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November 12, 2014

Mr. Keith Nowell
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Site Investigation Report**

Site: **76 Station No. 5191/5043**
449 Hegenberger Road
Oakland, California
Fuel Leak Case No. RO0000219

Dear Mr. Nowell;

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call:

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Sincerely,

PACIFIC CONVENIENCE & FUEL

WALTER SPRAGUE
Director of Retail Services

Attachment

Site Investigation Report

76 Station No. 5191/5043
449 Hegenberger Road
Oakland, CA

Alameda County Health Care Services Agency
Fuel Leak Case No. RO0000219

Regional Water Quality Control Board
San Francisco Bay No. 01-1601

GeoTracker Global ID No.T0600101476

Antea Group Project No. I42705191

November 12, 2014

Prepared for:
Mr. Keith Nowell
Alameda County
Health Care Services Agency
1131 Harbor Bay Parkway,
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1.0 INTRODUCTION

Antea Group has prepared this Site Investigation Report describing the advancement of three (3) soil borings down-gradient of the site located at 449 Hegenberger Road in Oakland, California. This work was performed as proposed in the Work Plan – Monitoring Well Installation dated November 21, 2013 submitted by Antea Group to the Alameda County Health Case Service Agency (ACHCSA) and modified by an approval email dated December 23, 2013 from Mr. Keith Nowell of the ACHCSA. A copy of the email is included as **Appendix A**.

1.1 Site Description

The site is currently an operating 76 station located at 449 Hegenberger Road in Oakland, California (**Figure 1**). The site contains six fuel dispensers on two islands under a single canopy, three fuel underground storage tanks (USTs) on the north side of the site, a carwash facility on the west side of the site, and a station building in the central portion of the site. The current site features are shown on **Figure 2**.

1.2 Previous Assessment

October 1991 - Four soil samples were collected from the product pipe trenches at depths of approximately 3 feet below ground surface (bgs) during a dispenser island modification. The product pipe trenches were subsequently excavated to the groundwater depth at 4 to 4.5 feet bgs. Historical soil analytical results are presented in **Table 1**.

February 1992 - Three monitoring wells, MW-1 through MW-3, were installed at the site to depths ranging from 13.5 to 15 feet bgs. Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

August 1992 - Three additional monitoring wells, MW-4 through MW-6, were installed at the site, each to a depth of 13.5 feet bgs. Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

September 1994 - One 280-gallon waste-oil UST was removed from the site. The UST was made of steel, and no apparent holes or cracks were observed in the UST. One soil sample was collected from beneath

the former UST at a depth of approximately 9 feet bgs. No petroleum hydrocarbons were reported. Historical soil analytical results are presented in **Table 1**. The location of the former waste-oil UST is shown on **Figure 2**.

January 1995 - Two additional monitoring wells, MW-9 and MW-10, were installed to depths of 13 and 15 feet bgs. In addition, two existing monitoring wells were destroyed in order to accommodate the construction of a car wash at the site. Monitoring wells MW-4 and MW-5 were fully drilled out and backfilled with neat cement. Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

March 1995 - Two 10,000-gallon gasoline USTs and one 10,000-gallon diesel UST were removed from the site. Groundwater was encountered in the tank cavity at a depth of approximately 8.5 feet bgs. Soil samples contained total petroleum hydrocarbons as diesel (TPHd), benzene, and TPH as gasoline (TPHg). Approximately 125,000 gallons of groundwater were pumped from the site for remediation and properly disposed of off-site. Four fuel dispenser islands and associated product piping were also removed. Based on the results of the confirmation samples, the product dispenser islands were over excavated to approximately 6 feet bgs. Historical soil analytical results are presented in **Table 1**.

March-April 1995 - During demolition activities of the former station building, soil samples were collected from two excavations, which were subsequently over excavated. Confirmation samples contained petroleum hydrocarbons. An additional area on the south side of the former station building was excavated based on photo-ionization detector (PID) readings. Two monitoring wells, MW-1 and MW-2, were destroyed in order to allow for over excavation activities to extend to an area adjacent to the dispenser islands in the southeastern quadrant of the site. The excavated areas were subsequently backfilled with clean-engineered fill. Historical soil analytical results are presented in **Table 1**.

April 1997 - Two additional monitoring wells, MW-7 and MW-8, were installed off-site to the south and west on the neighboring property to a depth of 13 feet bgs. In addition, monitoring well MW-3, which was damaged during site demolition activities was drilled out and replaced. Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

October 2003 - Site environmental consulting responsibilities were transferred to TRC.

April 8-9, 2005 - TRC conducted a 24-hour dual phase extraction (DPE) test at the site using monitoring well MW-6. The 24-hour DPE test was only moderately successful at removing vapor-phase petroleum

hydrocarbons from the subsurface; therefore, TRC recommended DPE no longer be considered a viable remedial alternative for the site.

October 2007 - Site environmental consulting responsibilities were transferred to Delta Consultants.

December 2009 - Delta advanced two borings, B-4 and B-5, to depths of 20 feet bgs and 32 feet bgs, respectively. Analytical results from the soil and groundwater samples collected from these two borings indicated that the soil and groundwater were impacted by petroleum hydrocarbons at these locations. Historical soil analytical results are presented in **Table 1**. Boring locations are shown on **Figure 2**.

June 2010 - Delta advanced four borings to be completed as monitoring wells MW-11, MW-12, MW-12A, and MW-13. The wells were installed to depths of 15 feet bgs (MW-13), 20 feet bgs (MW-11 and MW-12), and 34 feet bgs (MW-12A). Analytical results from the soil samples collected from the borings for monitoring wells MW-12 and MW-12A indicated that the soil was impacted by petroleum hydrocarbons. Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

May 2011 - Antea Group (formally Delta Consultants) installed four 2-inch diameter monitoring wells, MW-14 through MW-17, and advanced one soil boring, B-6, at the site. All four monitoring wells were installed with ten feet of screen from 3 feet bgs to 13 feet bgs. Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

March 2012 - Antea Group advanced five borings (HPB-1 through HPB-5) at the site. The borings were advanced using direct push technology. The borings were used to obtain a hydraulic profile of the substrate beneath the site.

July 2013 - Antea Group advanced ten soil borings (SB-1 through SB-10) at the site. The borings were advanced using direct push technology. The borings were used to delineate petroleum hydrocarbon impacted soil around monitoring well MW-6. Historical soil analytical results are presented in **Table 1**. Sample locations are shown on **Figure 2**.

September 2014 - Antea Group advanced two (2) cone penetration test (CPT) borings CPT-1 and CPT-2 in preparation for soil excavations on site. Soil and groundwater samples were not collected. Data from the CPT borings was used to help design shoring for excavations.

1.3 Sensitive Receptors

April 24, 2006 TRC completed a sensitive receptor survey for the site. According to the Department of Water Resources (DWR) records, there are two irrigation wells and one industrial well located within one-half mile of the site. The nearest well, is an irrigation well located approximately 1,080 feet southeast of the site. The other irrigation well is located approximately 2,623 feet southeast of the site and the industrial well is located approximately 2,570 feet northeast of the site.

In addition, two surface water bodies were observed within a one-half mile radius of the site. San Leandro Creek is located approximately 1,400 feet southwest of the site and flows into the San Leandro Bay. Elmhurst Creek is located approximately 2,220 feet north of the site and also flows into the San Leandro Bay.

2.0 SITE GEOLOGY AND HYDROGEOLOGY

The site is underlain by Holocene-age bay mud. The bay mud typically consists of unconsolidated, saturated clay and sandy clay that is rich in organic material. The bay mud locally contains lenses and stringers of silt, well-sorted sand and gravel, and beds of peat.

The most recent monitoring and sampling event was conducted at the site on September 5, 2014. The measured depth to groundwater ranged from 3.49 feet to 5.47 feet below top of casing (TOC). The groundwater flow direction was south with a hydraulic gradient of 0.003 foot per foot.

3.0 BORING ADVANCEMENT ACTIVITIES

3.1 Permitting, Utility Notification, and Borehole Clearance

Before commencing field activities Antea Group prepared a Health and Safety Plan in accordance with state and federal requirements for use during investigation activities. An access agreement was obtained from the off-site property owner. A drilling permit was obtained for the three (3) soil borings from the Alameda County Public Works Agency and an encroachment permit was obtained from the City of Oakland (**Appendix B**). Prior to drilling, Underground Service Alert (USA) was notified as required by law and a private utility locator was employed to clear each boring location for underground utilities. In

addition, a hand auger was used to clear each boring location to a depth of 5 feet bgs prior borehole advancement.

3.2 Soil Borings

On September 22 and 23, 2014, Gregg Drilling and Testing Inc., (Gregg) under the supervision of an Antea Group geologist, advanced three (3) soil borings (SB-13 through SB-15) using a direct push drill rig. Soil samples were collected continuously beginning at a depth of approximately 5 feet bgs and logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of volatile organic compounds by headspace analysis using a pre-calibrated PID. Soil samples from the borings retained for laboratory analysis were chosen based on PID readings, changes in lithology, groundwater elevation, and the total depth of the boring. Soil borings SB-13, SB-14, and SB-15 were advanced to depths of 20, 15, and 16 feet bgs, respectively. Subsequent to groundwater sampling, each boring was backfilled with neat cement. Soil borings SB-13 and SB-15 were capped with concrete and SB-14 was capped with soil to match surrounding conditions. Boring logs are presented as **Appendix C**.

3.3 Soil Sampling Analysis

Soil samples retained for analysis were analyzed for TPHg , benzene, toluene, ethylbenzene, and total xylenes (collectively BTEX), methyl tertiary-butyl ether (MTBE), tertiary-butyl alcohol (TBA), and ethanol by Environmental Protection Agency (EPA) Method 8260B; and TPHd by EPA Method 8015M; with silica gel treatment. The samples were submitted with chain-of-custody (COC) documentation to Kiff Analytical LLC. (Kiff), a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory (Certification No. 08263CA). The complete analytical report, COC, and Antea Group's laboratory data validation checklist are presented as **Appendix D.**

3.4 Grab-Groundwater Sampling

Grab-groundwater samples were collected from each of the soil borings. Subsequent to the completion of each soil boring, a temporary casing was lowered into each boring and the groundwater was allowed to stabilize before the grab-groundwater samples were collected using disposable bailers. Grab-groundwater samples retained for analysis were analyzed for TPHg, BTEX, MTBE, TBA, and ethanol by EPA Method 8260B; and TPHd with silica gel treatment by EPA Method 8015M. The samples were

submitted with chain-of-custody documentation to Kiff. The complete analytical report, COC, and Antea Group's laboratory data validation checklist are presented as **Appendix D.**

3.5 Quality Assurance / Quality Control

Antea Group's Quality Assurance / Quality Control (QA/QC) measures included a detailed QA/QC data validation check on the Kiff analytical report for the September 2014 site investigation. Antea Group's laboratory data validation checklist, the Kiff analytical report, and COC are presented as **Appendix D**.

Laboratory QA/QC Performed:	Yes (validated by Antea Group)
Laboratory Data Qualifiers:	Yes – three qualifiers*
Are the data valid for their intended purpose?	Yes, the data are valid

* The Method Blank associated with sample SB-13GW contained 56 µg/L TPH as Diesel (Silica Gel). Since TPH as Diesel (Silica Gel) was reported at a concentration greater than 10 times this value, no data were flagged.
* Recoveries for some Matrix Spike/ Matrix Spike Duplicate analytes were outside control limits. This may indicate a bias for the samples that were spiked. Since the LCS recoveries were within control limits, no data are flagged.
* LCS and Matrix Spike/Matrix Spike Duplicate results associated with samples SB-13GW and SB-15GW for the analyte Ethanol were outside of control limits, indicating a possible high bias for this analyte. Since Ethanol was not detected above the Method Reporting Limit in the associated samples, no data are flagged.

3.6 Disposal of Drill Cuttings and Wastewater

Drill cuttings generated during soil boring advancement activities were placed into a properly labeled 55-gallon Department of Transportation (DOT) approved steel drum. A sample of the drill cuttings was collected, properly labeled, placed on ice, and submitted to a California-certified laboratory for analysis of TPHg, BTEX, and MTBE by EPA Method 8260, and CAM 17 Metals by EPA Method 6010. Chain-of-custody documentation accompanied the sample during transportation to the laboratory. The complete analytical report, COC and laboratory data validation checklist are presented as **Appendix D**. The generated waste has been removed from the site and disposed of at an approved waste facility. A copy of the waste manifest is presented as **Appendix E.**

4.0 RESULTS OF THE INVESTIGATION

4.1 Soil Analytical Results

Analytical results from the soil samples collected during this investigation reported concentrations of TPHd with silica gel ranging from 1.2 milligrams per kilogram (mg/kg) (SB-15d13.5) to 1,800 mg/kg (SB-13d8.5). However, the laboratory indicated that the "hydrocarbons are higher-boiling than typical diesel fuel" for each of the soil samples. All other constituents analyzed for were below the laboratory's indicated reporting limits. The soil analytical results are presented in **Table 1** and on **Figure 3**. A copy of the laboratory report, COC, and a laboratory validation checklist are presented as **Appendix D**.

4.2 Grab Groundwater Analytical Results

Analytical results from the grab groundwater samples collected during this investigation reported a concentration of toluene at 5.9 micrograms per liter (µg/L) (SB-15GW) and concentrations of TPHd with silica gel treatment ranging from 280 µg/L (SB-15GW) to 480 µg/L (SB-14GW). However, the laboratory indicated that the "hydrocarbons are higher-boiling than typical diesel fuel" for each of the groundwater samples. All other constituents analyzed for were below the laboratory's indicated reporting limits. The grab groundwater analytical results are presented in **Table 2** and on **Figure 3**. A copy of the laboratory report, COC, and a laboratory validation sheet are presented as **Appendix D**.

5.0 DISSCUSSION

With the exception of toluene in the grab groundwater sample from soil boring SB-15, the only reported petroleum hydrocarbon during this investigation was TPHd. TPHd was reported in each of the eight soil and three grab groundwater samples submitted for analysis. The laboratory indicated that the "hydrocarbons are higher-boiling than typical diesel fuel". This is indicative of heavier lubricating oils (motor oil). According to EPA's report *How To Effectively Recover Free Product At Leaking Underground Storage Tank Sites* published in September 1996, middle distillates such as diesel are "more dense, much less volatile, less water soluble, and less mobile than the compounds found in gasolines." Given that, it is unlikely that diesel would migrate to the off-site boring locations without being accompanied by gasoline compounds especially MTBE. Since no MTBE or TPHg were reported in the soil and groundwater samples collected during this investigation it is unlikely that the TPHd reported during this

investigation migrated from the site. Another possibility is that the TPHd found in the off-site soil boring locations is naturally occurring in the bay mud or from another off-site source in this area.

Toluene was reported in the grab groundwater sample from SB-15 at 5.9 µg/L which is below the San Francisco Bay, Regional Water Quality Control Board's, Environmental Screening Levels for toluene (40 µg/L) in groundwater that is a current or potential drinking water resource.

6.0 CONCLUSIONS

Included in this report, **Appendix D**, are the chromatograms from each of the eight soil and three groundwater samples analyzed for diesel. Also included is a chromatogram of a typical motor oil sample. These chromatograms indicate that the diesel samples collected during this investigation are most likely motor oil and not diesel. The former waste-oil UST was exhumed and removed from the site in September 1994 and all constituents tested in the soil sample collected beneath this UST were below the laboratory's indicated reporting limits.

Based on the results from this investigation, the soil and groundwater at the off-site soil boring locations do not appear to be affected by the petroleum hydrocarbon impact with the exception of toluene in the groundwater in SB-15 and TPHd in each of the soil and groundwater samples. However, the diesel reported by the laboratory does not meet the laboratory standards for diesel. It is possible, however unlikely, due to the silica gel treatment performed during the analysis of these samples, that the diesel reported during this investigation is the result of naturally occurring decomposed organics in the bay mud.

Based on this data, Antea Group does not believe the diesel, most likely motor oil, reported in the soil and groundwater samples collected during this investigation originated from a release from this site.

In addition, based on the data, the extent of the petroleum hydrocarbon and fuel oxygenate impact down-gradient of the site, to the south and southeast, appears to be defined.

7.0 REMARKS

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Prepared by:

Jonathan F. Fillingame Date: 11/12/14

Jonathan Fillingame
Staff Geologist

Information, conclusions, and recommendations provided by Antea Group in this document regarding the site have been prepared under the supervision of and reviewed by the licensed professional whose signature appears below.

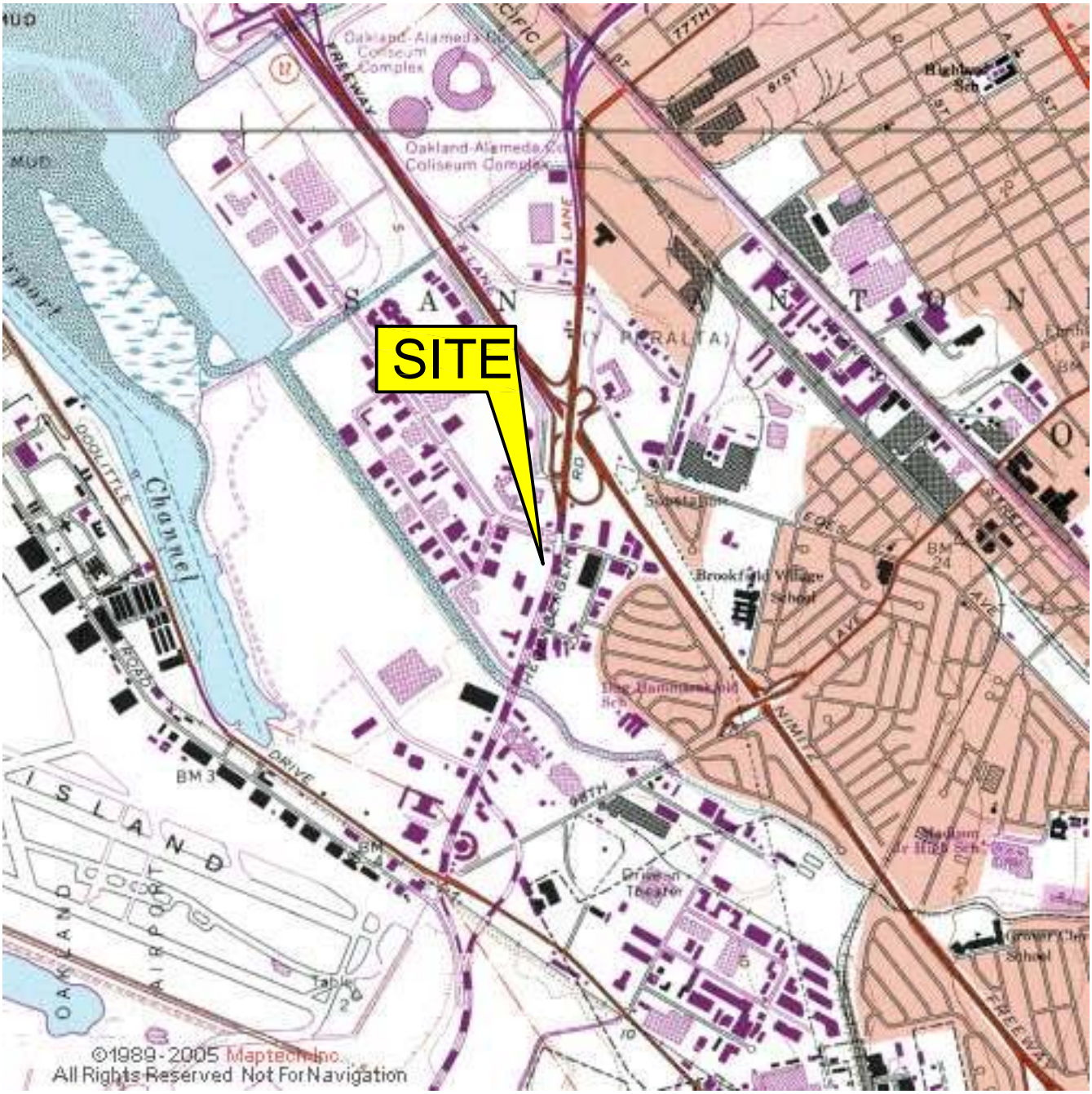
Licensed Approver:

PROFESSIONAL GEOLOGIST
DENNIS SHANNON DETTLOFF
No. 7480
STATE OF CALIFORNIA

Dennis S. Dettloff Date: 11/12/14

Dennis S. Dettloff, P.G.
Senior Project Manager
California Registered Professional Geologist No. 7480

