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August 26, 2015

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,

APRO LLC.

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

August 26, 2015

Prepared for:
Mr. Keith Nowell
Alameda County
Health Care Services Agency
1131 Harbor Bay Parkway,
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Inogen Environmental Alliance

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1.0 INTRODUCTION

Antea®Group has prepared this *Site Investigation Report* describing the advancement of two (2) 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**. The other soil borings proposed in the approval email were advanced in September 2014. The soil borings advanced during the current investigation were postponed and moved down-gradient due to access issues. This report has received a technical review by Mr. Dennis Dettloff, California Professional Geologist No. 7480.

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.

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.

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.

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.

January 1995 - Two additional monitoring wells, MW-9 and MW-10, were installed to depths of 13 and 15 feet bgs, respectively. 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.

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. The four fuel dispenser islands and associated product piping were also removed. Based on the results of the confirmation samples, the soil beneath the product dispenser islands was over excavated to approximately 6 feet bgs.

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.

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.

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 (Delta).

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.

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.

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.

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.

June 2014 – Antea Group destroyed monitoring wells MW-10, MW-12, MW-12A, and MW-17 by pressure grouting. The wells were destroyed in preparation for on-site soil excavation activities.

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. Antea Group advanced three (3) off-site soil borings, SB-13 through SB-15. Soil and grab-groundwater samples were collected from the borings.

July 2015 – Antea Group destroyed on-site monitoring wells MW-6 and MW-14 in preparation for on-site soil excavation activities. Six (6) on-site soil borings were advanced for waste characterization (WC-1 to WC-3) and delineate soil (SB-16 to SB-18) concentrations in the vicinity of the proposed soil excavation. Two (2) off-site soil borings (SB-11 and SB-12) were advanced for delineation down-gradient.

Historical soil analytical results are presented in **Table 1**. Monitoring well locations are shown on **Figure 2**.

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.

March 2015 - Antea Group completed a sensitive receptor survey for the site. Three irrigation wells with verifiable locations were found in a review of DWR records (980 feet south-southeast, 1,700 feet south-southeast, and 2,570 feet south-southeast of the site). A web-based receptor search and a site reconnaissance were also conducted. The closest receptor located was Lighthouse Community Charter School (150 feet east of the site). The results of the survey are reported in the *Sensitive Receptor Survey* dated March 13, 2015.

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 June 11, 2015. The measured depth to groundwater ranged from 2.87 feet to 4.74 feet below top of casing (TOC). The groundwater flow direction and hydraulic gradient were variable. However, the dominate groundwater flow direction is to the southeast.

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, located at 333 Hegenberger Road. A drilling permit was obtained for the two (2) soil borings from the Alameda County Public Works Agency (**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 July 8, 2015, Gregg Drilling and Testing Inc., (Gregg) under the supervision of an Antea Group geologist, advanced two (2) soil borings (SB-11 and SB-12) 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-11 and SB-12 were advanced to a depth of 20 feet bgs. Subsequent to groundwater sampling, each boring was backfilled with neat cement. The soil borings were capped with concrete which was dyed to match the surrounding asphalt. Boring logs are presented as **Appendix C**. Soil boring locations are shown on **Figure 2**.

3.3 Soil Sampling Analysis

Soil samples retained for analysis were analyzed for TPHg , benzene, toluene, ethylbenzene, p/m-xylenes, and o-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 Eurofins Calscience (Calscience), a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory (Certification No. 2944CA). 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 Calscience. 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 Calscience analytical report for the July 2015 site investigation. Antea Group's laboratory data validation checklist, the Calscience 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

* 3 - Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
* 4 - The MS/MSD RPD was out of control due to suspected matrix interference.
* Q - Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.

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

All 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

Groundwater was encountered in both soil borings. In soil boring SB-11 groundwater was encountered at 8.5 feet bgs and stabilized at 3.9 feet bgs before a grab groundwater sample was collected. In soil boring SB-12 groundwater was encountered at 6.75 feet bgs and stabilized at 4.8 feet bgs before a grab groundwater sample was collected. All 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 DISCUSSION

The purpose of this investigation was to show the limit of the petroleum hydrocarbon and fuel oxygenate impact in the soil and groundwater southwest of the site. Due to difficulties gaining access to the adjacent property, soil borings SB-11 and SB-12 were moved farther from the site (approximately 300 feet southwest of the site boundary). No petroleum hydrocarbons or fuel oxygenate were reported in any of the soil or groundwater samples from soil borings SB-11 or SB-12.

The previous off-site investigation reported TPHd in each of the soil and groundwater samples from soil borings SB-13, SB-14, and SB-15 (chromatograms from these results are typical for motor oil which is not reported on-site and is unlikely to migrate in the soil or groundwater) and 5.9 µg/L toluene in the groundwater samples from soil boring SB-15. These soil borings ranged from southeast (SB-13 and SB-14) to south (SB-15) of the site. Between the previous borings and the current borings, the down-gradient limit of the petroleum hydrocarbon and fuel oxygenate impact is well defined.

6.0 CONCLUSIONS

Based on the results from this investigation and the previous, September 2014 investigation, the soil and groundwater at the off-site soil boring locations does not appear to be affected by the petroleum hydrocarbons or fuel oxygenates 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 did not meet the laboratory standards for diesel. Based on this data, Antea Group does not believe the diesel, most likely motor oil, reported in the soil and groundwater samples collected during the September 2014 investigation originated from a release from this site.

Based on the data collected from soil borings SB-11 through SB-15, the extent of the petroleum hydrocarbon and fuel oxygenate impact down-gradient of the site, to the southwest, south, and southeast, appears to be defined and no additional down-gradient investigation is warranted. In addition, off-site monitoring well MW-7 was purged and sampled regularly from 1997 until 2014 and has never show significant impact to the groundwater.

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 Fillingame Date: 8/26/15

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.

