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By Alameda County Environmental Health at 4:10 pm, Apr 30, 2014

April 30, 2014

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

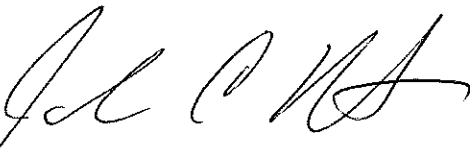
Subject: Perjury Statement and Report Transmittal
1620-1640 Park Street (Parcel B)
Alameda, California 94501
AEI Project No. 298931
ACEH RO#0000008

Dear Ms. Detterman:

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 call me or Mr. Peter McIntyre at AEI Consultants, (925) 746-6004.

Sincerely,



John Buestad
President

JB/pm

Attachment: AEI Consultants, *TCE Evaluation*

cc: Mr. Peter McIntyre, AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597



April 30, 2014

Alameda County Environmental Health Department
Attn: Ms. Karel Detterman
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: TCE Evaluation
1630 Park Street, Parcel B
Alameda, California
AEI Project No. 298931
ACEH Fuel Leak Case No. RO0000008

Dear Ms. Detterman:

This *TCE Evaluation* has been prepared by AEI Consultants (AEI) on behalf of Foley Street Investments (FSI), developer of the subject site as requested by the Alameda County Environmental Health Department (ACEHD) during a meeting on March 26, 2014. During the meeting, the ACEHD expressed a desire to close the site pending an evaluation of the anticipated extent of the dissolved halogenated volatile organic compound (HVOC) plume, specifically trichloroethene (TCE), and analysis of the vapor intrusion risk to residential properties. TCE and tetrachloroethene (PCE) are the HVOCs that have been measured at concentrations of potential concern for this evaluation.

In order to assess the vapor intrusion risk, this evaluation estimates the extent of migration of the TCE and PCE plume and compares this to screening criteria for residential land use down-gradient of the subject site (the Site).

Land Use

To determine the status of nearby properties as commercial or residential, AEI reviewed the zoning maps for the City of Alameda (found at <http://alamedaca.gov/community-development/planning/zoning>) and reviewed aerial maps as well as street view photos through Google Earth. A determination was then made as to whether each property was residential or commercial as shown on the attached Figure 1. Based on these findings, properties along Park Street were determined to consist of commercial properties while residential properties are found to the northwest and east of the commercial properties. The nearest residential property in the down-gradient direction appears to be approximately 260 feet from the property line to the northwest.

Regulatory Screening Criteria

Using conservative screening criteria from the December 2013 Water Board Environmental Screening Levels (ESLs), the concentration of TCE in groundwater below sites with residential occupancy should be less than 5.2 micrograms per liter (ug/l) for areas with predominantly sandy soils, and 130 ug/l for sites on fine-coarse mix soil. The corresponding concentration of PCE should be less than 2.3 ug/l for sandy soil areas and 63 ug/l for fine-coarse mix soil areas. Given the predominance of sandy soil at the site, AEI has chosen the more conservative "sandy soil" ESL for TCE and PCE, 5.2 ug/l and 2.3 ug/l, respectively.

The commercial ESLs for TCE (52 µg/L) and PCE (23 µg/L) in groundwater, using the conservative all sand assumption, are above existing concentrations measured in the off-Site wells, MW-4 and MW-5 (TCE up to 19 ug/l and PCE up to 12 ug/l), so evaluation of migration beneath down-gradient commercial facilities was not considered necessary.

Dissolved TCE and PCE Plume

Historical groundwater monitoring has indicated that PCE and TCE are the HVOCs of concern present in the groundwater beneath the Site. The highest concentrations of these two are TCE found in well MW-3 at up to 64 µg/L. The TCE decreases to below the ESL of 5.2 µg/L to the southwest (DPE-4), southeast (DPE-1 and DPE-6), and east (DPE-8) each of which are found in either the cross-gradient or up-gradient direction (Figure 2). PCE has not been detected onsite, with the exception of DPE-2 and DPE-6 in which PCE was detected at concentrations of 11 µg/L or below. Therefore, the concentrations of PCE down-gradient of wells MW-4 and MW-5 is expected to attenuate to below the ESLs well before reaching the nearest residence, approximately 215 feet from MW-4.