Figures



North

0 900 1800 FT

SCALE

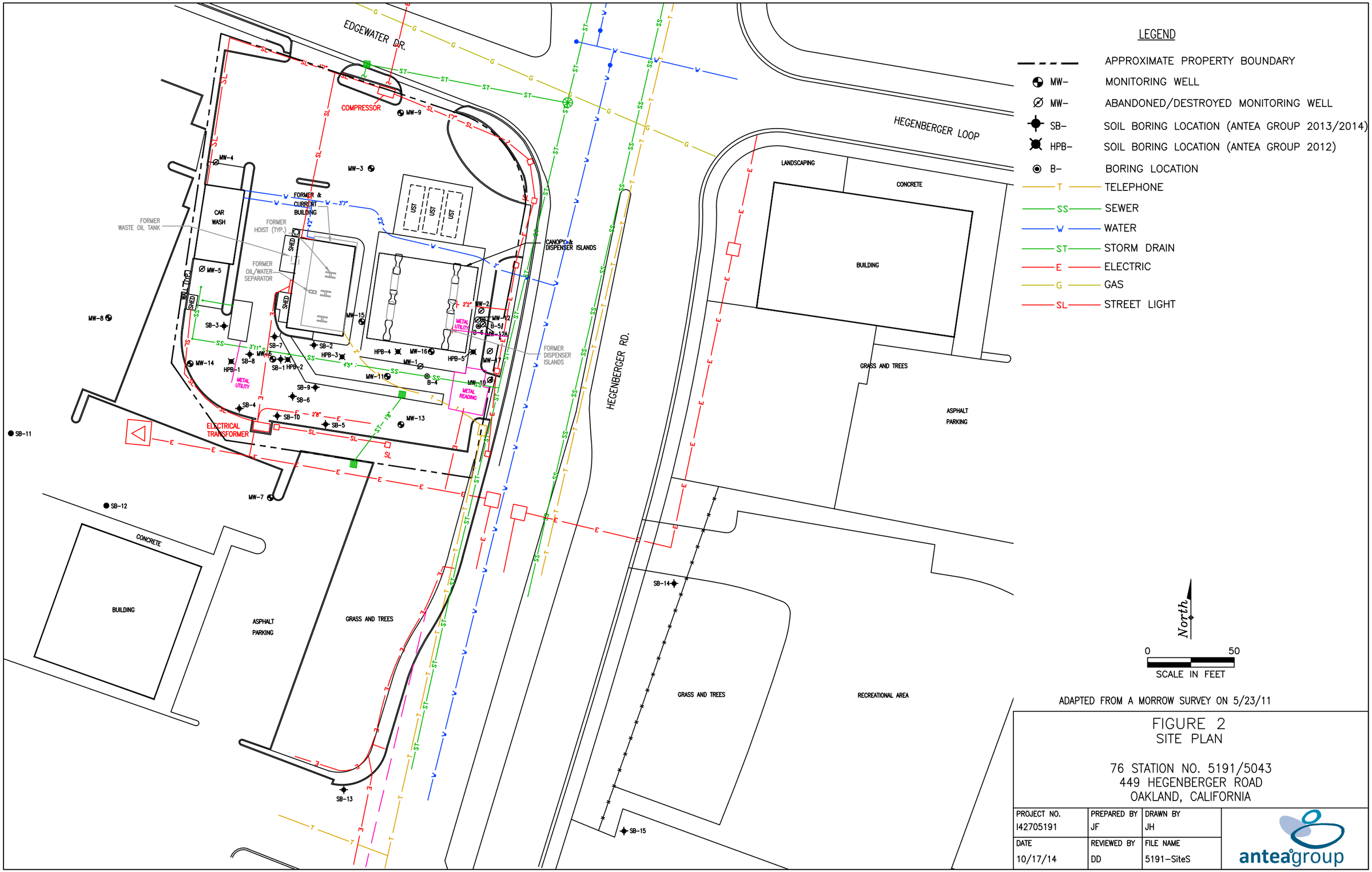
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND EAST QUADRANGLE (1973)

FIGURE 1
SITE LOCATION MAP

76 STATION NO. 5191/5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
142705191	EW	DR/JH
DATE	REVIEWED BY	FILE NAME
1/31/11	DD	5043-SiteLocator

antea group



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW– MONITORING WELL
- MW– ABANDONED/DESTROYED MONITORING WELL
- SB– SOIL BORING LOCATION (ANTEA GROUP 2013/2014)
- HPB– SOIL BORING LOCATION (ANTEA GROUP 2012)
- B– BORING LOCATION
- T TELEPHONE
- SS SEWER
- W WATER
- ST STORM DRAIN
- E ELECTRIC
- G GAS
- SL STREET LIGHT

North

0 50

SCALE IN FEET

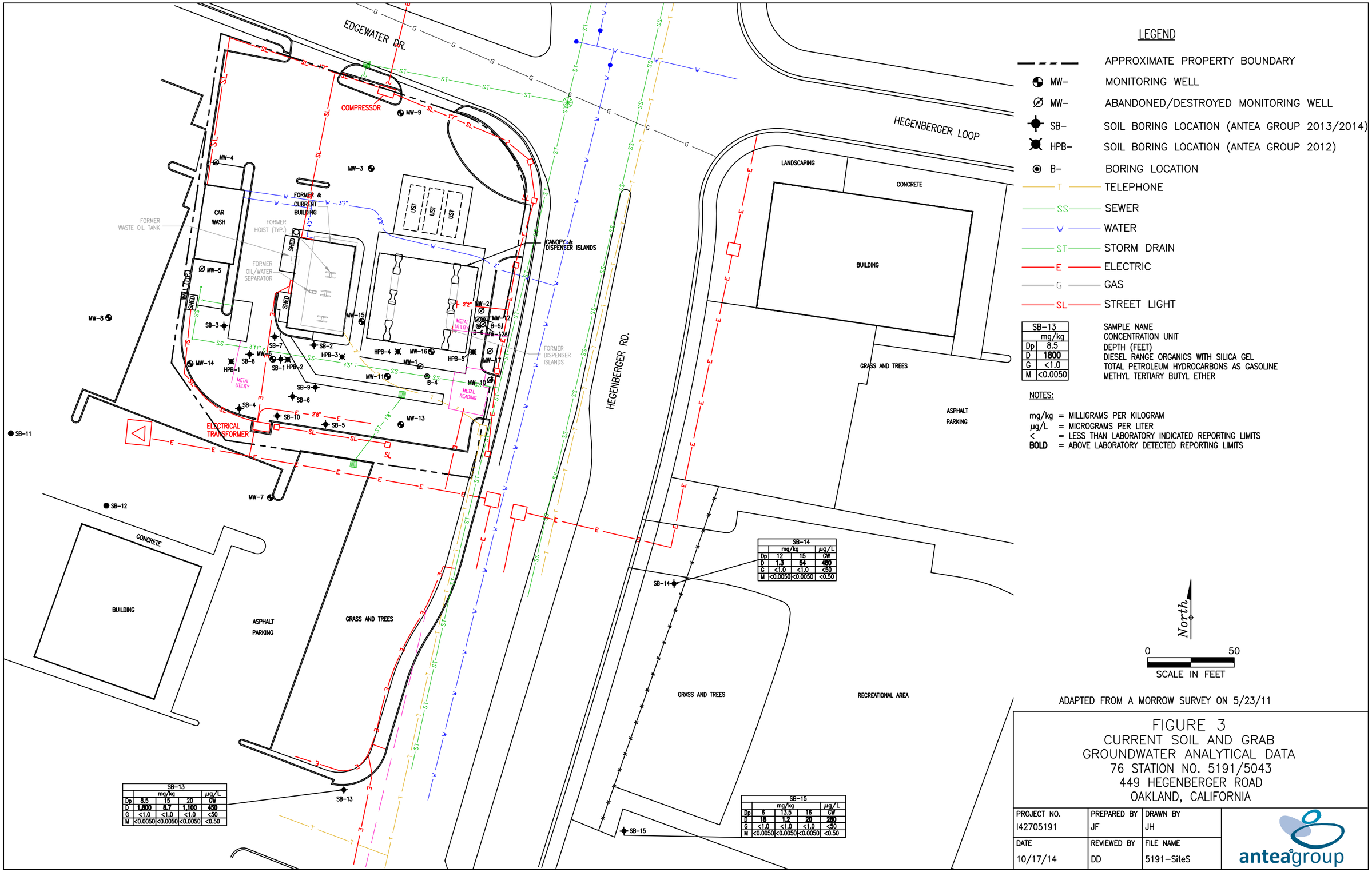
ADAPTED FROM A MORROW SURVEY ON 5/23/11

FIGURE 2
SITE PLAN

76 STATION NO. 5191/5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
142705191	JF	JH
DATE	REVIEWED BY	FILE NAME
10/17/14	DD	5191-SiteS

antea group



SB-13				
	mg/kg			µg/L
Dp	8.5	15	20	GW
D	**1,800**	**8.7**	**1,100**	**450**
G	<1.0	<1.0	<1.0	<50
M	<0.0050	<0.0050	<0.0050	<0.50

SB-14			
	mg/kg		µg/L
Dp	12	15	GW
D	**1.3**	**54**	**480**
G	<1.0	<1.0	<50
M	<0.0050	<0.0050	<0.50

SB-15				
	mg/kg			µg/L
Dp	6	13.5	16	GW
D	**18**	**1.2**	**20**	**280**
G	<1.0	<1.0	<1.0	<50
M	<0.0050	<0.0050	<0.0050	<0.50

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW– MONITORING WELL
- MW– ABANDONED/DESTROYED MONITORING WELL
- SB– SOIL BORING LOCATION (ANTEA GROUP 2013/2014)
- HPB– SOIL BORING LOCATION (ANTEA GROUP 2012)
- B– BORING LOCATION
- T TELEPHONE
- SS SEWER
- W WATER
- ST STORM DRAIN
- E ELECTRIC
- G GAS
- SL STREET LIGHT

SB-13	
	mg/kg
Dp	8.5
D	**1800**
G	<1.0
M	<0.0050

SAMPLE NAME
CONCENTRATION UNIT
DEPTH (FEET)
DIESEL RANGE ORGANICS WITH SILICA GEL
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
METHYL TERTIARY BUTYL ETHER

NOTES:

mg/kg = MILLIGRAMS PER KILOGRAM
µg/L = MICROGRAMS PER LITER
< = LESS THAN LABORATORY INDICATED REPORTING LIMITS
BOLD = ABOVE LABORATORY DETECTED REPORTING LIMITS

North

0 50

SCALE IN FEET

ADAPTED FROM A MORROW SURVEY ON 5/23/11

FIGURE 3
CURRENT SOIL AND GRAB GROUNDWATER ANALYTICAL DATA
76 STATION NO. 5191/5043
449 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
142705191	JF	JH
DATE	REVIEWED BY	FILE NAME
10/17/14	DD	5191-SiteS

antea group

Tables

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

76 Station No. 5191/5043

449 Hegenberger Raod, Oakland, California

Sample ID	Date	Sample Depth (feet)	TPHg (mg/kg)	TPHg* (mg/kg)	TPHd (mg/kg)	TPHd* (mg/Kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	Ethanol (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
P1	10/25/1991	3	**3,200**	--	**420**	--	**33**	**120**	**110**	**540**	--	--	--	--	--	--	--	--	--	--
P2	10/25/1991	3	**9,000**	--	**8,400**	--	**46**	**120**	**330**	**1,500**	--	--	--	--	--	--	--	--	--	--
P3	10/25/1991	3	**7,100**	--	**1,100**	--	**48**	**410**	**220**	**1,200**	--	--	--	--	--	--	--	--	--	--
P4	10/25/1991	3	**370**	--	**460**	--	**7.4**	**39**	**12**	**77**	--	--	--	--	--	--	--	--	--	--
MW1(2.5)	2/5/1992	2.5	**14,000**	--	**1,200**	--	**160**	**680**	**470**	**2,400**	--	--	--	--	--	--	--	--	--	--
MW2(3.5)	2/5/1992	3.5	**9,000**	--	**2,400**	--	**74**	**440**	**280**	**1,400**	--	--	--	--	--	--	--	--	--	--
MW2(4.5)	2/5/1992	4.5	**31**	--	**29**	--	**2.4**	**0.14**	**3.0**	**9.0**	--	--	--	--	--	--	--	--	--	--
MW3(3)	2/5/1992	3	<1.0	--	**49**	--	<0.005	<0.005	<0.005	**0.011**	--	--	--	--	--	--	--	--	--	--
MW3(4.5)	2/5/1992	4.5	<1.0	--	<1.0	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
MW4(5)	8/21/1992	5	<1.0	--	<1.0	--	<0.005	<0.005	<0.005	**0.0066**	--	--	--	--	--	--	--	--	--	--
MW5(6)	8/21/1992	6	**340**	--	**43**	--	**1.1**	**1.2**	**7.8**	**13**	--	--	--	--	--	--	--	--	--	--
MW6(5)	8/21/1992	5	**3.7**	--	**1.2**	--	**0.9**	<0.005	**1.0**	**0.05**	--	--	--	--	--	--	--	--	--	--
WO1	9/20/1994	9	<1.0	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	5.0
MW9(3)	1/25/1995	3	**1.7**	--	**2.6**	--	**0.016**	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
MW10(2.5)	1/25/1995	2.5	**44**	--	**17**	--	**2.0**	**1.5**	**2.3**	**5.4**	--	--	--	--	--	--	--	--	--	--
SW1	3/10/1995	8	**11**	--	--	--	**2.8**	<0.005	**1.6**	**0.067**	--	--	--	--	--	--	--	--	--	--
SW2	3/10/1995	8	**11**	--	--	--	**3.8**	<0.005	**0.79**	**0.034**	--	--	--	--	--	--	--	--	--	--
SW2(4)	3/10/1995	4	**2,000**	--	**140**	--	<0.005	**53**	**42**	**240**	--	--	--	--	--	--	--	--	--	--
SW3	3/10/1995	8	**1.0**	--	<1.0	--	**0.009**	**0.006**	**0.007**	**0.014**	--	--	--	--	--	--	--	--	--	--
SW4	3/10/1995	8	<1.0	--	**1.8**	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
SW5	3/10/1995	8	<1.0	--	**1.4**	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
SW6	3/10/1995	8	<1.0	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
SW7	3/10/1995	8	<1.0	--	--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	--
SW8	3/10/1995	8	**140**	--	--	--	**2.6**	**5.3**	**2.7**	**12**	--	--	--	--	--	--	--	--	--	--
D1	3/24/1995	3	**760**	--	**46**	--	**1.5**	**19**	**15**	**73**	--	--	--	--	--	--	--	--	--	--
D2	3/24/1995	3	**1,200**	--	**97**	--	**1.6**	**16**	**22**	**110**	--	--	--	--	--	--	--	--	--	--
B1	3/28/1995	6	<1.0	--	<1.0	--	**0.13**	**0.026**	**0.0088**	**0.059**	--	--	--	--	--	--	--	--	--	--
B2	3/28/1995	6	**3.4**	--	<1.0	--	**2.8**	**0.041**	**0.19**	**0.28**	--	--	--	--	--	--	--	--	--	--
B3	3/28/1995	6	<1.0	--	<1.0	--	<0.005	**0.01**	<0.005	**0.017**	--	--	--	--	--	--	--	--	--	--
B4	3/28/1995	6	<1.0	--	<1.0	--	<0.005	**0.017**	<0.005	**0.032**	--	--	--	--	--	--	--	--	--	--
BD1	3/28/1995	6	<1.0	--	<1.0	--	**0.21**	**0.011**	**0.018**	**0.038**	--	--	--	--	--	--	--	--	--	--
BD2	3/28/1995	6	**12**	--	**4.8**	--	**2.6**	**0.68**	**0.56**	**1.7**	--	--	--	--	--	--	--	--	--	--
BD3	3/28/1995	6	<1.0	--	<1.0	--	**0.012**	**0.014**	**0.012**	**0.043**	--	--	--	--	--	--	--	--	--	--
BD4	3/28/1995	6	<1.0	--	<1.0	--	<0.005	**0.011**	**0.0072**	**0.037**	--	--	--	--	--	--	--	--	--	--
S1	3/28/1995	4	**110**	--	<1.0	--	**3.5**	**0.61**	**7.0**	**13**	--	--	--	--	--	--	--	--	--	--
S2	3/28/1995	4	**1.4**	--	**9.4**	--	**0.028**	**0.012**	**0.015**	**0.019**	--	--	--	--	--	--	--	--	--	--
S3	3/28/1995	4	**22**	--	**2.9**	--	**1.2**	**1.2**	**0.65**	**1.9**	--	--	--	--	--	--	--	--	--	--
S4	3/28/1995	4	**150**	--	**5.8**	--	**6.8**	**5.6**	**5.3**	**27**	--	--	--	--	--	--	--	--	--	--
RF1	3/31/1995	3	**2,000**	--	**330**	--	**8.8**	**68**	**55**	**280**	--	--	--	--	--	--	--	--	--	--
RF2	3/31/1995	3	**3,300**	--	**230**	--	**18**	**160**	**110**	**550**	--	--	--	--	--	--	--	--	--	--
SW8(6)	4/3/1995	8	<1.0	--	<1.0	--	**0.0085**	<0.005	**0.0084**	**0.011**	--	--	--	--	--	--	--	--	--	--
FB1	4/3/1995	4.5	**25**	--	**8.6**	--	**2.1**	**0.058**	**2.2**	**1.3**	--	--	--	--	--	--	--	--	--	--
FB2	4/3/1995	4.5	**7.1**	--	**1.6**	--	**0.4**	**0.018**	**0.81**	**1.7**	--	--	--	--	--	--	--	--	--	--
FB3	4/3/1995	4.5	**1.6**	--	<1.0	--	**0.028**	<0.005	**0.13**	**0.26**	--	--	--	--	--	--	--	--	--	--

