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January 30, 2017

Semi-Annual Groundwater Monitoring Report, Second Semester 2016

Property Identification:

3635 13th Avenue
Oakland, California 94606

AEI Project No. 338841
ACHCSA Case No. RO0000159

Prepared for:

Mr. Kia Sumner
1069 Oak Hills Road
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Prepared by:

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January 30, 2017

Ms. Karel Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Transmittal, Semi-Annual Groundwater Monitoring Report, Second Semester 2016
3635 13th Avenue, Oakland, California 94610
Toxics Case No. RO0000159

Dear Ms. Detterman:

Enclosed is the *Semi-Annual Groundwater Monitoring Report, Second Semester 2016* prepared at your request for activities at the subject site.

I declare under penalty of perjury, that the information and/or recommendations contained in the attached report for the above-referenced site are true and correct to the best of my knowledge.

If you have any questions or need additional information, please do not hesitate to contact Mr. Trent Weise of AEI Consultants at (925) 746-6000.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kia Sumner", with a long horizontal flourish extending to the right.

Mr. Kia Sumner

Enclosures

TABLE OF CONTENTS

SIGNATURES	III
1. INTRODUCTION	1
2. BACKGROUND	1
3. STATUS REPORT	1
3.1 Activities Conducted	1
3.2 Activities Proposed	2
4. MONITORING ACTIVITIES	2
5. SUMMARY OF RESULTS	3
5.1 Groundwater Level Elevations.....	3
5.2 Groundwater Sample Results	3
6. REFERENCES	3

TABLES

Table 1	Summary of Well Construction Details
Table 2	Summary of Groundwater Elevation Measurements
Table 3	Summary of Compounds Detected – November 2016
Table 4	Summary of Groundwater Analytical Results

FIGURES

Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Contours – December 5, 2016
Figure 4	Groundwater Sample Analytical Data – Second Semester 2016
Figure 5	TPH-g Concentration in Groundwater – Second Semester 2016
Figure 6	Benzene Concentration in Groundwater – Second Semester 2016

APPENDICES

Appendix A Field Data Sheets

Appendix B Laboratory Analytical Report and Chain of Custody Documentation



SIGNATURES

This document was prepared by, or under the direction, of the undersigned:



Wayne Hung, E.I.T.
Staff Engineer



Trent A. Weise, P.E.
Principal Engineer



1. INTRODUCTION

On behalf of Mr. Kia Sumner, AEI Consultants (AEI) has prepared this Semi-Annual Groundwater Sampling Report, Second Half 2016 to document the monitoring event performed at 3635 Thirteenth Avenue in Oakland, California ("the Site"). Site assessment is being conducted in cooperation with the Alameda County Department of Environmental Health (ACDEH). The sampling activities and results are discussed in detail below.

2. BACKGROUND

The Site is located on the western corner of Excelsior and Thirteenth Avenues in an urban and primarily residential area of the City of Oakland. The Site is currently vacant pending the planned construction of a single-family home. Figure 1 presents the Site location and vicinity. The Site was formerly occupied by a gasoline service station, which ceased operation in 1992. In December 1992, one 250-gallon waste oil underground storage tank (UST), one 500-gallon gasoline UST, and one 1,000-gallon gasoline UST were removed from the Site. Investigation and remediation activities have been performed at the Site to address petroleum hydrocarbons released from the former USTs at the Site.

Seven groundwater monitoring wells have been installed at the Site, MW-1 through MW-7. Monitoring wells MW-1, MW-2, and MW-3 were installed in March 1994. In April 2007, four additional groundwater monitoring wells, MW-4 through MW-7, were installed. Table 1 presents a summary of groundwater monitoring well construction details. Periodic groundwater monitoring has been performed with the groundwater monitoring wells since their installation. Figure 2 presents the Site plan, including the monitoring well locations.

3. STATUS REPORT

This section provides a status report of activities conducted during the second semi-annual monitoring event and activities proposed for the second semi-annual event.

3.1 Activities Conducted

Activities performed during the second semester of 2016 included:

- Performed semi-annual groundwater monitoring on November 30, 2016 and December 5, 2016.
- Meeting with ACDEH and Joint Execution Team (JET) on October 12, 2016 to discuss the Project Execution Plan (PEP) and Work Plan for additional investigation.
- Submitted PEP on December 13, 2016.
- Submitted the *Work Plan for Additional Site Investigation* on December 16, 2016 to the ACDEH for review and comment.
- ACDEH reviewed and concurred the scope of work proposed in PEP in an electronic mail message (email) dated December 16, 2016, and JET approved the PEP on January 12, 2017 by email.

3.2 Activities Proposed

Activities completed or proposed for the first semester of 2017 include:

- On January 25, 2017, monitoring wells MW-1 through MW-7 were resurveyed.
- Receive approval of the *Work Plan for Additional Site Investigation* from the ACDEH and perform the proposed investigation activities.
- Perform semi-annual groundwater monitoring in May 2017.
- Prepare a Corrective Action Plan presenting a remedial program to meet the requirements of the Low-Threat Underground Storage Tank Case Closure Program and continuing to work towards case closure.
- Implement the Corrective Action Plan

4. MONITORING ACTIVITIES

AEI performed the second semester groundwater sampling event on November 30 and December 5, 2016, including measuring depth to water and collecting groundwater samples from each of the seven groundwater monitoring wells at the Site as described below.

On November 30, 2016 groundwater samples were collected from each of the seven groundwater monitoring wells, MW-1 through MW-7. The wells were first purged using disposal bailers to a total volume of approximately three-well volumes. During well purging, groundwater parameters of temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured at approximately five-minute intervals. The wells were purged until either three-well volumes were achieved or significant well dewatering occurred. Visual estimates of turbidity were noted while purging the wells. Once three-well volumes were purged or significant well dewatering was achieved, groundwater samples were collected from each well using a disposal bailer. Samples for volatile analytes were collected into 40 milliliter (mL) hydrochloric acid (HCl) preserved volatile organic analysis (VOA) vials, with zero headspace (no air bubbles). Groundwater samples collected were entered onto the chain-of-custody record and placed in an ice chilled cooler pending transportation to the laboratory. Copies of the field forms for the groundwater monitoring event are included in Appendix A.

The collected groundwater samples were transported under proper chain-of-custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification #1644) for analyses. Each groundwater sample collected was analyzed for methyl-tertiary butyl ether (MTBE), benzene, toluene, ethylbenzene, and total xylenes (collectively "BTEX compounds") for and total petroleum hydrocarbons as gasoline (TPH-g) using US EPA Testing Method 8260B, total petroleum hydrocarbons as diesel (TPH-d) and motor oil (TPH-mo) using US EPA Testing Method 8015M, with silica gel cleanup.

On November 5, 2016, groundwater elevations were measured in each of the monitoring wells at the Site. The well caps were removed and the wells were allowed to equilibrate with the atmosphere. The depth to water was then measured in each well to ± 0.01 foot using an electronic depth to water meter. Table 2 presents the depth to water measurements collected and the calculated groundwater elevations.

Purged groundwater generated during the sampling event is stored onsite in a sealed, labeled, department of transportation (DOT) approved 55-gallon drum. The drum was disposed on December 16, 2016 as a non-hazardous waste by Advanced Environmental Services of Baker City, Oregon.

5. SUMMARY OF RESULTS

This section provides a summary of the results of the groundwater monitoring performed during the second semester monitoring event.

5.1 Groundwater Level Elevations

Groundwater elevations measured during the event were generally consistent with previous monitoring events. Groundwater elevation data is summarized in Table 2. Groundwater elevation contours are shown on Figure 3. Groundwater elevations are generally consistent with previous monitoring events, with groundwater flow direction generally towards the south-southeast.

5.2 Groundwater Sample Results

Table 3 presents a summary of compounds detected in groundwater samples collected and analyzed during the second semester groundwater monitoring event for 2016. Table 4 presents a summary of current and historical results for select compounds. Petroleum hydrocarbons continue to be detected in six of the seven groundwater monitoring wells. Consistent with previous groundwater monitoring events, no petroleum hydrocarbons were detected in MW-3. The concentrations of petroleum hydrocarbons detected were generally consistent with historical observations and can be summarized as follows:

- TPH-g and TPH-d were observed in six of the seven groundwater samples collected and analyzed, observed at maximum concentrations of 5,500 micrograms per liter ($\mu\text{g/L}$) and 3,900 $\mu\text{g/L}$, respectively.
- Methyl tert butyl ether (MTBE) was detected in five of the seven groundwater samples collected and analyzed, observed at concentrations ranging from 3.6 $\mu\text{g/L}$ to 73 $\mu\text{g/L}$.
- Benzene was detected in five of the seven groundwater samples collected and analyzed, observed at concentrations ranging from 12 $\mu\text{g/L}$ to 4,400 $\mu\text{g/L}$.

Figures 5 and 6 present groundwater concentrations and isoconcentration contours for TPHg and benzene, respectively. In general, the extent of TPHg and benzene in groundwater is stable or decreasing. Laboratory analytical reports and chain of custody documentation are included in Appendix B.

6. REFERENCES

The regulatory record for this Site can be found on the State of California GeoTracker Website at https://geotracker.waterboards.ca.gov/esi/view_submittals.asp?global_id=T0600100274

TABLES

Table 1
 Summary of Well Construction Details
 3635 13th Avenue, Oakland, California

Well ID	Date Installed	Casing Elevation (feet NAVD 88)	Nominal Diameter (inch)	Total Depth (feet bgs)	Screen Interval (feet bgs)	Sand Pack Interval (feet bgs)	Bentonite Seal Interval (feet bgs)	Cement Grout Interval (feet bgs)	Casing Material
MW-1	03/24/94	197.33	2	25	12 - 25	11 - 25	10 - 11	0.5 - 10	SCH40 PVC
MW-2	03/24/94	199.01	2	36	16 - 36	15 - 36	14 - 15	0.5 - 14	SCH40 PVC
MW-3	03/24/94	201.57	2	36.5	15.5 - 36	14 - 36.5	13.5 - 14.5	0.5 - 13.5	SCH40 PVC
MW-4	09/07/07	200.29	2	22	17 - 22	16 - 22	15 - 16	0.5 - 15	SCH40 PVC
MW-5	09/07/07	198.61	2	22	17 - 22	16 - 22	15 - 16	0.5 - 15	SCH40 PVC
MW-6	09/07/07	200.29	2	22	17 - 22	16 - 22	15 - 16	0.5 - 15	SCH40 PVC
MW-7	11/03/08	197.67	2	22	17 - 22	16 - 22	15 - 16	1 - 15	SCH40 PVC

Notes/Abbreviations

bgs = below ground surface

SCH40 PVC = schedule 40 polyvinyl chloride

NM = Not Measured

NAVD 88 = North American Vertical Datum of 1988

*Monitoring Well elevation for MW-1 through MW-7 was resurveyed on 1/25/2017

Table 2
 Summary of Groundwater Elevation Measurements
 3635 13th Avenue, Oakland, California

Well ID	Date	Well TOC Elevation (feet NAVD 88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet msl)
MW-1	11/22/94	194.75	10.92	183.83
	02/23/95		10.58	184.17
	05/24/95		10.94	183.81
	08/18/95		14.52	180.23
	02/07/96		4.43	190.32
	09/06/96		13.60	181.15
	06/19/97		13.07	181.68
	01/24/02		9.53	185.22
	07/15/03		12.85	181.90
	10/10/03		14.58	180.17
	04/06/04		10.92	183.83
	07/09/04		14.34	180.41
	10/08/04		15.30	179.45
	04/02/07		12.19	182.56
	07/02/07	13.28	181.47	
	10/03/07	17.05	177.70	
	01/09/08	197.28	6.74	190.54
	04/04/08		13.16	184.12
	07/07/08		15.84	181.44
	10/16/08		17.54	179.74
	1/29/2013 ¹		11.36	185.92
	12/16/13		19.04	178.24
	04/17/14	10.11	187.17	
	11/04/14	19.27	178.01	
	05/29/15	16.07	181.21	
	11/20/15	NM	NM	
	05/24/16	13.79	183.49	
	12/05/16	197.33	14.30	183.03
MW-2	11/22/94	196.44	12.54	183.90
	02/23/95		12.35	184.09
	05/24/95		12.11	184.33
	08/18/95		16.25	180.19
	02/07/96		9.34	187.10
	09/06/96		15.22	181.22
	06/19/97		13.33	183.11
	01/24/02		9.72	186.72
	07/15/03		12.42	184.02
	10/10/03		13.79	182.65
	04/06/04		10.55	185.89
	07/09/04		13.78	182.66
	10/08/04		14.78	181.66
	04/02/07		11.32	185.12
	07/02/07	13.18	183.26	
	10/03/07	16.71	179.73	
	01/09/08	198.93	8.48	190.45
	04/04/08		12.60	186.33

Table 2
 Summary of Groundwater Elevation Measurements
 3635 13th Avenue, Oakland, California

Well ID	Date	Well TOC Elevation (feet NAVD 88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet msl)
MW-2	07/07/08		15.49	183.44
	10/16/08		17.22	181.71
	1/29/2013 ¹		12.89	186.04
	12/16/13		18.72	180.21
	04/17/14		10.30	188.63
	11/04/14		18.65	180.28
	05/29/15		15.57	183.36
	11/20/15		NM	NM
	05/24/16		13.32	185.61
	12/05/16		199.01	13.54
MW-3	11/22/94	198.93	11.53	187.40
	02/23/95		11.89	187.04
	05/24/95		12.71	186.22
	08/18/95		16.14	182.79
	02/07/96		6.22	192.71
	09/06/96		13.51	185.42
	06/19/97		12.46	186.47
	01/24/02		10.08	188.85
	07/15/03		12.45	186.48
	10/10/03		14.00	184.93
	04/06/04		10.78	188.15
	07/09/04		14.14	184.79
	10/08/04		14.99	183.94
	04/02/07		11.87	187.06
	07/02/07		14.45	184.48
	10/03/07		17.10	181.83
	01/09/08	201.46	9.42	192.04
	04/04/08		15.16	186.30
	07/07/08		15.63	185.83
	10/16/08		17.53	183.93
	1/29/2013 ¹		12.15	189.31
	12/16/13		19.20	182.26
	04/17/14		12.56	188.90
	11/04/14		19.17	182.29
	05/29/15		16.33	185.13
	11/20/15		NM	NM
05/24/16		13.98	187.48	
12/05/16		201.57	13.03	188.54
MW-4	10/03/07	200.23	17.21	183.02
	01/09/08		9.20	191.03
	04/04/08		13.63	186.60
	07/07/08		16.18	184.05
	10/16/08		17.81	182.42
	1/29/2013 ¹		11.66	188.57
	12/16/13		20.44	179.79
	04/17/14		10.97	189.26
	11/04/14		20.78	179.45