In the down-gradient direction, TCE concentrations decrease from 64 µg/L (MW-3) to 19 µg/L in MW-4 and 15 µg/L in MW-5. Using a linear attenuation, this represents a 1 µg/L per foot reduction in TCE towards MW-4 and a 0.63 µg/L per foot reduction in TCE towards MW-5. As shown on Figure 1, based on these concentration decreases, AEI estimated the extent of the TCE plume, in excess of 5 µg/L, to be approximately 60 feet from MW-3 in the northwest direction towards MW-4 (approximately 17 feet beyond MW-4) and 96 feet in the northern direction towards MW-5 (approximately 18 feet beyond MW-5). Based on these estimates, the extent of the TCE plume is approximately 200 feet from the nearest down-gradient residence.

To further evaluate the estimated TCE attenuation, AEI calculated the linear attenuation rate between several wells at the site. As shown on Table 1, the attenuation rates ranged from 0.31 µg/L per foot (DPE-9 to MW-5) to 2.5 µg/L per foot (MW-3 to DPE-10). The average attenuation factor was calculated at 1.08 µg/L. Using the most conservative calculated attenuation rate of 0.31 µg/L, the TCE plume would still be expected to attenuate to below the ESL of 5.2 µg/L within approximately 28 feet of MW-4 and 32 feet of MW-5. Both of these distances indicate that the TCE plume would be reduced to below the residential ESL within Park Street and 187 feet before reaching the nearest residence (nearest residence is 215 feet down-gradient of MW-4; therefore, 215 feet – 28 feet equals 187 feet).

Although the linear attenuation evaluations indicate that the TCE plume does not reach the nearest residence, AEI also performed a sensitivity analysis to determine a factor of safety with these assumptions. Based on the fact that the nearest down-gradient residence is approximately 215 feet from MW-4, it was calculated that an attenuation factor of less than $0.064 \mu\text{g/L}$ would have to be present for the plume to not decrease to below the ESL of $5.2 \mu\text{g/L}$ before reaching the residence [(TCE concentration in MW-4) – (ESL of $5.2 \mu\text{g/L}$) / distance from MW-2 to residence]. Therefore, using the most conservative attenuation factor calculated ($0.31 \mu\text{g/L} / \text{foot}$) it can be assumed that a safety factor of 4.8 can be applied to the calculated attenuation factor before TCE concentrations would be calculated to be present above the ESL beneath the nearest residence ($0.31 \mu\text{g/L per foot} / 0.064 \mu\text{g/L per foot}$).

During the March 26, 2014 meeting, the question of whether the spacing between MW-4 and MW-5 was close enough to rule out the plume moving between the wells. Based on the concentration decrease found in DPE-10, $29 \mu\text{g/L}$ located 15 feet north/northeast of the MW-3, it is apparent that TCE concentrations are decreasing away from MW-3 and as a result, concern over the plume moving between MW-4 and MW-5 does not appear warranted.

Soil Vapor Concentrations

The concern regarding the dissolved TCE plume near residential properties is primarily due to the potential for vapor intrusion. It should be noted that extensive soil vapor sampling has been performed at the site. The results from the activities have not identified any TCE in the soil vapor present above the residential environmental screening level (ESL) of 300 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in sampling locations above groundwater with higher concentrations than those present down gradient. The highest concentration of TCE found in the soil vapor was $160 \mu\text{g}/\text{m}^3$, and this area was removed during excavation source removal activities. Soil vapor from SV-12, located approximately 5 feet from MW-3 and directly above the dissolved TCE plume of $64 \mu\text{g/l}$, did not report TCE above the laboratory detection limit of $11 \mu\text{g}/\text{m}^3$.