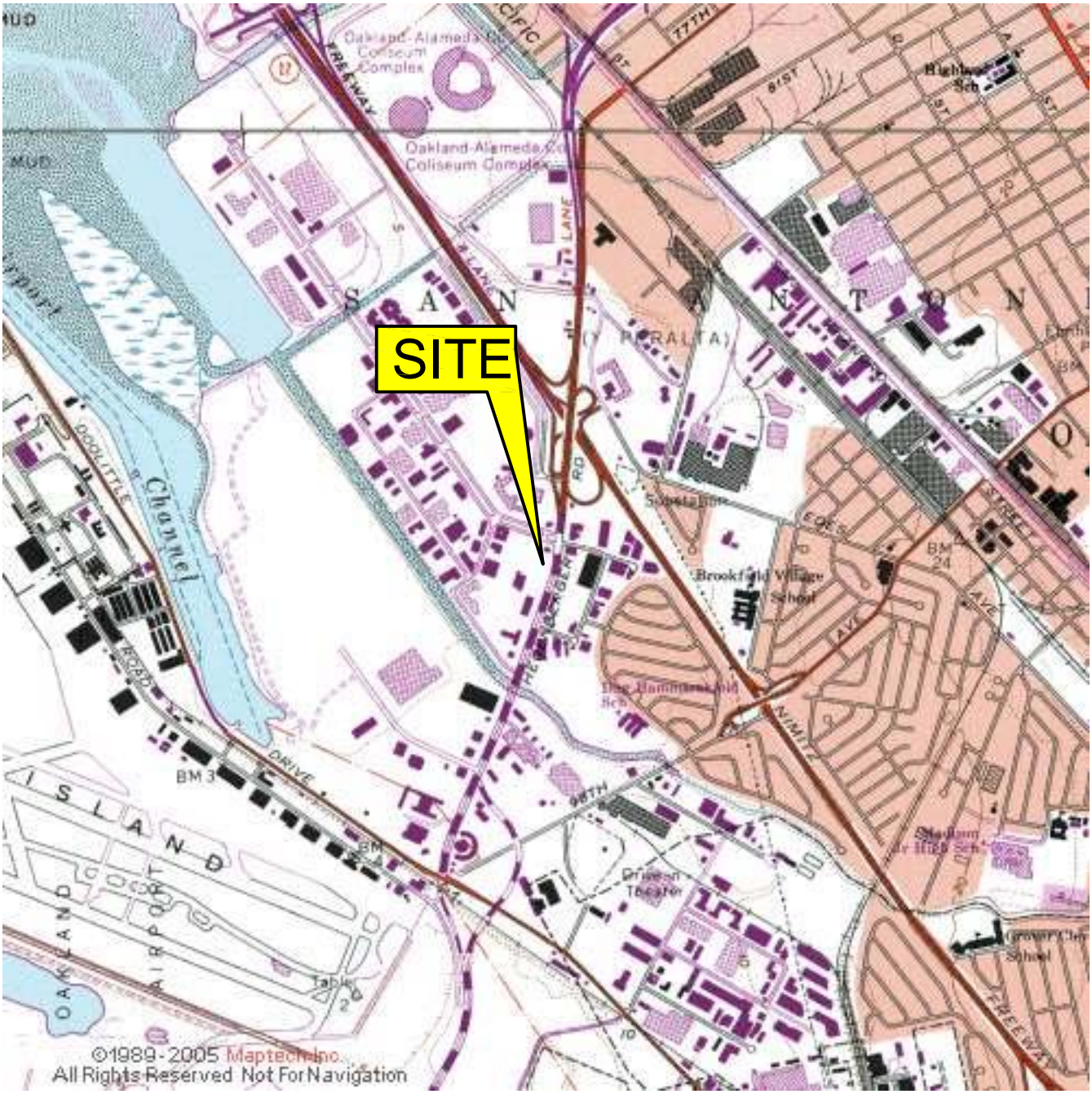
Licensed Approver:

PROFESSIONAL GEOLOGIST
DENNIS SHANNON DETTLOFF
No. 7480
STATE OF CALIFORNIA

Dennis S Dettloff Date: 8/26/15

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

Figures



North

0 900 1800 FT

SCALE

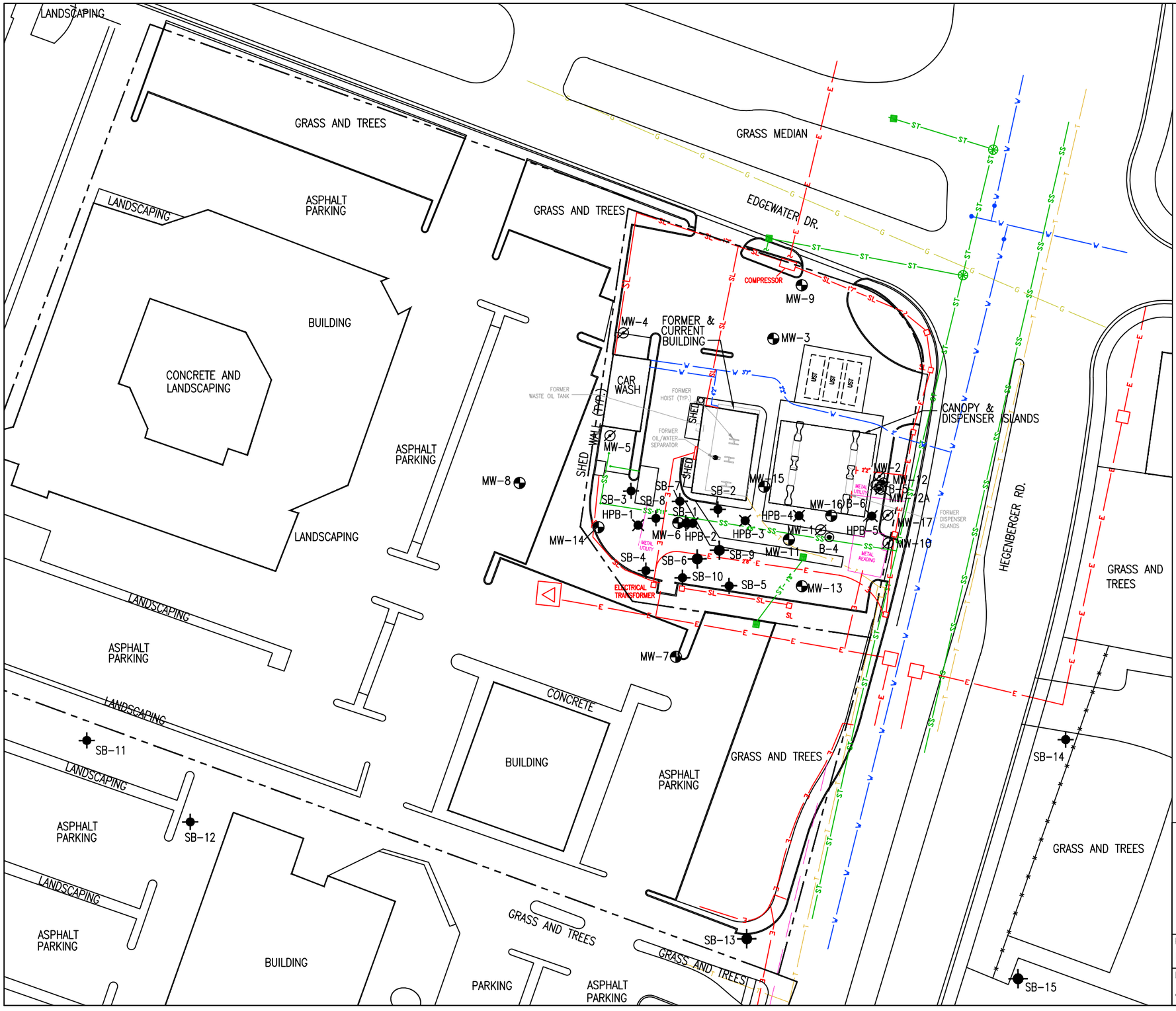
SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND EAST QUADRANGLE (1973)