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

76 Station No. 5191/5043

449 Hegenberger Raod, Oakland, California

Sample ID	Date	Sample Depth (feet)	TPHg (mg/kg)	TPHg* (mg/kg)	TPHd (mg/kg)	TPHd* (mg/Kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	Ethanol (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
FB4	4/3/1995	4.5	**1.4**	--	<1.0	--	**0.23**	**0.022**	**0.05**	**0.15**	--	--	--	--	--	--	--	--	--	--
FBSW1	4/3/1995	3	**7.4**	--	**1.3**	--	**0.066**	**0.021**	**1.0**	<0.005	--	--	--	--	--	--	--	--	--	--
FBSW2	4/3/1995	3	**70**	--	**7.6**	--	**0.11**	**0.096**	**2.1**	**6.7**	--	--	--	--	--	--	--	--	--	--
FBSW3	4/3/1995	3	**2.3**	--	**7.8**	--	**0.012**	**0.01**	**0.018**	**0.012**	--	--	--	--	--	--	--	--	--	--
FBSW4	4/3/1995	3	**9.0**	--	**3.7**	--	**0.25**	**0.036**	**0.93**	**0.062**	--	--	--	--	--	--	--	--	--	--
MW1SW1	4/5/1995	5	**25**	--	**2.8**	--	**2.1**	**0.025**	**2.4**	**0.19**	--	--	--	--	--	--	--	--	--	--
MW1SW2	4/5/1995	5	**4.2**	--	**1.2**	--	**0.17**	**0.01**	**0.68**	**0.048**	--	--	--	--	--	--	--	--	--	--
WE1	4/5/1995	4.5	**26**	--	**3.4**	--	**0.31**	**0.3**	**0.59**	**2.6**	--	--	--	--	--	--	--	--	--	--
WE2	4/5/1995	4.5	**2.7**	--	**5.1**	--	**0.0054**	**0.0065**	**0.038**	**0.17**	--	--	--	--	--	--	--	--	--	--
WE3	4/5/1995	4.5	**8.2**	--	**1.6**	--	**0.21**	**0.074**	**1.6**	**0.0076**	--	--	--	--	--	--	--	--	--	--
FS-1	4/5/1995	4	**12**	--	<1.0	--	**0.28**	<0.005	**1.5**	**0.016**	--	--	--	--	--	--	--	--	--	--
MW8(6)	4/21/1997	6	**1.3**	--	<1.0	--	**0.0051**	<0.005	**0.015**	**0.041**	<0.005	--	--	--	--	--	--	--	--	--
Delta 2009																				
B-4@6	12/17/2009	6	**20.4**	--	**11.4**	**10.1**	**0.046**	**0.18**	**1.0**	**4.2**	**0.061**	**0.091**	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	--	--
B-4@15	12/17/2009	15	<4.9	--	<5.8	<5.8	**0.0036**	**0.0069**	**0.011**	**0.049**	**0.0081**	**0.036**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--
B-4@20	12/17/2009	20	<4.9	--	<5.6	<5.6	<0.003	<0.003	<0.003	<0.006	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--
B-5@8	12/17/2009	8	**1,060**	--	**285**	**269**	**6.2**	**21.6**	**30.9**	**143**	<0.0029	**0.079**	**0.068**	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	--	--
B-5@17.5	12/17/2009	17.5	**136**	--	**27.8**	**26.9**	**0.55**	**1.4**	**2.7**	**15.8**	<0.003	**0.035**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--
B-5@26.5	12/17/2009	26.5	**1,570**	--	**338**	**346**	**16.2**	**73.5**	**52.8**	**255**	**0.02**	**0.11**	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	--	--
B-5@32	12/17/2009	32	<4.8	--	<5.9	<5.9	**0.007**	**0.0087**	**0.0057**	**0.031**	<0.0029	<0.015	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	--	--
Delta 2010																				
MW-11@10	6/22/2010	10	--	<0.18	--	**3.2**	<0.0022	<0.0022	<0.0022	<0.0066	**0.011**	<0.011	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	--	**6.1**
MW-11@20	6/22/2010	20	--	<0.25	--	**27.3**	<0.0027	<0.0027	<0.0027	<0.0081	<0.0027	<0.013	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	--	**3.4**
MW-12@8	6/22/2010	8	--	**210**	--	**45.7**	**5.2**	**9.1**	**6.7**	**33.3**	<0.0028	**0.021**	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	--	**8.6**
MW-12@10	6/22/2010	10	--	**422**	--	**73.6**	**4.0**	**3.5**	**11.0**	**31.4**	<0.0029	<0.015	**0.023**	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	--	**9.5**
MW-12@20	6/22/2010	20	--	<0.24	--	<2.0	**0.019**	<0.0028	<0.0028	<0.0085	<0.0028	<0.014	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	--	**6.6**
MW-12A@26	6/23/2010	26	--	**6,840**	--	**2,210**	**80.9**	**232**	**178**	**607**	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	--	**13.1**
MW-12A@32	6/23/2010	32	--	**943**	--	**267**	**4.9**	**15.5**	**12.0**	**42.6**	**0.045**	**0.044**	**0.048**	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	--	**6.6**
MW-12A@34	6/23/2010	34	--	<0.22	--	<1.9	<0.0027	**0.0097**	**0.0074**	**0.033**	<0.0027	<0.013	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	--	**4.9**
MW-13@8	6/22/2010	8	--	<0.21	--	<2.0	<0.0026	<0.0026	<0.0026	<0.0077	**0.064**	<0.013	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	--	**3.6**
MW-13@15	6/22/2010	15	--	<0.24	--	<2.0	<0.0029	<0.0029	<0.0029	<0.0087	<0.0029	<0.014	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	--	**5.9**
Antea Group 2011																				
MW-14d7	5/17/2011	7	--	<0.23	<2.0	<2.0	<0.0027	<0.0027	<0.0027	<0.0081	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.36	<0.0027	<0.0027	--	**6.6**
MW-14d10	5/17/2011	10	--	**1,740**	**45.5 A**	**45.5 A**	**1.8**	**0.2**	**44**	**140**	<0.0026	<0.013	<0.0026	<0.0026	<0.0026	<0.34	<0.0026	<0.0026	--	**7**
MW-14d13	5/17/2011	13	--	**1.0**	<2.0	<2.0	<0.0027	<0.0027	**0.037**	**0.066**	<0.0027	<0.014	<0.0027	<0.0027	<0.0027	<0.36	<0.0027	<0.0027	--	**6.6**
MW-15d8	5/17/2011	8	--	**2.3**	**6.2**	**6.2**	**0.023**	<0.0038	**1.9**	**0.25**	**0.19**	**0.16**	<0.0038	<0.0038	<0.0038	<0.51	<0.0038	<0.0038	--	**7**
MW-15d13	5/17/2011	13	--	<0.23	<1.9	<1.9	<0.0028	<0.0028	<0.0028	<0.0083	**0.015**	**0.022**	<0.0028	<0.0028	<0.0028	<0.37	<0.0028	<0.0028	--	**7**
MW-16d8	5/17/2011	8	--	<0.23	<2.0	<2.0	<0.0027	<0.0027	<0.0027	<0.0081	**0.15**	**0.014**	<0.0027	<0.0027	<0.0027	<0.36	<0.0027	<0.0027	--	**5.7**
MW-16d13	5/17/2011	13	--	<0.23	<2.0	<2.0	<0.0028	<0.0028	<0.0028	<0.0084	<0.0028	<0.014	<0.0028	<0.0028	<0.0028	<0.37	<0.0028	<0.0028	--	**5.5**
MW-17d9	5/18/2011	9	--	**633**	**39.6 A**	**39.6 A**	**6.0**	**14.1**	**17.9**	**58**	<0.0026	**0.03**	<0.0026	<0.0026	<0.0026	<0.35	<0.0026	<0.0026	--	**16.3**
MW-17d13	5/18/2011	13	--	**5.4**	**2.9 A**	**2.9 A**	**2.7**	**0.46**	**1.4**	**2.8**	<0.0027	**0.029**	<0.0027	<0.0027	<0.0027	<0.36	<0.0027	<0.0027	--	**6.4**
B-6d9	5/18/2011	9	--	**2,490**	**72.0 A**	**72.0 A**	**26.4**	**73.9**	**58.1**	**230**	<0.0031	<0.015	<0.0031	<0.0031	<0.0031	<0.41	<0.0031	<0.0031	--	**10.1**
B-6d14	5/18/2011	14	--	**194**	**258 A**	**258 A**	**3.6**	**5.1**	**5.1**	**22**	<0.0025	<0.013	<0.0025	<0.0025	<0.0025	<0.33	<0.0025	<0.0025	--	**9.2**
B-6d21	5/18/2011	21	--	**7.2**	<2.0	<2.0	**0.67**	**0.86**	**0.25**	**0.94**	**0.036**	**0.014**	<0.0027	<0.0027	<0.0027	<0.37	<0.0027	<0.0027	--	**6.8**
B-6d26	5/18/2011	26	--	**17**	**3.4 A**	**3.4 A**	**0.83**	**1.2**	**0.46**	**1.7**	**0.086**	**0.021**	<0.0026	<0.0026	<0.0026	<0.34	<0.0026	<0.0026	--	**6.6**

TABLE 1

HISTORICAL SOIL ANALYTICAL RESULTS

76 Station No. 5191/5043

449 Hegenberger Raod, Oakland, California

Sample ID	Date	Sample Depth (feet)	TPHg (mg/kg)	TPHg* (mg/kg)	TPHd (mg/kg)	TPHd* (mg/Kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	Ethanol (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
Antea Group 2013																				
SB-1d5.5	7/25/2013	5.5	--	**31,000**	--	**450**	**85**	**1,000**	**650**	**3,400**	<2.5	--	--	--	--	--	--	--	**150**	--
SB-1d11	7/25/2013	11	--	**73**	--	**3.1**	**1.2**	**2.5**	**1.7**	**9.3**	<0.005	--	--	--	--	--	--	--	**0.7**	--
SB-1d15	7/25/2013	15	--	**5.0**	--	**3.1**	**0.0085**	**0.0072**	**0.048**	**0.13**	<0.005	--	--	--	--	--	--	--	**0.015**	--
SB-2d1	7/25/2013	1	--	<1.0	--	**10**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-2d3	7/25/2013	3	--	<1.0	--	**2.1**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-2d5	7/25/2013	5	--	<1.0	--	**5.9**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-2d11	7/25/2013	11	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-2d15	7/25/2013	15	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	**0.0059**	--	--	--	--	--	--	--	<0.005	--
SB-3d7.5	7/25/2013	7.5	--	**310**	--	**330**	**0.13**	<0.05	**7.5**	**30**	<0.05	--	--	--	--	--	--	--	**3.3**	--
SB-3d15	7/25/2013	15	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-4d1	7/25/2013	1	--	<1.0	--	**13**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-4d3	7/25/2013	3	--	<1.0	--	**2.6**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-4d5	7/25/2013	5	--	<1.0	--	**4.7**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-4d8	7/25/2013	8	--	**4,600**	--	**31**	**0.5**	**0.23**	**160**	**130**	<0.025	--	--	--	--	--	--	--	**40**	--
SB-4d15	7/25/2013	15	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-5d6	7/25/2013	6	--	**100**	--	**52**	**0.02**	<0.005	**3.4**	**1.7**	<0.005	--	--	--	--	--	--	--	**3.3**	--
SB-5d15	7/25/2013	5	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-6d6.5	7/26/2013	6.5	--	**1,900**	--	**360**	**0.57**	**1.1**	**44**	**220**	<0.25	--	--	--	--	--	--	--	**12**	--
SB-6d15	7/26/2013	15	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-7d6	7/26/2013	6	--	**21**	--	**11**	**0.019**	<0.005	**0.13**	**0.012**	<0.005	--	--	--	--	--	--	--	**0.8**	--
SB-7d11	7/26/2013	11	--	**57**	--	**17**	**0.17**	**0.39**	**1.0**	**4.1**	<0.005	--	--	--	--	--	--	--	**0.54**	--
SB-7d13	7/26/2013	13	--	**1.8**	--	**1.5**	**0.018**	**0.0086**	**0.11**	**0.37**	<0.005	--	--	--	--	--	--	--	**0.055**	--
SB-8d8	7/26/2013	8	--	**3,300**	--	**900**	<0.5	<0.5	**15**	**54**	<0.5	--	--	--	--	--	--	--	**4.6**	--
SB-8d11	7/26/2013	11	--	<1.0	--	<1.0	<0.005	<0.005	**0.018**	**0.0075**	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-9d6	7/26/2013	6	--	<1.0	--	**5.9**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-9d15	7/26/2013	15	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-10d8	7/26/2013	8	--	<1.0	--	**1.9**	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
SB-10d11	7/26/2013	11	--	<1.0	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	<0.005	--
Antea Group 2014																				
SB-13d8.5	9/23/2014	8.5	--	<1.0	--	**1,800 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-13d15	7/25/2013	15	--	<1.0	--	**8.7 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-13d20	7/25/2013	20	--	<1.0	--	**1,100 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-14d12	7/25/2013	12	--	<1.0	--	**1.3 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-14d15	7/25/2013	15	--	<1.0	--	**54 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-15d6	7/25/2013	6	--	<1.0	--	**18 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-15d13.5	7/25/2013	13.5	--	<1.0	--	**1.2 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--
SB-15d16	7/25/2013	16	--	<1.0	--	**20 B**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	<0.050	--	--	--	--

Notes:

TPHg = total petroleum hydrocarbons as gasoline by EPA Method 8015
TPHg* = total petroleum hydrocarbons as gasoline by CA LUFT
TPHd = total petroleum hydrocarbons as diesel by EPA Method 8015B
TPHd* = total petroleum hydrocarbons as diesel by EPA Method 8015 Silica Gel Treated
BTEX = benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260B
MTBE = methyl tertiary-butyl ether by EPA Method 8260B
TBA = tertiary-butyl alcohol by EPA Method 8260B
TAME = tert-amyl methyl ether by EPA Method 8260B
DIPE = Diisopropyl ether by EPA Method 8260B
ETBE = Ethyl-tert-butyl-ether by EPA Method 8260B
EDB = 1,2-Dibromoethane by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane by EPA Method 8260B
mg/kg = milligrams per kilogram
-- = not analysed
< - Below laboratory's indicated reporting limit
A - The TPHd result for this sample did not match the pattern of the laboratory standard for diesel.
B - Hydrocarbons are higher-boiling than typical Diesel Fuel.

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

76 Station No. 5191

449 Hegenberger Road, Oakland, California

Sample ID	Date	Sample Depth	TPHg (µg/L)	TPHg* (µg/L)	TPHd (µg/L)	TPHd* (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	1,2-DCA (µg/L)
B-4	12/17/2009	20	**97,100**	--	**11,300**	**13,500**	**6,960**	**8,310**	**6,420**	**26,000**	**241**	**167**	--	<50
B-5@20W	12/17/2009	20	**23,500,000**	--	**19,900,000**	**20,400,000**	**324,000**	**1,050,000**	**918,000**	**4,120,000**	<50	<500	--	<100
B-5@32W	12/17/2009	32	**422,000**	--	**294,000**	**291,000**	**8,100**	**20,200**	**9,580**	**60,800**	**632**	<250	--	**511**
SB-13GW	9/23/2014	6	--	<50	--	**450 A**	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	--
SB-14GW	9/23/2014	5.5	--	<50	--	**480 A**	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	--
SB-15GW	9/23/2014	11	--	<50	--	**280 A**	<0.51	**5.9**	<0.50	<0.50	<0.50	<5.0	<5.0	--

Notes:

TPHg = total petroleum hydrocarbons as gasoline by EPA Method 8015

TPHg* = total petroleum hydrocarbons as gasoline by CA LUFT

TPHd = total petroleum hydrocarbons as diesel by EPA Method 8015

TPHd* = total petroleum hydrocarbons as diesel by EPA Method 8015 (silica gel treated)

BTEX = benzene, toluene, ethyl-benzene, total xylenes by EPA Method 8260B

MTBE = methyl tertiary-butyl ether by EPA Method 8260B

1,2-DCA = 1,2-Dichlorethane by EPA Method 8260B

µg/L = micrograms per liter

NA = not applicable

< - Below laboratory's indicated reporting limit

A - Hydrocarbons are higher-boiling than typical Diesel Fuel.

Appendix A

Alameda County Health Case Service Agency Email

From: Nowell, Keith, Env. Health <Keith.Nowell@acgov.org>
Sent: Monday, December 23, 2013 5:03 PM
To: Dennis Dettloff
Cc: 'wsprague@pcandf.com'; Roe, Dilan, Env. Health
Subject: Fuel Leak Case RO219 - 76 Station at - 449 Hegenberger, Oakland

Dennis,

ACEH has reviewed the case file including the recently submitted work plan entitled *Work Plan –Monitoring Well Installation*, dated November 21, 2013 for the above referenced fuel leak case. The work plan proposes the installation of two monitoring wells across Hegenberger and down gradient of the contaminated area as identified by the on-site well MW-17. As reviewed in our phone conversation on December 17, 2013, ACEH believes the installation of monitoring wells in these locations is premature and that a preliminary investigation with the collection of grab-groundwater samples may be adequate to evaluate groundwater contaminant migration. ACEH conditionally agrees with the work plan with the understanding that grab-groundwater samples will be recovered from temporary borings in lieu of the proposed monitoring wells.

As discussed in our December 17 conversation please prepare a figure showing the proposed boring location south of the on-site well MW-13 in order to delineate the MTBE/TBA plume migrating through this area. As briefly touched on in our conversation, the contaminant plume down gradient of MW-14 and evidenced by concentrations of total petroleum hydrocarbons as gasoline in soil boring SB-4 does need to be delineated. As you have indicated below the locations of these boring should be between wells MW-7 and MW-8. Please include on your figure the proposed boring locations for the collection of soil and grab-groundwater samples to delineate this plume. Please submit the figure showing your proposed boring locations by January 4, 2014.

Thank you for your cooperation. Should you have any questions regarding this correspondence or your case, please call me at (510) 567-6764 or send an electronic mail message at keith.nowell@acgov.org.

Regards,
Keith Nowell

Keith Nowell PG, CHG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda , CA 94502-6540
phone: 510 / 567 - 6764
fax: 510 / 337 - 9335
email: keith.nowell@acgov.org

PDF copies of case files can be reviewed/downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Dennis Dettloff [mailto:Dennis.Dettloff@anteagroup.com]
Sent: Tuesday, December 17, 2013 11:45 AM
To: Nowell, Keith, Env. Health
Cc: Roe, Dilan, Env. Health; Walter T. Sprague (wsprague@pcandf.com)
Subject: RE: Fuel Leak Case RO219 - 76 Station at - 449 Hegenberger, Oakland

Mr. Nowell:

It was good talking to you this morning about the above referenced location.

I agree that a direct push boring would likely be preferable to monitoring wells MW-18 and MW-19 across Hegenberger Road. Instead of doing any in the vicinity of MW-19 we could just do one in the vicinity of the proposed MW-18 location. The additional boring could be advanced down-gradient (south-southeast) of monitoring well MW-13. It appears to me that the best location for this boring would likely be in the right hand turning lane, off of Hegenberger Road, into the Carrows parking lot. That will only work if the City of Oakland will allow us to advance a boring into the street. We can give it a shot. If not we can discuss other options.

Now south of SB-4 , is monitoring well MW-7. This well is generally clean, but has indicated TPHg at low concentrations on occasion. All other constituents tested, with the exception of TBA at 7 ug/L have been below the LRL since 2005. If we can get approval from the property owner, we could advance a boring between monitoring wells MW-7 and MW-8. I believe this would be the best idea for delineation down-gradient of boring SB-4 and monitoring well MW-14.

Let me know if my ideas are acceptable to you. Don't hesitate to contact me if you have any questions.

Regards,

Dennis S. Dettloff, P.G.|Senior Project Manager| Antea Group
Direct + 916 503 1261 | USA Toll Free 800 477 7411
Dennis.Dettloff@anteagroup.com | www.anteagroup.com

Member of Inogen® | www.inogenet.com

From: Nowell, Keith, Env. Health [mailto:Keith.Nowell@acgov.org]
Sent: Tuesday, December 17, 2013 10:27 AM
To: Dennis Dettloff
Cc: Roe, Dilan, Env. Health; Walter T. Sprague (wsprague@pcandf.com)
Subject: Fuel Leak Case RO219 - 76 Station at - 449 Hegenberger, Oakland

Dennis,

I would like to discuss the work plan for well installation re RO219- 449 Hegenberger in Oakland. Items for discussion include:

1. the possibility of recovering grab-groundwater samples prior to well installation;
2. delineating the area south to southwest of MW-14/ SB-4; and
3. the possibility of looking down gradient of MW-13.

Please contact me at 510 / 567 - 6764.

Thank you,

Keith Nowell

Keith Nowell PG, CHG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda , CA 94502-6540
phone: 510 / 567 - 6764
fax: 510 / 337 - 9335
email: keith.nowell@acgov.org

PDF copies of case files can be reviewed/downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

Appendix B

Drilling and Encroachment Permits

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: 09/02/2014 By jamesy

Permit Numbers: W2014-0839
Permits Valid from 09/22/2014 to 09/23/2014

Application Id:	1409330061968	**City of Project Site:**	Oakland
Site Location:	444 Hegenberger Rd, Oakland, CA 94607		
Project Start Date:	09/22/2014	**Completion Date:**	09/23/2014
Assigned Inspector:	Contact Sam Brathwaite at (925) 570-7609 or sbrathwaite@groundzonees.com		
Applicant:	Antea Group - Ed Weyrens 11050 White Rock Rd #110, Rancho Cordova, CA 95670	**Phone:**	916-503-1277
Property Owner:	Light Keepers LLC Brian Rogers 10 Clay St #200, Oakland, CA 94607	**Phone:**	510-899-7930
Client:	PC&F Walter Sprague 7180 Koll Ctr Pkwy, Pleasanton, CA 94566	**Phone:**	925-931-5714

	Total Due:	$265.00
Receipt Number: WR2014-0364	**Total Amount Paid:**	$265.00
Payer Name : Antea	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 3 Boreholes
Driller: Gregg Drilling - Lic #: 483165 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2014-0839	09/02/2014	12/21/2014	3	3.00 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. 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.

7. 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.