Closing

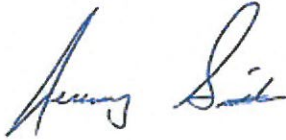
In summary, no further investigation regarding the dissolved TCE plume appears warranted due to the fact that:

- The dissolved TCE plume is estimated to decrease below the maximum contaminant level (MCL) of $5 \mu\text{g/L}$, and vapor screening criteria of $5.2 \mu\text{g/L}$ well short of the 200-foot distance to the nearest down-gradient residence.
- A safety factor of 4.8 can be applied to the estimated TCE attenuation rate before concentrations above the ESL of $5.2 \mu\text{g/L}$ would be calculated beneath the nearest down-gradient residence.
- Concentrations of TCE in soil vapor measured within the area of highest HVOC detections in groundwater (SV-12) is a minimum of one order of magnitude below the residential ESL screening criteria, which provides for an additional level of assurance that vapor intrusion is not occurring in areas overlying much lower concentrations.

Therefore, AEI on behalf of FSI, requests that the ACEH consider the question of potential offsite vapor intrusion resolved and proceed with case closure evaluation. If you have any

questions regarding this letter, please do not hesitate to contact the undersigned at (925) 746-6000.

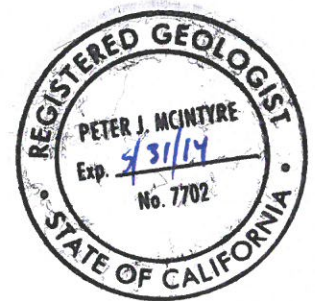
Sincerely,
AEI Consultants



Jeremy Smith
Senior Project Manager



Peter McIntyre, PG
Executive Vice President
Principal Geologist

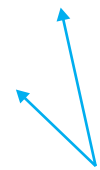


Attachments

- Figure 1: Estimated TCE in Groundwater
- Figure 2: Site Plan
- Table 1: Groundwater Monitoring Analytical Data (VOCs) – Monitoring Wells
- Table 2: TCE Attenuation Analysis








Distribution

John Buestad, Foley Street Investments (electronic copy)
Karel Detterman, Alameda County Environmental Health Department (FTP Upload)
GeoTracker (Upload)