Table 2
Summary of Groundwater Elevation Measurements
3635 13th Avenue, Oakland, California

Well ID	Date	Well TOC Elevation (feet NAVD 88)	Depth to Water (feet BTOC)	Groundwater Elevation (feet msl)
MW-4	05/29/15		16.53	183.70
	11/20/15		NM	NM
	05/24/16		15.30	184.93
	12/05/16	200.29	17.25	183.04
MW-5	10/03/07	198.52	17.44	181.08
	01/09/08		10.01	188.51
	04/04/08		11.78	186.74
	07/07/08		15.53	182.99
	10/16/08		17.89	180.63
	1/29/2013 ¹		13.21	185.31
	12/16/13		18.65	179.87
	04/17/14		16.32	182.20
	11/04/14		19.53	178.99
	05/29/15		16.37	182.15
	11/20/15		NM	NM
	05/24/16		13.91	184.61
	12/05/16	198.61	14.48	184.13
	MW-6	10/03/07	200.20	18.46
01/09/08			11.93	188.27
04/04/08			15.69	184.51
07/07/08			14.84	185.36
10/16/08			18.95	181.25
1/29/2013 ¹			17.62	182.58
12/16/13			19.60	180.60
04/17/14			17.38	182.82
11/04/14			18.73	181.47
05/29/15			15.26	184.94
11/20/15			NM	NM
05/24/16			13.36	186.84
12/05/16		200.29	13.21	187.08
MW-7		1/29/2013 ¹	NM	19.07
	12/16/13		19.49	NM
	04/17/14		10.54	NM
	11/04/14		20.32	NM
	05/29/15		15.71	NM
	11/20/15		NM	NM
	05/24/16		18.09	NM
	12/05/16	197.67	15.05	182.62

Notes/Abbreviations

ft msl = feet above mean sea level
 BTOC = Below top of well casing
 NM = Not Measured
 NAVD 88 = North American Vertical Datum of 1988

Table 3
 Summary of Compounds Detected - November 2016
 3635 13th Avenue, Oakland, California

Sample Location	Date	Analyte	Result	Units
MW-1	11/30/16	Ethylbenzene	1.6	µg/L
		Isopropylbenzene	2.2	µg/L
		MTBE	3.6	µg/L
		n-Propyl benzene	1.3	µg/L
MW-2	11/30/16	Benzene	270	µg/L
		n-Butyl benzene	12	µg/L
		Ethylbenzene	140	µg/L
		Isopropylbenzene	10	µg/L
		MTBE	10	µg/L
		Naphthalene	44	µg/L
		n-Propyl benzene	27	µg/L
		Toluene	12	µg/L
		1,2,4-Trimethylbenzene	33	µg/L
		1,3,5-Trimethylbenzene	6.0	µg/L
		Xylenes	57	µg/L
		TPH-g	2,400	µg/L
TPH-d	3,900	µg/L		
MW-3	11/30/16	No analytes detected		
MW-4	11/30/16	Benzene	280	µg/L
		Ethylbenzene	73	µg/L
		Isopropylbenzene	7.7	µg/L
		MTBE	57	µg/L
		Naphthalene	59	µg/L
		n-Propyl benzene	5.7	µg/L
		Toluene	13	µg/L
		Xylenes	20	µg/L
		TPH-g	2,100	µg/L
		TPH-d	810	µg/L
MW-5	11/30/16	Benzene	12	µg/L
		t-Butyl alcohol	90	µg/L
		tert-Butyl benzene	0.56	µg/L
		1,2-Dichloroethane	0.60	µg/L
		MTBE	34	µg/L
		TPH-g	99	µg/L
MW-6	11/30/16	Benzene	41	µg/L
		t-Butyl alcohol	32	µg/L
		Isopropylbenzene	2.3	µg/L
		MTBE	73	µg/L
		n-Propyl benzene	2.5	µg/L
		TPH-g	390	µg/L
		TPH-d	110	µg/L
MW-7	11/30/16	Benzene	4,400	µg/L
		t-Butyl alcohol	1,000	µg/L
		Ethylbenzene	170	µg/L
		TPH-g	5,500	µg/L
		TPH-d	870	µg/L

Abbreviations:

µg/L = micrograms per liter
 TPH-g = Total Petroleum Hydrocarbons as gasoline
 TPH-d = Total Petroleum Hydrocarbons as diesel
 MTBE = Methyl tertiary butyl ether

Table 4
Summary of Groundwater Analytical Results
3635 13th Avenue, Oakland, California

Sample ID	Date Sampled	TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW - 1	11/22/94	210	<50	-	<0.5	<0.5	<0.5	2.3
	02/23/95	140	<50	-	<0.5	<0.5	0.6	1.5
	05/24/95	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	08/18/95	2800	<50	-	25	6.2	22	30
	02/07/96	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	09/06/96	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	06/19/97	630	400	15	25	9.7	100	14
	01/24/02	60	<50	<5.0	3.3	2.8	2.0	6.0
	07/15/03	87	<50	<5.0	15	4.9	3.3	9.2
	10/10/03	81	110	<5.0	<0.5	0.62	0.57	0.5
	04/06/04	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	07/09/04	130	80	<35	<0.5	<0.5	2.8	0.78
	10/08/04	260	120	24	3.0	2.9	8.3	10
	04/02/07	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	07/02/07	150	79	<25	<0.5	1.0	<0.5	<0.5
	10/03/07	<50	<50	5.8	<0.5	<0.5	<0.5	<0.5
	01/09/08	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/08	130	-	<10	<0.5	1.2	22	0.93
	07/07/08	<50	<50	11	<0.5	<0.5	<0.5	<0.5
	10/16/08	70	<50	6.3	<0.5	<0.5	<0.5	<0.5
	1/29/2013 ¹	<50	<50	<5.0	3.6	<0.5	<0.5	<0.5
	12/16/13	110	-	46	<0.5	1.2	0.7	<0.5
	04/17/14	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5
	11/04/14	97	-	1.1	21	<0.5	3.2	2.3
	05/29/15	<50	-	<0.5	<0.5	<0.5	1.1	<0.5
	11/20/15	120	<50	0.62	<0.50	<0.50	<0.50	<0.50
05/24/16	180	68	5.8	<0.50	<0.50	12	2.7	
11/30/16	<50	<50	3.6	<0.50	<0.50	1.6	<0.50	
MW - 2	11/22/94	11,000	<50	-	35	21	7	50
	02/23/95	4,000	<50	-	<0.5	<0.5	3	6
	05/24/95	8,600	<50	-	95	37	37	70
	08/18/95	7,200	<50	-	43	21	21	71
	02/07/96	11,000	<50	-	17	9	9	25
	09/06/96	15,000	1,900	ND	4,300	920	460	1,600
	06/19/97	26,000	2,900	<200	5,300	1,500	910	3,200
	01/24/02	34,000	5,300	<200	3,100	1,100	1,100	2,900
	07/15/03	18,000	6,600	<1000	2,300	310	690	1,600
	10/10/03	19,000	1,800	<500	2,700	460	850	1,800
	04/06/04	6,900	1,300	<200	1,100	100	380	780
	07/09/04	17,000	4,400	<450	2,800	240	710	1,300
	10/08/04	6,900	890	<150	1,500	240	340	670
	04/02/07	21,000	4,300	<450	2,000	300	1,000	1,700
	07/02/07	5,100	750	<180	260	21	320	370
	10/03/07	8,600	1,500	<300	1,700	140	520	790
	01/09/08	38,000	48,000	<400	3,000	380	1,200	1,900
	04/04/08	5,100	-	<130	1,000	72	120	330
	07/07/08	5,600	920	<130	930	52	250	320
	10/16/08	12,000	770	<250	1,400	110	400	470
	1/29/2013 ¹	6,600	1,100	<250	540	110	430	460
	12/16/13	3,600	-	20	160	20	120	129
	04/17/14	4,800	-	26	500	16	270	97
	11/04/14	2,100	-	25	150	27	120	84
	05/29/15	38,000	-	24	1,300	150	530	316
	11/20/15	780	290	12	17	2.8	28	22
05/24/16	590	360	19	120	5.7	18	8.9	
11/30/16	2,400	3,900	10	270	12	140	57	

Table 4
Summary of Groundwater Analytical Results
3635 13th Avenue, Oakland, California

Sample ID	Date Sampled	TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW - 3	11/22/94	200	<50	-	<0.5	<0.5	<0.5	2
	02/23/95	1500	<50	-	6.6	6.4	4.2	13
	05/24/95	710	<50	-	2.5	3.2	3.1	16
	08/18/95	310	<50	-	3.1	2.1	2.2	11
	02/07/96	400	<50	-	1.4	2.5	2.2	7
	09/06/96	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	06/19/97	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/24/02	58	<50	<5.0	4	2.7	2.3	6.7
	07/15/03	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	10/10/03	350	75	<5.0	14	16	23	60
	04/06/04	<50	<50	<5.0	<0.5	1.7	<0.5	1.7
	07/09/04	260	<50	<5.0	12	13	14	36
	10/08/04	450	76	<5.0	21	22	30	86
	04/02/07	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	07/02/07	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	10/03/07	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/09/08	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/08	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/07/08	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	10/16/08	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	1/29/2013 ¹	63	<50	<5.0	7.8	<0.5	3.1	2.1
	12/16/13	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	04/17/14	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	11/04/14	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	05/29/15	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	11/20/15	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	05/24/16	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
11/30/16	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW - 4	10/03/07	11,000	2,000	<1,500	1,100	87	<17	1,300
	01/09/08	17,000	2,600	<900	1,300	120	580	790
	04/04/08	17,000	-	<1,500	1,600	200	500	1,300
	07/07/08	18,000	3,100	<1,200	1,400	190	930	1,200
	10/16/08	25,000	2,000	<1,500	1,200	110	490	890
	1/29/2013 ¹	18,000	3,200	<700	1,500	170	1,100	1,100
	12/16/13	4,200	-	43	370	26	130	100
	04/17/14	7,300	-	45	550	55	540	305
	11/04/14	4,800	-	33	220	21	190	66
	05/29/15	12,000	-	49	600	78	740	337
	11/20/15	740	120	17	45	<2.5	17	6.2
	05/24/16	870	410	56	<5.0	<5.0	<5.0	47
	11/30/16	2,100	810	57	280	13	73	20
	MW - 5	10/03/07	8,800	680	<250	2,800	74	100
01/09/08		7,400	580	<350	2,000	5.6	93	29
04/04/08		43,000	-	<500	12,000	2,800	670	2,500
07/07/08		20,000	1,000	<500	6,800	190	280	380
10/16/08		13,000	490	<250	3,500	10	93	30
1/29/2013 ¹		5,300	470	<130	1,300	11	170	14
12/16/13		1,300	-	86	240	<2.5	5.7	<2.5
04/17/14		2,100	-	91	400	<2.5	30	<2.5
11/04/14		470	-	59	1.1	<0.5	0.9	<0.5
05/29/15		2,200	-	39	480	<3.1	48	<3.1
11/20/15		200	<50	74	<1.2	<1.2	<1.2	<1.2
05/24/16		4,200	210	42	1,500	65	150	440
11/30/16		99	<50	34	12	<0.50	<0.50	<0.50

Table 4
Summary of Groundwater Analytical Results
3635 13th Avenue, Oakland, California

Sample ID	Date Sampled	TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW - 6	10/03/07	11,000	1,400	<1,200	1,400	64	74	320
	01/09/08	8,400	1,300	<400	790	17	210	51
	04/04/08	6,100	-	<500	630	52	430	130
	07/07/08	6,200	1,200	<300	500	11	250	53
	10/16/08	3,700	600	180	220	4.4	93	15
	1/29/2013 ¹	2,300	440	<130	180	18	79	40
	12/16/13	1,400	-	170	100	1.9	9.0	5.0
	04/17/14	740	-	97	49	1.1	22	0.9
	11/04/14	1,300	-	140	52	1.0	3.2	1.4
	05/29/15	2,600	-	140	310	13	25	42.7
	11/20/15	690	130	92	11	<5.0	<5.0	<5.0
	05/24/16	1,200	420	80	130	16	16	30
	11/30/16	390	110	73	41	<1.2	<1.2	<1.2
MW - 7	1/29/2013 ¹	42,000	2,300	<900	14,000	140	1,100	800
	12/16/13	21,000	-	<50	7,200	<50	280	164
	04/17/14	11,000	-	23	3,900	22	290	157
	11/04/14	8,400	-	<25	4,100	<25	260	<25
	05/29/15	6,800	-	<20	2,700	<20	240	24
	11/20/15	5,600	390	<50	1,600	<50	<50	<50
	05/24/16	3,000	620	<250	4,600	<250	<250	<250
	11/30/16	5,500	870	<100	4,400	<100	170	<100

Notes / Abbreviations:

MTBE - Methyl tert butyl ether

TPH-d - Total petroleum hydrocarbons (TPH) as diesel

TPH-g - Total petroleum hydrocarbons (TPH) as gasoline

- = sample not analyzed by this method

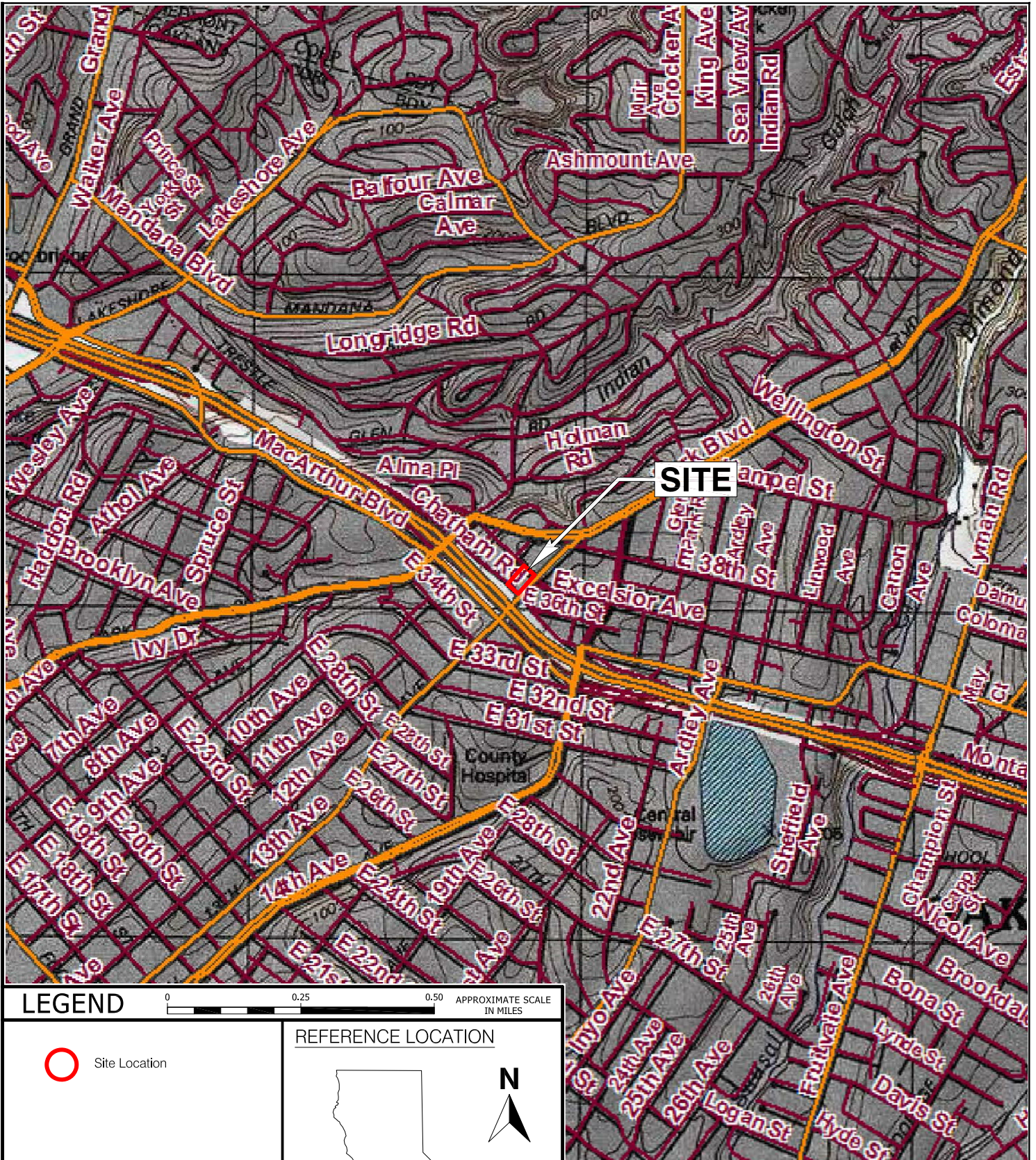
< = Less than reporting limit

¹ = well additionally analyzed for TPH as motor oil and hexachrome; all below laboratory detection limits.

ug/L - micrograms per liter

Bold = Most recent sample

FIGURES

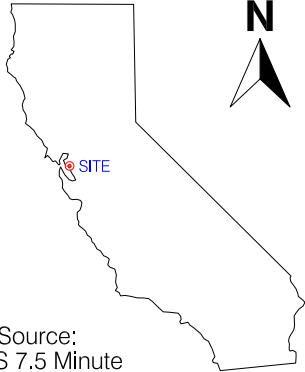


LEGEND



○ Site Location

REFERENCE LOCATION



Map Source:
USGS 7.5 Minute
Topographic Quadrangle Map,
Oakland East, CA - 1997

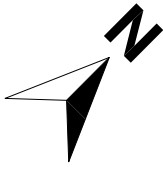
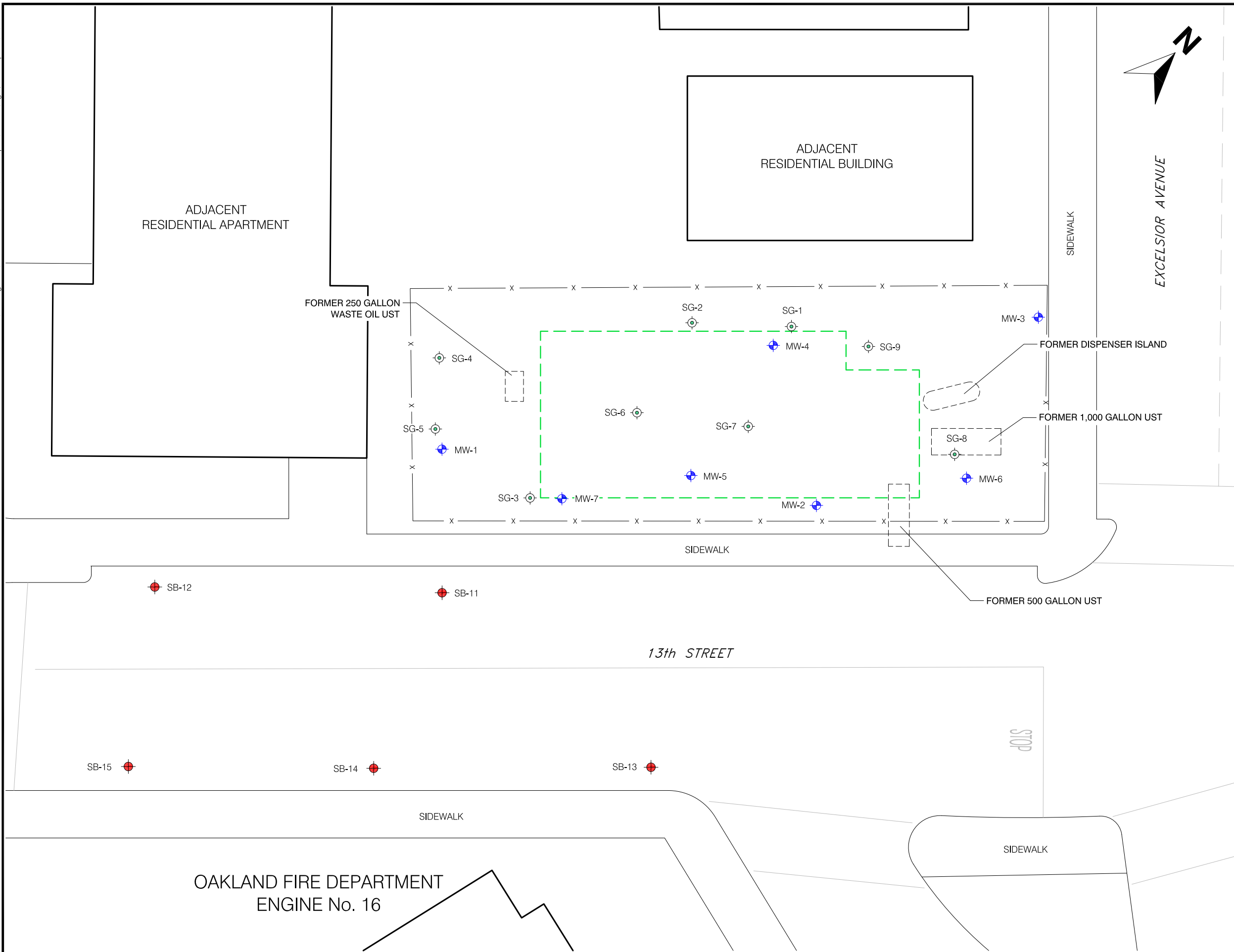
AEI Consultants

2500 Camino Diablo, Walnut Creek, California

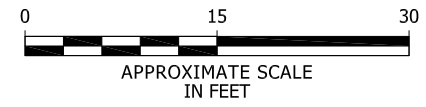
SITE LOCATION MAP

Kia Sumner
3635 13th Avenue
Oakland, California

FIGURE 1
Project No. 338841



- LEGEND**
- MW-1 Monitoring Well Location
 - SG-1 Soil Gas Probe Location
 - SB-1 Soil Boring Location
 - Proposed Building Location
 - x — Fence



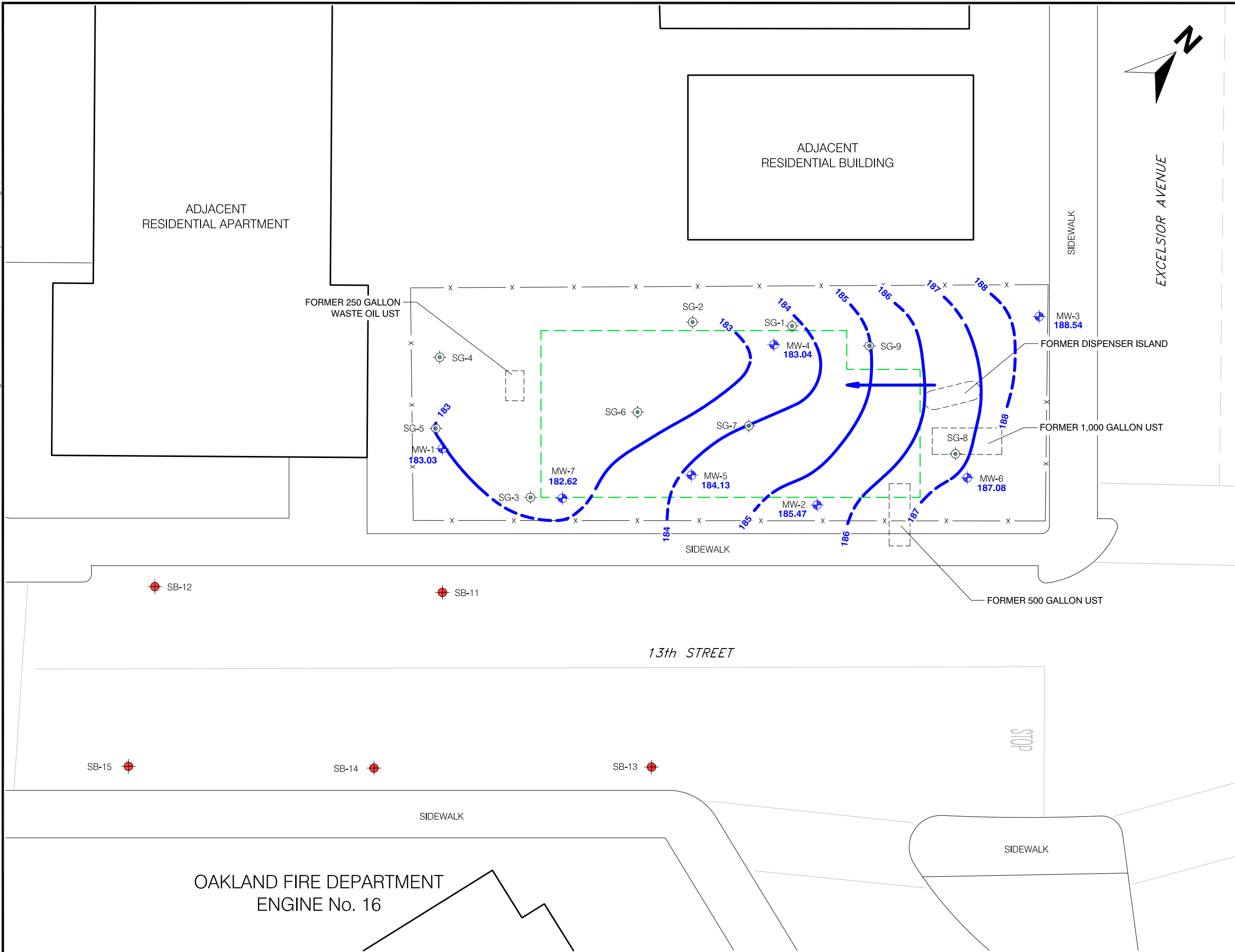
AEI Consultants
2500 Camino Diablo
Walnut Creek, California

SITE MAP

Kia Sumner
3635 13th Avenue
Oakland, California

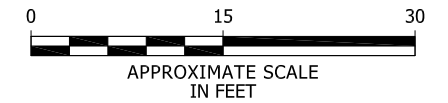
FIGURE 2
Project No. 338841

C:\Drawing_Files\AEI Consultants\338841\GMM Report\2016-11\Fig 3_GW Elevation Contours - Dec 5, 2016 - 01/27/2017



LEGEND

- MW-1 Monitoring Well Location
- SG-1 Soil Gas Probe Location
- SB-1 Soil Boring Location
- Proposed Building Location
- Fence
- Approximate Groundwater Flow Direction
- Groundwater Elevation Contour