8. 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 C

Boring Logs

Project No:	I42705191	Client:	COP/ELT	**Boring No: SB-13**	
Logged By:	Jonathan Fillingame	Location:	449 Hegenberger Road, Oakland	Page 1 of 1	
Driller:	Gregg Drilling	Date Drilled:	9/23/2014		
Drilling Method:	Direct Push	Hole Diameter:	2 in		
Sampling Method:	Continuous	Hole Depth:	20 ft		
		First Water Depth:	8 ft		
		Static Water Depth:	5.85 ft		
Elevation:		Northing:		Easting:	

Boring Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Analyzed	Soil Type	LITHOLOGY / DESCRIPTION
neat cement									Concrete
					1				**Poorly Graded GRAVEL with Sand (GP)** - brown, 70% fine to coarse gravel, 30% fine to coarse sand, dense, moist, fill material.
				Air Knife	2				**Silty GRAVEL (GM)** - brown, 70% fine gravel, 20% silt, 10% fine to coarse sand, dense, dry.
					3				**Well Graded SAND (SW)** - grey, 95% fine to coarse sand, 5% fine gravel, dense, dry.
				Hand Auger	4				**Lean CLAY (CL)** - black, 98% clay, 2% fine to medium sand, medium plasticity, stiff, moist.
	▼				5				
					6				No recovery 5 to 8 feet below ground surface (bgs)
					7				
	▽				8				
			0	SB-13d8.5	9				**Lean CLAY (CL)** - black, 98% clay, 2% fine to medium sand, medium plasticity, stiff, wet.
			0		10				**Lean CLAY (CL)** - grey, 98% clay, 2% roots or organics, low plasticity, stiff, moist.
			0		11				**Lean CLAY (CL)** - dark grey, 98% clay, 2% roots or organics, low plasticity, stiff, moist.
			0	SB-13d15	12				**Lean CLAY (CL)** - dark grey, 100% clay, medium plasticity, stiff, wet.
					13				Stop at 15 feet bgs, no water in boring after more than 2 hours advance to 20 feet bgs.
					14				
					15				
					16				
					17				**Lean CLAY (CL)** - dark grey, 95% clay, 5% fine to medium sand, medium plasticity, stiff, moist.
			0		18				**Lean CLAY (CL)** - dark grey, 95% clay, 5% fine to medium sand, medium plasticity, stiff, wet.
			0		19				**Lean CLAY with Sand (CL)** - dark grey, 80% clay, 20% fine to medium sand, medium plasticity, stiff, moist.
			0	SB-13d20	20				**Well Graded SAND with Gravel (SW)** - brown, 60% fine to coarse sand, 40% fine to coarse gravel, very dense, wet.
					21				Total Depth 20 feet bgs.
					22				

Project No:	I42705191	Client:	COP/ELT
Logged By:	Jonathan Fillingame	Location:	449 Hegenberger Road, Oakland
Driller:	Gregg Drilling	Date Drilled:	9/23/2014
Drilling Method:	Direct Push	Hole Diameter:	2 in
Sampling Method:	Continuous	Hole Depth:	15 ft
		First Water Depth:	NA
		Static Water Depth:	5.6 ft
Elevation:		Northing:	Easting:

Boring No: SB-14

Page 1 of 1

Boring Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Analyzed	Soil Type	LITHOLOGY / DESCRIPTION
neat cement	▼			Air Knife	1				**Silty SAND with Gravel (SM)** - pale brown, 40% fine to coarse sand, 40% silt, 20% fine gravel, dense, dry, soil.
					2				**Gravelly SILT with Sand (ML)** - brown, 60% silt, 25% fine gravel, 15% fine to coarse sand, moist.
					3				**Silty GRAVEL (GM)** - brown, 60% fine gravel, 30% silt, 10% fine to coarse sand, moist.
				Hand Auger	4				**Sandy Lean CLAY (CL)** - dark grey, 70% clay 25% fine to coarse sand, 5% fine gravel, low plasticity, very stiff, moist.
					5				
					6				
					7				No recovery 5 to 11 feet bgs
					8				
					9				
					10				
			0	SB-14d12	11				**Lean CLAY (CL)** - brown, dark grey, 95% clay, 5% fine to medium sand low plasticity, stiff, moist.
					12				
					13				
			0	SB-14d15	14				**Lean CLAY, (CL)** - brown, dark grey, 95% clay, 5% fine to medium sand, low plasticity, stiff, moist.
					15				Total depth 15 feet bgs
					16				
					17				
					18				
					19				
					20				
					21				
					22				

Project No:	I42705191	Client:	COP/ELT	**Boring No: SB-15**	
Logged By:	Jonathan Fillingame	Location:	449 Hegenberger Road, Oakland	Page 1 of 1	
Driller:	Gregg Drilling	Date Drilled:	9/23/2014		
Drilling Method:	Direct Push	Hole Diameter:	2 in		
Sampling Method:	Continuous	Hole Depth:	16 ft		
		First Water Depth:	13.2 ft		
		Static Water Depth:	11 ft		
Elevation:		Northing:		Easting:	

Boring Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Analyzed	Soil Type	LITHOLOGY / DESCRIPTION
neat cement				Air Knife	1				2 inches Asphalt
									Well Graded GRAVEL (GW) - light grey, 90% fine gravel, 10% fine to coarse sand, very dense, dry.
					2				**Lean CLAY (CL)** - dark grey, 90% clay, 5% gravel, 5% fine to medium sand, low plasticity, stiff, moist.
				Hand Auger	3				
					4				**Lean CLAY (CL)** - dark grey, 95% clay, 5% fine to medium sand, medium plasticity, stiff, moist.
			0	SB-15d6	5				
			0		6				
			0		7				**Lean CLAY (CL)** - black, 85% clay, 15% fine to medium sand, low plasticity, stiff, moist.
					8				**Lean CLAY (CL)** - black, 90% clay, 10% fine to medium sand, low plasticity, stiff, moist.
					9				
			0		10				**Lean CLAY (CL)** - grey, 90% clay, 10% fine to medium sand, low plasticity, stiff, moist.
	▼		0		11				
			0		12				**Sandy Lean CLAY (CL)** - dary grey, 70% clay, 30% fine to coarse sand, low plasticity, stiff, moist.
	▽		0	SB-15d13.5	13				**Clayey SAND (SC)** - brown, 70% fine to coarse sand, medium dense, wet.
			0		14				
			0	SB-15d16	15				**Lean CLAY (CL)** - dark grey, 90% clay, 10% fine to medium sand, medium plasticity, stiff, wet.
					16				Total Depth 16 feet bgs
					17				
					18				
					19				
					20				
					21				
					22				

Appendix D

Certified Laboratory Analytical Reports, Data Validation Forms, and Diesel Chromatograms

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/2014

Laboratory Results

Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Subject : 8 Soil Samples and 3 Water Samples
Project Name : I42705191 0001
Project Number : I42705191 0001

Dear Mr. Dettloff,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the Environmental Laboratory Accreditation Program (ELAP), lab # 08263CA.
If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Troy G. Turpen

Troy Turpen

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/2014

Subject : 8 Soil Samples and 3 Water Samples
Project Name : I42705191 0001
Project Number : I42705191 0001

Case Narrative

All soil samples were reported on a total weight (wet weight) basis.

The Method Blank associated with sample SB-13GW contained 56 ug/L TPH as Diesel (Silica Gel). Since TPH as Diesel (Silica Gel) was reported at a concentration greater than 10 times this value, no data were flagged.

Recoveries for some Matrix Spike/ Matrix Spike Duplicate analytes were outside control limits. This may indicate a bias for the samples that were spiked. Since the LCS recoveries were within control limits, no data are flagged.

LCS and Matrix Spike/Matrix Spike Duplicate results associated with samples SB-13GW and SB-15GW for the analyte Ethanol were outside of control limits, indicating a possible high bias for this analyte. Since Ethanol was not detected above the Method Reporting Limit in the associated samples, no data are flagged.

KIFF Analytical LLC

Analysis Summary

Report Number : 89218

Date : 10/01/14

Attention : Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Project Name :I42705191 0001
Project Number : I42705191 0001

			Sample Name	SB-13d8.5	SB-13d15		SB-13d20		SB-14d12		SB-14d15		SB-15d6		SB-15d13.5	
			Sample Date	09/23/14	09/23/14		09/23/14		09/23/14		09/23/14		09/23/14		09/23/14	
Analyte	Method	Units		MRL	Results	MRL	Results	MRL	Results	MRL	Results	MRL	Results	MRL	Results	MRL	Results
Benzene	EPA 8260B	mg/Kg		0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Ethylbenzene	EPA 8260B	mg/Kg		0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Toluene	EPA 8260B	mg/Kg		0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Total Xylenes	EPA 8260B	mg/Kg		0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Ethanol	EPA 8260B	mg/Kg		0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND	0.050	ND
Methyl-t-butyl ether (MTBE)	EPA 8260B	mg/Kg		0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Tert-Butanol	EPA 8260B	mg/Kg		0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
TPH as Gasoline	EPA 8260B	mg/Kg		1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND
1,2-Dichloroethane-d4 (Surr)	EPA 8260B	%			108		112		102		106		104		110		103
Toluene - d8 (Surr)	EPA 8260B	%			97.6		96.7		96.7		98.1		98.6		99.1		98.6
TPH as Diesel (Silica Gel)	M EPA 8015	mg/Kg		400	**1800**	1.0	**8.7**	200	**1100**	1.0	**1.3**	20	**54**	1.0	**18**	1.0	**1.2**
Octacosane (Silica Gel Surr)	M EPA 8015	%			Diluted		102		Diluted		101		Diluted		95.7		103

MRL = Method Reporting Limit
ND = Not Detected

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800
ELAP # 2236

KIFF Analytical LLC

Analysis Summary

Report Number : 89218

Date : 10/01/14

Attention : Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Project Name :I42705191 0001
Project Number : I42705191 0001

			Sample Name	SB-15d16
			Sample Date	09/23/14
Analyte	Method	Units	MRL	Results
Benzene	EPA 8260B	mg/Kg	0.0050	ND
Ethylbenzene	EPA 8260B	mg/Kg	0.0050	ND
Toluene	EPA 8260B	mg/Kg	0.0050	ND
Total Xylenes	EPA 8260B	mg/Kg	0.0050	ND
Ethanol	EPA 8260B	mg/Kg	0.050	ND
Methyl-t-butyl ether (MTBE)	EPA 8260B	mg/Kg	0.0050	ND
Tert-Butanol	EPA 8260B	mg/Kg	0.0050	ND
TPH as Gasoline	EPA 8260B	mg/Kg	1.0	ND
1,2-Dichloroethane-d4 (Surr)	EPA 8260B	%		108
Toluene - d8 (Surr)	EPA 8260B	%		100
TPH as Diesel (Silica Gel)	M EPA 8015	mg/Kg	5.0	**20**
Octacosane (Silica Gel Surr)	M EPA 8015	%		86.1

MRL = Method Reporting Limit
ND = Not Detected

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800
ELAP # 2236

KIFF Analytical LLC

Analysis Summary

Report Number : 89218
Date : 10/01/14

Attention : Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Project Name :I42705191 0001
Project Number : I42705191 0001

			Sample Name	SB-13GW		SB-14GW		SB-15GW	
			Sample Date	09/23/14		09/23/14		09/23/14	
Analyte	Method	Units		MRL	Results	MRL	Results	MRL	Results
Benzene	EPA 8260B	ug/L		0.50	ND	0.50	ND	0.50	ND
Ethylbenzene	EPA 8260B	ug/L		0.50	ND	0.50	ND	0.50	ND
Toluene	EPA 8260B	ug/L		0.50	ND	0.50	ND	0.50	**5.9**
Total Xylenes	EPA 8260B	ug/L		0.50	ND	0.50	ND	0.50	ND
Ethanol	EPA 8260B	ug/L		5.0	ND	5.0	ND	5.0	ND
Methyl-t-butyl ether (MTBE)	EPA 8260B	ug/L		0.50	ND	0.50	ND	0.50	ND
Tert-Butanol	EPA 8260B	ug/L		5.0	ND	5.0	ND	5.0	ND
TPH as Gasoline	EPA 8260B	ug/L		50	ND	50	ND	50	ND
1,2-Dichloroethane-d4 (Surr)	EPA 8260B	%			100		101		97.6
Toluene - d8 (Surr)	EPA 8260B	%			98.3		98.5		98.5
TPH as Diesel (Silica Gel)	M EPA 8015	ug/L		50	**450**	50	**480**	50	**280**
Octacosane (Silica Gel Surr)	M EPA 8015	%			103		90.8		95.9

MRL = Method Reporting Limit
ND = Not Detected

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800
ELAP # 2236

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-13d8.5** Matrix : Soil Lab Number : 89218-01
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:07
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:07
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:07
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:07
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:07
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:07
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 02:07
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 02:07
1,2-Dichloroethane-d4 (Surr)	108		% Recovery	EPA 8260B	09/30/14 02:07
Toluene - d8 (Surr)	97.6		% Recovery	EPA 8260B	09/30/14 02:07
TPH as Diesel (Silica Gel)	**1800**	400	mg/Kg	M EPA 8015	09/30/14 13:15
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	Diluted Out		% Recovery	M EPA 8015	09/30/14 13:15

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-13d15** Matrix : Soil Lab Number : 89218-02
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:44
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:44
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:44
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:44
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:44
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 02:44
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 02:44
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 02:44
1,2-Dichloroethane-d4 (Surr)	112		% Recovery	EPA 8260B	09/30/14 02:44
Toluene - d8 (Surr)	96.7		% Recovery	EPA 8260B	09/30/14 02:44
TPH as Diesel (Silica Gel)	**8.7**	1.0	mg/Kg	M EPA 8015	09/29/14 17:10
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	102		% Recovery	M EPA 8015	09/29/14 17:10

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-13d20** Matrix : Soil Lab Number : 89218-03
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:20
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:20
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:20
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:20
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:20
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:20
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 03:20
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 03:20
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/30/14 03:20
Toluene - d8 (Surr)	96.7		% Recovery	EPA 8260B	09/30/14 03:20
TPH as Diesel (Silica Gel)	**1100**	200	mg/Kg	M EPA 8015	09/30/14 13:44
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	Diluted Out		% Recovery	M EPA 8015	09/30/14 13:44

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-14d12** Matrix : Soil Lab Number : 89218-04
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:56
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:56
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:56
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:56
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:56
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 03:56
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 03:56
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 03:56
1,2-Dichloroethane-d4 (Surr)	106		% Recovery	EPA 8260B	09/30/14 03:56
Toluene - d8 (Surr)	98.1		% Recovery	EPA 8260B	09/30/14 03:56
TPH as Diesel (Silica Gel)	**1.3**	1.0	mg/Kg	M EPA 8015	09/30/14 12:46
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	101		% Recovery	M EPA 8015	09/30/14 12:46

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-14d15** Matrix : Soil Lab Number : 89218-05
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 04:36
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 04:36
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 04:36
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 04:36
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 04:36
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 04:36
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 04:36
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 04:36
1,2-Dichloroethane-d4 (Surr)	104		% Recovery	EPA 8260B	09/30/14 04:36
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	09/30/14 04:36
TPH as Diesel (Silica Gel)	**54**	20	mg/Kg	M EPA 8015	09/30/14 13:55
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	Diluted Out		% Recovery	M EPA 8015	09/30/14 13:55

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-15d6** Matrix : Soil Lab Number : 89218-06
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:15
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:15
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:15
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:15
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:15
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:15
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 05:15
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 05:15
1,2-Dichloroethane-d4 (Surr)	110		% Recovery	EPA 8260B	09/30/14 05:15
Toluene - d8 (Surr)	99.1		% Recovery	EPA 8260B	09/30/14 05:15
TPH as Diesel (Silica Gel)	**18**	1.0	mg/Kg	M EPA 8015	09/29/14 17:44
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	95.7		% Recovery	M EPA 8015	09/29/14 17:44

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-15d13.5** Matrix : Soil Lab Number : 89218-08
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:55
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:55
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:55
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:55
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:55
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 05:55
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 05:55
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 05:55
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	EPA 8260B	09/30/14 05:55
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	09/30/14 05:55
TPH as Diesel (Silica Gel)	**1.2**	1.0	mg/Kg	M EPA 8015	09/29/14 18:54
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	103		% Recovery	M EPA 8015	09/29/14 18:54

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-15d16** Matrix : Soil Lab Number : 89218-09
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 06:35
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 06:35
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 06:35
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 06:35
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 06:35
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/30/14 06:35
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/30/14 06:35
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/30/14 06:35
1,2-Dichloroethane-d4 (Surr)	108		% Recovery	EPA 8260B	09/30/14 06:35
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/30/14 06:35
TPH as Diesel (Silica Gel)	**20**	5.0	mg/Kg	M EPA 8015	09/30/14 13:21
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	86.1		% Recovery	M EPA 8015	09/30/14 13:21

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-13GW** Matrix : Water Lab Number : 89218-10
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 07:45
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 07:45
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 07:45
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 07:45
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 07:45
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	09/27/14 07:45
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	09/27/14 07:45
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/14 07:45
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	09/27/14 07:45
Toluene - d8 (Surr)	98.3		% Recovery	EPA 8260B	09/27/14 07:45
TPH as Diesel (Silica Gel)	**450**	50	ug/L	M EPA 8015	09/25/14 01:32
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	103		% Recovery	M EPA 8015	09/25/14 01:32

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-14GW** Matrix : Water Lab Number : 89218-11
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/30/14 23:33
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/30/14 23:33
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/30/14 23:33
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/30/14 23:33
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/30/14 23:33
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	09/30/14 23:33
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	09/30/14 23:33
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/30/14 23:33
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/30/14 23:33
Toluene - d8 (Surr)	98.5		% Recovery	EPA 8260B	09/30/14 23:33
TPH as Diesel (Silica Gel)	**480**	50	ug/L	M EPA 8015	09/26/14 11:34
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	90.8		% Recovery	M EPA 8015	09/26/14 11:34

KIFF Analytical LLC

Report Number : 89218
Date : 10/01/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **SB-15GW** Matrix : Water Lab Number : 89218-12
Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 04:40
Toluene	**5.9**	0.50	ug/L	EPA 8260B	09/27/14 04:40
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 04:40
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 04:40
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/14 04:40
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	09/27/14 04:40
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	09/27/14 04:40
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/14 04:40
1,2-Dichloroethane-d4 (Surr)	97.6		% Recovery	EPA 8260B	09/27/14 04:40
Toluene - d8 (Surr)	98.5		% Recovery	EPA 8260B	09/27/14 04:40
TPH as Diesel (Silica Gel)	**280**	50	ug/L	M EPA 8015	09/26/14 11:05
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	95.9		% Recovery	M EPA 8015	09/26/14 11:05

Report Number : 89218

Date : 10/01/14

QC Report : Method Blank Data

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	56	50	ug/L	M EPA 8015	09/25/14
Octacosane (Silica Gel Surr)	128		%	M EPA 8015	09/25/14
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/26/14
Octacosane (Silica Gel Surr)	92.6		%	M EPA 8015	09/26/14
TPH as Diesel (Silica Gel)	< 1.0	1.0	mg/Kg	M EPA 8015	09/29/14
Octacosane (Silica Gel Surr)	95.9		%	M EPA 8015	09/29/14
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/14
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/14
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	09/27/14
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/14
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	09/27/14
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/14
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	09/27/14
Toluene - d8 (Surr)	98.4		%	EPA 8260B	09/27/14
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/29/14
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/29/14
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/29/14
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/29/14
Ethanol	< 0.050	0.050	mg/Kg	EPA 8260B	09/29/14
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/29/14
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/29/14
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/29/14
1,2-Dichloroethane-d4 (Surr)	105		%	EPA 8260B	09/29/14
Toluene - d8 (Surr)	98.0		%	EPA 8260B	09/29/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/30/14
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/30/14
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/30/14
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/30/14
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	09/30/14
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/30/14
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	09/30/14
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/30/14
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	09/30/14
Toluene - d8 (Surr)	97.3		%	EPA 8260B	09/30/14

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 89218

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 10/01/14

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
TPH-D (Si Gel)														
	89205-01	2000	1000	1000	2290	2420	ug/L	M EPA 8015	9/25/14	**30.0**	**43.1**	**36.0**	70-130	25
TPH-D (Si Gel)														
	89236-01	<50	1000	1000	872	851	ug/L	M EPA 8015	9/26/14	87.2	85.1	2.41	70-130	25
TPH-D (Si Gel)														
	89218-08	1.2	19.5	20.0	19.4	21.8	mg/Kg	M EPA 8015	9/29/14	93.2	103	10.2	60-140	25
Benzene														
	89218-12	<0.50	40.0	39.1	36.6	35.8	ug/L	EPA 8260B	9/27/14	91.4	91.4	0.0890	70.0-130	25
Ethanol														
	89218-12	<5.0	100	97.8	308	334	ug/L	EPA 8260B	9/27/14	**308**	**341**	10.2	55.0-150	25
Ethylbenzene														
	89218-12	<0.50	40.0	39.1	39.0	38.9	ug/L	EPA 8260B	9/27/14	97.6	99.4	1.78	70.0-130	25
Methyl-t-butyl ether														
	89218-12	<0.50	40.0	39.1	30.7	27.0	ug/L	EPA 8260B	9/27/14	76.7	**69.1**	10.4	70.0-130	25
P + M Xylene														
	89218-12	<0.50	40.0	39.1	36.8	36.5	ug/L	EPA 8260B	9/27/14	92.1	93.2	1.21	70.0-130	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 89218