Historical Groundwater Flow Direction

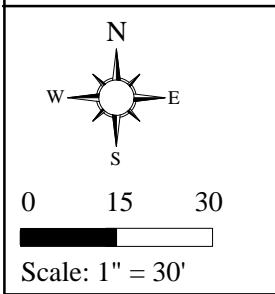
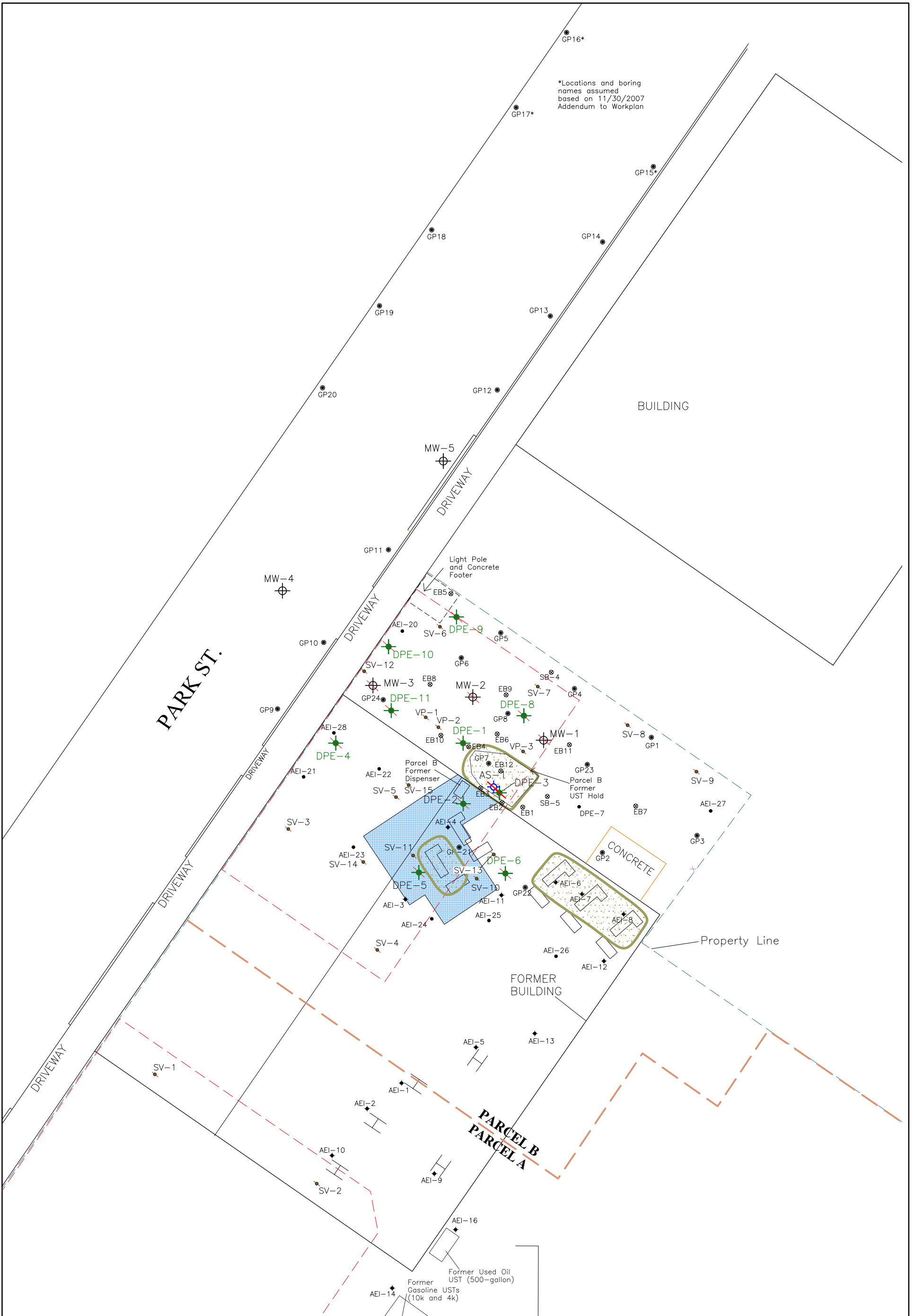
LEGEND

- Subject Property 
- 2013 Excavation Extents 
- Existing Groundwater Monitoring Well 
- Former Groundwater Monitoring Well 
- Commercial Property 
- Residential Property 
- TCE Isoconcentration (ug/L) 



0' 110'
APPROX. SCALE: 1 in = ~110 ft

ESTIMATED TCE GROUNDWATER	
1630 PARK STREET ALAMEDA, CALIFORNIA	
FIGURE 1	AEI Consultants
JOB NO: 298931	



LEGEND		DRAFTED BY JAS 3-2-12 REVISED BY JAS 12-2-13	
	Destroyed Remediation Well		Proposed Building Extents
	AEI Soil Boring (1/12)		Former Building Extents
	Destroyed Vapor Probe		Hydraulic Lift
	AEI Soil Boring (7/11)		Former Hydraulic Lift w/ Excavation
	Soil Boring (2008)		Property Line
	Soil Boring (Pre-1997)		Parcel Split
	Existing/Destroyed Groundwater Monitoring Well		2013 Excavation

AEI CONSULTANTS 2500 CAMINO DIABLO, WALNUT CREEK	
SITE PLAN - PARCEL B	
1620-1640 PARK STREET ALAMEDA, CALIFORNIA	FIGURE 2 PROJECT NO. 298931