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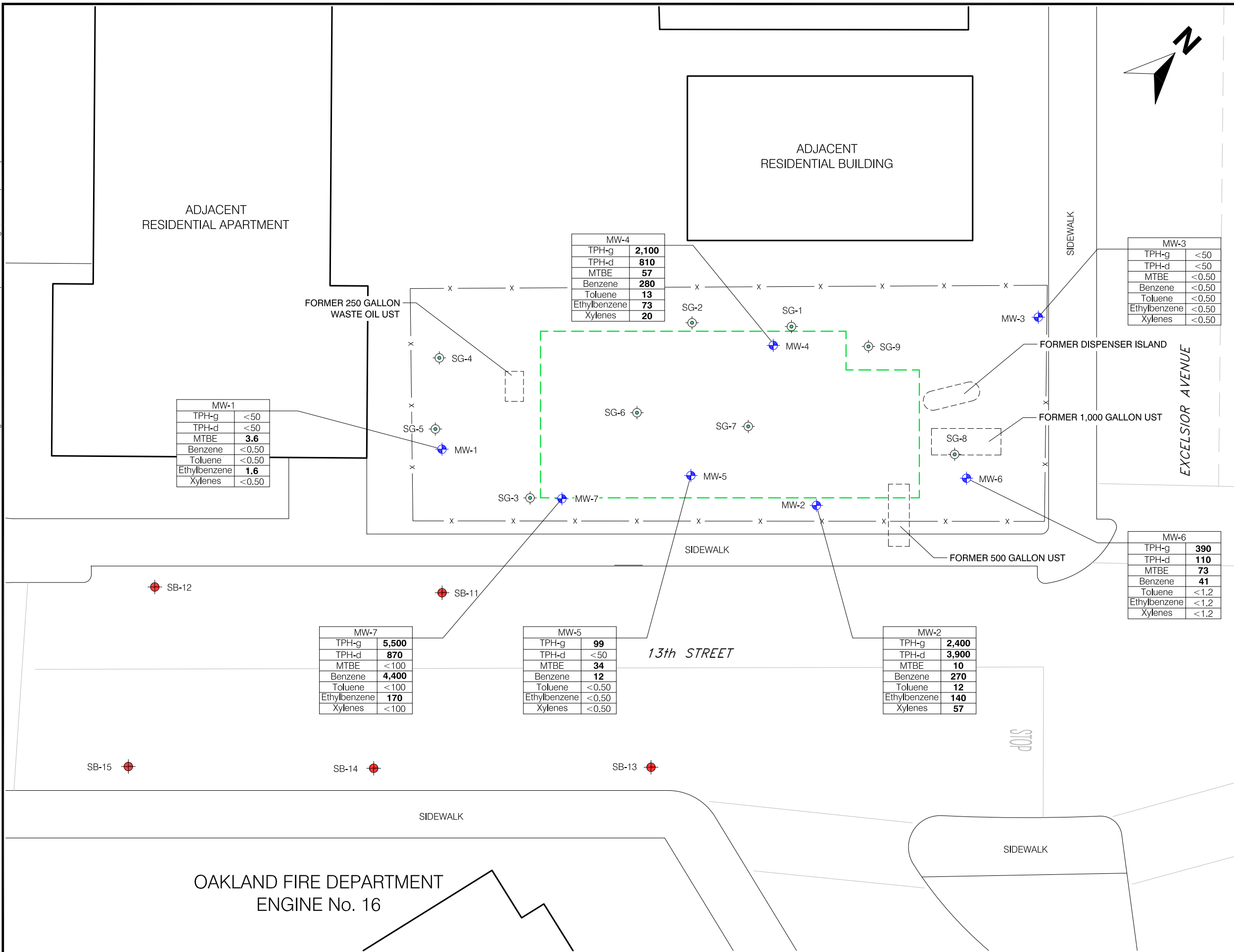
2500 Camino Diablo
Walnut Creek, California

**GROUNDWATER ELEVATION
CONTOURS**

DECEMBER 5, 2016

Kia Sumner
3635 13th Avenue
Oakland, California

FIGURE 3
Project No. 338841



LEGEND

- MW-1 Monitoring Well Location
- SG-1 Soil Gas Probe Location
- SB-1 Soil Boring Location
- Proposed Building Location
- Fence

Notes:
 All Concentrations in µg/L
 µg/L - micrograms per liter
 TPH-g - Total Petroleum Hydrocarbons as Gasoline
 TPH-d - Total Petroleum Hydrocarbons as Diesel
 MTBE - Methyl Tertiary Butyl Ether

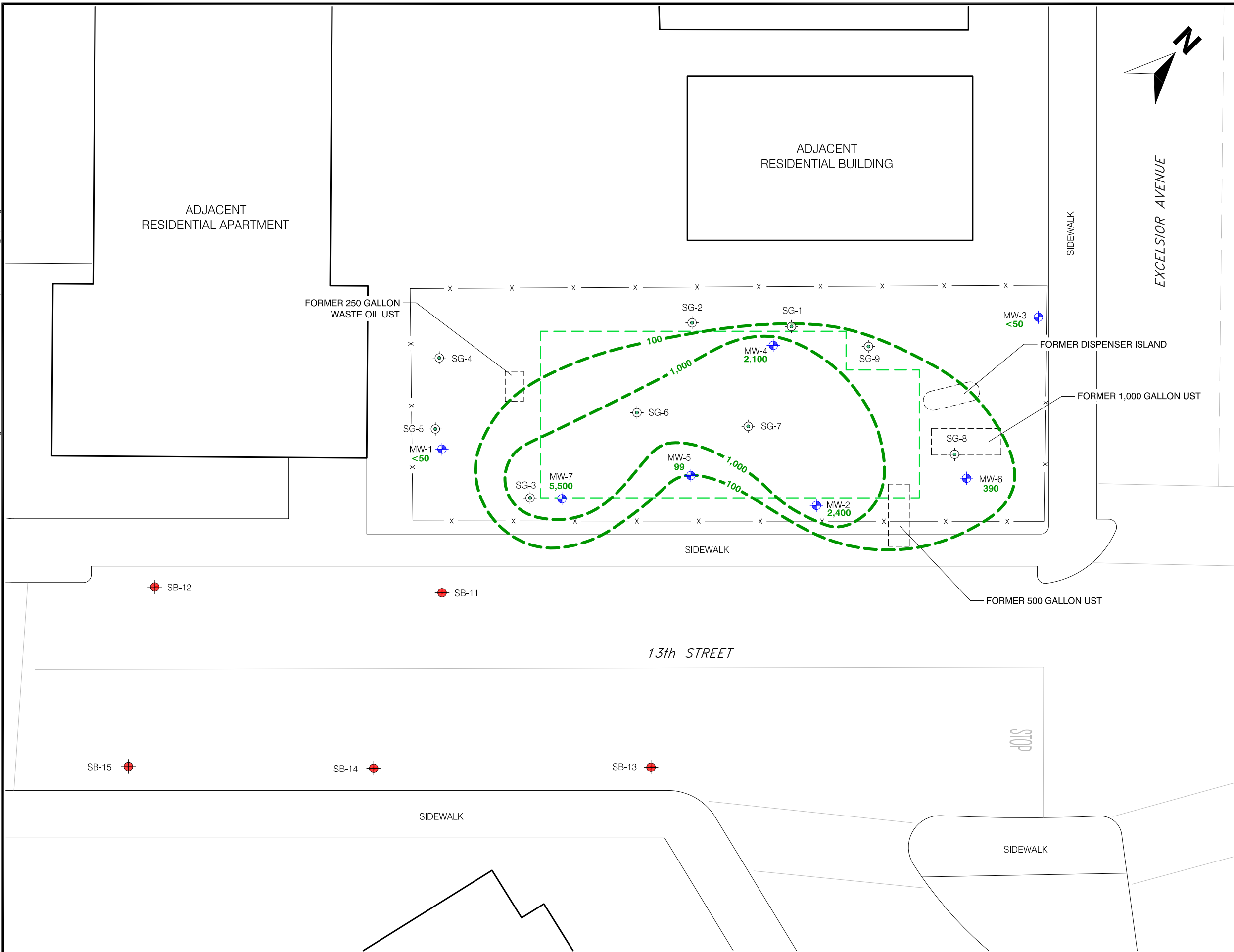
Scale:
 0 15 30
 APPROXIMATE SCALE IN FEET

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 Walnut Creek, California

**GROUNDWATER SAMPLE ANALYTICAL DATA
 SECOND SEMESTER 2016**

Kia Sumner
 3635 13th Avenue
 Oakland, California

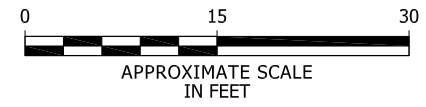
FIGURE 4
 Project No. 338841



LEGEND

- MW-1 Monitoring Well Location
- SG-1 Soil Gas Sample Location
- SB-1 Soil Boring
- Proposed Building
- Fence
- TPH-g Isoconcentration Contour in $\mu\text{g/L}$ (Dashed Where Inferred)

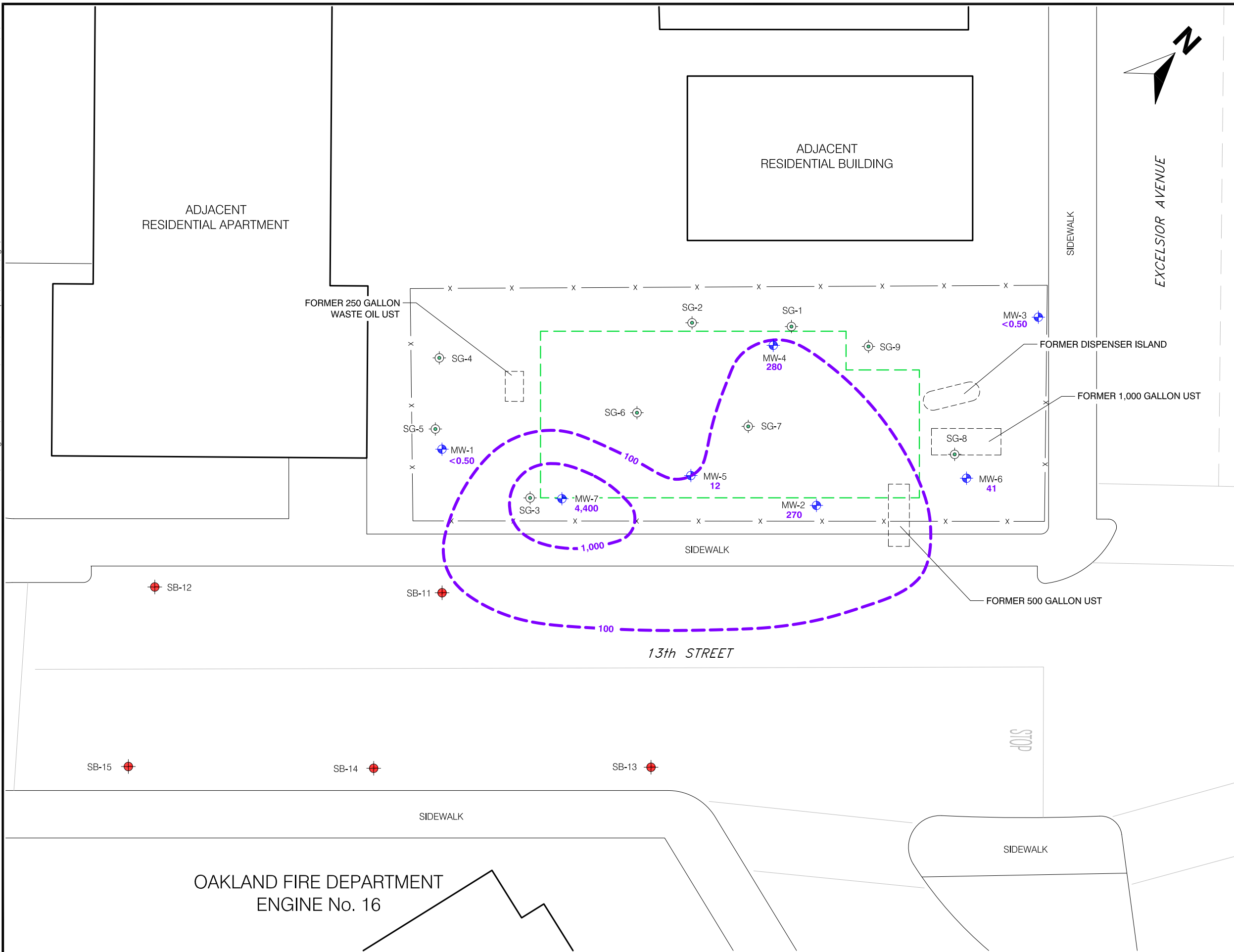
Notes:
 All Concentrations in $\mu\text{g/L}$
 $\mu\text{g/L}$ - micrograms per liter
 TPH-g - Total Petroleum Hydrocarbons as Gasoline



AEI Consultants
 2500 Camino Diablo
 Walnut Creek, California

TPHg CONCENTRATION IN GROUNDWATER SECOND SEMESTER 2016

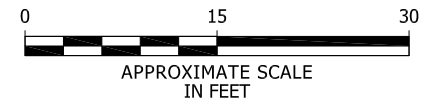
Kia Sumner 3635 13th Avenue Oakland, California	FIGURE 5 Project No. 338841
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LEGEND

- MW-1 Monitoring Well Location
- SG-1 Soil Gas Probe Location
- SB-1 Soil Boring Location
- Proposed Building Location
- x — Fence
- Benzene Isoconcentration Contour in µg/L (Dashed Where Inferred)

Notes:
 All Concentrations in µg/L
 µg/L - micrograms per liter



AEI Consultants
 2500 Camino Diablo
 Walnut Creek, California

**BENZENE CONCENTRATION
 IN GROUNDWATER
 SECOND SEMESTER 2016**

Kia Sumner 3635 13th Avenue Oakland, California	FIGURE 6 Project No. 338841
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APPENDIX A
Field Data Sheets

Water Level Field Data Sheet

~~3465 and 3475 Edward Avenue~~

Santa Clara, California

3635 13th Ave

Oakland, CA

NB

Project Name: Kia

Project No.: 338841

Field Personnel: Nathan Bricker

Site Location: 3635 13th Avenue, Oakland, California

Date: 12/5/2016

Well ID	Screen Interval (ft BTOC)	Total Depth (ft BTOC)	Casing Diameter (in)	Time	Depth to Water (ft BTOC)	Depth to Bottom (ft BTOC)	Comments	
MW-1	12-25 17-22	25.0 22.0	NB 2	1047	14.30	24.28	Missing Bolts ↓ Water in casing	
MW-2	16-30	36.0	2	1059	13.52 35.00			
MW-3	15.5-36	36.5 36.0	NB 2	1108	13.03	35.62		
MW-4	17-22	22.0	2	1102	17.25	22.20		Positive pressure
MW-5	↓	↓	2	1050	14.48	22.00		
MW-6	↓	↓	2	1105	13.21	22.25		
MW-7	17-22	22.0	2	1052	15.05	21.51		

Note: BTOC = below top of casing
 N/A = not available
 NM = not measured

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Kia	Date of Sampling:	11/30/2016
Job Number:	338841	Name of Sampler:	N.Bricker
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2
Wellhead Condition	Fair
Elevation of Top of Casing (feet above msl)	197.28
Depth of Well	24.28
Depth to Water (from top of casing)	13.17
Water Elevation (feet above msl)	184.11
Well Volumes Purged	3.09
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	5.28
Actual Volume Purged (gallons)	5.5
Appearance of Purge Water	Cloudy
Free Product Present?	No
Thickness (ft):	NA

GROUNDWATER SAMPLES

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
0921	Begin Purge						
0929	1.75	19.83	7.52	1229	3.70	10.4	
0936	3.50	19.94	7.47	1008	3.34	9.2	
0943	5.00 5.50	19.94	7.51	1185	3.03	8.9 8.9	
0944	Begin Sampling						