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– DESTROYED MONITORING WELL
- SB– SOIL BORING LOCATION (ANTEA GROUP 2013/2014/2015)
- 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 60

SCALE IN FEET

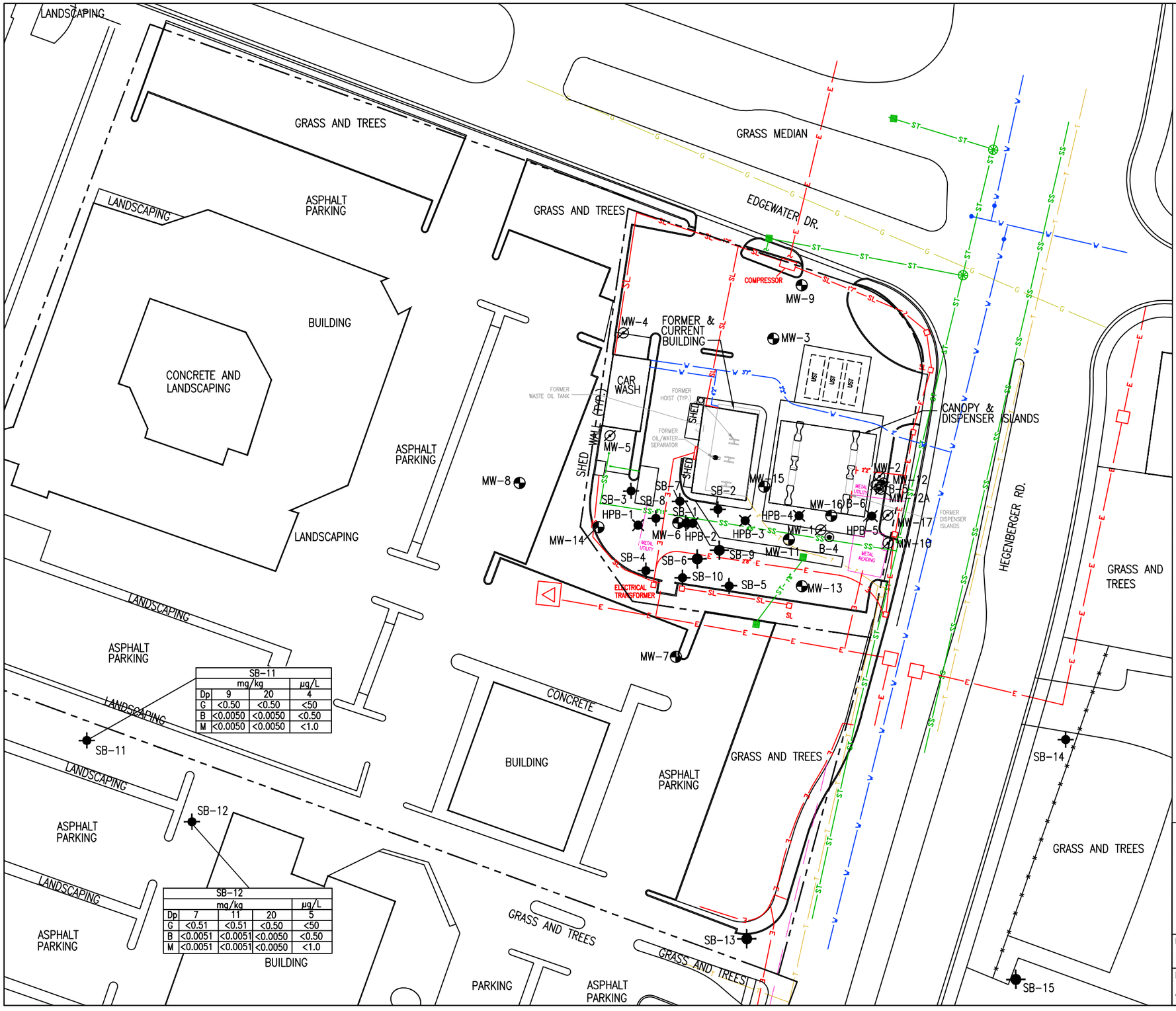
ADAPTED FROM A MORROW SURVEY ON 5/23/11

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
8/11/15	DD	5191-SiteS

antea group



SB-11			
	mg/kg		µg/L
Dp	9	20	4
G	<0.50	<0.50	<50
B	<0.0050	<0.0050	<0.50
M	<0.0050	<0.0050	<1.0

