylenes	13	12	2.451	252623	10/12/17
o-Xylene	ND	12	2.451	252623	10/12/17
Styrene	ND	12	2.451	252623	10/12/17
Bromoform	ND	12	2.451	252623	10/12/17
Isopropylbenzene	140	12	2.451	252623	10/12/17
1,1,2,2-Tetrachloroethane	ND	12	2.451	252623	10/12/17
1,2,3-Trichloropropane	ND	12	2.451	252623	10/12/17
Propylbenzene	1,500	50	10.00	252662	10/13/17
Bromobenzene	ND	12	2.451	252623	10/12/17
1,3,5-Trimethylbenzene	16	12	2.451	252623	10/12/17
2-Chlorotoluene	ND	12	2.451	252623	10/12/17
4-Chlorotoluene	ND	12	2.451	252623	10/12/17
tert-Butylbenzene	ND	12	2.451	252623	10/12/17
1,2,4-Trimethylbenzene	ND	12	2.451	252623	10/12/17
sec-Butylbenzene	58	12	2.451	252623	10/12/17
para-Isopropyl Toluene	36	12	2.451	252623	10/12/17
1,3-Dichlorobenzene	ND	12	2.451	252623	10/12/17
1,4-Dichlorobenzene	ND	12	2.451	252623	10/12/17
n-Butylbenzene	140	12	2.451	252623	10/12/17
1,2-Dichlorobenzene	ND	12	2.451	252623	10/12/17
1,2-Dibromo-3-Chloropropane	ND	12	2.451	252623	10/12/17
1,2,4-Trichlorobenzene	ND	12	2.451	252623	10/12/17
Hexachlorobutadiene	ND	12	2.451	252623	10/12/17
Naphthalene	34	12	2.451	252623	10/12/17
1,2,3-Trichlorobenzene	ND	12	2.451	252623	10/12/17

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	95	76-132	2.451	252623	10/12/17
1,2-Dichloroethane-d4	104	74-149	2.451	252623	10/12/17
Toluene-d8	92	80-120	2.451	252623	10/12/17
Bromofluorobenzene	102	78-134	2.451	252623	10/12/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904594	Batch#:	252588
Matrix:	Soil	Analyzed:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL
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
Methylene Chloride	ND	20
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

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904594	Batch#:	252588
Matrix:	Soil	Analyzed:	10/11/17
Units:	ug/Kg		

Analyte	Result	RL
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
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	76-132
1,2-Dichloroethane-d4	96	74-149
Toluene-d8	92	80-120
Bromofluorobenzene	96	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	252588
Units:	ug/Kg	Analyzed:	10/11/17
Diln Fac:	1.000		

Type: BS Lab ID: QC904595

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.25	101	68-132
Benzene	25.00	23.61	94	75-123
Trichloroethene	25.00	24.17	97	75-120
Toluene	25.00	22.94	92	76-120
Chlorobenzene	25.00	23.23	93	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-132
1,2-Dichloroethane-d4	91	74-149
Toluene-d8	95	80-120
Bromofluorobenzene	94	78-134

Type: BSD Lab ID: QC904596

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	24.59	98	68-132	3	28
Benzene	25.00	22.88	92	75-123	3	25
Trichloroethene	25.00	23.54	94	75-120	3	23
Toluene	25.00	22.62	90	76-120	1	24
Chlorobenzene	25.00	22.96	92	80-120	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-132
1,2-Dichloroethane-d4	91	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	93	78-134

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904743	Batch#:	252623
Matrix:	Soil	Analyzed:	10/12/17
Units:	ug/Kg		

Analyte	Result	RL
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
Methylene Chloride	ND	20
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

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904743	Batch#:	252623
Matrix:	Soil	Analyzed:	10/12/17
Units:	ug/Kg		

Analyte	Result	RL
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
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	102	76-132
1,2-Dichloroethane-d4	96	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	97	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	252623
Units:	ug/Kg	Analyzed:	10/12/17
Diln Fac:	1.000		

Type: BS Lab ID: QC904744

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	28.62	114	68-132
Benzene	25.00	25.95	104	75-123
Trichloroethene	25.00	26.89	108	75-120
Toluene	25.00	24.65	99	76-120
Chlorobenzene	25.00	24.90	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-132
1,2-Dichloroethane-d4	92	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	96	78-134

Type: BSD Lab ID: QC904745

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.24	109	68-132	5	28
Benzene	25.00	25.43	102	75-123	2	25
Trichloroethene	25.00	25.58	102	75-120	5	23
Toluene	25.00	24.38	98	76-120	1	24
Chlorobenzene	25.00	24.68	99	80-120	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-132
1,2-Dichloroethane-d4	92	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	96	78-134

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	252623
MSS Lab ID:	293360-001	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg	Analyzed:	10/13/17
Basis:	as received		

Type: MS Diln Fac: 0.9597
Lab ID: QC904791

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.8915	47.98	41.12	86	64-131
Benzene	<0.8561	47.98	39.14	82	66-122
Trichloroethene	<0.7924	47.98	39.74	83	57-133
Toluene	<0.6749	47.98	37.26	78	61-120
Chlorobenzene	<0.6509	47.98	35.80	75	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	95	80-120
Bromofluorobenzene	96	78-134

Type: MSD Diln Fac: 0.9506
Lab ID: QC904792

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	47.53	49.11	103	64-131	19	32
Benzene	47.53	45.24	95	66-122	15	32
Trichloroethene	47.53	46.84	99	57-133	17	34
Toluene	47.53	42.85	90	61-120	15	32
Chlorobenzene	47.53	41.82	88	56-120	16	33

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	95	80-120
Bromofluorobenzene	98	78-134

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904890	Batch#:	252662
Matrix:	Soil	Analyzed:	10/13/17
Units:	ug/Kg		

Analyte	Result	RL
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
Methylene Chloride	ND	20
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

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904890	Batch#:	252662
Matrix:	Soil	Analyzed:	10/13/17
Units:	ug/Kg		

Analyte	Result	RL
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
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	76-132
1,2-Dichloroethane-d4	98	74-149
Toluene-d8	91	80-120
Bromofluorobenzene	94	78-134

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	252662
Units:	ug/Kg	Analyzed:	10/13/17
Diln Fac:	1.000		

Type: BS Lab ID: QC904891

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.29	109	68-132
Benzene	25.00	25.78	103	75-123
Trichloroethene	25.00	26.64	107	75-120
Toluene	25.00	23.98	96	76-120
Chlorobenzene	25.00	24.80	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	76-132
1,2-Dichloroethane-d4	94	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	94	78-134