Table 1
Groundwater Monitoring Analytical Data (VOCs) - Monitoring Wells
 AEI Project No. 298931, 1630 Park Street (Parcel B), Alameda, CA

Sample I.D.	Date	Notes	TAME	t-Butyl alcohol (TBA)	EDB	1,2-DCA	DIPE	Ethanol	ETBE	2-Butanone	n-Butyl benzene	sec-Butyl benzene	Isopropylbenzene	cis-1,2-Dichloroethene	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	Naphthalene	n-Propyl benzene	Methanol	PCE	TCE	Chloroform	Other VOCs	
			by EPA Methods 8020, 8021B, or 8260B (µg/L)																					
MW-1	1/16/2001	a	<5.0	<25	<5.0	<5.0	<5.0	-	<5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/27/2002	a	<5.0	<50	<5.0	<5.0	<5.0	-	<5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/18/2002	a	-	-	<2.5	<2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2/20/2003	d	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/11/2003	a	-	-	<2.5	<2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/3/2008	a	<1.0	<4.0	<1.0	<1.0	<1.0	<100	<1.0	-	-	-	-	-	-	-	-	-	-	<1,000	-	-	-	-
	6/23/2011	a	<2.5	<10	-	-	<2.5	-	<2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/6/2011	a	<5.0	<20	-	-	<5.0	-	<5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/24/2013		<1.0	<4.0	<1.0	<1.0	<1.0	-	<1.0	<4.0	<1.0	1.3	3.6	<1.0	6.4	29	19	3.3	-	<1.0	<1.0	<1.0	<RL	
	MW-2	1/16/2001	a	<30	<150	<30	<30	<30	-	<30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/27/2002		a	<5.0	<5.0	<5.0	6.1	<5.0	-	<5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/18/2002		a	-	-	<12	<12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/20/2003		a	-	-	<5.0	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/11/2003		a	-	-	<25	<25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/3/2008		a	<2.5	<10	<2.5	<2.5	<2.5	<250	<2.5	-	-	-	-	-	-	-	-	-	-	<2,500	-	-	-	-
6/23/2011		a	<50	<200	-	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/6/2011		a	<50	<200	-	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/24/2013			<0.5	13	<0.5	<0.5	<0.5	-	<0.5	<2.0	1.7	2.4	1.1	<0.5	1.9	4.6	24	0.75	-	<0.5	5.5	<0.5	<RL ^h	
MW-3		1/16/2001	a	<1.0	<5.0	<1.0	1.4	<1.0	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/27/2002		<0.5	<5.0	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/18/2002	a	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2/20/2003		-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/11/2003		-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/3/2008	a	<5.0	<20	<5.0	<5.0	<5.0	<500	<5.0	-	-	-	-	-	-	-	-	-	-	<5,000	-	-	-	
	6/23/2011	a	<12	<50	-	-	<12	-	<12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/6/2011	a	<17	<67	-	-	<17	-	<17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8/2/2013	g	<2.5	22	<2.5	<2.5	<2.5	-	<2.5	<10	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	-	<2.5	63	<2.5	<RL
	10/24/2013		<1.2	5.9	<1.2	<1.2	<1.2	-	<1.2	<5.0	<1.2	<1.2	<1.2	1.3	<1.2	1.4	24	<1.2	-	<1.2	64	<1.2	<RL	

Table 1
Groundwater Monitoring Analytical Data (VOCs) - Monitoring Wells
 AEI Project No. 298931, 1630 Park Street (Parcel B), Alameda, CA