SB-12				
	mg/kg			µg/L
Dp	7	11	20	5
G	<0.51	<0.51	<0.50	<50
B	<0.0051	<0.0051	<0.0050	<0.50
M	<0.0051	<0.0051	<0.0050	<1.0

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW– MONITORING WELL
- MW– DESTROYED MONITORING WELL
- SB– SOIL BORING LOCATION (ANTEA GROUP 2013/2014/2015)
- 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-11	
	mg/kg
Dp	9
G	<0.50
B	<0.0050
M	<0.0050

SAMPLE NAME
CONCENTRATION UNIT
DEPTH (FEET)
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
BENZENE
METHYL TERTIARY BUTYL ETHER

NOTES:

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

North

0 60

SCALE IN FEET

ADAPTED FROM A MORROW SURVEY ON 5/23/11

FIGURE 3
SOIL AND GROUNDWATER CONCENTRATION MAP

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

PROJECT NO.	PREPARED BY	DRAWN BY
142705191	JF	JH
DATE	REVIEWED BY	FILE NAME
8/11/15	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)	p/m-Xylene (mg/kg)	o-Xylene (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**	--	--	--	--	--	--	--	--	--	--
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**	--	--	--	--	--	--	--	--	--	--

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)	p/m-Xylene (mg/kg)	o-Xylene (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)
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**
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	--

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)	p/m-Xylene (mg/kg)	o-Xylene (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)
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	--	--	--	--
Antea Group 2015																						
SB-11d9	7/8/2015	9	--	<0.50	--	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	<0.50	--	--	--	--
SB-11d20	7/8/2015	20	--	<0.50	--	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	<0.50	--	--	--	--
SB-12d7	7/8/2015	7	--	<0.51	--	<5.1	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.051	--	--	--	<0.51	--	--	--	--
SB-12d11	7/8/2015	11	--	<0.51	--	<5.1	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.010	<0.0051	<0.051	--	--	--	<0.51	--	--	--	--
SB-12d20	7/8/2015	20	--	<0.50	--	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	--	--	--	<0.50	--	--	--	--

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

GRAB 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)	p/m-Xylenes (µg/L)	o-Xylenes (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**	<0.50	**5.9**	<0.50	--	--	<0.50	<0.50	<5.0	<5.0	--
SB-11GW	7/8/2015	4	--	<50	--	<66	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<10	<100	--
SB-12GW	7/8/2015	5	--	<50	--	<52	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<10	<100	--

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 Permit

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

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

Application Approved on: 06/16/2015 By jamesy

Permit Numbers: W2015-0549
Permits Valid from 07/07/2015 to 07/10/2015

Application Id:	1432933700816	**City of Project Site:**	Oakland
Site Location:	333 Hegenberger Road, Oakland, CA		
Project Start Date:	07/07/2015	**Completion Date:**	07/10/2015
Assigned Inspector:	Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org		
Applicant:	Antea Group - Ed Weyrens 11050 White Rock Rd #110, Rancho Cordova, CA 95670	**Phone:**	916-503-1277
Property Owner:	KW Fund 1 Hegenberger LP 9701 Wilshire Blvd #700, Beverly Hills, CA 90212	**Phone:**	--
Client:	PC& F 7180 Koll Center Pkwy #100, Pleasanton, CA 94566	**Phone:**	925-931-5733

	Total Due:	$265.00
Receipt Number: WR2015-0299	**Total Amount Paid:**	$265.00
Payer Name : Antea Group	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 2 Boreholes
Driller: Gregg - Lic #: 485165 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2015-0549	06/16/2015	10/05/2015	2	3.00 in.	20.00 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.

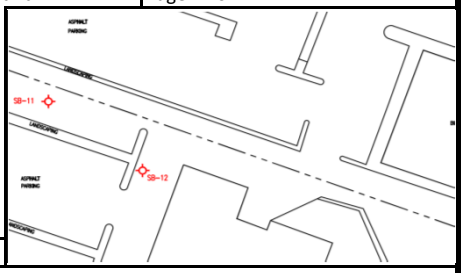
7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City 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

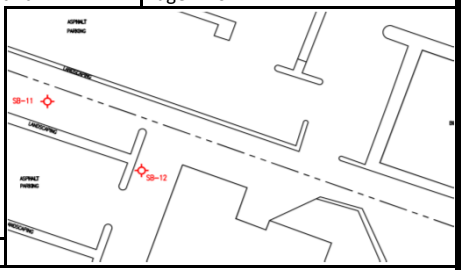
Boring Logs

Project No:	I42705191	Client:	COP/ELT	**Boring No: SB-11**	
Logged By:	Jonathan Fillingame	Location:	449 Hegenberger Road, Oakland	Page 1 of 1	
Driller:	Gregg Drilling	Date Drilled:	7/8/2015		
Drilling Method:	Direct Push	Hole Diameter:	2 inches		
Sampling Method:	Continuous	Hole Depth:	20 feet		
		First Water Depth:	8.5 feet		
		Static Water Depth:	3.9 feet		
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	▽		0	Hand Auger	0				Asphalt
					1				**Poorly Graded GRAVEL (FILL)** - brown, 70% fine gravel, 30% fine to medium sand, dense, dry.
					2				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, very stiff, low plasticity, moist.
					3				
					4				
					5				
			0		6				
			0		7				**Clayey SAND (SC)** - grey, 70% fine to medium sand, 30% clay, dense, moist. (Two 1 inch thick layers)
			0		8				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, very stiff, low plasticity, moist.
	▽		0	SB-11d9	9				**Lean CLAY (CL)** - grey, 90% clay, 10% fine to medium sand, soft, medium plasticity, wet.
			0		10				**Lean CLAY (CL)** - dark grey, 90% clay, 10% fine to medium sand, stiff, medium plasticity, trace roots, wet.
			0		11				**Lean CLAY (CL)** - grey, 90% clay, 10% fine to medium sand, medium stiff, medium plasticity, trace roots, wet.
			0		12				**Lean CLAY (CL)** - black, 90% clay, 10% fine to medium sand, medium stiff, low plasticity, trace roots, wet.
			0		13				**Lean CLAY (CL)** - grey, 90% clay, 10% fine to medium sand, stiff, low plasticity, moist.
			0		14				**Lean CLAY (CL)** - grey, 90% clay, 10% fine to medium sand, very stiff, low plasticity, moist.
			0		15				**Lean CLAY (CL)** - mottled grey and light grey, 90% clay, 10% fine to medium sand, very stiff, low plasticity, moist.
			0		16				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, very stiff, low plasticity, moist.
			0		17				
			0		18				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, stiff, low plasticity, trace roots, moist.
			0		19				**Lean CLAY (CL)** - black, 95% clay, 5% fine to medium sand, very stiff, low plasticity, moist.
			0	SB-11d20	20				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, very stiff, low plasticity, moist.
					21				Total depth 20 feet
					22				