Type: BSD Lab ID: QC904892

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	24.47	98	68-132	11	28
Benzene	25.00	24.51	98	75-123	5	25
Trichloroethene	25.00	25.01	100	75-120	6	23
Toluene	25.00	22.72	91	76-120	5	24
Chlorobenzene	25.00	23.80	95	80-120	4	21

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-132
1,2-Dichloroethane-d4	94	74-149
Toluene-d8	93	80-120
Bromofluorobenzene	93	78-134

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	252662
MSS Lab ID:	293361-005	Sampled:	10/09/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg	Analyzed:	10/13/17
Basis:	as received		

Type: MS Diln Fac: 0.9823
Lab ID: QC904956

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.8360	98.23	80.85	82	64-131
Benzene	<0.8028	98.23	74.40	76	66-122
Trichloroethene	<0.7430	98.23	77.69	79	57-133
Toluene	<0.6328	98.23	72.06	73	61-120
Chlorobenzene	<0.6104	98.23	70.20	71	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	94	76-132
1,2-Dichloroethane-d4	89	74-149
Toluene-d8	95	80-120
Bromofluorobenzene	97	78-134

Type: MSD Diln Fac: 0.9766
Lab ID: QC904957

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	97.66	83.48	85	64-131	4	32
Benzene	97.66	77.66	80	66-122	5	32
Trichloroethene	97.66	81.06	83	57-133	5	34
Toluene	97.66	74.10	76	61-120	3	32
Chlorobenzene	97.66	72.91	75	56-120	4	33

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	94	80-120
Bromofluorobenzene	96	78-134

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Field ID:	SB-3-4.5	Batch#:	252612
Lab ID:	293362-010	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg	Prepared:	10/12/17
Basis:	as received	Analyzed:	10/12/17
Diln Fac:	10.00		

Analyte	Result	RL
Naphthalene	ND	49
Acenaphthylene	ND	49
Acenaphthene	ND	49
Fluorene	ND	49
Phenanthrene	ND	49
Anthracene	ND	49
Fluoranthene	ND	49
Pyrene	ND	49
Benzo(a)anthracene	ND	49
Chrysene	ND	49
Benzo(b)fluoranthene	ND	49
Benzo(k)fluoranthene	ND	49
Benzo(a)pyrene	ND	49
Indeno(1,2,3-cd)pyrene	ND	49
Dibenz(a,h)anthracene	ND	49
Benzo(g,h,i)perylene	ND	49

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-126
2-Fluorobiphenyl	DO	50-120
Terphenyl-d14	DO	53-123

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Field ID:	SB-3-8.5	Batch#:	252612
Lab ID:	293362-011	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg	Prepared:	10/12/17
Basis:	as received	Analyzed:	10/12/17
Diln Fac:	5.000		

Analyte	Result	RL
Naphthalene	ND	25
Acenaphthylene	ND	25
Acenaphthene	ND	25
Fluorene	ND	25
Phenanthrene	ND	25
Anthracene	ND	25
Fluoranthene	ND	25
Pyrene	ND	25
Benzo(a)anthracene	ND	25
Chrysene	ND	25
Benzo(b)fluoranthene	ND	25
Benzo(k)fluoranthene	ND	25
Benzo(a)pyrene	ND	25
Indeno(1,2,3-cd)pyrene	ND	25
Dibenz(a,h)anthracene	ND	25
Benzo(g,h,i)perylene	ND	25

Surrogate	%REC	Limits
Nitrobenzene-d5	176 *	46-126
2-Fluorobiphenyl	84	50-120
Terphenyl-d14	113	53-123

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Field ID:	SB-3-13	Batch#:	252612
Lab ID:	293362-012	Sampled:	10/10/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg	Prepared:	10/12/17
Basis:	as received	Analyzed:	10/12/17
Diln Fac:	10.00		

Analyte	Result	RL
Naphthalene	ND	50
Acenaphthylene	ND	50
Acenaphthene	ND	50
Fluorene	ND	50
Phenanthrene	ND	50
Anthracene	ND	50
Fluoranthene	ND	50
Pyrene	ND	50
Benzo(a)anthracene	ND	50
Chrysene	ND	50
Benzo(b)fluoranthene	ND	50
Benzo(k)fluoranthene	ND	50
Benzo(a)pyrene	ND	50
Indeno(1,2,3-cd)pyrene	ND	50
Dibenz(a,h)anthracene	ND	50
Benzo(g,h,i)perylene	ND	50

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-126
2-Fluorobiphenyl	DO	50-120
Terphenyl-d14	DO	53-123

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC904714	Batch#:	252612
Matrix:	Soil	Prepared:	10/12/17
Units:	ug/Kg	Analyzed:	10/12/17

Analyte	Result	RL
Naphthalene	ND	5.0
Acenaphthylene	ND	5.0
Acenaphthene	ND	5.0
Fluorene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Fluoranthene	ND	5.0
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenz(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

Surrogate	%REC	Limits
Nitrobenzene-d5	118	46-126
2-Fluorobiphenyl	94	50-120
Terphenyl-d14	118	53-123

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC904715	Batch#:	252612
Matrix:	Soil	Prepared:	10/12/17
Units:	ug/Kg	Analyzed:	10/12/17

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	33.00	25.57	77	62-120
Pyrene	33.00	31.22	95	56-130

Surrogate	%REC	Limits
Nitrobenzene-d5	81	46-126
2-Fluorobiphenyl	95	50-120
Terphenyl-d14	94	53-123

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3550C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	252612
MSS Lab ID:	293370-001	Sampled:	10/11/17
Matrix:	Soil	Received:	10/11/17
Units:	ug/Kg	Prepared:	10/12/17
Basis:	as received	Analyzed:	10/12/17
Diln Fac:	1.000		

Type: MS Lab ID: QC904716

Analyte	MSS Result	Spiked	Result	%REC	Limits
Acenaphthene	<0.9644	33.68	28.85	86	54-120
Pyrene	1.738	33.68	37.95	107	35-143

Surrogate	%REC	Limits
Nitrobenzene-d5	106	46-126
2-Fluorobiphenyl	98	50-120
Terphenyl-d14	110	53-123

Type: MSD Lab ID: QC904717

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	33.53	21.93	65	54-120	27	35
Pyrene	33.53	28.68	80	35-143	27	58

Surrogate	%REC	Limits
Nitrobenzene-d5	76	46-126
2-Fluorobiphenyl	77	50-120
Terphenyl-d14	84	53-123

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

California LUFT Metals

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3050B
Project#:	17EMV05.2000	Analysis:	EPA 6010B
Matrix:	Soil	Sampled:	10/10/17
Units:	mg/Kg	Received:	10/11/17
Basis:	as received	Prepared:	10/12/17
Diln Fac:	1.000	Analyzed:	10/13/17
Batch#:	252645		