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 10/01/2014

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Tert-Butanol														
	89218-12	<5.0	200	196	192	193	ug/L	EPA 8260B	9/27/14	96.0	98.8	2.93	70.0-130	25
Toluene														
	89218-12	5.9	40.0	39.1	42.8	41.2	ug/L	EPA 8260B	9/27/14	92.2	90.1	2.30	70.0-130	25
Benzene														
	89252-08	<0.0050	0.0398	0.0394	0.0351	0.0347	mg/Kg	EPA 8260B	9/30/14	88.4	87.9	0.503	70.0-130	25
Ethanol														
	89252-08	<0.050	0.0994	0.0986	0.163	0.157	mg/Kg	EPA 8260B	9/30/14	164	159	2.92	25.0-180	25
Ethylbenzene														
	89252-08	<0.0050	0.0398	0.0394	0.0375	0.0380	mg/Kg	EPA 8260B	9/30/14	94.3	96.4	2.24	70.0-130	25
Methyl-t-butyl ether														
	89252-08	<0.0050	0.0398	0.0394	0.0343	0.0325	mg/Kg	EPA 8260B	9/30/14	86.4	82.3	4.79	60.0-130	25
P + M Xylene														
	89252-08	0.013	0.0398	0.0394	0.0420	0.0497	mg/Kg	EPA 8260B	9/30/14	73.5	93.8	24.2	70.0-130	25
Tert-Butanol														
	89252-08	<0.0050	0.199	0.197	0.178	0.175	mg/Kg	EPA 8260B	9/30/14	89.5	88.6	1.01	70.0-130	25
Toluene														
	89252-08	<0.0050	0.0398	0.0394	0.0361	0.0366	mg/Kg	EPA 8260B	9/30/14	90.7	92.8	2.22	70.0-130	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene														
	89282-03	<0.50	40.0	40.0	39.6	37.1	ug/L	EPA 8260B	9/30/14	99.1	92.8	6.52	70.0-130	25
Ethanol														
	89282-03	<5.0	100	100	96.9	95.6	ug/L	EPA 8260B	9/30/14	96.9	95.6	1.41	55.0-150	25
Ethylbenzene														
	89282-03	<0.50	40.0	40.0	41.9	38.5	ug/L	EPA 8260B	9/30/14	105	96.2	8.48	70.0-130	25
Methyl-t-butyl ether														
	89282-03	60	40.0	40.0	106	91.5	ug/L	EPA 8260B	9/30/14	115	79.2	**36.8**	70.0-130	25
P + M Xylene														
	89282-03	<0.50	40.0	40.0	41.3	38.1	ug/L	EPA 8260B	9/30/14	103	95.3	8.08	70.0-130	25
Tert-Butanol														
	89282-03	<5.0	200	200	194	182	ug/L	EPA 8260B	9/30/14	97.2	90.9	6.69	70.0-130	25
Toluene														
	89282-03	<0.50	40.0	40.0	40.3	36.3	ug/L	EPA 8260B	9/30/14	101	90.7	10.5	70.0-130	25

KIFF ANALYTICAL, LLC
2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
TPH-D (Si Gel)	20.0	mg/Kg	M EPA 8015	9/29/14	92.3	70-130
Benzene	40.0	ug/L	EPA 8260B	9/27/14	90.1	70.0-130
Ethanol	100	ug/L	EPA 8260B	9/27/14	**248**	55.0-150
Ethylbenzene	40.0	ug/L	EPA 8260B	9/27/14	96.6	70.0-130
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	9/27/14	80.9	70.0-130
P + M Xylene	40.0	ug/L	EPA 8260B	9/27/14	91.1	70.0-130
Tert-Butanol	200	ug/L	EPA 8260B	9/27/14	95.1	70.0-130
Toluene	40.0	ug/L	EPA 8260B	9/27/14	90.8	70.0-130
Benzene	0.0397	mg/Kg	EPA 8260B	9/29/14	85.4	70.0-130
Ethanol	0.0992	mg/Kg	EPA 8260B	9/29/14	118	25.0-180
Ethylbenzene	0.0397	mg/Kg	EPA 8260B	9/29/14	90.5	70.0-130
Methyl-t-butyl ether	0.0397	mg/Kg	EPA 8260B	9/29/14	85.7	60.0-130
P + M Xylene	0.0397	mg/Kg	EPA 8260B	9/29/14	86.1	70.0-130
Tert-Butanol	0.198	mg/Kg	EPA 8260B	9/29/14	83.4	70.0-130
Toluene	0.0397	mg/Kg	EPA 8260B	9/29/14	89.2	70.0-130
Benzene	40.1	ug/L	EPA 8260B	9/30/14	97.1	70.0-130
Ethanol	100	ug/L	EPA 8260B	9/30/14	95.4	55.0-150
Ethylbenzene	40.1	ug/L	EPA 8260B	9/30/14	105	70.0-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	9/30/14	94.2	70.0-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
P + M Xylene	40.1	ug/L	EPA 8260B	9/30/14	104	70.0-130
TPH as Gasoline	494	ug/L	EPA 8260B	9/30/14	88.4	70.0-130
Tert-Butanol	200	ug/L	EPA 8260B	9/30/14	97.8	70.0-130
Toluene	40.1	ug/L	EPA 8260B	9/30/14	98.1	70.0-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

KIFF Analytical LLC

2795 2nd Street Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No. 89218

Page 1 of 2

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Dennis Dettloff	California EDF Report? ☐Yes ☐No
Company / Address: Antea Group 11050 White Rock Road, Suite 110 Rancho Cordova, CA 95670	Sampling Company Log Code:
Phone #: (916) 503-1261 — Fax #:	Global ID: T0600101476
Project #: 42705191 0001 — P.O. #:	EDF Deliverable To (Email Address): dennis.dettloff@anteagroup.com; jonathan.fillingame@anteagroup.com
Project Name: 42705191 0001	Sampler Signature: Jonathan Fillingame
Project Address: 449 Hegenberger Road Oakland, CA	

Sample Designation	Field Point Name	Sampling: Date	Sampling: Time	Container: 40 ml VOA	Container: Sleeve	Container: Poly	Container: Glass	Container: Tedlar	Preservative: HCl	Preservative: HNO_3	Preservative: None	Matrix: Water	Matrix: Soil	Analysis Request: EPA 8260B TPHg, Btex, MTBE, TBA, & Ethanol	Analysis Request: EPA 8015M TPHd - Silica Gel	TAT: 1 wk	For Lab Use Only
SB-13d8.5	SB-13	9/23/14	8:50		✓						✓		✓	✓	✓	☒	01 hold
SB-13d15	SB-13		9:00		✓						✓		✓	✓	✓	☒	02 hold
SB-13d20	SB-13		12:10		✓						✓		✓	✓	✓	☒	03 hold
SB-14d12	SB-14		9:50		✓						✓		✓	✓	✓	☒	04 hold
SB-14d15	SB-14		9:55		✓						✓		✓	✓	✓	☒	05 hold
~~SB-14d~~																	
SB-15d6	SB-15		10:40		✓						✓		✓	✓	✓	☒	06 hold
SB-15d10.5	SB-15		10:50		✓						✓		✓	✓	✓	☒	07 hold
SB-15d13.5	SB-15		10:55		✓						✓		✓	✓	✓	☒	[redacted] hold
SB-15d16	SB-15	↓	11:00		✓						✓		✓	✓	✓	☒	09 hold

TAT: ☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☒ 1 wk

Relinquished by:	Date	Time	Received by:
Jonathan Fillingame	9/23/14	16:10	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	092314	1610	

Dennis will call tomorrow about samples on hold

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID	Coolant Present
					Yes / No

KIFF Analytical LLC

2795 2nd Street Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No. 89218

Page 2 of 2

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Dennis Dettloff	California EDF Report? ☐Yes ☐No
Company / Address: Antea Group 11050 White Rock Road, Suite 110 Rancho Cordova, CA 95670	Sampling Company Log Code:
Phone #: (916) 503-1261 / Fax #:	Global ID: T0600101476
Project #: 42705191 0001 / P.O. #:	EDF Deliverable To (Email Address): dennis.dettloff@anteagroup.com; jonathan.fillingame@anteagroup.com
Project Name: 42705191 0001	Sampler Signature: Jonathan Fillingame
Project Address: 449 Hegenberger Road Oakland, CA	

Sample Designation	Field Point Name	Sampling: Date	Sampling: Time	Container: 40 ml VOA	Container: Sleeve	Container: Poly	Container: Glass	Container: Tedlar	Preservative: HCl	Preservative: HNO_3	Preservative: None	Matrix: Water	Matrix: Soil	Analysis Request: EPA 8260B TPHg, Btex, MTBE, TBA, & Ethanol	Analysis Request: EPA 8015M TPHd - Silica Gel	For Lab Use Only
SB-13 GW		9/23/14	12:30													01
SB-14 GW		↓	10:20													02
SB-15 GW		↓	11:40													03

TAT: ☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☒ 1 wk

For Lab Use Only: 092314

10
11
12

Relinquished by	Date	Time	Received by
Jonathan Fillingame	9/23/14	16:10	

Relinquished by	Date	Time	Received by Laboratory
	092314	1610	

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	herm. ID	Coolant Present
					Yes / No

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

SRG #: 89218

Sample Receipt	Initials/Date: [illegible] 092314	Storage Time: 1610	Sample Login	Initials/Date: TJB 092314

TAT: ☒ Standard ☐ Rush ☐ Split ☐ None

Method of Receipt: ☐ Courier ☒ Over-the-counter ☐ Shipped

Temp °C 1.8 ☐ N/A	Therm ID IR3	Time 1605	Coolant present ☒ Yes ☐ No ☐ Water	☐ Temp Excursion

For Shipments Only:	Cooler Receipt Initials/Date/Time:	Custody Seals ☐ N/A ☐ Intact ☐ Broken

Chain-of-Custody:	Yes	No
Is COC present?	✓	
Is COC signed by relinquisher?	✓	
Is COC dated by relinquisher?	✓	
Is the sampler's name on the COC?	✓	
Are there analyses or hold for all samples?	✓	

Documented on	COC	Labels	Discrepancies:
Sample ID	X	X	
Project ID	X	X	
Sample Date	X	X	
Sample Time	X	X	
Does COC match project history?	☒ N/A	☐ Yes	☐ No

Samples:	N/A	Yes	No
Are sample custody seals intact?	✓		
Are sample containers intact?		✓	
Is preservation documented? TJB 092314	✓	X	
In-house Analysis:	**N/A**	**Yes**	**No**
Are preservatives acceptable? TJB 092314	✓	X	
Are samples within holding time?		✓	
Are sample container types correct?		✓	
Is there adequate sample volume?		✓	

Comments: Sediment in all VOAs. TJB 092314 2123

Receipt Details:

Matrix	Container Type	# of Containers
So	Sleeve	09
WA	VOA	18

CS Required: ☐

Proceed With Analysis: ☐ YES ☐ NO Init/Date:

Client Communication:

Is the Data Valid? (circle) (Yes) / No

Preservation Temperature (if Known): 1.8 °C

Antea Group Lab Validation Sheet

Project/Client: COP/ELT
Project #: 142705191
Date of Validation: 10/16/14 **Date of Analysis:** 9/30/14 **Sample Date:** 9/23/14
Completed By: Jon F. **Signature:** Jonathan Filbigane
Analytical Lab Used and Report # (if any): Kiff Analytical LLC 89218

	Circle or Highlight Yes/No below
1. Was the analysis the one requested?	(Yes) / No
2. Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?	(Yes) / No
3. Were samples prepared (extracted, filtered, etc.) within EPA holding times?	(Yes) / No
4. Once prepared/extracted, were the samples analyzed within the EPA holding times?	(Yes) / No
5. Were Laboratory blanks performed, if so, were they below non-detect?	(Yes) / No
6. Are the units correct? (i.e., soil samples in mg/kg or ug/g, water samples mg/L, ug/L, and air samples in volume mg/m^3,etc.)	(Yes) / No
7. Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?	(Yes) / No
8. In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?	Yes / No N/
9. Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approx 80-120% depending on analyte)?	Yes / (No)
10. Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?	(Yes) / No
11. Were Relative Percent Difference values within the acceptable range (i.e. ± 25%)?	Yes / (No)

If any answer is no, explain why and what corrective action was taken:

9. Recoveries for some Matrix Spike/ Matrix Spike Duplicate analytes were outside control limits for TPHd, MTBE. This may indicate a bias for the samples that were spiked. Since the LCS recoveries were within control limits, no data are flagged.
LCS and Matrix Spike/Matrix Spike Duplicate results associated with samples SB-13GW and SB-15GW for the analyte Ethanol were outside of control limits, indicating a possible high bias for this analyte. Since Ethanol was not detected above the Method Reporting Limit in the associated samples, no data are flagged.
11. RPD results were outside control limits for TPHd and MTBE.

KIFF Analytical LLC

Report Number : 89219
Date : 09/30/2014

Laboratory Results

Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Subject : 1 Soil Sample
Project Name : I42705191 0001
Project Number : I42705191 0001

Dear Mr. Dettloff,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the Environmental Laboratory Accreditation Program (ELAP), lab # 08263CA.
If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Troy G. Turpen

Troy Turpen

KIFF Analytical LLC

Report Number : 89219
Date : 09/30/2014

Subject : 1 Soil Sample
Project Name : I42705191 0001
Project Number : I42705191 0001

Case Narrative

All soil samples were reported on a total weight (wet weight) basis.

Recoveries for some Matrix Spike/ Matrix Spike Duplicate analytes were outside control limits. This may indicate a bias for the samples that were spiked. Since the LCS recoveries were within control limits, no data are flagged.

KIFF Analytical LLC

Analysis Summary

Report Number : 89219

Date : 09/30/14

Attention : Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Project Name :I42705191 0001
Project Number : I42705191 0001

			Sample Name	Waste Soil
			Sample Date	09/23/14
Analyte	Method	Units	MRL	Results
Antimony	EPA 6010B	mg/Kg	0.75	ND
Arsenic	EPA 6010B	mg/Kg	0.75	**35**
Barium	EPA 6010B	mg/Kg	0.50	**82**
Beryllium	EPA 6010B	mg/Kg	0.25	**0.25**
Cadmium	EPA 6010B	mg/Kg	0.50	ND
Chromium	EPA 6010B	mg/Kg	0.25	**24**
Cobalt	EPA 6010B	mg/Kg	0.25	**12**
Copper	EPA 6010B	mg/Kg	0.50	**14**
Lead	EPA 6010B	mg/Kg	0.50	**35**
Mercury	EPA 7471A	mg/Kg	0.050	**0.20**
Molybdenum	EPA 6010B	mg/Kg	0.25	**1.9**
Nickel	EPA 6010B	mg/Kg	0.25	**23**
Selenium	EPA 6010B	mg/Kg	0.75	ND
Silver	EPA 6010B	mg/Kg	0.25	**1.1**
Thallium	EPA 6010B	mg/Kg	0.75	ND
Vanadium	EPA 6010B	mg/Kg	0.25	**24**
Zinc	EPA 6010B	mg/Kg	1.0	**100**
Benzene	EPA 8260B	mg/Kg	0.0050	ND
Ethylbenzene	EPA 8260B	mg/Kg	0.0050	ND
Toluene	EPA 8260B	mg/Kg	0.0050	ND

MRL = Method Reporting Limit
ND = Not Detected

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800
ELAP # 2236

KIFF Analytical LLC

Analysis Summary

Report Number : 89219

Date : 09/30/14

Attention : Dennis Dettloff
Antea Group
11050 White Rock Rd. Suite 110
Rancho Cordova, CA 95670

Project Name :I42705191 0001
Project Number : I42705191 0001

			Sample Name	Waste Soil
			Sample Date	09/23/14
Analyte	Method	Units	MRL	Results
Total Xylenes	EPA 8260B	mg/Kg	0.0050	ND
Methyl-t-butyl ether (MTBE)	EPA 8260B	mg/Kg	0.0050	ND
TPH as Gasoline	EPA 8260B	mg/Kg	1.0	ND
1,2-Dichloroethane-d4 (Surr)	EPA 8260B	%		106
Toluene - d8 (Surr)	EPA 8260B	%		101

MRL = Method Reporting Limit
ND = Not Detected

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800
ELAP # 2236

KIFF Analytical LLC

Report Number : 89219
Date : 09/30/14

Project Name : **I42705191 0001**
Project Number : **I42705191 0001**

Sample : **Waste Soil** Matrix : Soil Lab Number : 89219-01

Sample Date :09/23/14

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Antimony	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14 15:09
Arsenic	**35**	0.75	mg/Kg	EPA 6010B	09/26/14 15:09
Barium	**82**	0.50	mg/Kg	EPA 6010B	09/26/14 15:09
Beryllium	**0.25**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Cadmium	< 0.50	0.50	mg/Kg	EPA 6010B	09/26/14 15:09
Chromium	**24**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Cobalt	**12**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Copper	**14**	0.50	mg/Kg	EPA 6010B	09/26/14 15:09
Lead	**35**	0.50	mg/Kg	EPA 6010B	09/26/14 15:09
Molybdenum	**1.9**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Nickel	**23**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Selenium	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14 15:09
Silver	**1.1**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Thallium	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14 15:09
Vanadium	**24**	0.25	mg/Kg	EPA 6010B	09/26/14 15:09
Zinc	**100**	1.0	mg/Kg	EPA 6010B	09/26/14 15:09
Mercury	**0.20**	0.050	mg/Kg	EPA 7471A	09/30/14 16:17
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/26/14 00:09
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/26/14 00:09
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/26/14 00:09
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/26/14 00:09
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/26/14 00:09
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/26/14 00:09
1,2-Dichloroethane-d4 (Surr)	106		% Recovery	EPA 8260B	09/26/14 00:09
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/26/14 00:09

Report Number : 89219

Date : 09/30/14

QC Report : Method Blank Data

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Mercury	< 0.050	0.050	mg/Kg	EPA 7471A	09/30/14
Antimony	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14
Arsenic	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14
Barium	< 0.50	0.50	mg/Kg	EPA 6010B	09/26/14
Beryllium	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Cadmium	< 0.50	0.50	mg/Kg	EPA 6010B	09/26/14
Chromium	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Cobalt	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Copper	< 0.50	0.50	mg/Kg	EPA 6010B	09/26/14
Lead	< 0.50	0.50	mg/Kg	EPA 6010B	09/26/14
Molybdenum	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Nickel	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Selenium	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14
Silver	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Thallium	< 0.75	0.75	mg/Kg	EPA 6010B	09/26/14
Vanadium	< 0.25	0.25	mg/Kg	EPA 6010B	09/26/14
Zinc	< 1.0	1.0	mg/Kg	EPA 6010B	09/26/14
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/25/14
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/25/14
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/25/14
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/25/14
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	09/25/14
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	09/25/14
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	09/25/14
Toluene - d8 (Surr)	99.2		%	EPA 8260B	09/25/14

KIFF ANALYTICAL, LLC

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Report Number : 89219

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 09/30/14

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Antimony														
	89219-01	< 0.75	47.6	47.6	9.25	8.96	mg/Kg	EPA 6010B	9/26/14	**18.8**	**18.2**	3.15	75-125	20
Arsenic														
	89219-01	35	47.6	47.6	81.6	85.0	mg/Kg	EPA 6010B	9/26/14	97.4	105	4.17	75-125	20
Barium														
	89219-01	82	47.6	47.6	148	149	mg/Kg	EPA 6010B	9/26/14	**140**	**141**	0.400	75-125	20
Beryllium														
	89219-01	0.25	47.6	47.6	46.3	45.9	mg/Kg	EPA 6010B	9/26/14	96.7	95.8	0.948	75-125	20
Cadmium														
	89219-01	< 0.50	47.6	47.6	49.1	49.4	mg/Kg	EPA 6010B	9/26/14	102	103	0.770	75-125	20
Chromium														
	89219-01	24	47.6	47.6	67.7	70.8	mg/Kg	EPA 6010B	9/26/14	92.3	98.9	4.50	75-125	20
Cobalt														
	89219-01	12	47.6	47.6	58.2	65.9	mg/Kg	EPA 6010B	9/26/14	96.6	113	12.3	75-125	20
Copper														
	89219-01	14	47.6	47.6	65.1	66.3	mg/Kg	EPA 6010B	9/26/14	107	109	1.80	75-125	20
Lead														
	89219-01	35	47.6	47.6	71.2	73.0	mg/Kg	EPA 6010B	9/26/14	76.5	80.2	2.43	75-125	20
Molybdenum														
	89219-01	1.9	47.6	47.6	43.6	42.9	mg/Kg	EPA 6010B	9/26/14	87.6	86.2	1.54	75-125	20