Project No:	I42705191	Client:	COP/ELT	**Boring No: SB-12**	
Logged By:	Jonathan Fillingame	Location:	449 Hegenberger Road, Oakland	Page 1 of 1	
Driller:	Gregg Drilling	Date Drilled:	7/8/2015		
Drilling Method:	Direct Push	Hole Diameter:	2 inches		
Sampling Method:	Continuous	Hole Depth:	20 feet		
		First Water Depth:	6.75 feet		
		Static Water Depth:	4.8 feet		
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	▼		0	Hand Auger	1				Asphalt
									Well Graded GRAVEL (FILL) - brown, 60% fine to coarse gravel, 40% fine to coarse sand, dense, dry.
					2				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, very stiff, low plasticity, moist.
					3				
					4				
					5				
	▽				6				**Clayey SAND (SC)** - brown, 60% fine to medium sand, 40% clay, dense, wet.
			0	SB-12d7	7				**Sandy Lean CLAY (CL)** - grey, 70% clay, 30% fine to medium sand, medium stiff, low plasticity, wet.
			0		8				
			0		9				**Lean CLAY (CL)** - grey, 95% clay, 5% fine to medium sand, soft, medium plasticity, wet.
			0		10				
			0						
			5.0	SB-12d11	11				40% organics from 10.8 to 11 feet
			0.2						**Lean CLAY (CL)** - dark grey, 100% clay, soft, medium plasticity, trace organics, wet.
			0		12				
					13				**Lean CLAY (CL)** - dark grey, 100% clay, stiff, medium plasticity, trace organics, wet.
			0		14				
			0		15				**Lean CLAY (CL)** - grey, 100% clay, very stiff, medium plasticity, trace organics, moist.
			0		16				
					17				
			0		18				**Lean CLAY (CL)** - grey, 95% clay, 5% fine sand, very stiff, medium plasticity, trace organics, moist.
			0		19				
			0	SB-12d20	20				**Lean CLAY (CL)** - brown, 95% clay, 5% fine sand, stiff, medium plasticity, trace organics, moist.
									Total depth 20 feet
					21				
					22				

Appendix D

Certified Laboratory Analytical Report and Data Validation Form

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Supplemental Report 5

WORK ORDER NUMBER: 15-07-0578

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Antea Group

Client Project Name: I42705191

Attention: Dennis Dettloff
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Approved for release on 11/12/2015 by:
Terri Chang
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: I42705191
Work Order Number: 15-07-0578

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Work Order Narrative

Work Order: 15-07-0578 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 07/10/15. They were assigned to Work Order 15-07-0578.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Antea Group	Work Order:	15-07-0578
	11050 White Rock Rd. Suite# 110	Project Name:	I42705191
	Rancho Cordova, CA 95670-6001	PO Number:	
		Date/Time Received:	07/10/15 09:00
		Number of Containers:	29
Attn:	Dennis Dettloff		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SB-11d9	15-07-0578-4	07/08/15 07:18	1	Solid
SB-11d20	15-07-0578-5	07/08/15 07:30	1	Solid
SB-11GW	15-07-0578-6	07/08/15 07:50	7	Aqueous
SB-12d7	15-07-0578-7	07/08/15 09:10	1	Solid
SB-12d11	15-07-0578-8	07/08/15 09:19	1	Solid
SB-12d20	15-07-0578-9	07/08/15 09:25	1	Solid
SB-12GW	15-07-0578-10	07/08/15 10:10	1	Solid
SB-12GW	15-07-0578-17	07/08/15 10:10	7	Aqueous

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Project: I42705191

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-11GW	**15-07-0578-6-G**	**07/08/15 07:50**	**Aqueous**	**GC 50**	**07/13/15**	**07/15/15 15:33**	**150713B06**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	66	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	84	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12GW	**15-07-0578-17-G**	**07/08/15 10:10**	**Aqueous**	**GC 50**	**07/13/15**	**07/15/15 15:52**	**150713B06**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	52	1.00	SG,HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	82	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-304-1090**	**N/A**	**Aqueous**	**GC 50**	**07/13/15**	**07/15/15 13:41**	**150713B06**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	95	68-140	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Project: I42705191

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-11d9	**15-07-0578-4-A**	**07/08/15 07:18**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 09:57**	**150713B04S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	79	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-11d20	**15-07-0578-5-A**	**07/08/15 07:30**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 10:14**	**150713B04S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	73	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12d7	**15-07-0578-7-A**	**07/08/15 09:10**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 10:32**	**150713B04S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	4.9	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	92	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12d11	**15-07-0578-8-A**	**07/08/15 09:19**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 10:50**	**150713B04S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	90	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12d20	**15-07-0578-9-A**	**07/08/15 09:25**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 11:07**	**150713B04S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	4.9	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Project: I42705191

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-422-1920**	**N/A**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 07:53**	**150713B04S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	97	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-11GW	**15-07-0578-6-B**	**07/08/15 07:50**	**Aqueous**	**GC/MS R**	**07/14/15**	**07/14/15 12:15**	**150714L011**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Xylenes (total)	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	78-126	
1,2-Dichloroethane-d4	114	75-135	
Toluene-d8	107	80-120	
Toluene-d8-TPPH	106	88-112	
1,4-Bromofluorobenzene	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Project: I42705191