Field ID: SB-3-4.5 Lab ID: 293362-010
Type: SAMPLE

Analyte	Result	RL
Cadmium	0.30	0.27
Chromium	37	0.27
Lead	42	1.0
Nickel	40	0.27
Zinc	95	1.1

Field ID: SB-3-8.5 Lab ID: 293362-011
Type: SAMPLE

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	31	0.25
Lead	7.7	0.98
Nickel	30	0.25
Zinc	38	0.98

Field ID: SB-3-13 Lab ID: 293362-012
Type: SAMPLE

Analyte	Result	RL
Cadmium	ND	0.27
Chromium	34	0.27
Lead	5.8	1.0
Nickel	43	0.27
Zinc	46	1.1

Type: BLANK Lab ID: QC904827

Analyte	Result	RL
Cadmium	ND	0.26
Chromium	ND	0.26
Lead	ND	1.0
Nickel	ND	0.26
Zinc	ND	1.0

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California LUFT Metals

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3050B
Project#:	17EMV05.2000	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	252645
Units:	mg/Kg	Prepared:	10/12/17
Diln Fac:	1.000	Analyzed:	10/13/17

Type: BS Lab ID: QC904828

Analyte	Spiked	Result	%REC	Limits
Cadmium	47.62	47.69	100	80-120
Chromium	47.62	49.09	103	80-120
Lead	47.62	46.24	97	80-120
Nickel	47.62	44.65	94	80-120
Zinc	47.62	47.77	100	80-120

Type: BSD Lab ID: QC904829

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	52.08	51.33	99	80-120	2	20
Chromium	52.08	52.58	101	80-120	2	20
Lead	52.08	54.64	105	80-120	8	20
Nickel	52.08	47.73	92	80-120	2	20
Zinc	52.08	51.20	98	80-120	2	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California LUFT Metals

Lab #:	293362	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3050B
Project#:	17EMV05.2000	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	252645
MSS Lab ID:	293387-001	Sampled:	10/11/17
Matrix:	Soil	Received:	10/12/17
Units:	mg/Kg	Prepared:	10/12/17
Basis:	as received	Analyzed:	10/13/17
Diln Fac:	1.000		

Type: MS Lab ID: QC904830

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	<0.05000	49.02	50.31	103	78-120
Chromium	35.73	49.02	79.95	90	64-135
Lead	9.968	49.02	55.08	92	53-128
Nickel	38.76	49.02	78.28	81	56-128
Zinc	58.91	49.02	98.81	81	49-138

Type: MSD Lab ID: QC904831

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	47.17	49.06	104	78-120	1	21
Chromium	47.17	79.82	93	64-135	2	37
Lead	47.17	53.71	93	53-128	1	48
Nickel	47.17	75.47	78	56-128	2	38
Zinc	47.17	98.02	83	49-138	1	39

RPD= Relative Percent Difference

ENTHALPY

ANALYTICAL

Enthalpy Analytical

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

Laboratory Job Number 294975
ANALYTICAL REPORT

OTG Enviroengineering Solutions, Inc	Project : 17EMV05.2000
7700 Edgewater Drive	Location : 4331 San Pablo
Oakland, CA 94621	Level : II

Sample ID	Lab ID
MW-2	294975-001
MW-3	294975-002

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 NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 12/13/2017

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

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**294975**
Client:	**OTG Enviroengineering Solutions, Inc**
Project:	**17EMV05.2000**
Location:	**4331 San Pablo**
Request Date:	**11/30/17**
Samples Received:	**11/30/17**

This data package contains sample and QC results for two water samples, requested for the above referenced project on 11/30/17. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
Low response was observed for gasoline C7-C12 in the CCV analyzed 12/06/17 02:38; affected data was qualified with "b". No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
No analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Chain of Custody # _____

C&T LOGIN # 294975

Project No: 17EMV05.2300
Project Name: 4331 San Pablo
Project P. O. No:
EDD Format: Report Level [X] II [ ] III [ ] IV
Turnaround Time: [ ] RUSH _____ [X] Standard

Sampler: Xinggang Tong
Report To: Xinggang Tong
Company: OTG EnviroEngineering Solutions
Telephone: 510-465-8982
Email: xtong.otg@gmail.com

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE				
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None
	MW-2	11/30/17	9:12	X				8	X		X		X
	MW-3	11/30/17	10:05	X				11	X		X		X

EPA 8260 for VOCs (include MTBE & Naphthalene)	EPA 8015B for TPH-gas	EPA 8015B for TPH diesel & mo	EPA 8270-SIM for PAHs	EPA 6010 for LUFT 5 metals (Cd, Cr, Pb, Ni, & Zn)
X	X	X		
X	X	X	X	X

Notes:
Please provide edf file for GeoTracker upload
Global ID T0600101848

SAMPLE RECEIPT
[X] ~~Intact~~
[ ] Cold
[ ] On Ice
[X] ~~Ambient~~

RELINQUISHED BY:
DATE: 11/30/17 TIME: 3:45 pm
DATE: TIME:
DATE: TIME:

RECEIVED BY:
DATE: 11/30/17 TIME: 3:45
DATE: TIME:
DATE: TIME:

COOLER RECEIPT CHECKLIST

ENTHALPY ANALYTICAL Berkeley

Login # 294975 Date Received 11/30/17 Number of coolers 1
Client BTG Enviro Engineering Project

Date Opened 11/30/17 By (print) DC (sign)
Date Logged in ↓ By (print) DC (sign)
Date Labelled ↓ By (print) DC (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# 80BDH1971) 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

Enthalpy Sample Preservation for 294975

Sample	pH: <2	>9	>12	Other
-002a	[ ]	[ ]	[ ]	_____
b	[ ]	[ ]	[ ]	_____
c	[ ]	[ ]	[ ]	_____
d	[ ]	[ ]	[ ]	_____
e	[ ]	[ ]	[ ]	_____
f	[ ]	[ ]	[ ]	_____
g	[X]	[ ]	[ ]	_____
h	[ ]	[ ]	[ ]	_____
i	[ ]	[ ]	[ ]	_____
j	[ ]	[ ]	[ ]	_____
k	[ ]	[ ]	[ ]	_____

Analyst: DC
Date: 11/30/17

ENTHALPY ANALYTICAL

Detections Summary for 294975

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

Client : OTG Enviroengineering Solutions, Inc
Project : 17EMV05.2000
Location : 4331 San Pablo

Client Sample ID : MW-2 Laboratory Sample ID : 294975-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	57		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B

Client Sample ID : MW-3 Laboratory Sample ID : 294975-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	190	b	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	140	Y	49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C
Benzene	28		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Ethylbenzene	4.2		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
m,p-Xylenes	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Isopropylbenzene	2.3		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Propylbenzene	1.2		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
n-Butylbenzene	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Naphthalene	1.1		0.1	ug/L	As Recd	1.000	EPA 8270C-SIM	EPA 3520C
Nickel	6.1		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A