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Nickel														
	89219-01	23	47.6	47.6	66.4	68.2	mg/Kg	EPA 6010B	9/26/14	91.6	95.4	2.68	75-125	20
Selenium														
	89219-01	< 0.75	47.6	47.6	45.8	46.7	mg/Kg	EPA 6010B	9/26/14	95.4	97.5	2.12	75-125	20
Silver														
	89219-01	1.1	23.8	23.8	26.4	26.2	mg/Kg	EPA 6010B	9/26/14	106	105	0.956	75-125	20
Thallium														
	89219-01	< 0.75	47.6	47.6	41.3	41.4	mg/Kg	EPA 6010B	9/26/14	85.5	85.7	0.140	75-125	20
Vanadium														
	89219-01	24	47.6	47.6	76.5	79.9	mg/Kg	EPA 6010B	9/26/14	110	117	4.32	75-125	20
Zinc														
	89219-01	100	47.6	47.6	162	168	mg/Kg	EPA 6010B	9/26/14	124	**137**	3.72	75-125	20
Benzene														
	89219-01	<0.0050	0.0389	0.0385	0.0319	0.0336	mg/Kg	EPA 8260B	9/26/14	82.1	87.3	6.22	70.0-130	25
Ethylbenzene														
	89219-01	<0.0050	0.0389	0.0385	0.0254	0.0300	mg/Kg	EPA 8260B	9/26/14	**65.2**	77.9	17.8	70.0-130	25
Methyl-t-butyl ether														
	89219-01	<0.0050	0.0389	0.0385	0.0332	0.0353	mg/Kg	EPA 8260B	9/26/14	85.4	91.6	7.00	60.0-130	25

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Report Number : 89219

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 09/30/2014

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
P + M Xylene														
	89219-01	<0.0050	0.0389	0.0385	0.0241	0.0287	mg/Kg	EPA 8260B	9/26/14	**61.8**	74.4	18.5	70.0-130	25
Toluene														
	89219-01	<0.0050	0.0389	0.0385	0.0296	0.0315	mg/Kg	EPA 8260B	9/26/14	76.2	81.8	7.13	70.0-130	25
Mercury														
	89219-01	0.20	0.100	0.100	0.300	0.355	mg/Kg	EPA 7471A	9/30/14	100	**155**	16.7	75-125	20

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QC Report : Laboratory Control Sample (LCS)

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Mercury	0.100	mg/Kg	EPA 7471A	9/30/14	99.9	85-115
Antimony	50.0	mg/Kg	EPA 6010B	9/26/14	101	85-115
Arsenic	50.0	mg/Kg	EPA 6010B	9/26/14	101	85-115
Barium	50.0	mg/Kg	EPA 6010B	9/26/14	103	85-115
Beryllium	50.0	mg/Kg	EPA 6010B	9/26/14	102	85-115
Cadmium	50.0	mg/Kg	EPA 6010B	9/26/14	104	85-115
Chromium	50.0	mg/Kg	EPA 6010B	9/26/14	97.9	85-115
Cobalt	50.0	mg/Kg	EPA 6010B	9/26/14	99.5	85-115
Copper	50.0	mg/Kg	EPA 6010B	9/26/14	102	85-115
Lead	50.0	mg/Kg	EPA 6010B	9/26/14	96.7	85-115
Molybdenum	50.0	mg/Kg	EPA 6010B	9/26/14	99.2	85-115
Nickel	50.0	mg/Kg	EPA 6010B	9/26/14	98.0	85-115
Selenium	50.0	mg/Kg	EPA 6010B	9/26/14	103	85-115
Silver	25.0	mg/Kg	EPA 6010B	9/26/14	104	85-115
Thallium	50.0	mg/Kg	EPA 6010B	9/26/14	96.5	85-115
Vanadium	50.0	mg/Kg	EPA 6010B	9/26/14	105	85-115
Zinc	50.0	mg/Kg	EPA 6010B	9/26/14	102	85-115
Benzene	0.0400	mg/Kg	EPA 8260B	9/26/14	91.8	70.0-130
Ethylbenzene	0.0400	mg/Kg	EPA 8260B	9/26/14	97.8	70.0-130
Methyl-t-butyl ether	0.0400	mg/Kg	EPA 8260B	9/26/14	89.8	60.0-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 89219

QC Report : Laboratory Control Sample (LCS)

Date : 09/30/2014

Project Name : **I42705191 0001**

Project Number : **I42705191 0001**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
P + M Xylene	0.0400	mg/Kg	EPA 8260B	9/26/14	93.0	70.0-130
Toluene	0.0400	mg/Kg	EPA 8260B	9/26/14	92.8	70.0-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

KIFF Analytical LLC

2795 2nd Street Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No. 89219

Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Dennis Dettloff	California EDF Report? ☐Yes ☐No
Company / Address: Antea Group 11050 White Rock Road, Suite 110 Rancho Cordova, CA 95670	Sampling Company Log Code:
Phone #: (916) 503-1261 Fax #:	Global ID: T0600101476
Project #: 42705191 0001 P.O. #:	EDF Deliverable To (Email Address): dennis.dettloff@anteagroup.com jonathan.fillingame@anteagroup.com
Project Name: 42705191 0001	Sampler Signature: Jonathan Fillingame
Project Address: 449 Hegenberger Road Oakland, CA	

Sample Designation	Field Point Name	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: Sleeve	Container: Poly	Container: Glass	Container: Tedlar	Preservative: HCl	Preservative: HNO_3	Preservative: None	Matrix: Water	Matrix: Soil	Analysis Request: EPA 8260B TPHg, Btex, MTBE, TBA, & Ethanol	Analysis Request: EPA 8015M TPHd - Silica Gel	Analysis Request: 8260B TPHg BTEX MTBE	Analysis Request: 6010 CAM 17	TAT	For Lab Use Only
Waste Soil		9/23/14	14:00				X				X		X			X	X	☒ 1 wk	01

TAT: ☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☒ 1 wk

Relinquished by:	Date	Time	Received by:
Jonathan Fillingame	9/23/14	16:10	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	092314	1610	GPS Griff Analytical

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	herm. ID	Coolant Present
					Yes / No

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

SRG #: 89219

Sample Receipt	Initials/Date: Eyj 092314	Storage Time: 1610	Sample Login	Initials/Date: MAS 092414

TAT: ☒ Standard ☐ Rush ☐ Split ☐ None

Method of Receipt: ☐ Courier ☒ Over-the-counter ☐ Shipped

Temp °C 1.8 ☐ N/A	Therm ID IR3	Time 1605	Coolant present ☒ Yes ☐ No ☐ Water	☐ Temp Excursion

For Shipments Only:	Cooler Receipt Initials/Date/Time:	Custody Seals ☐ N/A ☐ Intact ☐ Broken

Chain-of-Custody:	Yes	No
Is COC present?	✓	
Is COC signed by relinquisher?	✓	
Is COC dated by relinquisher?	✓	
Is the sampler's name on the COC?	✓	
Are there analyses or hold for all samples?	✓	

Documented on	COC	Labels	Discrepancies:
Sample ID	✓	✓	
Project ID	✓	✓	
Sample Date	✓	✓	
Sample Time	✓	✓	
Does COC match project history?	☐ N/A	☐ Yes	☒ No

Samples:	N/A	Yes	No
Are sample custody seals intact?	✓		
Are sample containers intact?		✓	
Is preservation documented?	✓		
In-house Analysis:	**N/A**	**Yes**	**No**
Are preservatives acceptable?	✓		
Are samples within holding time?		✓	
Are sample container types correct?		✓	
Is there adequate sample volume?		✓	

Comments:

Receipt Details:

Matrix	Container Type	# of Containers
So	glass	01

CS Required: ☒

Proceed With Analysis: ☒ YES ☐ NO Init/Date: TLT 092414

Client Communication:

Is the Data Valid? (circle) (Yes) / No

Preservation Temperature (if Known): 1.8 °C

Antea Group Lab Validation Sheet

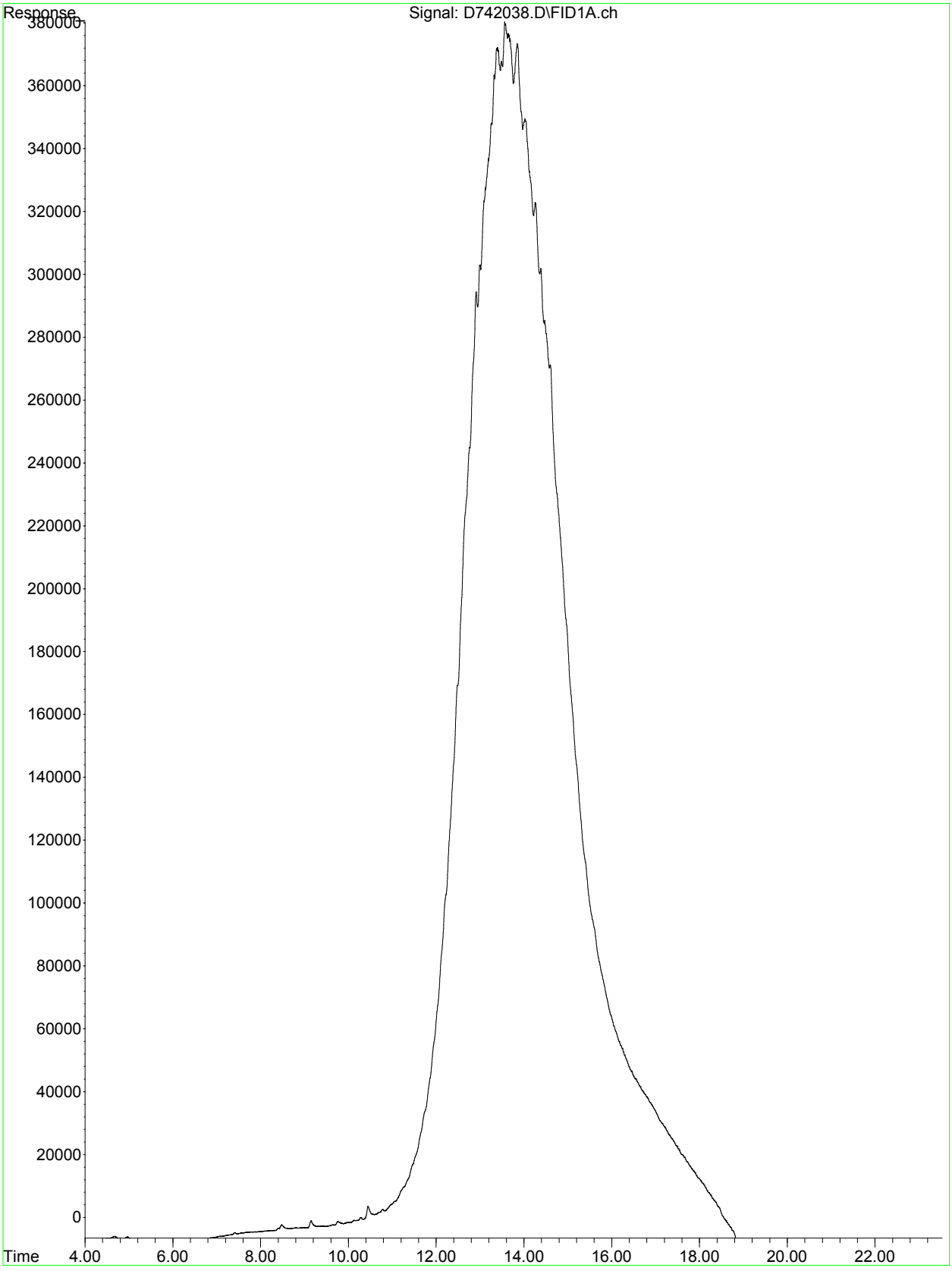
Project/Client: COP/ELT
Project #: I42705191
Date of Validation: 10/31/14 **Date of Analysis:** 9/26/14 **Sample Date:** 9/23/14
Completed By: Jon F. **Signature:** Jonathan F. Illingsworth
Analytical Lab Used and Report # (if any): Kiff Analytical LLC 89219

	Circle or Highlight Yes/No below	
1. Was the analysis the one requested?	(Yes) / No	
2. Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?	(Yes) / No	
3. Were samples prepared (extracted, filtered, etc.) within EPA holding times?	(Yes) / No	
4. Once prepared/extracted, were the samples analyzed within the EPA holding times?	(Yes) / No	
5. Were Laboratory blanks performed, if so, were they below non-detect?	(Yes) / No	
6. Are the units correct? (i.e., soil samples in mg/kg or ug/g, water samples mg/L, ug/L, and air samples in volume mg/m^3,etc.)	(Yes) / No	
7. Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?	(Yes) / No	
8. In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?	Yes / No	N/
9. Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approx 80-120% depending on analyte)?	Yes / (No)	
10. Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?	(Yes) / No	
11. Were Relative Percent Difference values within the acceptable range (i.e. ± 25%)?	(Yes) / No	

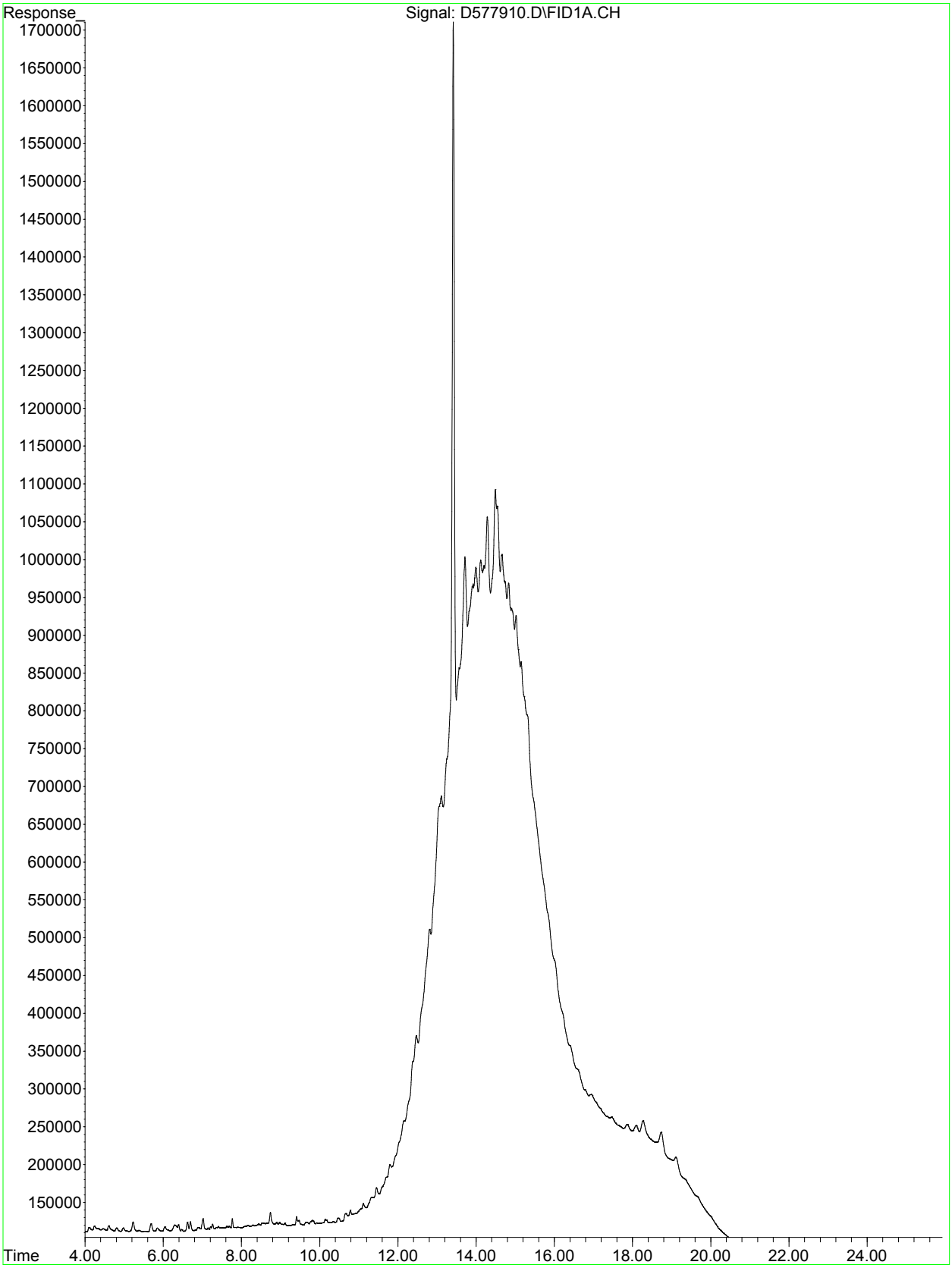
If any answer is no, explain why and what corrective action was taken:

9. Recoveries for some Matrix Spike/ Matrix Spike Duplicate analytes were outside control limits for Antimony, Barium, Mercury, Zinc, Ethylbenzene, and P+M Xylene. This may indicate a bias for the samples that were spiked. Since the LCS recoveries were within control limits, no data are flagged.

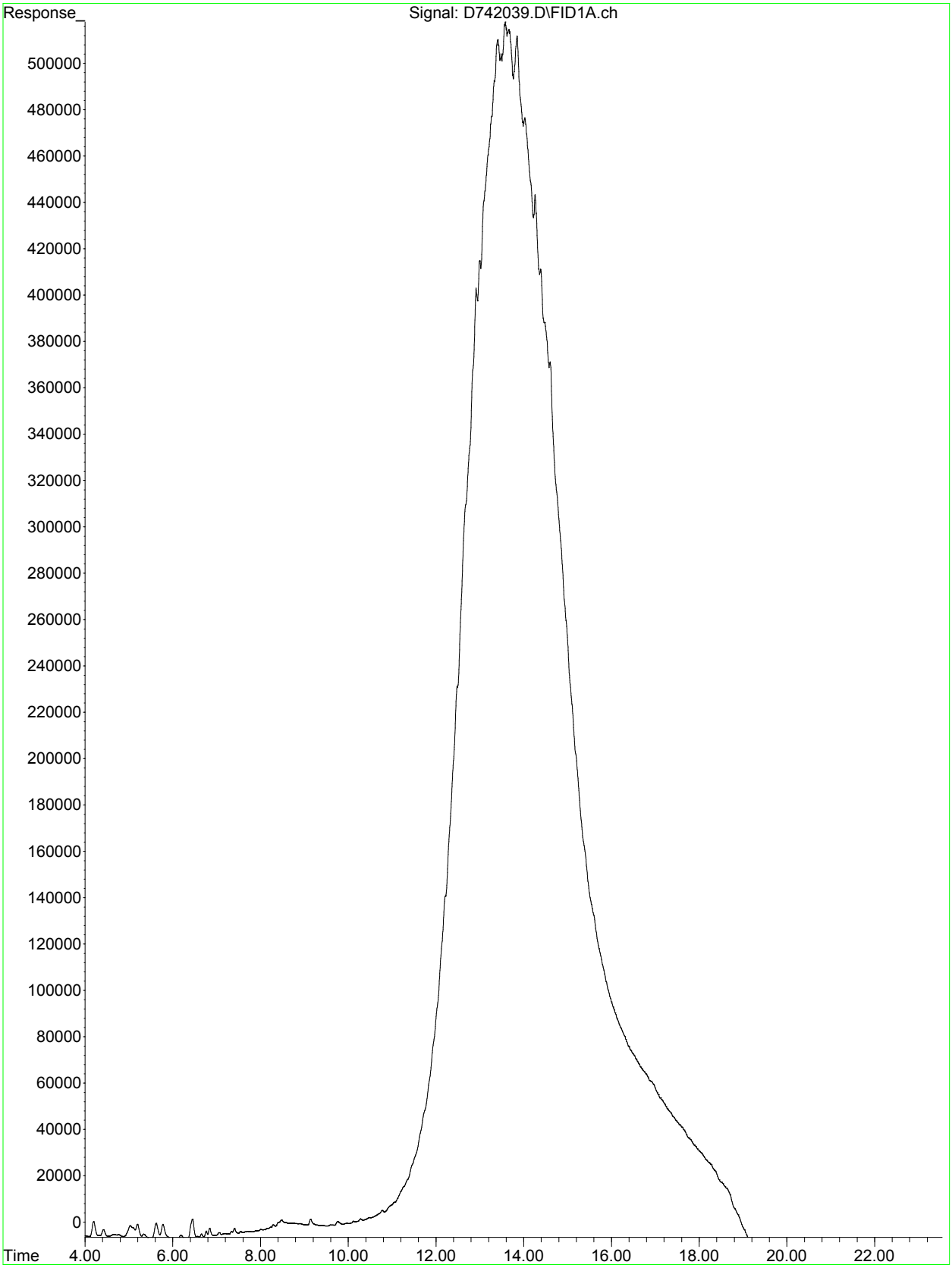
Sample ID : 89218-01 (SB-13d8.5)
Date Analyzed : 09/30/14
Data File : D742038
Analysis Method : M EPA 8015