Date Received:	07/10/15
Work Order:	15-07-0578
Preparation:	EPA 5030C
Method:	GC/MS / EPA 8260B
Units:	ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12GW	**15-07-0578-17-B**	**07/08/15 10:10**	**Aqueous**	**GC/MS R**	**07/14/15**	**07/14/15 14:03**	**150714L011**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Xylenes (total)	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	110	78-126	
1,2-Dichloroethane-d4	117	75-135	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	105	88-112	
1,4-Bromofluorobenzene	96	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: ug/L

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-246-2182**	**N/A**	**Aqueous**	**GC/MS R**	**07/14/15**	**07/14/15 11:48**	**150714L011**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Xylenes (total)	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
TPPH	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	105	78-126	
1,2-Dichloroethane-d4	115	75-135	
Toluene-d8	106	80-120	
Toluene-d8-TPPH	107	88-112	
1,4-Bromofluorobenzene	96	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-11d9	**15-07-0578-4-A**	**07/08/15 07:18**	**Solid**	**GC/MS W**	**07/14/15**	**07/16/15 04:13**	**150715L044**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Ethanol	ND	0.50	1.00	
TPPH	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	104	63-141	
1,2-Dichloroethane-d4	109	62-146	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	103	87-111	
1,4-Bromofluorobenzene	90	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-11d20	**15-07-0578-5-A**	**07/08/15 07:30**	**Solid**	**GC/MS W**	**07/14/15**	**07/16/15 04:42**	**150715L044**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Ethanol	ND	0.50	1.00	
TPPH	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	104	63-141	
1,2-Dichloroethane-d4	107	62-146	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	103	87-111	
1,4-Bromofluorobenzene	93	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12d7	**15-07-0578-7-A**	**07/08/15 09:10**	**Solid**	**GC/MS W**	**07/14/15**	**07/15/15 02:54**	**150714L050**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0051	1.00	
Ethylbenzene	ND	0.0051	1.00	
Toluene	ND	0.0051	1.00	
p/m-Xylene	ND	0.0051	1.00	
o-Xylene	ND	0.0051	1.00	
Xylenes (total)	ND	0.0051	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0051	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.051	1.00	
Ethanol	ND	0.51	1.00	
TPPH	ND	0.51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	102	63-141	
1,2-Dichloroethane-d4	111	62-146	
Toluene-d8	88	80-120	
Toluene-d8-TPPH	91	87-111	
1,4-Bromofluorobenzene	114	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12d11	**15-07-0578-8-A**	**07/08/15 09:19**	**Solid**	**GC/MS W**	**07/14/15**	**07/15/15 03:23**	**150714L050**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0051	1.00	
Ethylbenzene	ND	0.0051	1.00	
Toluene	ND	0.0051	1.00	
p/m-Xylene	ND	0.0051	1.00	
o-Xylene	ND	0.0051	1.00	
Xylenes (total)	ND	0.0051	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0051	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.051	1.00	
Ethanol	ND	0.51	1.00	
TPPH	ND	0.51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	63-141	
1,2-Dichloroethane-d4	115	62-146	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	101	87-111	
1,4-Bromofluorobenzene	85	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-12d20	**15-07-0578-9-A**	**07/08/15 09:25**	**Solid**	**GC/MS W**	**07/14/15**	**07/15/15 03:52**	**150714L050**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Ethanol	ND	0.50	1.00	
TPPH	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	112	63-141	
1,2-Dichloroethane-d4	116	62-146	
Toluene-d8	100	80-120	
Toluene-d8-TPPH	103	87-111	
1,4-Bromofluorobenzene	93	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-252-349**	**N/A**	**Solid**	**GC/MS W**	**07/14/15**	**07/14/15 20:58**	**150714L050**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Ethanol	ND	0.50	1.00	
TPPH	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	63-141	
1,2-Dichloroethane-d4	97	62-146	
Toluene-d8	97	80-120	
Toluene-d8-TPPH	101	87-111	
1,4-Bromofluorobenzene	91	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Units: mg/kg

Project: I42705191

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-252-352**	**N/A**	**Solid**	**GC/MS W**	**07/15/15**	**07/16/15 03:14**	**150715L044**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Ethanol	ND	0.50	1.00	
TPPH	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	98	63-141	
1,2-Dichloroethane-d4	97	62-146	
Toluene-d8	98	80-120	
Toluene-d8-TPPH	101	87-111	
1,4-Bromofluorobenzene	90	60-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - LCS/LCSD

Antea Group	Date Received: 07/10/15
11050 White Rock Rd. Suite# 110	Work Order: 15-07-0578
Rancho Cordova, CA 95670-6001	Preparation: EPA 3510C
	Method: EPA 8015B (M)
Project: I42705191	Page 1 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-304-1090	**LCS**	**Aqueous**	**GC 50**	**07/13/15**	**07/15/15 14:00**	**150713B06**
099-15-304-1090	**LCSD**	**Aqueous**	**GC 50**	**07/13/15**	**07/15/15 14:19**	**150713B06**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	1735	87	1935	97	75-117	11	0-13	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Antea Group		Date Received:	07/10/15
11050 White Rock Rd. Suite# 110		Work Order:	15-07-0578
Rancho Cordova, CA 95670-6001		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: I42705191			Page 2 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-1920	**LCS**	**Solid**	**GC 46**	**07/13/15**	**07/14/15 08:11**	**150713B04S**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	385.4	96	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Project: I42705191