Y = Sample exhibits chromatographic pattern which does not resemble standard
b = See narrative

ENTHALPY ANALYTICAL

Total Volatile Hydrocarbons

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	11/30/17
Units:	ug/L	Received:	11/30/17
Diln Fac:	1.000		

Field ID:	MW-2	Batch#:	254260
Type:	SAMPLE	Analyzed:	12/01/17
Lab ID:	294975-001		

Analyte	Result	RL
Gasoline C7-C12	57	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	80-121

Field ID:	MW-3	Batch#:	254381
Type:	SAMPLE	Analyzed:	12/05/17
Lab ID:	294975-002		

Analyte	Result	RL
Gasoline C7-C12	190 b	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	80-121

Type:	BLANK	Batch#:	254260
Lab ID:	QC911105	Analyzed:	12/01/17

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	80-121

Type:	BLANK	Batch#:	254381
Lab ID:	QC911576	Analyzed:	12/05/17

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	80-121

b= See narrative
ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	254260
Units:	ug/L	Analyzed:	12/01/17
Diln Fac:	1.000		

Type: BS Lab ID: QC911636

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	964.1	96	80-122

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	80-121

Type: BSD Lab ID: QC911637

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,705	85	80-122	12	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	80-121

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	254381
Units:	ug/L	Analyzed:	12/05/17
Diln Fac:	1.000		

Type: BS Lab ID: QC911850

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	932.5	93	80-122

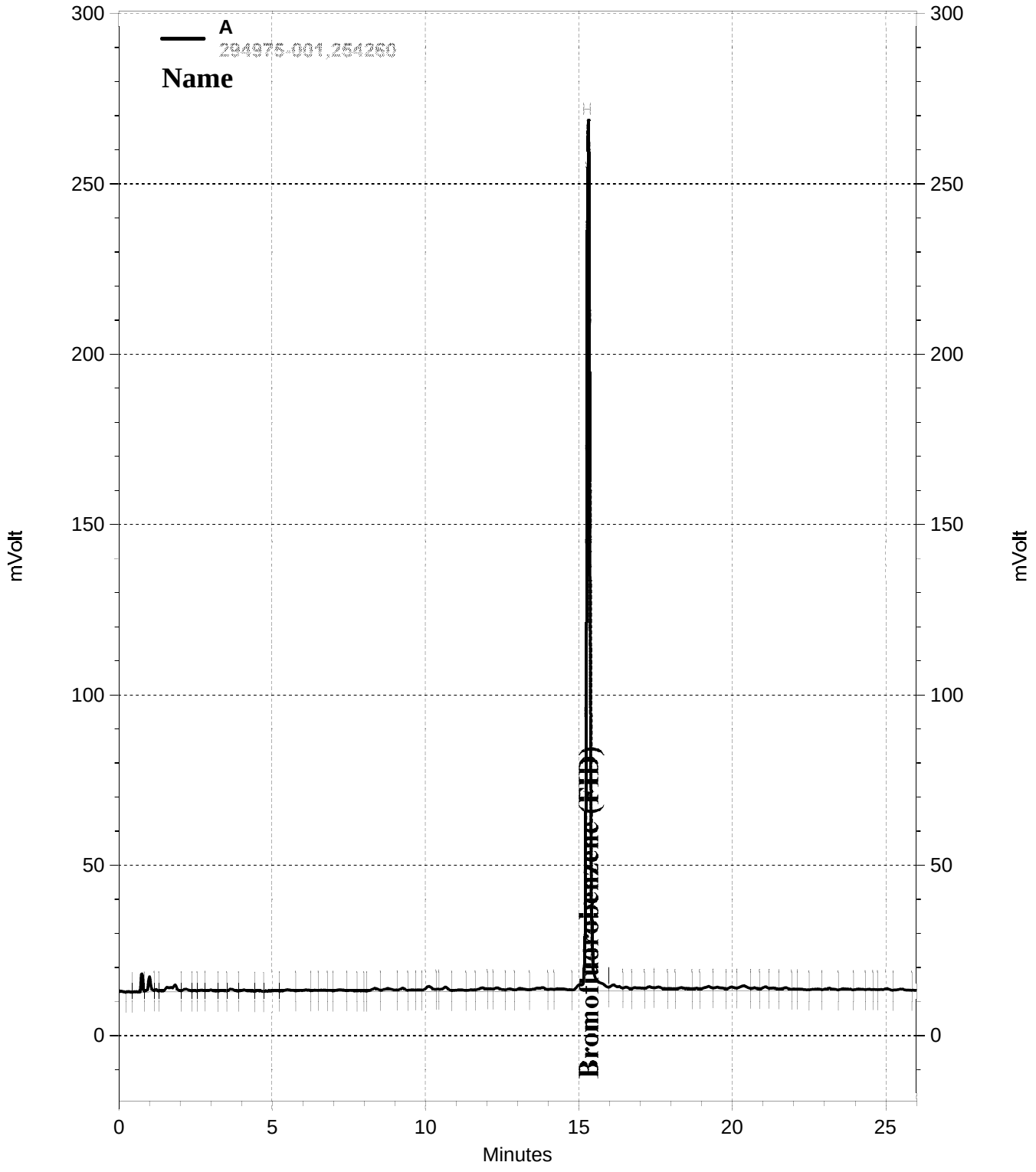
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	80-121

Type: BSD Lab ID: QC911851

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,782	89	80-122	5	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	80-121