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

N/A

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Kia	Date of Sampling:	11/30/2016
Job Number:	338841	Name of Sampler:	N.Bricker
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK	Fair	
Elevation of Top of Casing (feet above msl)	198.93		
Depth of Well	30.00 35.00 (NB)		
Depth to Water (from top of casing)	12.50		
Water Elevation (feet above msl)	186.43		
Well Volumes Purged	3.00		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	10.80		
Actual Volume Purged (gallons)	11.00		
Appearance of Purge Water	Very dark cloudy		
Free Product Present?	No	Thickness (ft):	NA

GROUNDWATER SAMPLES (NB)

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1116 1110 (NB)	Start Purge						
1126	3.50	20.94	7.32	625	2.19	-90.3	
1139	7.00	20.50	7.39	961	1.32	-76.5	
1151	11.00 (NB)	20.22	7.39	1019	1.60	-72.3	
1152	Sampled						

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong petrol odor
purge water has been

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Kia	Date of Sampling:	11/30/2016
Job Number:	338841	Name of Sampler:	N.Bricker
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK	Fair	
Elevation of Top of Casing (feet above msl)	201.46		
Depth of Well	35.62		
Depth to Water (from top of casing)	11.60		
Water Elevation (feet above msl)	189.86		
Well Volumes Purged	3.12		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	11.52		
Actual Volume Purged (gallons)	12.00		
Appearance of Purge Water	cloudy		
Free Product Present?	NO	Thickness (ft):	NA

GROUNDWATER SAMPLES 2 (18)

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1428	start purge						
1440	4	19.25	7.86	585	3.29	52.3	
1452	* 8 (18)	19.10	7.81	607	3.86	40.2	
1504	* 12 (18)	19.00	7.74	607	3.96	47.5	
1505	sampled						

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

N/A

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Kia	Date of Sampling:	11/30/2016
Job Number:	338841	Name of Sampler:	N.Bricker
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2
Wellhead Condition	OK
Elevation of Top of Casing (feet above msl)	200.23
Depth of Well	22.20
Depth to Water (from top of casing)	17.37
Water Elevation (feet above msl)	182.86
Well Volumes Purged	2.59 (NB)
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	2.35
Actual Volume Purged (gallons)	2 (NB)
Appearance of Purge Water	cloudy
Free Product Present?	No
Thickness (ft):	NA

GROUNDWATER SAMPLES ^{2 NB}

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1404	Started Purge						
1407	1	19.43	7.43	1278	2.10	-76.2	
1412	2	19.34	7.41	1290	2.65	79.9	
			Dry				Bailer 1/4 Full
1540	Sampled						

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong petrol odor
Bailer recharged from 1/4 to 1/2

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Kia	Date of Sampling:	11/30/2016
Job Number:	338841	Name of Sampler:	N.Bricker
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	198.52		
Depth of Well	22.00		
Depth to Water (from top of casing)	13.87		
Water Elevation (feet above msl)	184.65		
Well Volumes Purged	3.08		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.91		
Actual Volume Purged (gallons)	4.00		
Appearance of Purge Water			
Free Product Present?	Thickness (ft):		NA

GROUNDWATER SAMPLES

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
1045	Start Purge						
1050	1.50	20.58	7.29	515	3.80	-44.2	
1057	2.75	20.32	7.14	753	3.10	-59.2	
1103	4.00	20.41	7.20	793	3.15	-53.8	
1104	Start Sample		DRY				
1530	Start Sample						

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong petroleum hydrocarbon odors noted. ✓ NB
Bailer Full at time of sample

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Kia	Date of Sampling:	5/24/2016 11/30/16
Job Number:	338841	Name of Sampler:	J. Vida N. Bricker
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2
Wellhead Condition	OK
Elevation of Top of Casing (feet above msl)	200.20
Depth of Well	22.25
Depth to Water (from top of casing)	13.00
Water Elevation (feet above msl)	187.20
Well Volumes Purged	2.53 (NB)
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.24
Actual Volume Purged (gallons)	4.5 3.75 (NB)
Appearance of Purge Water	Cloudy
Free Product Present?	NO
Thickness (ft):	NA

GROUNDWATER SAMPLES

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
13:23	Start Purge						
1331	1.50	20.24	7.32	1157	2.40	-95.5	
1339	3.00	20.25	7.29	1162	2.51	-81.6	
1345	4.50 3.75 (NB)	19.94	7.31	1164	2.86	-76.7	1/4 bailer in bottom
1535	Sampled		Dry				

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong petroleum hydrocarbon odors noted. ✓ NB
Bailer full at sample time.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-7

Project Name:	Kia	Date of Sampling:	5/24/2016 11/29/16 ^{WB}
Job Number:	338841	Name of Sampler:	J. Vida N. Bricker ^{WB}
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK	Fair	▼
Elevation of Top of Casing (feet above msl)	200.20		
Depth of Well	21.51		
Depth to Water (from top of casing)	14.46		
Water Elevation (feet above msl)	185.74		
Well Volumes Purged	3.10		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.41		
Actual Volume Purged (gallons)	3.50		
Appearance of Purge Water	cloudy		
Free Product Present?	No	Thickness (ft):	NA

GROUNDWATER SAMPLES

Number of Samples/Container Size				2 Amber VOAs and 4 HCl VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
1009	start Purge						
1013	1.25	20.36	6.93	2232	2.44	-60.9	
1017	2.50	20.34	6.90	2443	2.56	-62.8	
1024	3.50	20.24	6.99	2628	2.80	-43.1	
1025	Sample Taken						

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong petroleum hydrocarbon odors noted. ✓ ^{WB}

APPENDIX B

Laboratory Analytical Reports and Chain-of-Custody Documentation



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1611D25

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: Wayne Hung

Project P.O.: 122586

Project Name: Kia/338841

Project Received: 11/30/2016

Analytical Report reviewed & approved for release on 12/07/2016 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: AEI Consultants

Project: Kia/338841

WorkOrder: 1611D25

Glossary Abbreviation

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

Analytical Qualifiers

b1	aqueous sample that contains greater than ~1 vol. % sediment
e4	gasoline range compounds are significant.



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1611D25-001B	Water	11/30/2016 09:44	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	12/06/2016 13:08
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/06/2016 13:08
Benzene	ND	0.50	1	12/06/2016 13:08
Bromobenzene	ND	0.50	1	12/06/2016 13:08
Bromochloromethane	ND	0.50	1	12/06/2016 13:08
Bromodichloromethane	ND	0.50	1	12/06/2016 13:08
Bromoform	ND	0.50	1	12/06/2016 13:08
Bromomethane	ND	0.50	1	12/06/2016 13:08
2-Butanone (MEK)	ND	2.0	1	12/06/2016 13:08
t-Butyl alcohol (TBA)	ND	2.0	1	12/06/2016 13:08
n-Butyl benzene	ND	0.50	1	12/06/2016 13:08
sec-Butyl benzene	ND	0.50	1	12/06/2016 13:08
tert-Butyl benzene	ND	0.50	1	12/06/2016 13:08
Carbon Disulfide	ND	0.50	1	12/06/2016 13:08
Carbon Tetrachloride	ND	0.50	1	12/06/2016 13:08
Chlorobenzene	ND	0.50	1	12/06/2016 13:08
Chloroethane	ND	0.50	1	12/06/2016 13:08
Chloroform	ND	0.50	1	12/06/2016 13:08
Chloromethane	ND	0.50	1	12/06/2016 13:08
2-Chlorotoluene	ND	0.50	1	12/06/2016 13:08
4-Chlorotoluene	ND	0.50	1	12/06/2016 13:08
Dibromochloromethane	ND	0.50	1	12/06/2016 13:08
1,2-Dibromo-3-chloropropane	ND	0.20	1	12/06/2016 13:08
1,2-Dibromoethane (EDB)	ND	0.50	1	12/06/2016 13:08
Dibromomethane	ND	0.50	1	12/06/2016 13:08
1,2-Dichlorobenzene	ND	0.50	1	12/06/2016 13:08
1,3-Dichlorobenzene	ND	0.50	1	12/06/2016 13:08
1,4-Dichlorobenzene	ND	0.50	1	12/06/2016 13:08
Dichlorodifluoromethane	ND	0.50	1	12/06/2016 13:08
1,1-Dichloroethane	ND	0.50	1	12/06/2016 13:08
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/06/2016 13:08
1,1-Dichloroethene	ND	0.50	1	12/06/2016 13:08
cis-1,2-Dichloroethene	ND	0.50	1	12/06/2016 13:08
trans-1,2-Dichloroethene	ND	0.50	1	12/06/2016 13:08
1,2-Dichloropropane	ND	0.50	1	12/06/2016 13:08
1,3-Dichloropropane	ND	0.50	1	12/06/2016 13:08
2,2-Dichloropropane	ND	0.50	1	12/06/2016 13:08

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1611D25-001B	Water	11/30/2016 09:44	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	12/06/2016 13:08
cis-1,3-Dichloropropene	ND	0.50	1	12/06/2016 13:08
trans-1,3-Dichloropropene	ND	0.50	1	12/06/2016 13:08
Diisopropyl ether (DIPE)	ND	0.50	1	12/06/2016 13:08
Ethylbenzene	1.6	0.50	1	12/06/2016 13:08
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/06/2016 13:08
Freon 113	ND	0.50	1	12/06/2016 13:08
Hexachlorobutadiene	ND	0.50	1	12/06/2016 13:08
Hexachloroethane	ND	0.50	1	12/06/2016 13:08
2-Hexanone	ND	0.50	1	12/06/2016 13:08
Isopropylbenzene	2.2	0.50	1	12/06/2016 13:08
4-Isopropyl toluene	ND	0.50	1	12/06/2016 13:08
Methyl-t-butyl ether (MTBE)	3.6	0.50	1	12/06/2016 13:08
Methylene chloride	ND	0.50	1	12/06/2016 13:08
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/06/2016 13:08
Naphthalene	ND	0.50	1	12/06/2016 13:08
n-Propyl benzene	1.3	0.50	1	12/06/2016 13:08
Styrene	ND	0.50	1	12/06/2016 13:08
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/06/2016 13:08
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/06/2016 13:08
Tetrachloroethene	ND	0.50	1	12/06/2016 13:08
Toluene	ND	0.50	1	12/06/2016 13:08
1,2,3-Trichlorobenzene	ND	0.50	1	12/06/2016 13:08
1,2,4-Trichlorobenzene	ND	0.50	1	12/06/2016 13:08
1,1,1-Trichloroethane	ND	0.50	1	12/06/2016 13:08
1,1,2-Trichloroethane	ND	0.50	1	12/06/2016 13:08
Trichloroethene	ND	0.50	1	12/06/2016 13:08
Trichlorofluoromethane	ND	0.50	1	12/06/2016 13:08
1,2,3-Trichloropropane	ND	0.50	1	12/06/2016 13:08
1,2,4-Trimethylbenzene	ND	0.50	1	12/06/2016 13:08
1,3,5-Trimethylbenzene	ND	0.50	1	12/06/2016 13:08
Vinyl Chloride	ND	0.50	1	12/06/2016 13:08
Xylenes, Total	ND	0.50	1	12/06/2016 13:08

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1611D25-001B	Water	11/30/2016 09:44	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	102		70-130	12/06/2016 13:08
Toluene-d8	101		70-130	12/06/2016 13:08
4-BFB	90		70-130	12/06/2016 13:08
<u>Analyst(s):</u> HK			<u>Analytical Comments:</u> b1	



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1611D25-002B	Water	11/30/2016 11:52	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	100	10	12/06/2016 23:33
tert-Amyl methyl ether (TAME)	ND	5.0	10	12/06/2016 23:33
Benzene	270	5.0	10	12/06/2016 23:33
Bromobenzene	ND	5.0	10	12/06/2016 23:33
Bromochloromethane	ND	5.0	10	12/06/2016 23:33
Bromodichloromethane	ND	5.0	10	12/06/2016 23:33
Bromoform	ND	5.0	10	12/06/2016 23:33
Bromomethane	ND	5.0	10	12/06/2016 23:33
2-Butanone (MEK)	ND	20	10	12/06/2016 23:33
t-Butyl alcohol (TBA)	ND	20	10	12/06/2016 23:33
n-Butyl benzene	12	5.0	10	12/06/2016 23:33
sec-Butyl benzene	ND	5.0	10	12/06/2016 23:33
tert-Butyl benzene	ND	5.0	10	12/06/2016 23:33
Carbon Disulfide	ND	5.0	10	12/06/2016 23:33
Carbon Tetrachloride	ND	5.0	10	12/06/2016 23:33
Chlorobenzene	ND	5.0	10	12/06/2016 23:33
Chloroethane	ND	5.0	10	12/06/2016 23:33
Chloroform	ND	5.0	10	12/06/2016 23:33
Chloromethane	ND	5.0	10	12/06/2016 23:33
2-Chlorotoluene	ND	5.0	10	12/06/2016 23:33
4-Chlorotoluene	ND	5.0	10	12/06/2016 23:33
Dibromochloromethane	ND	5.0	10	12/06/2016 23:33
1,2-Dibromo-3-chloropropane	ND	2.0	10	12/06/2016 23:33
1,2-Dibromoethane (EDB)	ND	5.0	10	12/06/2016 23:33
Dibromomethane	ND	5.0	10	12/06/2016 23:33
1,2-Dichlorobenzene	ND	5.0	10	12/06/2016 23:33
1,3-Dichlorobenzene	ND	5.0	10	12/06/2016 23:33
1,4-Dichlorobenzene	ND	5.0	10	12/06/2016 23:33
Dichlorodifluoromethane	ND	5.0	10	12/06/2016 23:33
1,1-Dichloroethane	ND	5.0	10	12/06/2016 23:33
1,2-Dichloroethane (1,2-DCA)	ND	5.0	10	12/06/2016 23:33
1,1-Dichloroethene	ND	5.0	10	12/06/2016 23:33
cis-1,2-Dichloroethene	ND	5.0	10	12/06/2016 23:33
trans-1,2-Dichloroethene	ND	5.0	10	12/06/2016 23:33
1,2-Dichloropropane	ND	5.0	10	12/06/2016 23:33
1,3-Dichloropropane	ND	5.0	10	12/06/2016 23:33
2,2-Dichloropropane	ND	5.0	10	12/06/2016 23:33