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-246-2182	**LCS**	**Aqueous**	**GC/MS R**	**07/14/15**	**07/14/15 10:27**	**150714L011**
099-14-246-2182	**LCSD**	**Aqueous**	**GC/MS R**	**07/14/15**	**07/14/15 10:54**	**150714L011**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	50.00	53.48	107	N/A	N/A	80-120	N/A	0-20	
Ethylbenzene	50.00	55.79	112	N/A	N/A	80-123	N/A	0-20	
Toluene	50.00	53.15	106	N/A	N/A	80-120	N/A	0-20	
p/m-Xylene	100.0	108.6	109	N/A	N/A	75-123	N/A	0-20	
o-Xylene	50.00	50.78	102	N/A	N/A	74-122	N/A	0-20	
Methyl-t-Butyl Ether (MTBE)	50.00	47.52	95	N/A	N/A	69-129	N/A	0-20	
Tert-Butyl Alcohol (TBA)	250.0	239.2	96	N/A	N/A	69-129	N/A	0-20	
Ethanol	500.0	598.1	120	N/A	N/A	42-168	N/A	0-20	
TPPH	1000	1147	115	1154	115	65-135	1	0-30	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Antea Group
11050 White Rock Rd. Suite# 110
Rancho Cordova, CA 95670-6001

Project: I42705191

Date Received: 07/10/15
Work Order: 15-07-0578
Preparation: EPA 5030C
Method: GC/MS / EPA 8260B
Page 4 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-252-349	**LCS**	**Solid**	**GC/MS W**	**07/14/15**	**07/14/15 19:01**	**150714L050**
099-14-252-349	**LCSD**	**Solid**	**GC/MS W**	**07/14/15**	**07/14/15 19:30**	**150714L050**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	0.05000	0.05069	101	N/A	N/A	78-120	N/A	0-20	
Ethylbenzene	0.05000	0.05422	108	N/A	N/A	76-120	N/A	0-20	
Toluene	0.05000	0.05190	104	N/A	N/A	77-120	N/A	0-20	
p/m-Xylene	0.1000	0.1107	111	N/A	N/A	75-125	N/A	0-25	
o-Xylene	0.05000	0.05792	116	N/A	N/A	75-125	N/A	0-25	
Methyl-t-Butyl Ether (MTBE)	0.05000	0.05265	105	N/A	N/A	77-120	N/A	0-20	
Tert-Butyl Alcohol (TBA)	0.2500	0.2416	97	N/A	N/A	68-122	N/A	0-20	
Ethanol	0.5000	0.3981	80	N/A	N/A	56-140	N/A	0-20	
TPPH	1.000	1.153	115	1.081	108	65-135	6	0-30	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Antea Group	Date Received: 07/10/15
11050 White Rock Rd. Suite# 110	Work Order: 15-07-0578
Rancho Cordova, CA 95670-6001	Preparation: EPA 5030C
	Method: GC/MS / EPA 8260B
Project: I42705191	Page 5 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-252-352	**LCS**	**Solid**	**GC/MS W**	**07/15/15**	**07/16/15 01:18**	**150715L044**
099-14-252-352	**LCSD**	**Solid**	**GC/MS W**	**07/15/15**	**07/16/15 01:47**	**150715L044**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	0.05000	0.05088	102	N/A	N/A	78-120	N/A	0-20	
Ethylbenzene	0.05000	0.05423	108	N/A	N/A	76-120	N/A	0-20	
Toluene	0.05000	0.05222	104	N/A	N/A	77-120	N/A	0-20	
p/m-Xylene	0.1000	0.1116	112	N/A	N/A	75-125	N/A	0-25	
o-Xylene	0.05000	0.05796	116	N/A	N/A	75-125	N/A	0-25	
Methyl-t-Butyl Ether (MTBE)	0.05000	0.05425	109	N/A	N/A	77-120	N/A	0-20	
Tert-Butyl Alcohol (TBA)	0.2500	0.2599	104	N/A	N/A	68-122	N/A	0-20	
Ethanol	0.5000	0.4980	100	N/A	N/A	56-140	N/A	0-20	
TPPH	1.000	0.9908	99	0.9732	97	65-135	2	0-30	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 15-07-0578 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 8015B (M)	EPA 3510C	682	GC 50	1
EPA 8015B (M)	EPA 3510C	972	GC 50	1
EPA 8015B (M)	EPA 3550B	974	GC 46	1
GC/MS / EPA 8260B	EPA 5030C	927	GC/MS R	2
GC/MS / EPA 8260B	EPA 5030C	927	GC/MS W	2

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Glossary of Terms and Qualifiers

Work Order: 15-07-0578 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

SRG # / Lab No. **15-07-0578**

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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 #: I42705191 0001 / P.O. #:	EDF Deliverable To (Email Address): dennis.dettloff@anteagroup.com jonathan.fillingame@anteagroup.com
Project Name: I42705191 0001	Sampler Signature: Jonathan Fillingame
Project Address: 449 Hegenberger Road Oakland, CA	

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

	Sample Designation	Field Point Name	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: Sleeve	Container: Poly	Container: Glass	Container: Tedlar	Container:	Container:	Preservative: HCl	Preservative: HNO_3	Preservative: None	Preservative:	Preservative:	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	EPA 8015M TPHd	EPA 8015M TPHd - Silica Gel	EPA 8260B TPHg, Btex, MTBE, TBA, & Ethanol	EPA 8260B DIPE, TAME, EDB, 1-2, DCA		EPA 6010 - Cadmium, Chromium, Lead, Nickel, and Zinc	EPA 8015M TPHmo			For Lab Use Only
1	WC-1 Comp	WC-1	7/7/15	13:15		X								X				X				X	X			X	X			
2	WC-2 Comp	WC-2	7/7/15	11:45		X								X				X				X	X			X	X			
3	WC-3 Comp	WC-3	7/7/15	10:50		X								X				X				X	X			X	X			
4	SB-11d9	SB-11	7/8/15	7:18		X								X				X				X	X							
5	SB-11d20	SB-11	7/8/15	7:30		X								X				X				X	X							
6	SB-11 GW	SB-11	7/8/15	7:50	6			1				6		1			X					X	X							
7	SB-12d7	SB-12	7/8/15	9:10		X								X				X				X	X							
8	SB-12d11	SB-12	7/8/15	9:15		X								X				X				X	X							
9	SB-12d20	SB-12	7/8/15	9:25		X								X				X				X	X							
10	SB-12 GW	SB-12	7/8/15	10:10		X								X				X				X	X							
11	SB-16d9.5	SB-16	7/8/15	11:45		X								X				X			X	X	X	X						
12	SB-16d15	SB-16	7/8/15	11:50		X								X				X			X	X	X	X						