RPD= Relative Percent Difference



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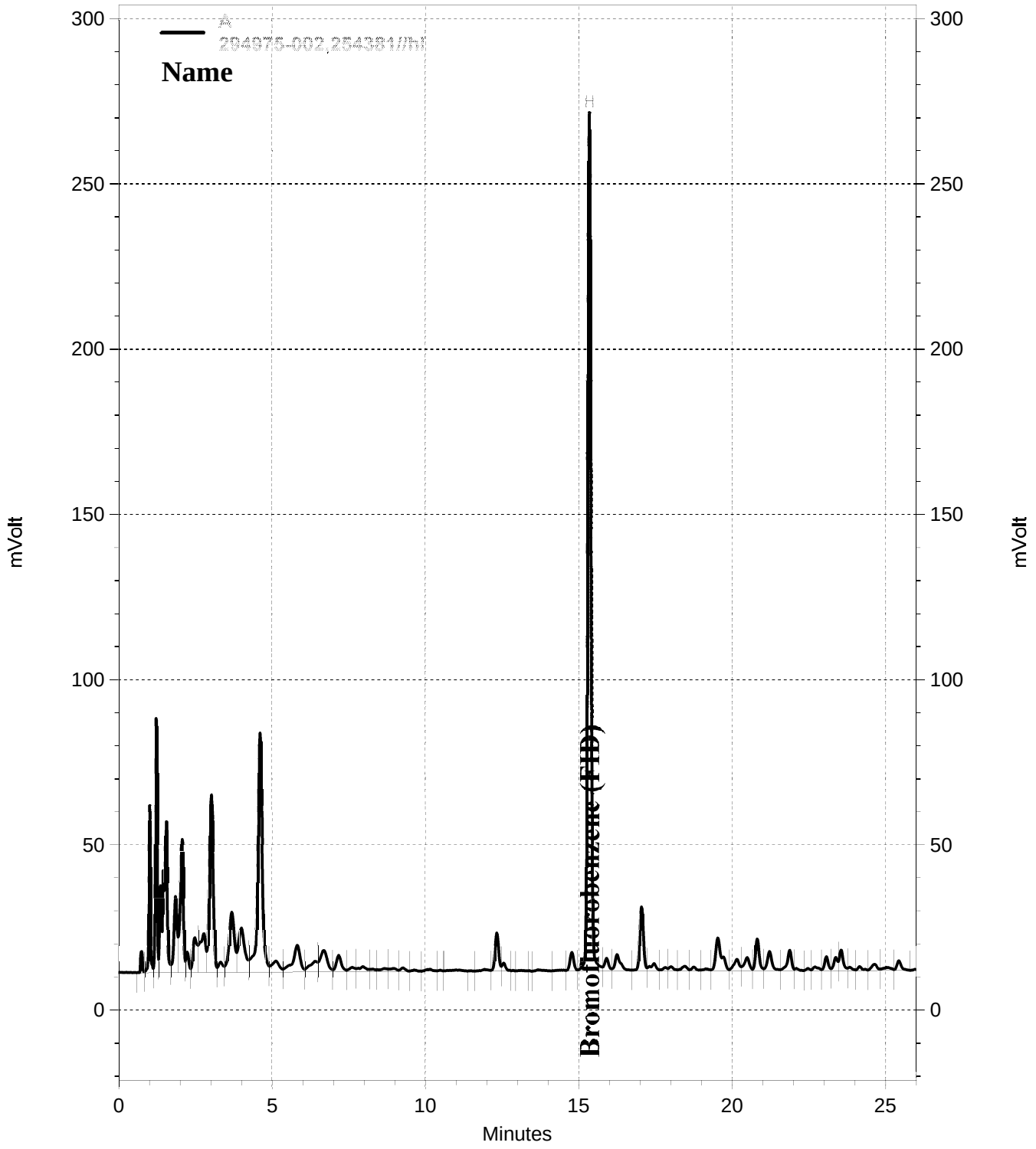
A
294976-002,254384\FID1
Name
H
Bromofluorobenzene (FID)
mVolt
mVolt
300
250
200
150
100
50
0
0
5
10
15
20
25
Minutes
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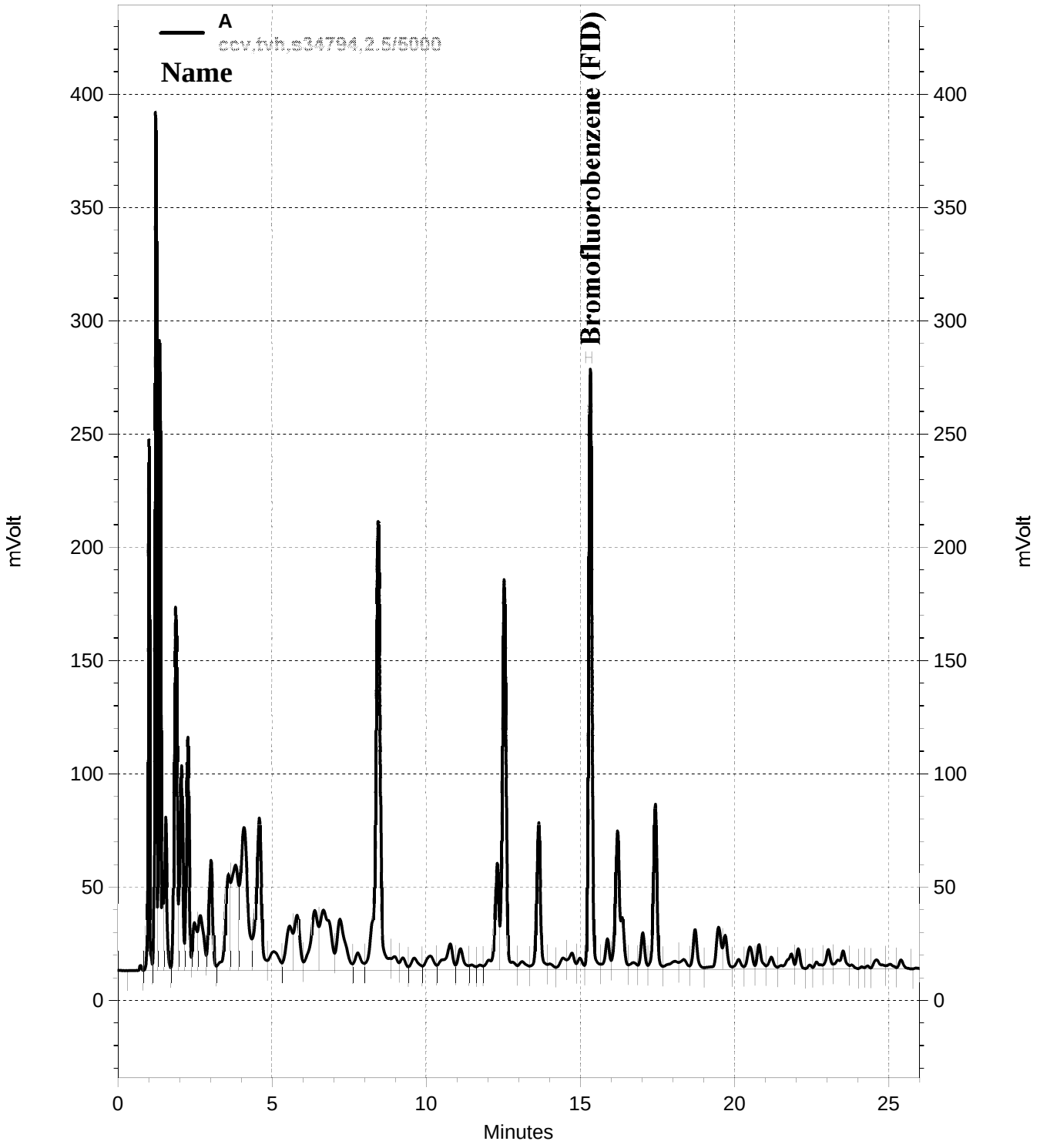