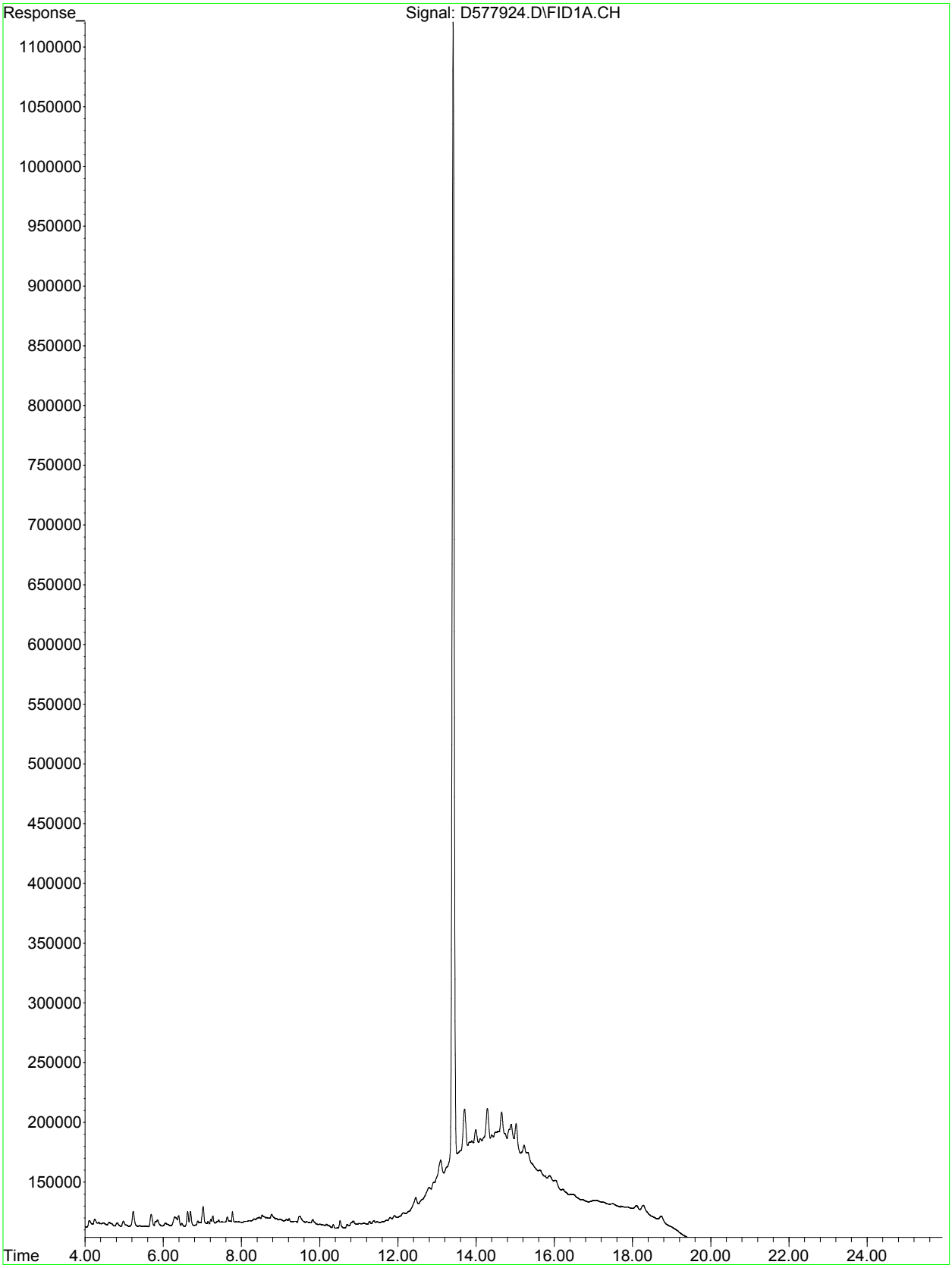
Sample ID : 89218-02 (SB-13d15)
Date Analyzed : 09/29/14
Data File : D577910
Analysis Method : M EPA 8015



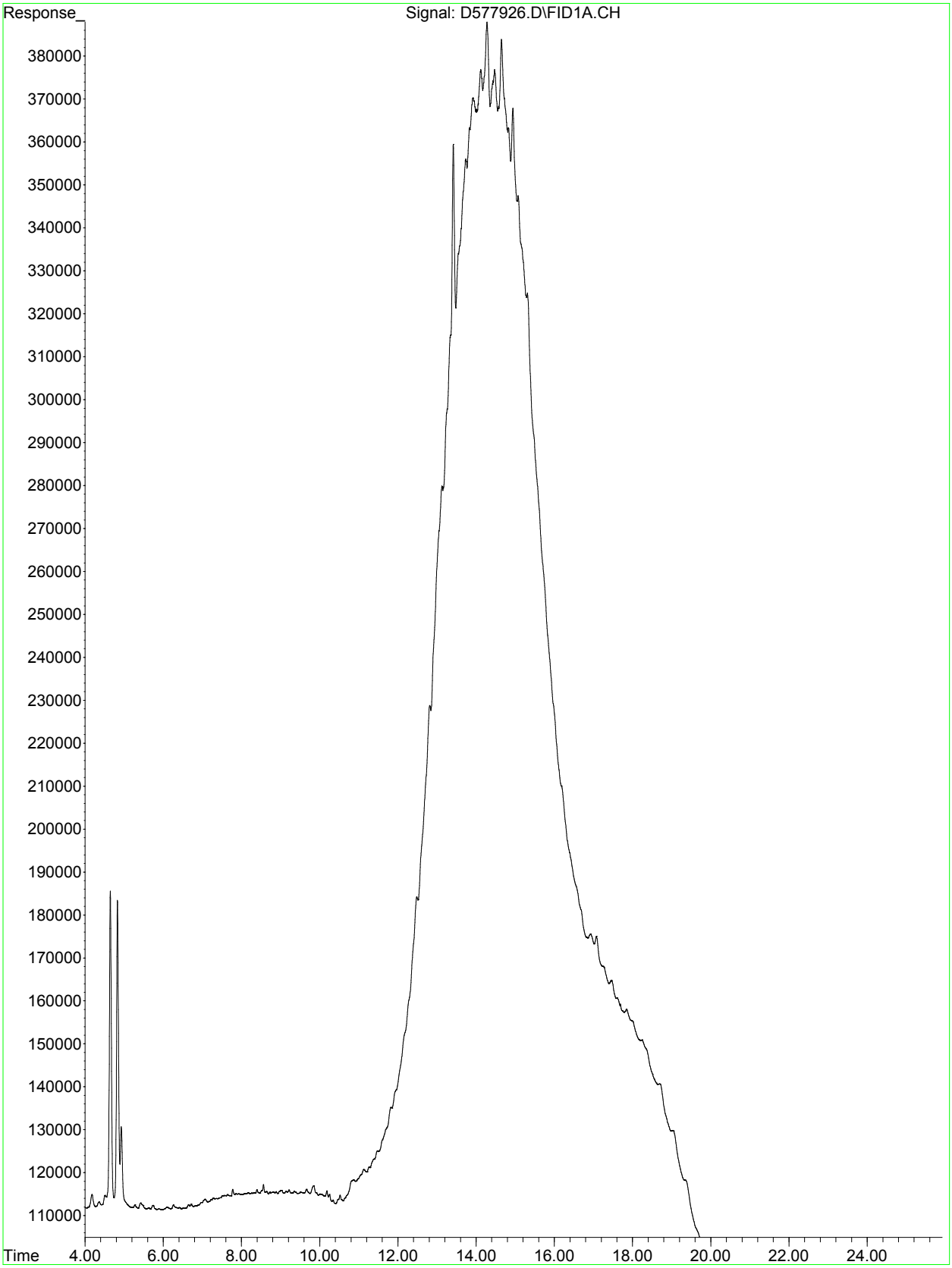
Sample ID : 89218-03 (SB-13d20)
Date Analyzed : 09/30/14
Data File : D742039
Analysis Method : M EPA 8015



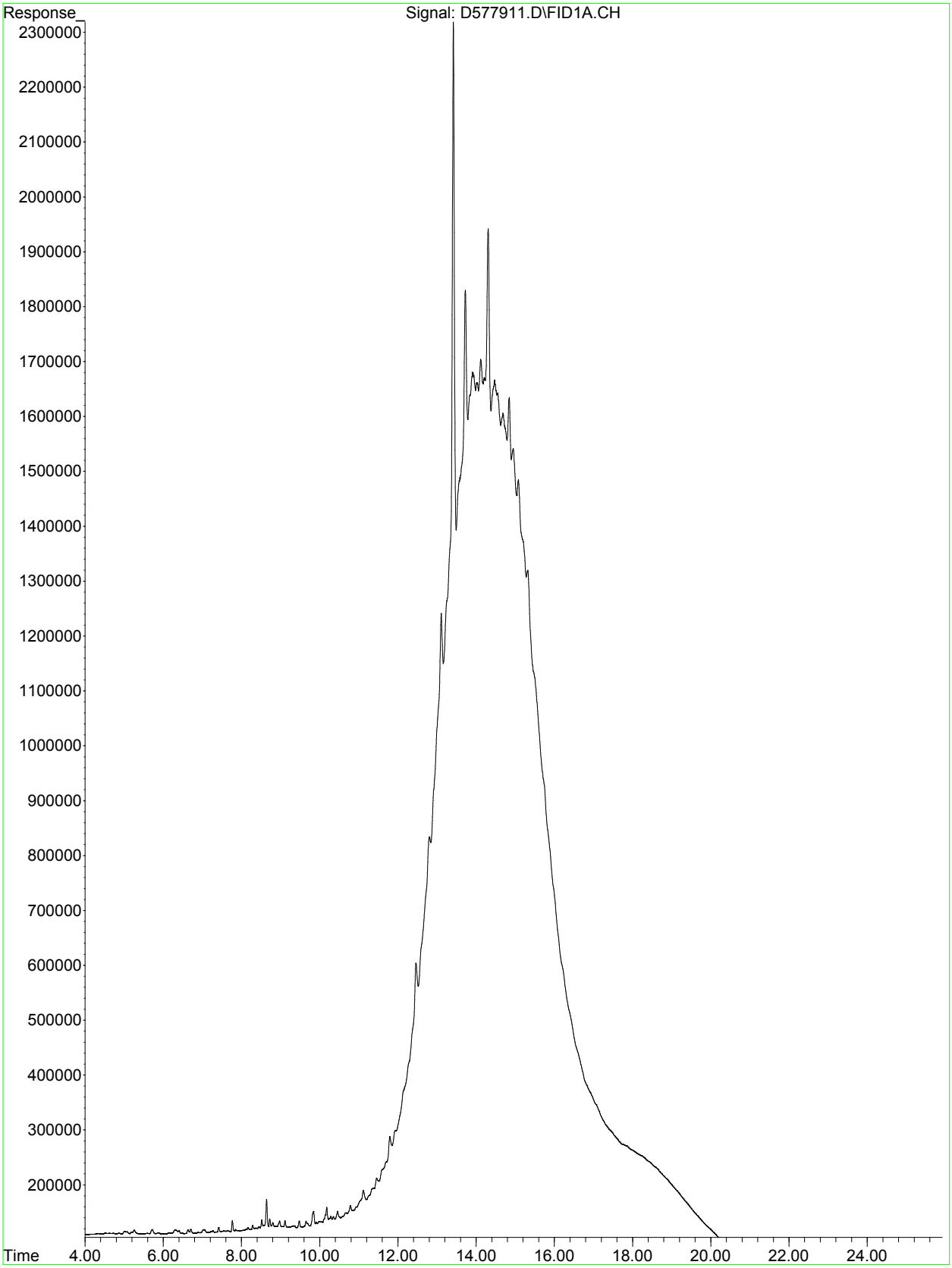
Sample ID : 89218-04 (SB-14d12)
Date Analyzed : 09/30/14
Data File : D577924
Analysis Method : M EPA 8015



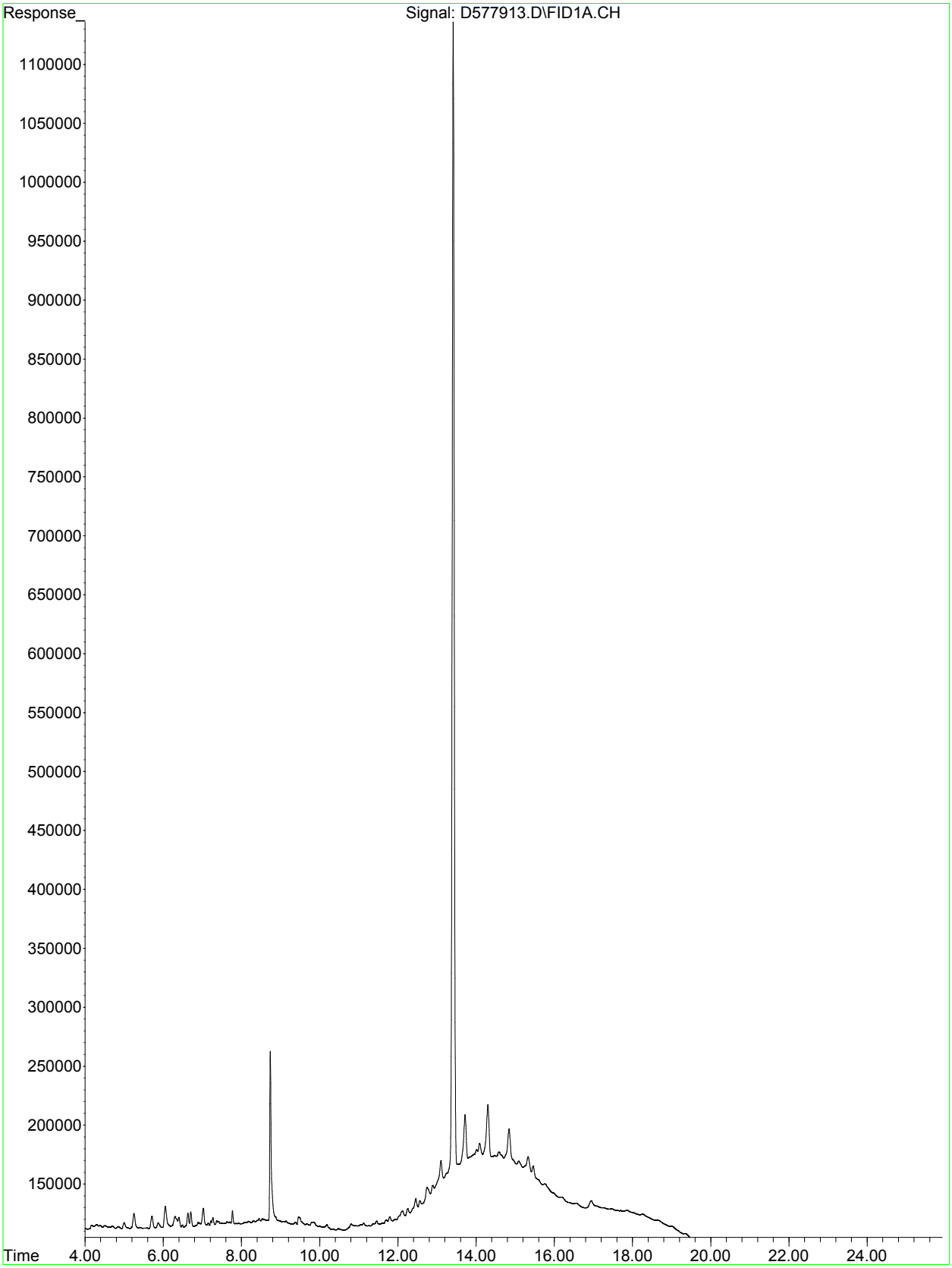
Sample ID : 89218-05 (SB-14d15)
Date Analyzed : 09/30/14
Data File : D577926
Analysis Method : M EPA 8015



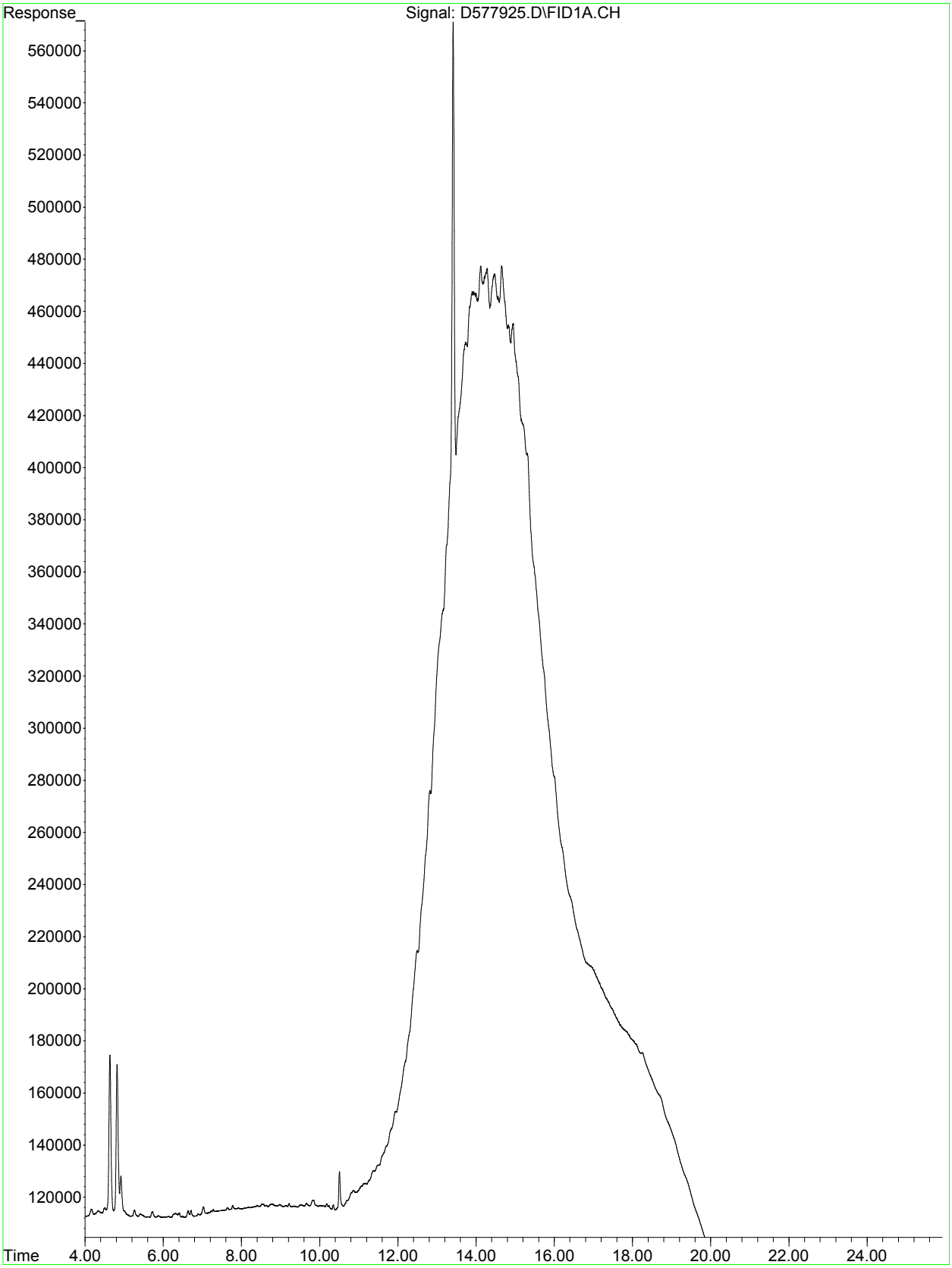
Sample ID : 89218-06 (SB-15d6)
Date Analyzed : 09/29/14
Data File : D577911
Analysis Method : M EPA 8015