Relinquished by: Jonathan Fillingame	Date 7/8/15	Time 10:40	Received by: ECI	
Relinquished by: TO GSO	Date 7/9/2015	Time	Received by: ECI	7/10/15 0900
Relinquished by:	Date	Time	Received by Laboratory:	

For Lab Use Only: Sample Receipt

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

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Garden Grove, CA 92841-1427
(714) 895-5494

SRG # / Lab No. 0578

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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 #: I42705191 0001 / P.O. #:	EDF Deliverable To (Email Address): dennis.dettloff@anteagroup.com; jonathan.fillingame@anteagroup.com
Project Name: I42705191 0001	Sampler Signature: Jonathan Fillingame
Project Address: 449 Hegenberger Road Oakland, CA	

		Sampling		Container						Preservative						Matrix					Analysis Request														TAT	For Lab Use Only
	Sample Designation	Field Point Name	Date	Time	40 ml VOA	Sleeve	Poly	Glass	Tedlar		HCl	HNO_3	None			Water	Soil				EPA 8015M TPHd	EPA 8015M TPHd - Silica Gel	EPA 8260B TPHg, Btex, MTBE, TBA, & Ethanol	EPA 8260B DIPE, TAME, EDB, 1-2, DCA		EPA 6010 - Cadmium, Chromium, Lead, Nickel, and Zinc	EPA 8015M TPHmo							☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☑ 1 wk	
13	SB-17 @ 11.5	SB-17	7/8/15	13:15		X							X				X				X	X	X	X										
14	SB-17 @ 15	SB-17	7/8/15	13:20		X							X				X				X	X	X	X										
15	SB-18 @ 11	SB-18	7/8/15	14:05		X							X				X				X	X	X	X										
16	SB-18 @ 15	SB-18	7/8/15	14:10		X							X				X				X	X	X	X										
17	SB-12 GW	SB-12	7/8/15	10:10	6			1			6		1			X						X	X											

Relinquished by: Jonathan Fillingame	Date 7/8/15	Time 10:40	Received by: ECI		
Relinquished by: → to GSO	Date 7/9/15	Time 1730	Received by:	ECI 7/10/15 0900	
Relinquished by:	Date	Time	Received by Laboratory:		

For Lab Use Only: Sample Receipt

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

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Linda Ta

From: Dennis Dettloff [Dennis.Dettloff@anteagroup.com]
Sent: Wednesday, August 05, 2015 9:28 AM
To: Richard Villafania; Linda Ta
Subject: I42705191 / ECI 15-07-0578 Report

Richard:

Can you run STLC on sample 15-07-0578-1-A for chromium?

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

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From: Richard Villafania [mailto:RichardVillafania@eurofinsUS.com]
Sent: Monday, July 20, 2015 5:41 PM
To: Dennis Dettloff
Cc: Jonathan Fillingame; Sandy Hayes
Subject: I42705191 / ECI 15-07-0578 Report

Regards.

Richard Villafania
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
GARDEN GROVE, CA 92841
USA
Phone: +1 714 895 5494
Website: www.calscience.com

GSO

800-322-5555 www.gso.com

0578

Ship From
CAL SCIENCE- CONCORD
ALAN KEMP
5063 COMMERCIAL CIRCLE
#H
CONCORD, CA 94520

Tracking #: 528537261

NPS

Ship To
CEL
SAMPLE RECEIVING
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

ORC
GARDEN GROVE

A

COD: $0.00
Weight: 0 lb(s)
Reference:
ETIC, THE SOURCE GROUP, ANTEA
Delivery Instructions:

Signature Type: REQUIRED

D92845A

39866691

Print Date: 7/9/2015 2:44 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

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WORK ORDER NUMBER: 15-07- 0548

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Antea Group

DATE: 07 / 10 / 2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC5 (CF:-0.2°C); Temperature (w/o CF): 1.9 °C (w/ CF): 1.7 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 836

CUSTODY SEAL:

Cooler ☒ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 836

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A Checked by: 1017

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☒	☐	☐
COC document(s) received complete	☒	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☒	☐	☐
Sample container label(s) consistent with COC	☐	☒	☐
Sample container(s) intact and in good condition	☒	☐	☐
Proper containers for analyses requested	☒	☐	☐
Sufficient volume/mass for analyses requested	☒	☐	☐
Samples received within holding time	☒	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☒
Proper preservation chemical(s) noted on COC and/or sample container	☒	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☒	☐	☐
☒ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☒

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☒ 6 VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☒ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1017

Reviewed by: 776

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WORK ORDER NUMBER: 15-07- 0578

SAMPLE ANOMALY REPORT

DATE: 07 / 10 / 2015

SAMPLES, CONTAINERS, AND LABELS:

- ☑ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☐ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☐ Client sample ID
  - ☐ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

Comments

(-10) Not received
(ID, date, time same as (-17))
Matrix: (-10) Soil
(-17) Water

MISCELLANEOUS: (Describe)

Comments

HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Comments:

Reported by: 1017

Reviewed by: TH

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

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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 #
8/17/15		976/976	A07	44670	1001

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
~~BP~~ Apro LLC (Shell) 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 440 HEGENBERGER RD. OAKLAND, CA 94621	Person to Contact:	
	FAX#:	
Designated Facility (Transport to): *(name & address)*	Facility Phone #: (800) 862-6001	
SOIL SAFE 12328 HIBISCUS AVENUE ADELANTO, CA 92301	Person to Contact: JOE PROVANSAL	
	FAX#: (760) 246-8004	
Transporter Name and Mailing Address:	Transporter's Phone #: 949-460-5200	CAR000183913
BELSHIRE 26971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 257072	Person to Contact: LARRY MOOTHART	450647
	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 ☐	1 DM		38760	38160	600
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					33

List any exception to items listed above: Scale Ticket# 1214171

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
Alan Bueller		7	23	15

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
ADAM SULLIVAN		8	6	15

Recycling Facility

Discrepancies:
5191
1206988

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	8-17-15

Please print or type.

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