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ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3520C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	11/30/17
Units:	ug/L	Received:	11/30/17
Diln Fac:	1.000	Prepared:	12/05/17
Batch#:	254395		

Field ID: MW-2 Lab ID: 294975-001
Type: SAMPLE Analyzed: 12/07/17

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	84	51-134

Field ID: MW-3 Lab ID: 294975-002
Type: SAMPLE Analyzed: 12/07/17

Analyte	Result	RL
Diesel C10-C24	140 Y	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	91	51-134

Type: BLANK Analyzed: 12/06/17
Lab ID: QC911638

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	90	51-134

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

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3520C
Project#:	17EMV05.2000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	254395
Units:	ug/L	Prepared:	12/05/17
Diln Fac:	1.000	Analyzed:	12/06/17

Type: BS Lab ID: QC911639

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,283	91	50-123

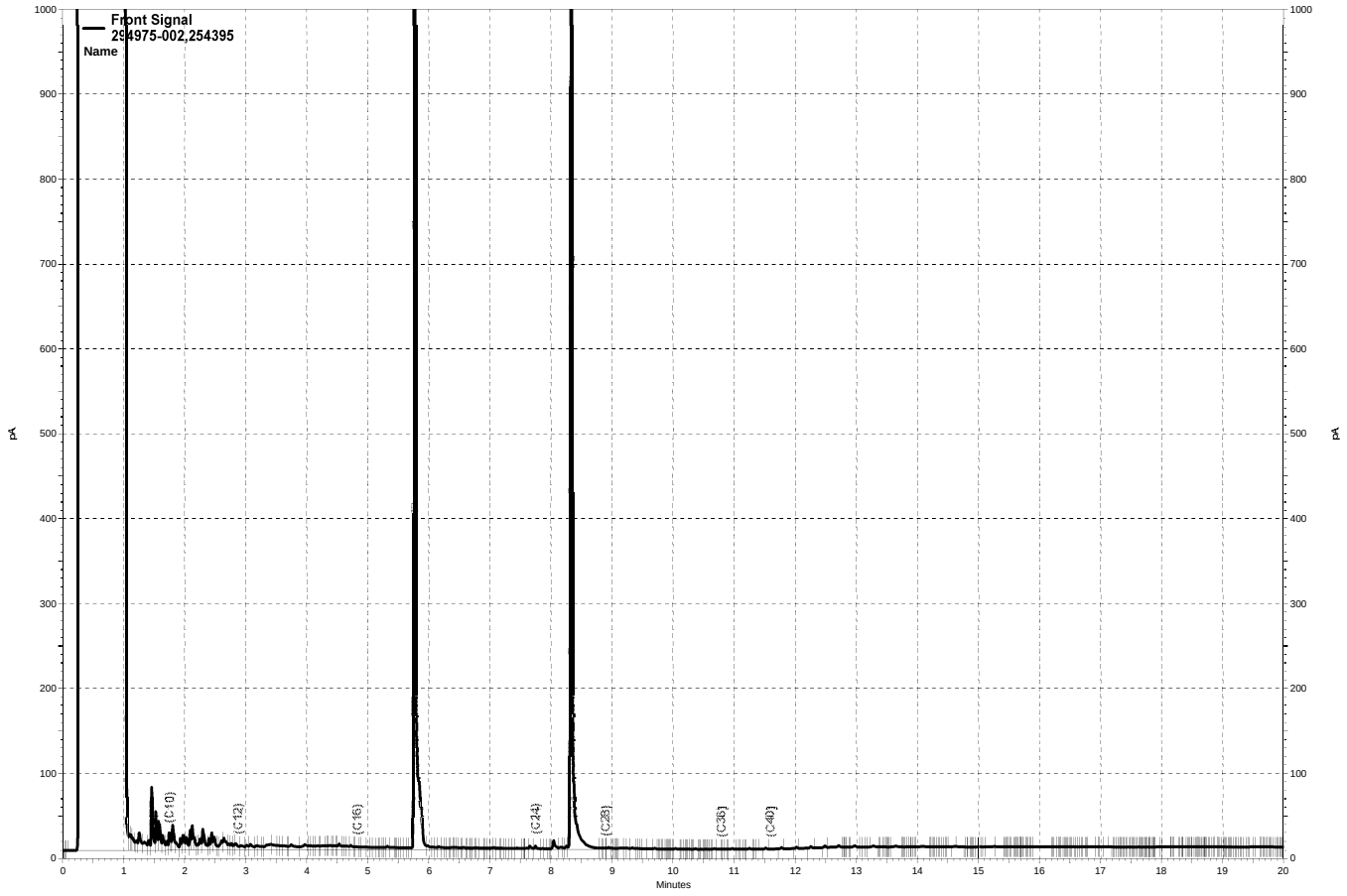
Surrogate	%REC	Limits
o-Terphenyl	93	51-134