Sample I.D.	Date	Notes	TAME	t-Butyl alcohol (TBA)	EDB	1,2-DCA	DIPE	Ethanol	ETBE	2-Butanone	n-Butyl benzene	sec-Butyl benzene	Isopropylbenzene	cis-1,2-Dichloroethene	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	Naphthalene	n-Propyl benzene	Methanol	PCE	TCE	Chloroform	Other VOCs		
			by EPA Methods 8020, 8021B, or 8260B (µg/L)																						
MW-4	4/3/2008		<0.5	<2.0	<0.5	<0.5	<0.5	<50	<0.5	-	-	-	-	-	-	-	-	-	<500	-	-	-	-		
	6/23/2011	a	<0.5	<2.0	-	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	8/8/2013	g	<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	5.4	13	<0.5	<RL		
	10/24/2013		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	13	18	9.8	<RL	
	1/21/2014		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	12	19	7.1	<RL	
MW-5	1/16/2001		<1.0	<5.0	<1.0	<1.0	<1.0	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	6/27/2002		<0.5	<5.0	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11/18/2002	a	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	2/20/2003		-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	6/11/2003	a	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	4/3/2008	a	<10	<40	<10	<10	<10	<1,000	<10	-	-	-	-	-	-	-	-	-	<10,000	-	-	-	-		
	6/23/2011	a	<0.5	<2.0	-	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	8/8/2013	g	<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	8.3	16	7.4	<RL	
	10/24/2013		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	0.59	<0.5	8.0	1.3	<0.5	-	6.7	16	<0.5	<RL	
	1/21/2014		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	0.80	<0.5	5.6	1.3	<0.5	-	6.4	15	<0.5	<RL	
DPE-1	12/6/2011	a	<50	<200	-	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	8/8/2013	g	<5.0	<20	<5.0	<5.0	<5.0	-	<5.0	<20	<5.0	<5.0	12	<5.0	<5.0	140	22	20	-	<5.0	<5.0	<5.0	<RL		
	10/24/2013		<0.5	9.5	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	1.9	3.5	<0.5	<0.5	14	<0.5	4.2	-	<0.5	<0.5	<0.5	<RL ⁱ		
DPE-2	12/6/2011	a	<100	<400	-	-	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	8/8/2013	g	<5.0	41	<5.0	<5.0	<5.0	<5.0	-	<20	<5.0	<5.0	8.9	<5.0	<5.0	87	8.7	6.6	-	11	<5.0	<5.0	<RL		
DPE-3	12/6/2011	a	<17	<67	-	-	<17	-	<17	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
			Well Decommissioned Prior to Excavation - 2012																						
DPE-4	8/2/2013	g	<0.5	13	<0.5	2.6	<0.5	-	<0.5	2.7	0.59	3.7	0.55	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	2.3	<0.5	<RL		
	10/24/2013		<0.5	16	<0.5	4.1	<0.5	-	<0.5	<2.0	<0.5	2.1	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	1.7	<0.5	<RL ^j		
DPE-5	5/1/2013		Well not sampled due to the presence of free product (Thickness of 0.17')																						
	8/2/2013		Well not sampled due to the presence of free product (Thickness of 0.09')																						
			Well Decommissioned Prior to Excavation - October 2013																						

Table 1
Groundwater Monitoring Analytical Data (VOCs) - Monitoring Wells
 AEI Project No. 298931, 1630 Park Street (Parcel B), Alameda, CA