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1611D25-002B	Water	11/30/2016 11:52	GC18	130871
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		5.0	10	12/06/2016 23:33
cis-1,3-Dichloropropene	ND		5.0	10	12/06/2016 23:33
trans-1,3-Dichloropropene	ND		5.0	10	12/06/2016 23:33
Diisopropyl ether (DIPE)	ND		5.0	10	12/06/2016 23:33
Ethylbenzene	140		5.0	10	12/06/2016 23:33
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	12/06/2016 23:33
Freon 113	ND		5.0	10	12/06/2016 23:33
Hexachlorobutadiene	ND		5.0	10	12/06/2016 23:33
Hexachloroethane	ND		5.0	10	12/06/2016 23:33
2-Hexanone	ND		5.0	10	12/06/2016 23:33
Isopropylbenzene	10		5.0	10	12/06/2016 23:33
4-Isopropyl toluene	ND		5.0	10	12/06/2016 23:33
Methyl-t-butyl ether (MTBE)	10		5.0	10	12/06/2016 23:33
Methylene chloride	ND		5.0	10	12/06/2016 23:33
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	12/06/2016 23:33
Naphthalene	44		5.0	10	12/06/2016 23:33
n-Propyl benzene	27		5.0	10	12/06/2016 23:33
Styrene	ND		5.0	10	12/06/2016 23:33
1,1,1,2-Tetrachloroethane	ND		5.0	10	12/06/2016 23:33
1,1,2,2-Tetrachloroethane	ND		5.0	10	12/06/2016 23:33
Tetrachloroethene	ND		5.0	10	12/06/2016 23:33
Toluene	12		5.0	10	12/06/2016 23:33
1,2,3-Trichlorobenzene	ND		5.0	10	12/06/2016 23:33
1,2,4-Trichlorobenzene	ND		5.0	10	12/06/2016 23:33
1,1,1-Trichloroethane	ND		5.0	10	12/06/2016 23:33
1,1,2-Trichloroethane	ND		5.0	10	12/06/2016 23:33
Trichloroethene	ND		5.0	10	12/06/2016 23:33
Trichlorofluoromethane	ND		5.0	10	12/06/2016 23:33
1,2,3-Trichloropropane	ND		5.0	10	12/06/2016 23:33
1,2,4-Trimethylbenzene	33		5.0	10	12/06/2016 23:33
1,3,5-Trimethylbenzene	6.0		5.0	10	12/06/2016 23:33
Vinyl Chloride	ND		5.0	10	12/06/2016 23:33
Xylenes, Total	57		5.0	10	12/06/2016 23:33

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1611D25-002B	Water	11/30/2016 11:52	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	100	70-130		12/06/2016 23:33
Toluene-d8	104	70-130		12/06/2016 23:33
4-BFB	86	70-130		12/06/2016 23:33

Analyst(s): HK

Analytical Comments: b1



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1611D25-003B	Water	11/30/2016 15:05	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	12/06/2016 22:15
tert-Amyl methyl ether (TAME)	ND	0.50	1	12/06/2016 22:15
Benzene	ND	0.50	1	12/06/2016 22:15
Bromobenzene	ND	0.50	1	12/06/2016 22:15
Bromochloromethane	ND	0.50	1	12/06/2016 22:15
Bromodichloromethane	ND	0.50	1	12/06/2016 22:15
Bromoform	ND	0.50	1	12/06/2016 22:15
Bromomethane	ND	0.50	1	12/06/2016 22:15
2-Butanone (MEK)	ND	2.0	1	12/06/2016 22:15
t-Butyl alcohol (TBA)	ND	2.0	1	12/06/2016 22:15
n-Butyl benzene	ND	0.50	1	12/06/2016 22:15
sec-Butyl benzene	ND	0.50	1	12/06/2016 22:15
tert-Butyl benzene	ND	0.50	1	12/06/2016 22:15
Carbon Disulfide	ND	0.50	1	12/06/2016 22:15
Carbon Tetrachloride	ND	0.50	1	12/06/2016 22:15
Chlorobenzene	ND	0.50	1	12/06/2016 22:15
Chloroethane	ND	0.50	1	12/06/2016 22:15
Chloroform	ND	0.50	1	12/06/2016 22:15
Chloromethane	ND	0.50	1	12/06/2016 22:15
2-Chlorotoluene	ND	0.50	1	12/06/2016 22:15
4-Chlorotoluene	ND	0.50	1	12/06/2016 22:15
Dibromochloromethane	ND	0.50	1	12/06/2016 22:15
1,2-Dibromo-3-chloropropane	ND	0.20	1	12/06/2016 22:15
1,2-Dibromoethane (EDB)	ND	0.50	1	12/06/2016 22:15
Dibromomethane	ND	0.50	1	12/06/2016 22:15
1,2-Dichlorobenzene	ND	0.50	1	12/06/2016 22:15
1,3-Dichlorobenzene	ND	0.50	1	12/06/2016 22:15
1,4-Dichlorobenzene	ND	0.50	1	12/06/2016 22:15
Dichlorodifluoromethane	ND	0.50	1	12/06/2016 22:15
1,1-Dichloroethane	ND	0.50	1	12/06/2016 22:15
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	12/06/2016 22:15
1,1-Dichloroethene	ND	0.50	1	12/06/2016 22:15
cis-1,2-Dichloroethene	ND	0.50	1	12/06/2016 22:15
trans-1,2-Dichloroethene	ND	0.50	1	12/06/2016 22:15
1,2-Dichloropropane	ND	0.50	1	12/06/2016 22:15
1,3-Dichloropropane	ND	0.50	1	12/06/2016 22:15
2,2-Dichloropropane	ND	0.50	1	12/06/2016 22:15

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1611D25-003B	Water	11/30/2016 15:05	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	12/06/2016 22:15
cis-1,3-Dichloropropene	ND	0.50	1	12/06/2016 22:15
trans-1,3-Dichloropropene	ND	0.50	1	12/06/2016 22:15
Diisopropyl ether (DIPE)	ND	0.50	1	12/06/2016 22:15
Ethylbenzene	ND	0.50	1	12/06/2016 22:15
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/06/2016 22:15
Freon 113	ND	0.50	1	12/06/2016 22:15
Hexachlorobutadiene	ND	0.50	1	12/06/2016 22:15
Hexachloroethane	ND	0.50	1	12/06/2016 22:15
2-Hexanone	ND	0.50	1	12/06/2016 22:15
Isopropylbenzene	ND	0.50	1	12/06/2016 22:15
4-Isopropyl toluene	ND	0.50	1	12/06/2016 22:15
Methyl-t-butyl ether (MTBE)	ND	0.50	1	12/06/2016 22:15
Methylene chloride	ND	0.50	1	12/06/2016 22:15
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/06/2016 22:15
Naphthalene	ND	0.50	1	12/06/2016 22:15
n-Propyl benzene	ND	0.50	1	12/06/2016 22:15
Styrene	ND	0.50	1	12/06/2016 22:15
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/06/2016 22:15
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/06/2016 22:15
Tetrachloroethene	ND	0.50	1	12/06/2016 22:15
Toluene	ND	0.50	1	12/06/2016 22:15
1,2,3-Trichlorobenzene	ND	0.50	1	12/06/2016 22:15
1,2,4-Trichlorobenzene	ND	0.50	1	12/06/2016 22:15
1,1,1-Trichloroethane	ND	0.50	1	12/06/2016 22:15
1,1,2-Trichloroethane	ND	0.50	1	12/06/2016 22:15
Trichloroethene	ND	0.50	1	12/06/2016 22:15
Trichlorofluoromethane	ND	0.50	1	12/06/2016 22:15
1,2,3-Trichloropropane	ND	0.50	1	12/06/2016 22:15
1,2,4-Trimethylbenzene	ND	0.50	1	12/06/2016 22:15
1,3,5-Trimethylbenzene	ND	0.50	1	12/06/2016 22:15
Vinyl Chloride	ND	0.50	1	12/06/2016 22:15
Xylenes, Total	ND	0.50	1	12/06/2016 22:15

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1611D25-003B	Water	11/30/2016 15:05	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	101	70-130		12/06/2016 22:15
Toluene-d8	103	70-130		12/06/2016 22:15
4-BFB	89	70-130		12/06/2016 22:15
<u>Analyst(s):</u> HK	<u>Analytical Comments:</u> b1			



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1611D25-004B	Water	11/30/2016 15:40	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	100	10	12/06/2016 17:39
tert-Amyl methyl ether (TAME)	ND	5.0	10	12/06/2016 17:39
Benzene	280	5.0	10	12/06/2016 17:39
Bromobenzene	ND	5.0	10	12/06/2016 17:39
Bromochloromethane	ND	5.0	10	12/06/2016 17:39
Bromodichloromethane	ND	5.0	10	12/06/2016 17:39
Bromoform	ND	5.0	10	12/06/2016 17:39
Bromomethane	ND	5.0	10	12/06/2016 17:39
2-Butanone (MEK)	ND	20	10	12/06/2016 17:39
t-Butyl alcohol (TBA)	ND	20	10	12/06/2016 17:39
n-Butyl benzene	ND	5.0	10	12/06/2016 17:39
sec-Butyl benzene	ND	5.0	10	12/06/2016 17:39
tert-Butyl benzene	ND	5.0	10	12/06/2016 17:39
Carbon Disulfide	ND	5.0	10	12/06/2016 17:39
Carbon Tetrachloride	ND	5.0	10	12/06/2016 17:39
Chlorobenzene	ND	5.0	10	12/06/2016 17:39
Chloroethane	ND	5.0	10	12/06/2016 17:39
Chloroform	ND	5.0	10	12/06/2016 17:39
Chloromethane	ND	5.0	10	12/06/2016 17:39
2-Chlorotoluene	ND	5.0	10	12/06/2016 17:39
4-Chlorotoluene	ND	5.0	10	12/06/2016 17:39
Dibromochloromethane	ND	5.0	10	12/06/2016 17:39
1,2-Dibromo-3-chloropropane	ND	2.0	10	12/06/2016 17:39
1,2-Dibromoethane (EDB)	ND	5.0	10	12/06/2016 17:39
Dibromomethane	ND	5.0	10	12/06/2016 17:39
1,2-Dichlorobenzene	ND	5.0	10	12/06/2016 17:39
1,3-Dichlorobenzene	ND	5.0	10	12/06/2016 17:39
1,4-Dichlorobenzene	ND	5.0	10	12/06/2016 17:39
Dichlorodifluoromethane	ND	5.0	10	12/06/2016 17:39
1,1-Dichloroethane	ND	5.0	10	12/06/2016 17:39
1,2-Dichloroethane (1,2-DCA)	ND	5.0	10	12/06/2016 17:39
1,1-Dichloroethene	ND	5.0	10	12/06/2016 17:39
cis-1,2-Dichloroethene	ND	5.0	10	12/06/2016 17:39
trans-1,2-Dichloroethene	ND	5.0	10	12/06/2016 17:39
1,2-Dichloropropane	ND	5.0	10	12/06/2016 17:39
1,3-Dichloropropane	ND	5.0	10	12/06/2016 17:39
2,2-Dichloropropane	ND	5.0	10	12/06/2016 17:39

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Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1611D25-004B	Water	11/30/2016 15:40	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	5.0	10	12/06/2016 17:39
cis-1,3-Dichloropropene	ND	5.0	10	12/06/2016 17:39
trans-1,3-Dichloropropene	ND	5.0	10	12/06/2016 17:39
Diisopropyl ether (DIPE)	ND	5.0	10	12/06/2016 17:39
Ethylbenzene	73	5.0	10	12/06/2016 17:39
Ethyl tert-butyl ether (ETBE)	ND	5.0	10	12/06/2016 17:39
Freon 113	ND	5.0	10	12/06/2016 17:39
Hexachlorobutadiene	ND	5.0	10	12/06/2016 17:39
Hexachloroethane	ND	5.0	10	12/06/2016 17:39
2-Hexanone	ND	5.0	10	12/06/2016 17:39
Isopropylbenzene	7.7	5.0	10	12/06/2016 17:39
4-Isopropyl toluene	ND	5.0	10	12/06/2016 17:39
Methyl-t-butyl ether (MTBE)	57	5.0	10	12/06/2016 17:39
Methylene chloride	ND	5.0	10	12/06/2016 17:39
4-Methyl-2-pentanone (MIBK)	ND	5.0	10	12/06/2016 17:39
Naphthalene	59	5.0	10	12/06/2016 17:39
n-Propyl benzene	5.7	5.0	10	12/06/2016 17:39
Styrene	ND	5.0	10	12/06/2016 17:39
1,1,1,2-Tetrachloroethane	ND	5.0	10	12/06/2016 17:39
1,1,2,2-Tetrachloroethane	ND	5.0	10	12/06/2016 17:39
Tetrachloroethene	ND	5.0	10	12/06/2016 17:39
Toluene	13	5.0	10	12/06/2016 17:39
1,2,3-Trichlorobenzene	ND	5.0	10	12/06/2016 17:39
1,2,4-Trichlorobenzene	ND	5.0	10	12/06/2016 17:39
1,1,1-Trichloroethane	ND	5.0	10	12/06/2016 17:39
1,1,2-Trichloroethane	ND	5.0	10	12/06/2016 17:39
Trichloroethene	ND	5.0	10	12/06/2016 17:39
Trichlorofluoromethane	ND	5.0	10	12/06/2016 17:39
1,2,3-Trichloropropane	ND	5.0	10	12/06/2016 17:39
1,2,4-Trimethylbenzene	ND	5.0	10	12/06/2016 17:39
1,3,5-Trimethylbenzene	ND	5.0	10	12/06/2016 17:39
Vinyl Chloride	ND	5.0	10	12/06/2016 17:39
Xylenes, Total	20	5.0	10	12/06/2016 17:39

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Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1611D25-004B	Water	11/30/2016 15:40	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	101	70-130		12/06/2016 17:39
Toluene-d8	100	70-130		12/06/2016 17:39
4-BFB	90	70-130		12/06/2016 17:39