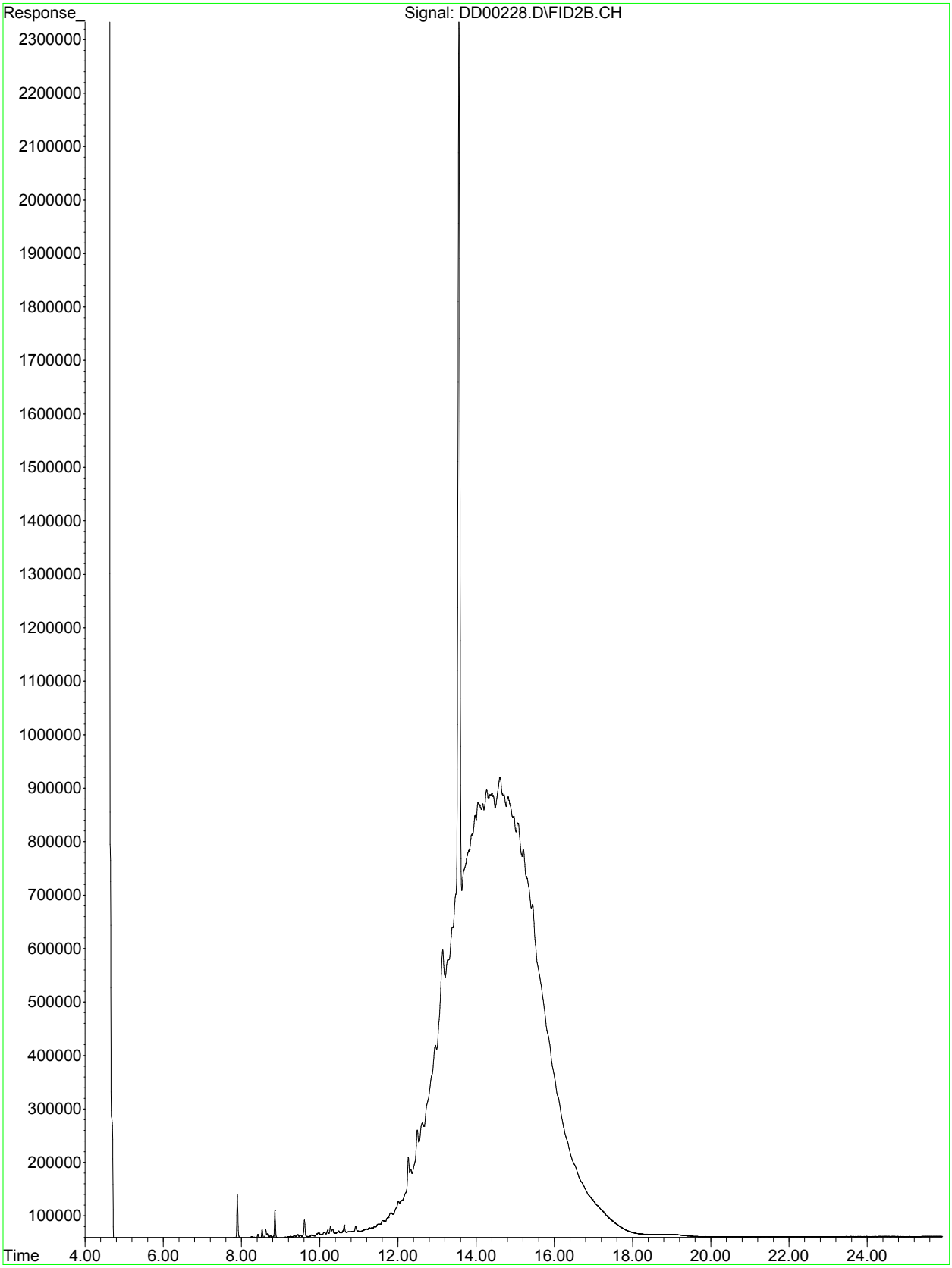
Sample ID : 89218-08 (SB-15d13.5)
Date Analyzed : 09/29/14
Data File : D577913
Analysis Method : M EPA 8015



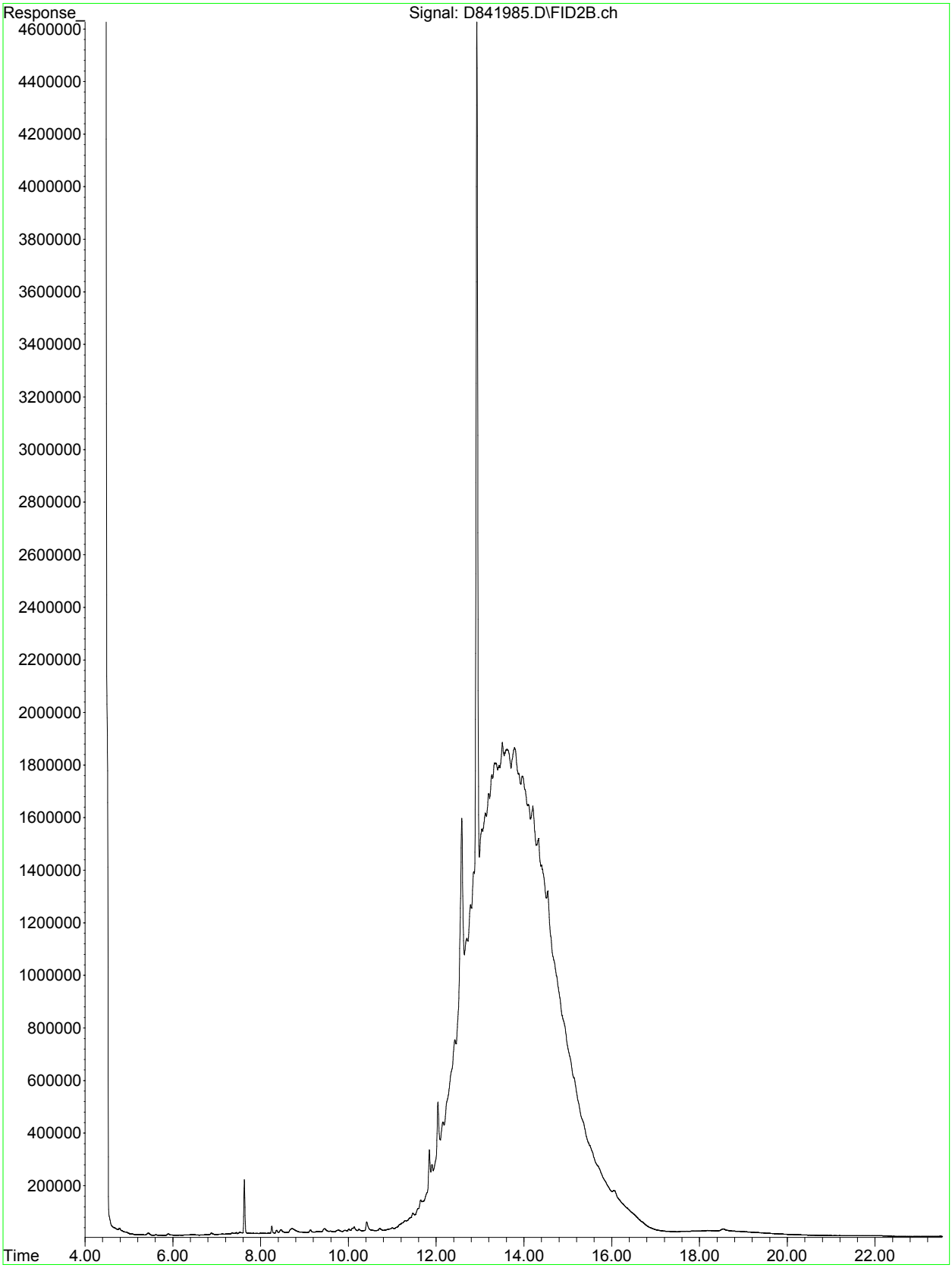
Sample ID : 89218-09 (SB-15d16)
Date Analyzed : 09/30/14
Data File : D577925
Analysis Method : M EPA 8015



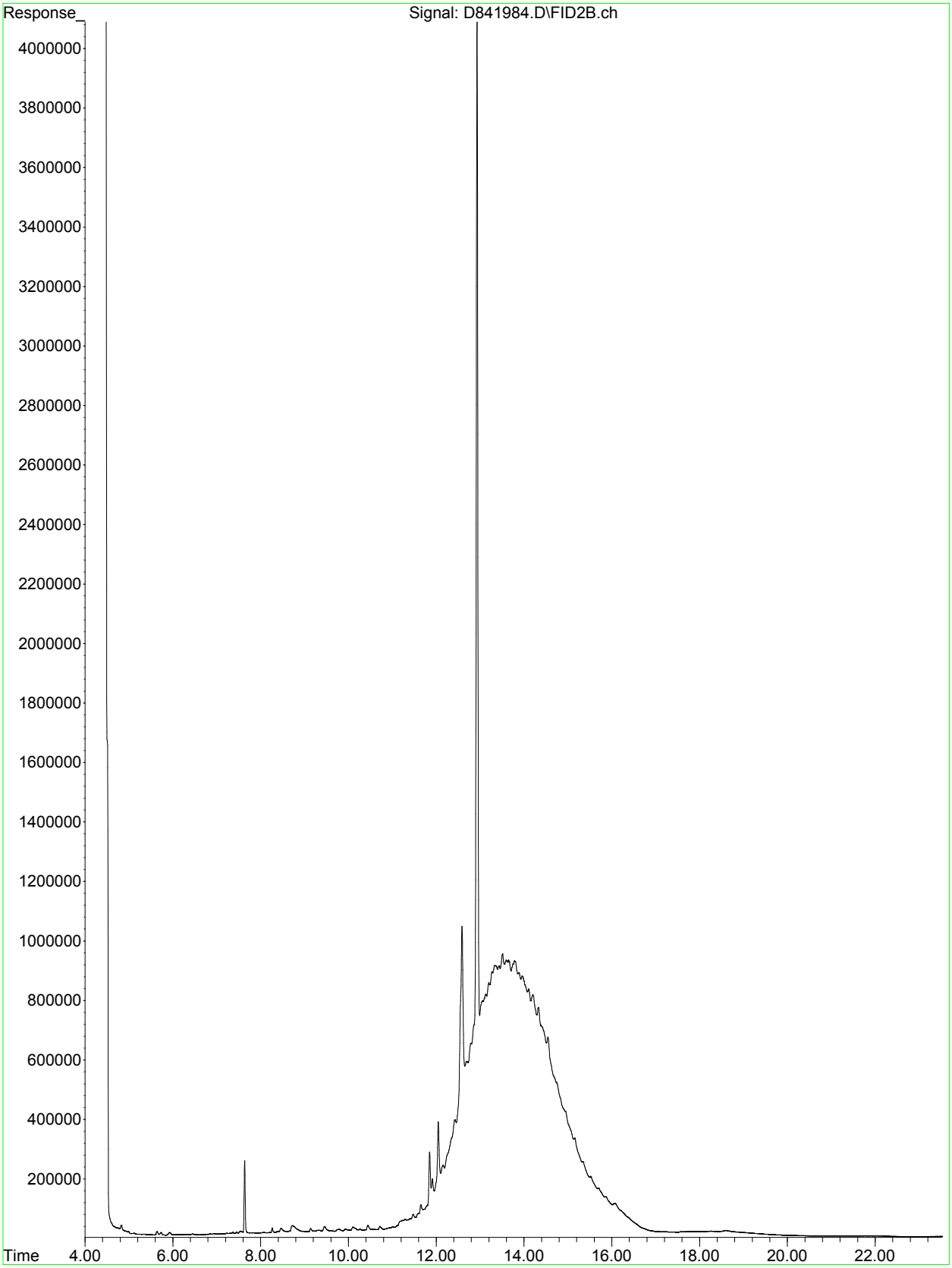
Sample ID : 89218-10 (SB-13GW)
Date Analyzed : 09/25/14
Data File : DD00228
Analysis Method : M EPA 8015



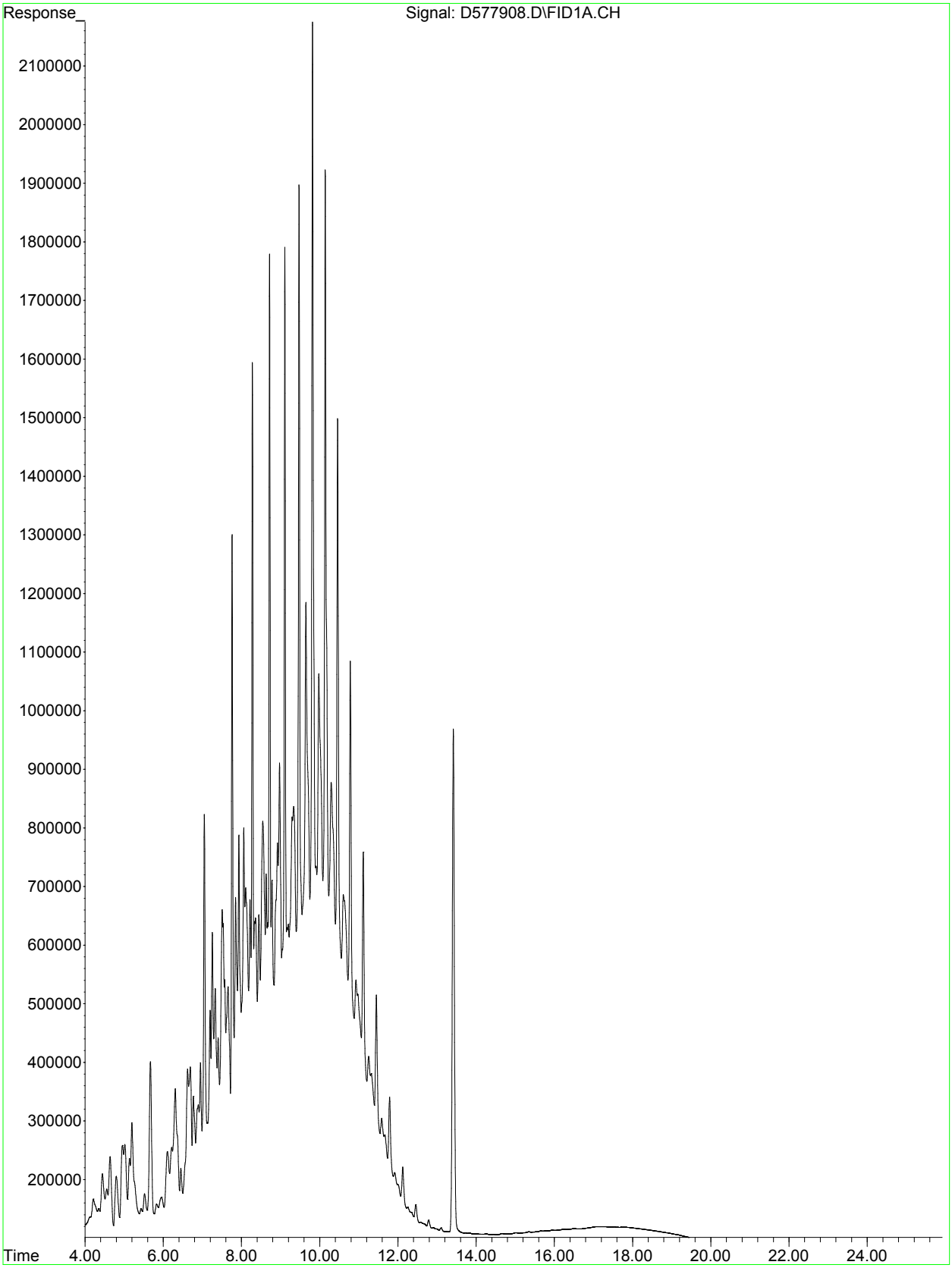
Sample ID : 89218-11 (SB-14GW)
Date Analyzed : 09/26/14
Data File : D841985
Analysis Method : M EPA 8015



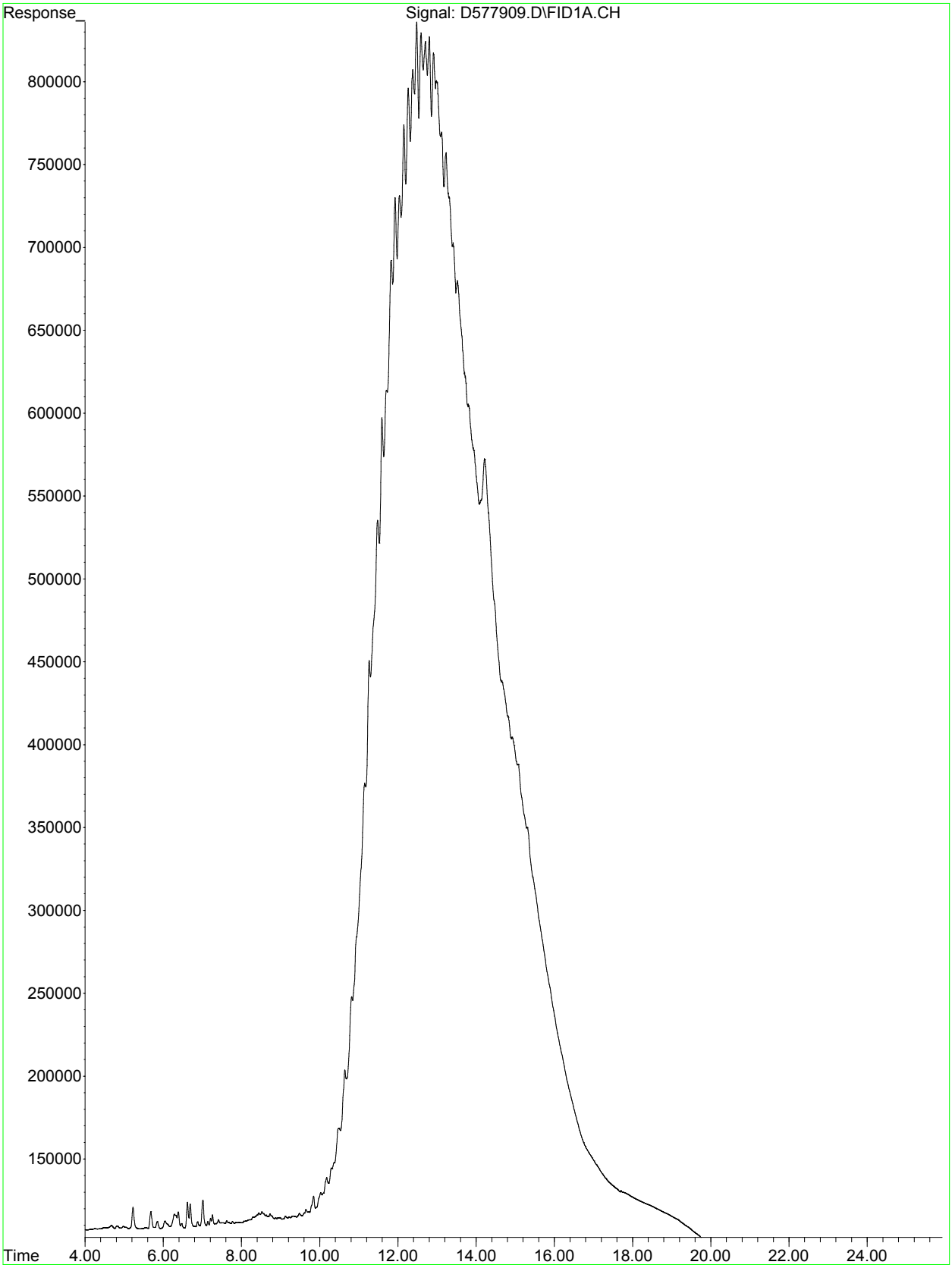
Sample ID : 89218-12 (SB-15GW)
Date Analyzed : 09/26/14
Data File : D841984
Analysis Method : M EPA 8015



Sample ID : Typical Diesel Fuel
Date Analyzed : 09/29/14
Data File : D577908
Analysis Method : M EPA 8015



Sample ID : Typical Motor Oil
Date Analyzed : 09/29/14
Data File : D577909
Analysis Method : M EPA 8015



Appendix E

Waste Manifest

Manifest

SOIL SAFE OF CA - TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
/ /		394 / 732	A07	43451	0011

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
PC&F ATTENTION: LINDA GARCIA 7180 KOLL CENTER PARKWAY, SUITE 100 PLEASANTON, CA 94566	925-931-5733	CAL000337983
	Person to Contact:	
	FAX#:	Customer Account Number

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number

Generation Site (Transport from): *(name & address)*	Site Phone #:	
76 STATION NO. 5191 449 HEGENBERGER RD. OAKLAND, CA 94621	Person to Contact:	
	FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	
SOIL SAFE 12328 HIBISCUS AVENUE ADELANTO, CA 92301	(800) 862-8001	
	Person to Contact: JOE PROVANSAL	
	FAX#: (760) 246-8004	

Transporter Name and Mailing Address:	Transporter's Phone #:	
BELSHIRE 26971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 240892	949-460-5200	CAR000183913
	Person to Contact: LARRY MOOTHART	460847
	FAX#: 949-460-5210	Customer Account Number

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☑	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	001 DM		38060	37480	580
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					.29

List any exception to items listed above: Rin # 40C7 Scale Ticket # 116302

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☒	Signature and date:	Month	Day	Year
Jonathan Fillingame (Arcon Group)		10	07	14

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
		10	22	14

Recycling Facility

Discrepancies:
5191
1077373

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
J. PROVANSAL	11-6-14

Please print or type.

TRANSPORTER COPY