Sample I.D.	Date	Notes	TAME	t-Butyl alcohol (TBA)	EDB	1,2-DCA	DIPE	Ethanol	ETBE	2-Butanone	n-Butyl benzene	sec-Butyl benzene	Isopropylbenzene	cis-1,2-Dichloroethene	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	Naphthalene	n-Propyl benzene	Methanol	PCE	TCE	Chloroform	Other VOCs
			by EPA Methods 8020, 8021B, or 8260B (µg/L)																				
DPE-6	8/2/2013	g	<0.5	2.3	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	1.5	1.6	<0.5	<RL
	10/24/2013		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	0.73	<0.5	<0.5	<0.5	<0.5	-	1.3	2.5	<0.5	<RL ^k
DPE-8	10/24/2013		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	0.9	<0.5	<0.5	3.4	<0.5	<0.5	<0.5	-	<0.5	0.67	<0.5	<RL
DPE-9	8/2/2013	g	<0.5	2.6	<0.5	<0.5	<0.5	-	<0.5	<2.0	0.62	1.2	<0.5	4.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	21	<0.5	<RL
	10/24/2013		<0.5	<2.0	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	7.0	<0.5	<0.5	<0.5	<0.5	-	<0.5	31	<0.5	<RL
DPE-10	8/2/2013	g	<0.5	4.6	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	0.86	<0.5	1.5	1.0	<0.5	<0.5	<0.5	-	<0.5	26	<0.5	<RL
	10/24/2013		<0.5	2.3	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	<0.5	<0.5	2.5	0.63	<0.5	<0.5	<0.5	-	<0.5	29	<0.5	<RL
DPE-11	10/24/2013		<0.5	10	<0.5	<0.5	<0.5	-	<0.5	<2.0	<0.5	5.1	3.6	0.73	<0.5	1.5	<0.5	1.9	-	<0.5	5.6	<0.5	<RL ^l
ESL			NE	12	0.05	0.5	NE	NE	NE	NE	NE	NE	NE	6.0	NE	NE	6.1	NE	NE	5.0	5.0	80	--

VOCs= Volatile Organic Compounds
 PCE= Tetrachloroethene
 TCE= Trichloroethene
 TAME = Tertiary amyl methyl ether
 TBA = Tertiary butyl alcohol
 EDB = 1,2-Dibromoethane
 1,2-DCA = 1,2-Dichloroethane
 DIPE = Diisopropyl ether
 ETBE = Ethyl tertiary butyl ether

µg/L = micrograms per liter (ppb)
 <RL = Below the analytical laboratory reporting limit
 "-" = Not analyzed or data not available
12 = Values in bold exceed the ESL
 NE = No ESL value established

a = Laboratory note indicates the unmodified or weakly modified gasoline is significant.
 d = Laboratory note indicates that lighter gasoline range compounds (the most mobile fraction) are significant.
 g = Surrogate recovery exceeds the control limits due to dilution / matrix interference / coelution / presence of surrogate compound in the sample
 h = 4-Isopropyl toluene detected at 0.89 ug/L and 1,3,5-Trimethylbenzene detected at 1.7 ug/L.
 i = 4-Isopropyl toluene detected at 1.4 ug/L.
 j = 4-Isopropyl toluene detected at 0.60 ug/L.
 k = 1,1-Dichloroethane detected at 0.77 ug/L.
 l = 4-Isopropyl toluene detected at 1.5 ug/L.

ESL = Environmental Screening Levels, Table F-1a, Groundwater, Potential Drinking Water, San Francisco Regional Water Quality Control Board, Revised December 2013

Table 2**TCE Attenuation Analysis**

AEI Project No. 298931, 1630 Park Street (Parcel B), Alameda, CA

Sample Points (TCE in µg/L)	Distance Between Points (feet)	Calculated Linear Attenuation Rate (µg/L) per Foot
MW-3 to MW-4 (64 µg/L and 19 µg/L)	43	1.04
MW-3 to MW-5 (64 µg/L and 15 µg/L)	78	0.63
MW-3 to DPE-9 (64 µg/L and 31 µg/L)	36	0.92
MW-3 to DPE-10 (64 µg/L and 29 µg/L)	14	2.5
DPE-9 to MW-5 (31 µg/L and 15 µg/L)	51	0.31
Average Attenuation Factor	--	1.08
Most Conservative Attenuation Factor	--	0.31
<u>Sensitivity Analysis</u>		
MW-4 to Nearest Residence (19 µg/L and 5.2 µg/L)	215	0.064

TCE= Trichloroethene

(µg/L) = micrograms per liter

Theoretical 5.2 µg/L TCE concentration at residence assumed from ESL for "sandy soil"

ESL = Environmental Screening Levels, San Francisco Regional Water Quality Control Board, Residential Land Use; Table E-1; Revised December 2013