Type: BSD Lab ID: QC911640

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,096	84	50-123	9	34

Surrogate	%REC	Limits
o-Terphenyl	86	51-134

RPD= Relative Percent Difference



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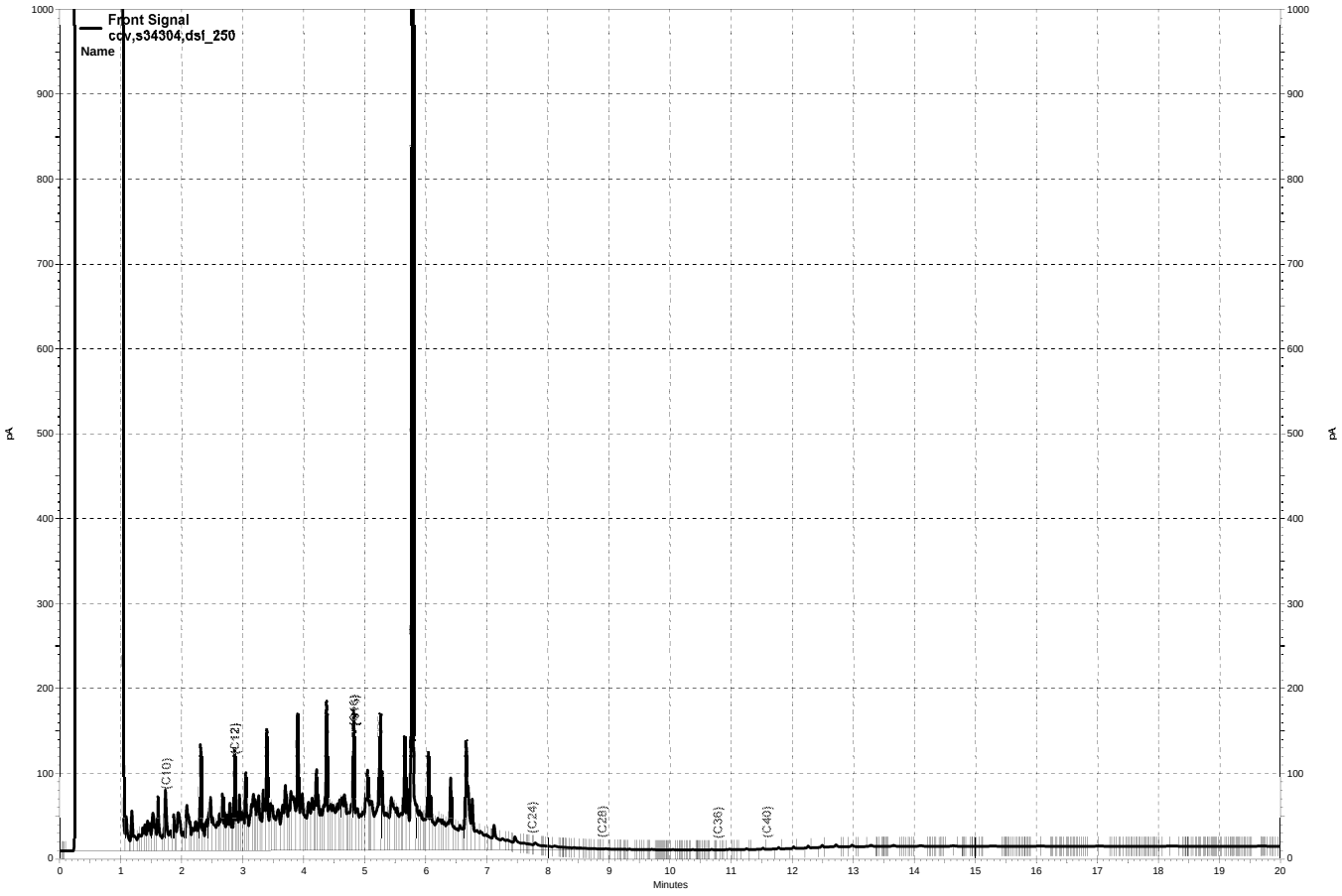

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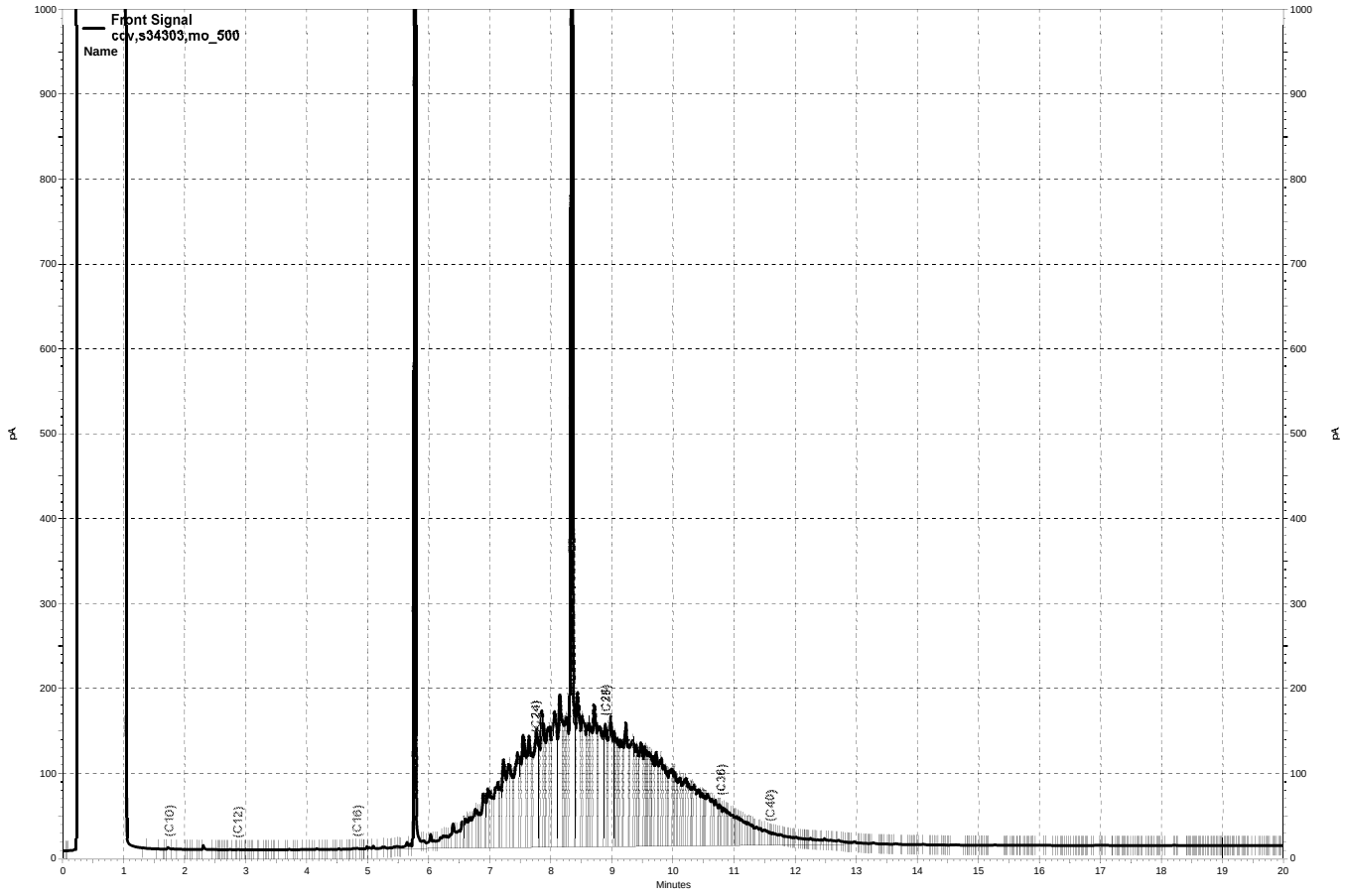

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ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	254493
Lab ID:	294975-001	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Analyzed:	12/08/17
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	2.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	254493
Lab ID:	294975-001	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Analyzed:	12/08/17
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	110	72-135
Toluene-d8	100	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	254529
Lab ID:	294975-002	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Analyzed:	12/08/17
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	2.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	28	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	254529
Lab ID:	294975-002	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Analyzed:	12/08/17
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	4.2	0.5
m,p-Xylenes	0.6	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	2.3	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	1.2	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	1.0	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	106	72-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC912076	Batch#:	254493
Matrix:	Water	Analyzed:	12/07/17
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	2.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC912076	Batch#:	254493
Matrix:	Water	Analyzed:	12/07/17
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	101	72-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	254493
Units:	ug/L	Analyzed:	12/07/17
Diln Fac:	1.000		