Analyst(s): HK



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1611D25-005B	Water	11/30/2016 15:30	GC18	130871
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	12/06/2016 15:43
tert-Amyl methyl ether (TAME)	ND		0.50	1	12/06/2016 15:43
Benzene	12		0.50	1	12/06/2016 15:43
Bromobenzene	ND		0.50	1	12/06/2016 15:43
Bromochloromethane	ND		0.50	1	12/06/2016 15:43
Bromodichloromethane	ND		0.50	1	12/06/2016 15:43
Bromoform	ND		0.50	1	12/06/2016 15:43
Bromomethane	ND		0.50	1	12/06/2016 15:43
2-Butanone (MEK)	ND		2.0	1	12/06/2016 15:43
t-Butyl alcohol (TBA)	90		2.0	1	12/06/2016 15:43
n-Butyl benzene	ND		0.50	1	12/06/2016 15:43
sec-Butyl benzene	ND		0.50	1	12/06/2016 15:43
tert-Butyl benzene	0.56		0.50	1	12/06/2016 15:43
Carbon Disulfide	ND		0.50	1	12/06/2016 15:43
Carbon Tetrachloride	ND		0.50	1	12/06/2016 15:43
Chlorobenzene	ND		0.50	1	12/06/2016 15:43
Chloroethane	ND		0.50	1	12/06/2016 15:43
Chloroform	ND		0.50	1	12/06/2016 15:43
Chloromethane	ND		0.50	1	12/06/2016 15:43
2-Chlorotoluene	ND		0.50	1	12/06/2016 15:43
4-Chlorotoluene	ND		0.50	1	12/06/2016 15:43
Dibromochloromethane	ND		0.50	1	12/06/2016 15:43
1,2-Dibromo-3-chloropropane	ND		0.20	1	12/06/2016 15:43
1,2-Dibromoethane (EDB)	ND		0.50	1	12/06/2016 15:43
Dibromomethane	ND		0.50	1	12/06/2016 15:43
1,2-Dichlorobenzene	ND		0.50	1	12/06/2016 15:43
1,3-Dichlorobenzene	ND		0.50	1	12/06/2016 15:43
1,4-Dichlorobenzene	ND		0.50	1	12/06/2016 15:43
Dichlorodifluoromethane	ND		0.50	1	12/06/2016 15:43
1,1-Dichloroethane	ND		0.50	1	12/06/2016 15:43
1,2-Dichloroethane (1,2-DCA)	0.60		0.50	1	12/06/2016 15:43
1,1-Dichloroethene	ND		0.50	1	12/06/2016 15:43
cis-1,2-Dichloroethene	ND		0.50	1	12/06/2016 15:43
trans-1,2-Dichloroethene	ND		0.50	1	12/06/2016 15:43
1,2-Dichloropropane	ND		0.50	1	12/06/2016 15:43
1,3-Dichloropropane	ND		0.50	1	12/06/2016 15:43
2,2-Dichloropropane	ND		0.50	1	12/06/2016 15:43

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Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1611D25-005B	Water	11/30/2016 15:30	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	12/06/2016 15:43
cis-1,3-Dichloropropene	ND	0.50	1	12/06/2016 15:43
trans-1,3-Dichloropropene	ND	0.50	1	12/06/2016 15:43
Diisopropyl ether (DIPE)	ND	0.50	1	12/06/2016 15:43
Ethylbenzene	ND	0.50	1	12/06/2016 15:43
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	12/06/2016 15:43
Freon 113	ND	0.50	1	12/06/2016 15:43
Hexachlorobutadiene	ND	0.50	1	12/06/2016 15:43
Hexachloroethane	ND	0.50	1	12/06/2016 15:43
2-Hexanone	ND	0.50	1	12/06/2016 15:43
Isopropylbenzene	ND	0.50	1	12/06/2016 15:43
4-Isopropyl toluene	ND	0.50	1	12/06/2016 15:43
Methyl-t-butyl ether (MTBE)	34	0.50	1	12/06/2016 15:43
Methylene chloride	ND	0.50	1	12/06/2016 15:43
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	12/06/2016 15:43
Naphthalene	ND	0.50	1	12/06/2016 15:43
n-Propyl benzene	ND	0.50	1	12/06/2016 15:43
Styrene	ND	0.50	1	12/06/2016 15:43
1,1,1,2-Tetrachloroethane	ND	0.50	1	12/06/2016 15:43
1,1,2,2-Tetrachloroethane	ND	0.50	1	12/06/2016 15:43
Tetrachloroethene	ND	0.50	1	12/06/2016 15:43
Toluene	ND	0.50	1	12/06/2016 15:43
1,2,3-Trichlorobenzene	ND	0.50	1	12/06/2016 15:43
1,2,4-Trichlorobenzene	ND	0.50	1	12/06/2016 15:43
1,1,1-Trichloroethane	ND	0.50	1	12/06/2016 15:43
1,1,2-Trichloroethane	ND	0.50	1	12/06/2016 15:43
Trichloroethene	ND	0.50	1	12/06/2016 15:43
Trichlorofluoromethane	ND	0.50	1	12/06/2016 15:43
1,2,3-Trichloropropane	ND	0.50	1	12/06/2016 15:43
1,2,4-Trimethylbenzene	ND	0.50	1	12/06/2016 15:43
1,3,5-Trimethylbenzene	ND	0.50	1	12/06/2016 15:43
Vinyl Chloride	ND	0.50	1	12/06/2016 15:43
Xylenes, Total	ND	0.50	1	12/06/2016 15:43

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Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1611D25-005B	Water	11/30/2016 15:30	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	102	70-130		12/06/2016 15:43
Toluene-d8	99	70-130		12/06/2016 15:43
4-BFB	96	70-130		12/06/2016 15:43

Analyst(s): HK



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1611D25-006B	Water	11/30/2016 15:35	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	25	2.5	12/07/2016 00:12
tert-Amyl methyl ether (TAME)	ND	1.2	2.5	12/07/2016 00:12
Benzene	41	1.2	2.5	12/07/2016 00:12
Bromobenzene	ND	1.2	2.5	12/07/2016 00:12
Bromochloromethane	ND	1.2	2.5	12/07/2016 00:12
Bromodichloromethane	ND	1.2	2.5	12/07/2016 00:12
Bromoform	ND	1.2	2.5	12/07/2016 00:12
Bromomethane	ND	1.2	2.5	12/07/2016 00:12
2-Butanone (MEK)	ND	5.0	2.5	12/07/2016 00:12
t-Butyl alcohol (TBA)	32	5.0	2.5	12/07/2016 00:12
n-Butyl benzene	ND	1.2	2.5	12/07/2016 00:12
sec-Butyl benzene	ND	1.2	2.5	12/07/2016 00:12
tert-Butyl benzene	ND	1.2	2.5	12/07/2016 00:12
Carbon Disulfide	ND	1.2	2.5	12/07/2016 00:12
Carbon Tetrachloride	ND	1.2	2.5	12/07/2016 00:12
Chlorobenzene	ND	1.2	2.5	12/07/2016 00:12
Chloroethane	ND	1.2	2.5	12/07/2016 00:12
Chloroform	ND	1.2	2.5	12/07/2016 00:12
Chloromethane	ND	1.2	2.5	12/07/2016 00:12
2-Chlorotoluene	ND	1.2	2.5	12/07/2016 00:12
4-Chlorotoluene	ND	1.2	2.5	12/07/2016 00:12
Dibromochloromethane	ND	1.2	2.5	12/07/2016 00:12
1,2-Dibromo-3-chloropropane	ND	0.50	2.5	12/07/2016 00:12
1,2-Dibromoethane (EDB)	ND	1.2	2.5	12/07/2016 00:12
Dibromomethane	ND	1.2	2.5	12/07/2016 00:12
1,2-Dichlorobenzene	ND	1.2	2.5	12/07/2016 00:12
1,3-Dichlorobenzene	ND	1.2	2.5	12/07/2016 00:12
1,4-Dichlorobenzene	ND	1.2	2.5	12/07/2016 00:12
Dichlorodifluoromethane	ND	1.2	2.5	12/07/2016 00:12
1,1-Dichloroethane	ND	1.2	2.5	12/07/2016 00:12
1,2-Dichloroethane (1,2-DCA)	ND	1.2	2.5	12/07/2016 00:12
1,1-Dichloroethene	ND	1.2	2.5	12/07/2016 00:12
cis-1,2-Dichloroethene	ND	1.2	2.5	12/07/2016 00:12
trans-1,2-Dichloroethene	ND	1.2	2.5	12/07/2016 00:12
1,2-Dichloropropane	ND	1.2	2.5	12/07/2016 00:12
1,3-Dichloropropane	ND	1.2	2.5	12/07/2016 00:12
2,2-Dichloropropane	ND	1.2	2.5	12/07/2016 00:12

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Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1611D25-006B	Water	11/30/2016 15:35	GC18	130871
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		1.2	2.5	12/07/2016 00:12
cis-1,3-Dichloropropene	ND		1.2	2.5	12/07/2016 00:12
trans-1,3-Dichloropropene	ND		1.2	2.5	12/07/2016 00:12
Diisopropyl ether (DIPE)	ND		1.2	2.5	12/07/2016 00:12
Ethylbenzene	ND		1.2	2.5	12/07/2016 00:12
Ethyl tert-butyl ether (ETBE)	ND		1.2	2.5	12/07/2016 00:12
Freon 113	ND		1.2	2.5	12/07/2016 00:12
Hexachlorobutadiene	ND		1.2	2.5	12/07/2016 00:12
Hexachloroethane	ND		1.2	2.5	12/07/2016 00:12
2-Hexanone	ND		1.2	2.5	12/07/2016 00:12
Isopropylbenzene	2.3		1.2	2.5	12/07/2016 00:12
4-Isopropyl toluene	ND		1.2	2.5	12/07/2016 00:12
Methyl-t-butyl ether (MTBE)	73		1.2	2.5	12/07/2016 00:12
Methylene chloride	ND		1.2	2.5	12/07/2016 00:12
4-Methyl-2-pentanone (MIBK)	ND		1.2	2.5	12/07/2016 00:12
Naphthalene	ND		1.2	2.5	12/07/2016 00:12
n-Propyl benzene	2.5		1.2	2.5	12/07/2016 00:12
Styrene	ND		1.2	2.5	12/07/2016 00:12
1,1,1,2-Tetrachloroethane	ND		1.2	2.5	12/07/2016 00:12
1,1,2,2-Tetrachloroethane	ND		1.2	2.5	12/07/2016 00:12
Tetrachloroethene	ND		1.2	2.5	12/07/2016 00:12
Toluene	ND		1.2	2.5	12/07/2016 00:12
1,2,3-Trichlorobenzene	ND		1.2	2.5	12/07/2016 00:12
1,2,4-Trichlorobenzene	ND		1.2	2.5	12/07/2016 00:12
1,1,1-Trichloroethane	ND		1.2	2.5	12/07/2016 00:12
1,1,2-Trichloroethane	ND		1.2	2.5	12/07/2016 00:12
Trichloroethene	ND		1.2	2.5	12/07/2016 00:12
Trichlorofluoromethane	ND		1.2	2.5	12/07/2016 00:12
1,2,3-Trichloropropane	ND		1.2	2.5	12/07/2016 00:12
1,2,4-Trimethylbenzene	ND		1.2	2.5	12/07/2016 00:12
1,3,5-Trimethylbenzene	ND		1.2	2.5	12/07/2016 00:12
Vinyl Chloride	ND		1.2	2.5	12/07/2016 00:12
Xylenes, Total	ND		1.2	2.5	12/07/2016 00:12

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Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1611D25-006B	Water	11/30/2016 15:35	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	100		70-130	12/07/2016 00:12
Toluene-d8	102		70-130	12/07/2016 00:12
4-BFB	91		70-130	12/07/2016 00:12

Analyst(s): HK



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1611D25-007B	Water	11/30/2016 10:25	GC10	130871

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	2000	200	12/07/2016 12:40
tert-Amyl methyl ether (TAME)	ND	100	200	12/07/2016 12:40
Benzene	4400	100	200	12/07/2016 12:40
Bromobenzene	ND	100	200	12/07/2016 12:40
Bromochloromethane	ND	100	200	12/07/2016 12:40
Bromodichloromethane	ND	100	200	12/07/2016 12:40
Bromoform	ND	100	200	12/07/2016 12:40
Bromomethane	ND	100	200	12/07/2016 12:40
2-Butanone (MEK)	ND	400	200	12/07/2016 12:40
t-Butyl alcohol (TBA)	1000	400	200	12/07/2016 12:40
n-Butyl benzene	ND	100	200	12/07/2016 12:40
sec-Butyl benzene	ND	100	200	12/07/2016 12:40
tert-Butyl benzene	ND	100	200	12/07/2016 12:40
Carbon Disulfide	ND	100	200	12/07/2016 12:40
Carbon Tetrachloride	ND	100	200	12/07/2016 12:40
Chlorobenzene	ND	100	200	12/07/2016 12:40
Chloroethane	ND	100	200	12/07/2016 12:40
Chloroform	ND	100	200	12/07/2016 12:40
Chloromethane	ND	100	200	12/07/2016 12:40
2-Chlorotoluene	ND	100	200	12/07/2016 12:40
4-Chlorotoluene	ND	100	200	12/07/2016 12:40
Dibromochloromethane	ND	100	200	12/07/2016 12:40
1,2-Dibromo-3-chloropropane	ND	40	200	12/07/2016 12:40
1,2-Dibromoethane (EDB)	ND	100	200	12/07/2016 12:40
Dibromomethane	ND	100	200	12/07/2016 12:40
1,2-Dichlorobenzene	ND	100	200	12/07/2016 12:40
1,3-Dichlorobenzene	ND	100	200	12/07/2016 12:40
1,4-Dichlorobenzene	ND	100	200	12/07/2016 12:40
Dichlorodifluoromethane	ND	100	200	12/07/2016 12:40
1,1-Dichloroethane	ND	100	200	12/07/2016 12:40
1,2-Dichloroethane (1,2-DCA)	ND	100	200	12/07/2016 12:40
1,1-Dichloroethene	ND	100	200	12/07/2016 12:40
cis-1,2-Dichloroethene	ND	100	200	12/07/2016 12:40
trans-1,2-Dichloroethene	ND	100	200	12/07/2016 12:40
1,2-Dichloropropane	ND	100	200	12/07/2016 12:40
1,3-Dichloropropane	ND	100	200	12/07/2016 12:40
2,2-Dichloropropane	ND	100	200	12/07/2016 12:40