Type: BS Lab ID: QC912077

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.66	99	72-126
Benzene	25.00	24.57	98	80-124
Trichloroethene	25.00	24.39	98	78-120
Toluene	25.00	24.93	100	80-120
Chlorobenzene	25.00	24.90	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	100	72-135
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC912078

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	24.74	99	72-126	0	20
Benzene	25.00	25.50	102	80-124	4	20
Trichloroethene	25.00	25.40	102	78-120	4	20
Toluene	25.00	25.80	103	80-120	3	20
Chlorobenzene	25.00	25.92	104	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	99	72-135
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC912216	Batch#:	254529
Matrix:	Water	Analyzed:	12/08/17
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	2.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC912216	Batch#:	254529
Matrix:	Water	Analyzed:	12/08/17
Units:	ug/L		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	104	72-135
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 5030B
Project#:	17EMV05.2000	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	254529
Units:	ug/L	Analyzed:	12/08/17
Diln Fac:	1.000		

Type: BS Lab ID: QC912217

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.75	103	72-126
Benzene	25.00	25.76	103	80-124
Trichloroethene	25.00	26.17	105	78-120
Toluene	25.00	25.79	103	80-120
Chlorobenzene	25.00	25.35	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	102	72-135
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-120

Type: BSD Lab ID: QC912218

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.11	108	72-126	5	20
Benzene	25.00	27.05	108	80-124	5	20
Trichloroethene	25.00	27.56	110	78-120	5	20
Toluene	25.00	27.65	111	80-120	7	20
Chlorobenzene	25.00	27.09	108	80-120	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	104	72-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3520C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Field ID:	MW-3	Batch#:	254344
Lab ID:	294975-002	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Prepared:	12/04/17
Diln Fac:	1.000	Analyzed:	12/05/17

Analyte	Result	RL
Naphthalene	1.1	0.1
Acenaphthylene	ND	0.1
Acenaphthene	ND	0.1
Fluorene	ND	0.1
Phenanthrene	ND	0.1
Anthracene	ND	0.1
Fluoranthene	ND	0.1
Pyrene	ND	0.1
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.1
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.1
Benzo(g,h,i)perylene	ND	0.1

Surrogate	%REC	Limits
Nitrobenzene-d5	97	44-139
2-Fluorobiphenyl	81	47-120
Terphenyl-d14	80	25-123

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3520C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC911432	Batch#:	254344
Matrix:	Water	Prepared:	12/04/17
Units:	ug/L	Analyzed:	12/05/17

Analyte	Result	RL
Naphthalene	ND	0.1
Acenaphthylene	ND	0.1
Acenaphthene	ND	0.1
Fluorene	ND	0.1
Phenanthrene	ND	0.1
Anthracene	ND	0.1
Fluoranthene	ND	0.1
Pyrene	ND	0.1
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.1
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.1
Benzo(g,h,i)perylene	ND	0.1

Surrogate	%REC	Limits
Nitrobenzene-d5	84	44-139
2-Fluorobiphenyl	80	47-120
Terphenyl-d14	77	25-123

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3520C
Project#:	17EMV05.2000	Analysis:	EPA 8270C-SIM
Matrix:	Water	Batch#:	254344
Units:	ug/L	Prepared:	12/04/17
Diln Fac:	1.000	Analyzed:	12/05/17

Type: BS Lab ID: QC911433

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	1.000	0.8212	82	54-120
Pyrene	1.000	0.7632	76	50-120

Surrogate	%REC	Limits
Nitrobenzene-d5	92	44-139
2-Fluorobiphenyl	87	47-120
Terphenyl-d14	79	25-123

Type: BSD Lab ID: QC911434

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	1.000	0.7304	73	54-120	12	36
Pyrene	1.000	0.6605	66	50-120	14	37

Surrogate	%REC	Limits
Nitrobenzene-d5	81	44-139
2-Fluorobiphenyl	75	47-120
Terphenyl-d14	68	25-123

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

California LUFT Metals

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3010A
Project#:	17EMV05.2000	Analysis:	EPA 6010B
Field ID:	MW-3	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Prepared:	12/01/17
Diln Fac:	1.000	Analyzed:	12/01/17
Batch#:	254250		

Type: SAMPLE Lab ID: 294975-002

Analyte	Result	RL
Cadmium	ND	5.0
Chromium	ND	5.0
Lead	ND	5.0
Nickel	6.1	5.0
Zinc	ND	20

Type: BLANK Lab ID: QC911071

Analyte	Result	RL
Cadmium	ND	5.0
Chromium	ND	5.0
Lead	ND	5.0
Nickel	ND	5.0
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

California LUFT Metals

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3010A
Project#:	17EMV05.2000	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	254250
Units:	ug/L	Prepared:	12/01/17
Diln Fac:	1.000	Analyzed:	12/01/17

Type: BS Lab ID: QC911072

Analyte	Spiked	Result	%REC	Limits
Cadmium	100.0	95.71	96	80-120
Chromium	100.0	99.68	100	80-120
Lead	100.0	103.2	103	80-120
Nickel	100.0	92.58	93	80-120
Zinc	100.0	98.18	98	77-120

Type: BSD Lab ID: QC911073

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	100.0	98.15	98	80-120	3	20
Chromium	100.0	101.1	101	80-120	1	20
Lead	100.0	104.9	105	80-120	2	20
Nickel	100.0	95.10	95	80-120	3	20
Zinc	100.0	101.4	101	77-120	3	23

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

California LUFT Metals

Lab #:	294975	Location:	4331 San Pablo
Client:	OTG Enviroengineering Solutions, Inc	Prep:	EPA 3010A
Project#:	17EMV05.2000	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	254250
MSS Lab ID:	294964-001	Sampled:	11/30/17
Matrix:	Water	Received:	11/30/17
Units:	ug/L	Prepared:	12/01/17
Diln Fac:	1.000	Analyzed:	12/01/17

Type: MS Lab ID: QC911074

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	0.8381	100.0	99.76	99	80-124
Chromium	10.44	100.0	112.2	102	76-124
Lead	5.659	100.0	106.6	101	59-127
Nickel	9.858	100.0	101.4	92	70-123
Zinc	47.53	100.0	142.5	95	66-130

Type: MSD Lab ID: QC911075

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	100.0	99.12	98	80-124	1	20
Chromium	100.0	111.4	101	76-124	1	25
Lead	100.0	108.5	103	59-127	2	32
Nickel	100.0	102.4	92	70-123	1	26
Zinc	100.0	143.6	96	66-130	1	22

RPD= Relative Percent Difference