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1611D25-007B	Water	11/30/2016 10:25	GC10	130871
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		100	200	12/07/2016 12:40
cis-1,3-Dichloropropene	ND		100	200	12/07/2016 12:40
trans-1,3-Dichloropropene	ND		100	200	12/07/2016 12:40
Diisopropyl ether (DIPE)	ND		100	200	12/07/2016 12:40
Ethylbenzene	170		100	200	12/07/2016 12:40
Ethyl tert-butyl ether (ETBE)	ND		100	200	12/07/2016 12:40
Freon 113	ND		100	200	12/07/2016 12:40
Hexachlorobutadiene	ND		100	200	12/07/2016 12:40
Hexachloroethane	ND		100	200	12/07/2016 12:40
2-Hexanone	ND		100	200	12/07/2016 12:40
Isopropylbenzene	ND		100	200	12/07/2016 12:40
4-Isopropyl toluene	ND		100	200	12/07/2016 12:40
Methyl-t-butyl ether (MTBE)	ND		100	200	12/07/2016 12:40
Methylene chloride	ND		100	200	12/07/2016 12:40
4-Methyl-2-pentanone (MIBK)	ND		100	200	12/07/2016 12:40
Naphthalene	ND		100	200	12/07/2016 12:40
n-Propyl benzene	ND		100	200	12/07/2016 12:40
Styrene	ND		100	200	12/07/2016 12:40
1,1,1,2-Tetrachloroethane	ND		100	200	12/07/2016 12:40
1,1,2,2-Tetrachloroethane	ND		100	200	12/07/2016 12:40
Tetrachloroethene	ND		100	200	12/07/2016 12:40
Toluene	ND		100	200	12/07/2016 12:40
1,2,3-Trichlorobenzene	ND		100	200	12/07/2016 12:40
1,2,4-Trichlorobenzene	ND		100	200	12/07/2016 12:40
1,1,1-Trichloroethane	ND		100	200	12/07/2016 12:40
1,1,2-Trichloroethane	ND		100	200	12/07/2016 12:40
Trichloroethene	ND		100	200	12/07/2016 12:40
Trichlorofluoromethane	ND		100	200	12/07/2016 12:40
1,2,3-Trichloropropane	ND		100	200	12/07/2016 12:40
1,2,4-Trimethylbenzene	ND		100	200	12/07/2016 12:40
1,3,5-Trimethylbenzene	ND		100	200	12/07/2016 12:40
Vinyl Chloride	ND		100	200	12/07/2016 12:40
Xylenes, Total	ND		100	200	12/07/2016 12:40

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1611D25-007B	Water	11/30/2016 10:25	GC10	130871

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	105	70-130		12/07/2016 12:40
Toluene-d8	109	70-130		12/07/2016 12:40
4-BFB	86	70-130		12/07/2016 12:40

Analyst(s): HK



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

TPH(g)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1611D25-001B	Water	11/30/2016 09:44	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	12/06/2016 21:37

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	90	70-130	12/06/2016 21:37

Analyst(s): HK Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1611D25-002B	Water	11/30/2016 11:52	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	2400	500	10	12/06/2016 23:33

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	89	70-130	12/06/2016 23:33

Analyst(s): HK Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1611D25-003B	Water	11/30/2016 15:05	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	12/06/2016 22:15

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	90	70-130	12/06/2016 22:15

Analyst(s): HK Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1611D25-004B	Water	11/30/2016 15:40	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	2100	500	10	12/06/2016 17:39

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	90	70-130	12/06/2016 17:39

Analyst(s): HK

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 12/6/16-12/7/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

TPH(g)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1611D25-005B	Water	11/30/2016 15:30	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	99	50	1	12/06/2016 15:43

Surrogates	REC (%)	Limits
Dibromofluoromethane	91	70-130

Analyst(s): HK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1611D25-006B	Water	11/30/2016 15:35	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	390	120	2.5	12/07/2016 00:12

Surrogates	REC (%)	Limits
Dibromofluoromethane	90	70-130

Analyst(s): HK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1611D25-007B	Water	11/30/2016 10:25	GC18	130871

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	5500	500	10	12/06/2016 17:00

Surrogates	REC (%)	Limits
Dibromofluoromethane	89	70-130

Analyst(s): HK



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 11/30/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1611D25-001A	Water	11/30/2016 09:44	GC11A	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	12/01/2016 11:21
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 11:21

Surrogates	REC (%)	Limits	Date Analyzed
C9	97	70-130	12/01/2016 11:21

Analyst(s): TK **Analytical Comments:** b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1611D25-002A	Water	11/30/2016 11:52	GC11A	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	3900	50	1	12/01/2016 12:16
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 12:16

Surrogates	REC (%)	Limits	Date Analyzed
C9	118	70-130	12/01/2016 12:16

Analyst(s): TK **Analytical Comments:** e4,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1611D25-003A	Water	11/30/2016 15:05	GC11A	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	12/01/2016 12:55
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 12:55

Surrogates	REC (%)	Limits	Date Analyzed
C9	99	70-130	12/01/2016 12:55

Analyst(s): TK **Analytical Comments:** b1

(Cont.)



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 11/30/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1611D25-004A	Water	11/30/2016 15:40	GC11A	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	810	50	1	12/01/2016 13:34
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 13:34

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	12/01/2016 13:34

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1611D25-005A	Water	11/30/2016 15:30	GC11A	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	12/01/2016 14:13
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 14:13

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	12/01/2016 14:13

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1611D25-006A	Water	11/30/2016 15:35	GC11B	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	110	50	1	12/01/2016 12:16
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 12:16

Surrogates	REC (%)	Limits	Date Analyzed
C9	97	70-130	12/01/2016 12:16

Analyst(s): TK Analytical Comments: e4



Analytical Report

Client: AEI Consultants
Date Received: 11/30/16 20:00
Date Prepared: 11/30/16
Project: Kia/338841

WorkOrder: 1611D25
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1611D25-007A	Water	11/30/2016 10:25	GC11B	130558

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	870	50	1	12/01/2016 11:21
TPH-Motor Oil (C18-C36)	ND	250	1	12/01/2016 11:21

Surrogates	REC (%)	Limits	Date Analyzed
C9	103	70-130	12/01/2016 11:21

Analyst(s): TK **Analytical Comments:** e4



Quality Control Report

Client: AEI Consultants
Date Prepared: 12/6/16
Date Analyzed: 12/6/16
Instrument: GC18
Matrix: Water
Project: Kia/338841

WorkOrder: 1611D25
BatchID: 130871
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-130871

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.50	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

(Cont.)

NELAP 4033ORELAP

QA/QC Officer



Quality Control Report

Client: AEI Consultants
Date Prepared: 12/6/16
Date Analyzed: 12/6/16
Instrument: GC18
Matrix: Water
Project: Kia/338841

WorkOrder: 1611D25
BatchID: 130871
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-130871

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	25.2		25	101	70-130
Toluene-d8	25.7		25	103	70-130
4-BFB	2.08		2.5	83	70-130



Quality Control Report

Client: AEI Consultants
Date Prepared: 12/6/16
Date Analyzed: 12/6/16
Instrument: GC18
Matrix: Water
Project: Kia/338841

WorkOrder: 1611D25
BatchID: 130871
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-130871

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	9.76	10.1	10	98	101	54-140	3.79	20
Benzene	11.0	11.0	10	110	110	47-158	0	20
t-Butyl alcohol (TBA)	39.2	40.8	40	98	102	42-140	3.82	20
Chlorobenzene	10.1	10.1	10	101	101	43-157	0	20
1,2-Dibromoethane (EDB)	9.67	9.97	10	97	100	44-155	3.10	20
1,2-Dichloroethane (1,2-DCA)	10.2	10.4	10	102	104	66-125	2.24	20
1,1-Dichloroethene	10.5	10.4	10	105	104	47-149	0.855	20
Diisopropyl ether (DIPE)	10.8	10.9	10	108	109	57-136	1.37	20
Ethyl tert-butyl ether (ETBE)	10.4	10.8	10	104	108	55-137	3.18	20
Methyl-t-butyl ether (MTBE)	10.2	10.6	10	102	106	53-139	4.43	20
Toluene	10.5	10.6	10	105	106	52-137	1.47	20
Trichloroethene	10.6	10.6	10	106	106	43-157	0	20
Surrogate Recovery								
Dibromofluoromethane	25.5	25.8	25	102	103	70-130	1.05	20
Toluene-d8	25.2	25.7	25	101	103	70-130	2.11	20
4-BFB	2.26	2.14	2.5	90	86	70-130	5.34	20



Quality Control Report

Client: AEI Consultants
Date Prepared: 12/6/16
Date Analyzed: 12/6/16
Instrument: GC18
Matrix: Water
Project: Kia/338841

WorkOrder: 1611D25
BatchID: 130871
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-130871

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	22.4		25	90	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	574	584	644	89	91	70-130	1.70	20
Surrogate Recovery								
Dibromofluoromethane	22.7	23.0	25	91	92	70-130	0.964	20



Quality Control Report

Client: AEI Consultants
Date Prepared: 11/30/16
Date Analyzed: 12/1/16
Instrument: GC9a, GC9b
Matrix: Water
Project: Kia/338841

WorkOrder: 1611D25
BatchID: 130558
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS/LCSD-130558

QC Report for SW8015B w/ Silica Gel Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
Surrogate Recovery					
C9	540		625	86	65-122

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	992	988	1000	99	99	61-157	0	30
Surrogate Recovery								
C9	610	610	625	98	98	65-122	0	30



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1611D25

ClientCode: AEL

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Wayne Hung
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 478-9698 FAX: (925) 944-2895

Email: whung@aeiconsultants.com
cc/3rd Party:
PO: 122586
ProjectNo: Kia/338841

Bill to:

Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 5 days;

Date Received: 11/30/2016

Date Logged: 11/30/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1611D25-001	MW-1	Water	11/30/2016 09:44	<input type="checkbox"/>	B	B	A										
1611D25-002	MW-2	Water	11/30/2016 11:52	<input type="checkbox"/>	B	B	A										
1611D25-003	MW-3	Water	11/30/2016 15:05	<input type="checkbox"/>	B	B	A										
1611D25-004	MW-4	Water	11/30/2016 15:40	<input type="checkbox"/>	B	B	A										
1611D25-005	MW-5	Water	11/30/2016 15:30	<input type="checkbox"/>	B	B	A										
1611D25-006	MW-6	Water	11/30/2016 15:35	<input type="checkbox"/>	B	B	A										
1611D25-007	MW-7	Water	11/30/2016 10:25	<input type="checkbox"/>	B	B	A										

Test Legend:

1	8260B_W	2	8260GAS_W	3	TPH(DMO)WSG_W	4	
5		6		7		8	
9		10		11		12	

Prepared by: Alexandra Iniguez

The following SampIDs: 001B, 002B, 003B, 004B, 005B, 006B, 007B contain testgroup Gas8260_W.

Comments:

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



WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS

Project: Kia/338841

Work Order: 1611D25

Client Contact: Wayne Hung

QC Level: LEVEL 2

Contact's Email: whung@aeiconsultants.com

Comments:

Date Logged: 11/30/2016

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1611D25-001A	MW-1	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 9:44	5 days	5%+	<input type="checkbox"/>	
1611D25-001B	MW-1	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 9:44	5 days	5%+	<input type="checkbox"/>	
1611D25-002A	MW-2	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 11:52	5 days	5%+	<input type="checkbox"/>	
1611D25-002B	MW-2	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 11:52	5 days	5%+	<input type="checkbox"/>	
1611D25-003A	MW-3	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 15:05	5 days	5%+	<input type="checkbox"/>	
1611D25-003B	MW-3	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 15:05	5 days	5%+	<input type="checkbox"/>	
1611D25-004A	MW-4	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 15:40	5 days	Present	<input type="checkbox"/>	
1611D25-004B	MW-4	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 15:40	5 days	Present	<input type="checkbox"/>	
1611D25-005A	MW-5	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 15:30	5 days	Present	<input type="checkbox"/>	
1611D25-005B	MW-5	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 15:30	5 days	Present	<input type="checkbox"/>	
1611D25-006A	MW-6	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 15:35	5 days	Present	<input type="checkbox"/>	
1611D25-006B	MW-6	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 15:35	5 days	Present	<input type="checkbox"/>	
1611D25-007A	MW-7	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	2	aVOA	<input type="checkbox"/>	11/30/2016 10:25	5 days	Present	<input type="checkbox"/>	
1611D25-007B	MW-7	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	11/30/2016 10:25	5 days	Present	<input type="checkbox"/>	

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

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



McCAMPBELL ANALYTICAL, INC.
 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
 Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD									
Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD <input checked="" type="checkbox"/>		Quote #	
J-Flag / MDL		ESL		Cleanup Approved		Bottle Order #			
Delivery Format: GeoTracker EDF		<input checked="" type="checkbox"/> PDF		EDD		Write On (DW)		EQuIS	

Report To: Wayne Hung Bill To: AET
 Company: ART
 Email: WHung@aeticonsultants.com
 Alt Email: _____ Tele: 925-478-9698
 Project Name/ #: Kia / 338841
 Project Location: 3135 13th Ave, Oakland PO # 122586
 Sampler Signature: [Signature]

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	BTEX & TPH as Gas (8021/ 8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel	TPH as Diesel (8015) + Motor Oil With Silica Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs) w/ Final Organics + TPH	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)	Baylands Requirements	Lab to filter sample for dissolved metals analysis	
	Date	Time																			
MW-1	11/30/16	0944	4	water	2x HCl			X						X							
MW-2		1152																			
MW-3		1505																			
MW-4		1540																			
MW-5		1530																			
MW-6		1535																			
MW-7		1025																			

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name		Date	Time	Received By / Company Name		Date	Time	Comments / Instructions
<u>[Signature]</u>		<u>11/30/16</u>	<u>2000</u>	<u>[Signature]</u>		<u>11/30</u>	<u>2000</u>	

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None
 Temp 3.4 °C Initials _____



Sample Receipt Checklist

Client Name: **AEI Consultants**
 Project Name: **Kia/338841**

Date and Time Received: **11/30/2016 20:00**
 Date Logged: **11/30/2016**
 Received by: **Alexandra Iniguez**
 Logged by: **Alexandra Iniguez**

WorkOrder No: **1611D25** Matrix: Water
 Carrier: Client Drop-In

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No NA
 Sample/Temp Blank temperature Temp: 3.4°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No
 (Ice Type: WET ICE)

UCMR3 Samples:

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

Comments: