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May 30, 2008

GROUNDWATER MONITORING REPORT
2nd Quarter, 2008

3635 13th Avenue
Oakland, California

AEI Project No. 270852

Prepared For

Mr. John Williamson
3906 Laguna Avenue
Oakland, CA 94602

Prepared By

AEI Consultants
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AEI

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May 30, 2008

Mr. John Williamson
3906 Laguna Avenue
Oakland, CA 94602

Subject: **Groundwater Monitoring Report**
2nd Quarter, 2008
3635 13th Avenue
Oakland, California
AEI Project No. 270852
ACHCSA Case No. RO0000159

Dear Mr. Williamson:

AEI Consultants (AEI) has prepared this report on your behalf to document the ongoing groundwater investigation at the above referenced property (Figure 1: Site Location Map). The investigation is being performed at the requirement of the Alameda County Health Care Services Agency (ACHCSA). The purpose of the groundwater monitoring and sampling activities is to further evaluate groundwater impact caused by the release of petroleum hydrocarbons that occurred from the former underground storage tank (UST) and fuel dispensing system on the property. This report documents the monitoring and sampling event performed during the 2nd Quarter 2008, which occurred on April 4, 2008.

I Background

The subject property (hereinafter referred to as the "site" or "property") is located in a residential area of the City of Oakland, on the west corner of 13th Avenue and Excelsior Street. The site is approximately 4,000 square feet in size and is currently vacant and unimproved. The site is surrounded by fencing. The site was previously developed with a gasoline service station.

In December 1992, three underground storage tanks (USTs), one 250-gallon waste oil UST, one 500-gallon gasoline UST, and one 1,000-gallon gasoline UST were removed by Aqua Science Engineers, Inc. of San Ramon. Refer to Figure 2 for the former locations of the USTs. Soil samples collected beneath the former waste oil UST revealed concentrations of 8,200 mg/kg Total Oil and Grease (TOG), 290 mg/kg Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-g), and 225 mg/kg total lead. Soil samples collected from beneath the 1,000-gallon gasoline UST indicated maximum concentrations of 27 mg/kg TPH-g and 5.5 mg/kg benzene. Only minor concentrations of TPH as

gasoline and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were found in samples collected beneath the 500-gallon gasoline UST.

In September 1993, AEI removed and disposed of approximately 360 cubic yards of contaminated soil from near the former waste oil UST. Sidewall samples collected from this excavation indicated that only minor contaminant concentrations remained in the soil. Following this project, the former 250-gallon waste oil UST was concluded to not pose a significant threat to the groundwater.

Three monitoring wells (MW-1 through MW-3) were installed in March 1994. Soil samples analyzed during the well installations contained only minor concentration of petroleum hydrocarbons. The wells were monitored on a quarterly basis from November 1994 to August 1995, when the ACHCSA approved a change in monitoring frequency to a biannual schedule. Historical water elevations and groundwater sample analytical data is presented in Table 1.

On November 16, 1995, AEI advanced a soil boring at each end of the former dispenser island to depths of 4.5 feet below ground surface (bgs) on the west end, and 10 feet bgs on the east. Soil samples were collected beneath the former dispensers at the request of the ACHCSA. Analysis of soil samples collected from the two borings indicated that concentrations of TPH-g and BTEX were below laboratory detection limits.

At the request of the ACHCSA, AEI prepared a workplan outlining a scope of work to further define the extent of impacted soil and groundwater beneath the site. This investigation was performed between August 1997 and January 1998. Nine soil borings (SB1 through SB9) were advanced on the property and down-gradient of the former gasoline USTs. The investigation revealed significant concentrations of contaminants in soil and groundwater and that the release had spread off-site in a southerly direction.

An additional workplan was prepared, outlining the installation of two additional groundwater monitoring wells. However, due to the City of Oakland's requirement for liability insurance provided by the property owner for the wells, off-site monitoring wells could not be installed. A letter addendum to the workplan was prepared and approved to investigate the offsite extent of the release with temporary soil borings. Soil and groundwater samples were collected from six additional soil borings (SB-10 to SB-15) between August and October 2003, the results of which were presented in the *Soil and Groundwater Investigation Report*, dated October 30, 2003. Locations of the former USTs, soil borings, and wells are shown on Figure 2.

At the request of the ACHCSA, AEI prepared a *Remedial Investigation and Interim Correct Action Plan,* dated July 19, 2004, outlining a scope of work for additional site investigation and interim corrective action. An additional seven soil borings and two to three monitoring wells were proposed in the workplan to further investigate source area contamination. The workplan was approved by the ACHCSA in a letter dated, July 10, 2006, with the suggestion of the placement of one additional boring. AEI submitted the

document *Workplan Revisions*, dated September 6, 2006, which addressed technical comments in the ACHCSA's July 10, 2006 letter. The workplan revisions were approved by the ACHCSA in letters dated October 2 and October 6, 2006.

On April 20 and April 23, 2007, AEI advanced eight (8) additional soil borings at the property to depths ranging from 25 feet bgs to 35 feet bgs. The soil boring locations were approved by ACHCSA and chosen to further assess the current magnitude and extent of the petroleum impact. On September 7, 2007, AEI advanced three soil borings (MW-4, MW-5, and MW-6) at the property, and converted the borings into groundwater monitoring wells. The results of the investigation suggested significant hydrocarbon mass remains in the south southwest of the former UST hold and that the hydrocarbon plume may continue to spread south. Refer to the February 12, 2008 report titled *Site Investigation Report and Pilot Test Workplan* for detailed results of the investigation as well as proposed ozone pilot testing for the site.

II Summary of Activities

AEI measured depth to groundwater in the six monitoring wells (MW-1 to MW-6) on April 4, 2008. The depth from the top of the well casings was measured with an electric water level indicator prior to sampling. The wells were purged with a submersible pump. Temperature, pH, specific conductivity, and oxidation-reduction potential (ORP) were measured during the purging of the wells. Turbidity was visually noted. The wells were purged of at least 3 well volumes and allowed to recharge prior to sample collection. Once water levels recharged to at least 90% of their original levels, a water sample was collected from each well.

Water samples were collected with new, disposable bailers into 40-ml volatile organic analysis (VOA) vials and 1-liter amber bottles and capped so that no headspace or air bubbles were visible within the sample containers. Samples were delivered on ice under chain of custody protocol to McCampbell Analytical, Inc. of Pittsburgh, California (Department of Health Services Certification #1644).

Six (6) groundwater samples were submitted for chemical analysis for the following:

- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-g) by EPA method 8015Cm
- Benzene, toluene, ethyl benzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA method 8021
- t-butyl alcohol (TBA), 1,2-Dichloroethane (1,2-DCA), DiIsopropyl ether (DIPE), and MTBE by EPA method 8260B.

III Field Results

No sheen or free product was encountered during monitoring activities. Groundwater elevation for the current monitoring episode ranged from 184.12 to 186.74 feet above

Mean Sea Level (MSL). The groundwater elevation was 4.37 feet lower on average than the previous monitoring event. Based on these water level measurements, groundwater was calculated with a gradient of 0.06 ft/ft with a general flow in a south/southeasterly direction. This groundwater flow direction and gradient are generally consistent with previous groundwater sampling episodes.

Well construction details are summarized in Table 1. Groundwater elevation data is summarized in Table 2 and on Figure 3. The groundwater elevation contours and the groundwater flow direction are shown in Figure 3. Refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms.

IV Groundwater Quality

With the exception of well MW-3, TPH-g was detected in all wells ranging in concentration from 130 micrograms per liter (μg/L) (MW-1) up to 43,000 μg/L (MW-5). Maximum concentrations of benzene, toluene, ethylbenzene, and xylenes were detected in MW-5 at 12,000 μg/L, 2,800 μg/L, 670 μg/L, and 2,500 μg/L, respectively. Using method 8260, MTBE was detected in five wells ranging in concentration from 9.1 μg/L (MW-1) up to 200 μg/L (MW-6). TBA was detected in MW-2 and MW-5 at concentrations of 100 μg/L and 1,200 μg/L, respectively. 1,2-DCA was detected in MW-5 and MW-6 at 84 μg/L and 2.7 μg/L, respectively. DIPE was not detected above laboratory detection levels in any of the groundwater samples.

The summary of groundwater quality data is presented in Tables 2 and 3 and Figure 4. Laboratory results and chain of custody documents are included in Appendix B.

V Summary

Concentrations of TPH-g and BTEX were generally consistent with those of the last sampling event with the exceptions of MW-2 which exhibited a significant decrease and MW-5 which exhibited a significant increase. Concentrations of TBA decreased in MW-4 and MW-6 to below laboratory detection levels and increased in MW-2 and MW-5. Concentrations of 1,2-DCA increased in MW-5 and MW-6. Concentrations of MTBE increased in MW-1, MW-2, and MW-6 and decreased in MW-4 and MW-5.

A *Site Investigation Report and Pilot Test Workplan,* dated February 12, 2008, was submitted to the ACHCSA for the site and is currently under review. In the meantime and as required by ACHCSA, quarterly monitoring has been scheduled to continue with the next event tentatively scheduled to take place in mid July of 2008.

VI References

1. *Underground Storage Tank Removal Final Report*, January 20, 1993 – Aqua Science Engineers, Inc.
2. *Contaminated Soil Over-excavation Final Report*, November 18, 1999 – All Environmental, Inc.
3. *Soil Boring and Monitoring Well Installation Report*, December 14, 1994 – All Environmental, Inc.
4. *Phase II Limited Subsurface Investigation*, December 11, 1995 – All Environmental, Inc.
5. *Phase II Subsurface Investigation Workplan*, June 5, 1997 – All Environmental, Inc.
6. *Phase II Subsurface Investigation Report*, January 20, 1999 – All Environmental, Inc.
7. *Workplan*, December 3, 1999 – AEI Consultants
8. Letter to Amir Gholami of the ACHCSA, September 9, 2002 – AEI Consultants
9. *Soil and Groundwater Investigation Report*, October 30, 2003 – AEI Consultants
10. *Remedial Investigation and Corrective Action Plan*, July 19, 2004 – AEI Consultants
11. *Site Investigation Report and Pilot Test Workplan*, February 12, 2008 – AEI Consultants

VII Report Limitation

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact any of the undersigned at (925)944-2899.

Sincerely,
AEI Consultants

Calvin Hee
Staff Engineer

Adrian M. Angel
Project Geologist

Peter McIntyre, PG, REA
Senior Project Manager

REGISTERED GEOLOGIST
PETER J MCINTYRE
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Figures

Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: Water Table Contours (4/4/08)
Figure 4: Groundwater Sample Analytical Data (4/4/08)

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Table 2: Groundwater Monitoring Data
Table 3: Fuel Additive Analyses
Table 4: Groundwater Elevation and Gradient

Attachments

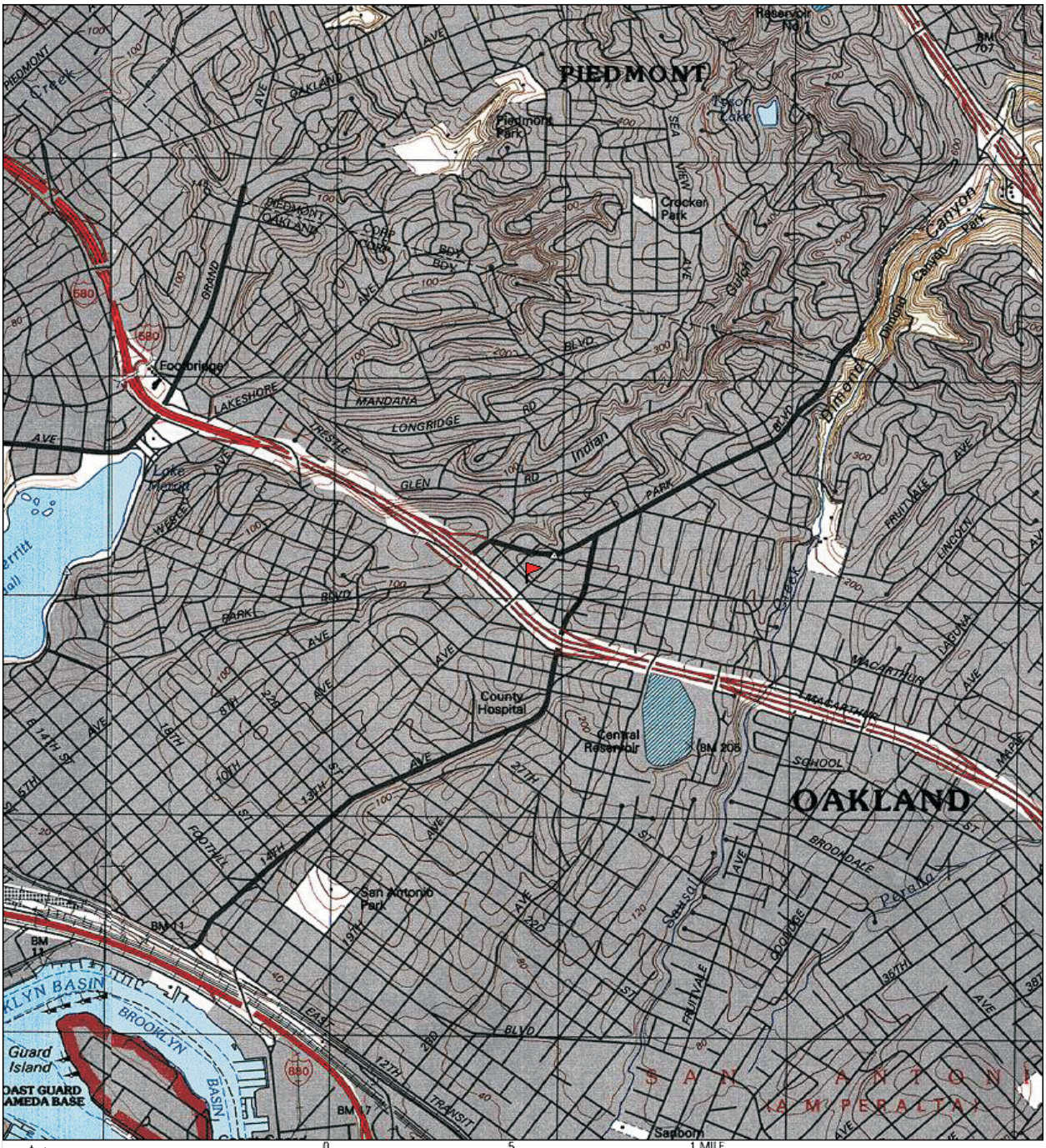
Appendix A: Groundwater Monitoring Well Field Sampling Forms
Appendix B: Laboratory Analyses with Chain of Custody Documentation

Distribution: Mr. John Williamson
3906 Laguna Avenue, Oakland, CA 94602

Mr. Steven Plunkett, ACHCSA (Electronic upload via FTP server)
1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

GeoTracker (Electronic upload)

FIGURES



N

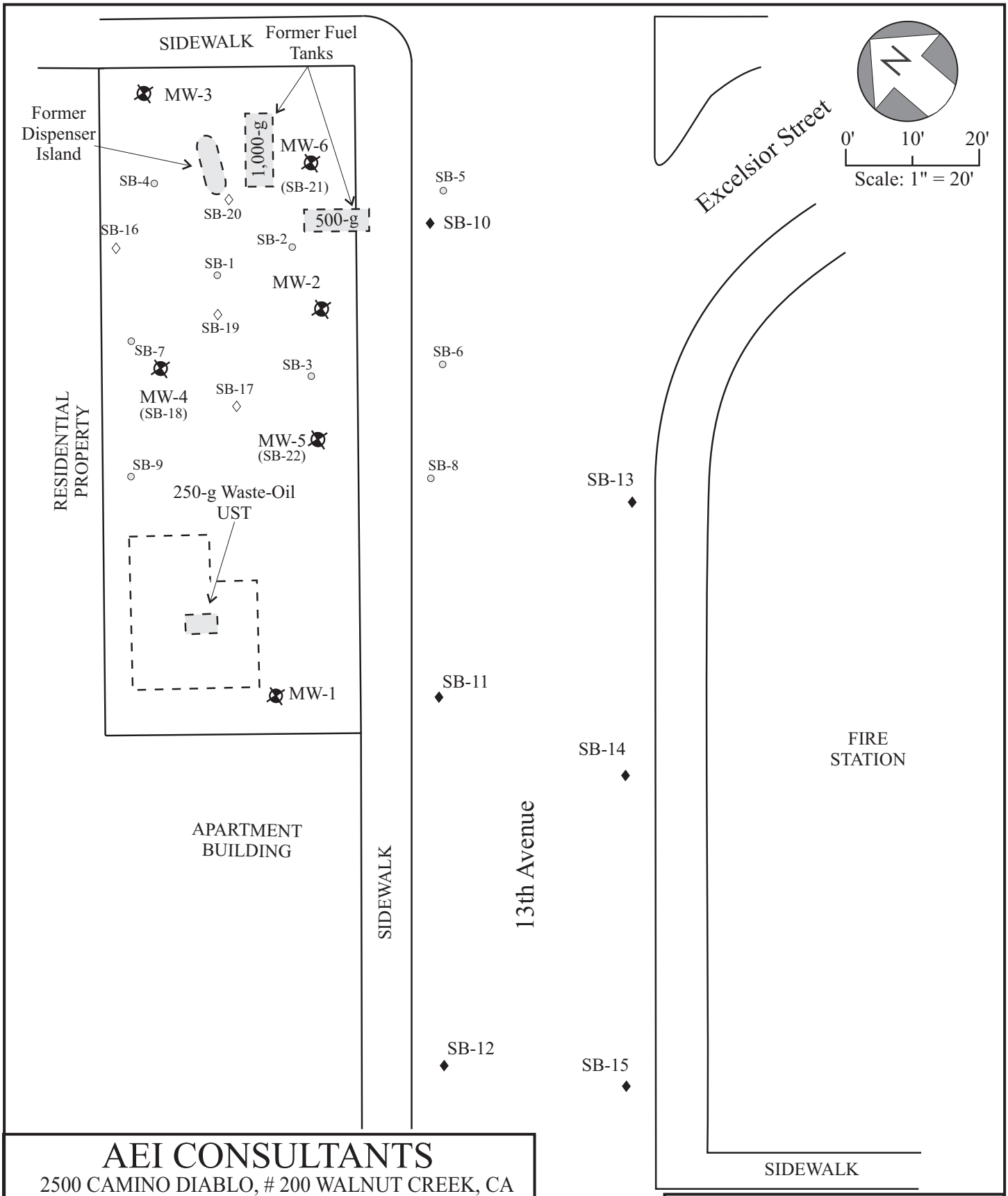
USGS TOPOGRAPHIC MAP
OAKLAND EAST, CA. QUADRANGLE
Created 1997

SITE LOCATION MAP

3635 13th Avenue
Oakland, California 94610

FIGURE 1
Job No: 270852

AEI



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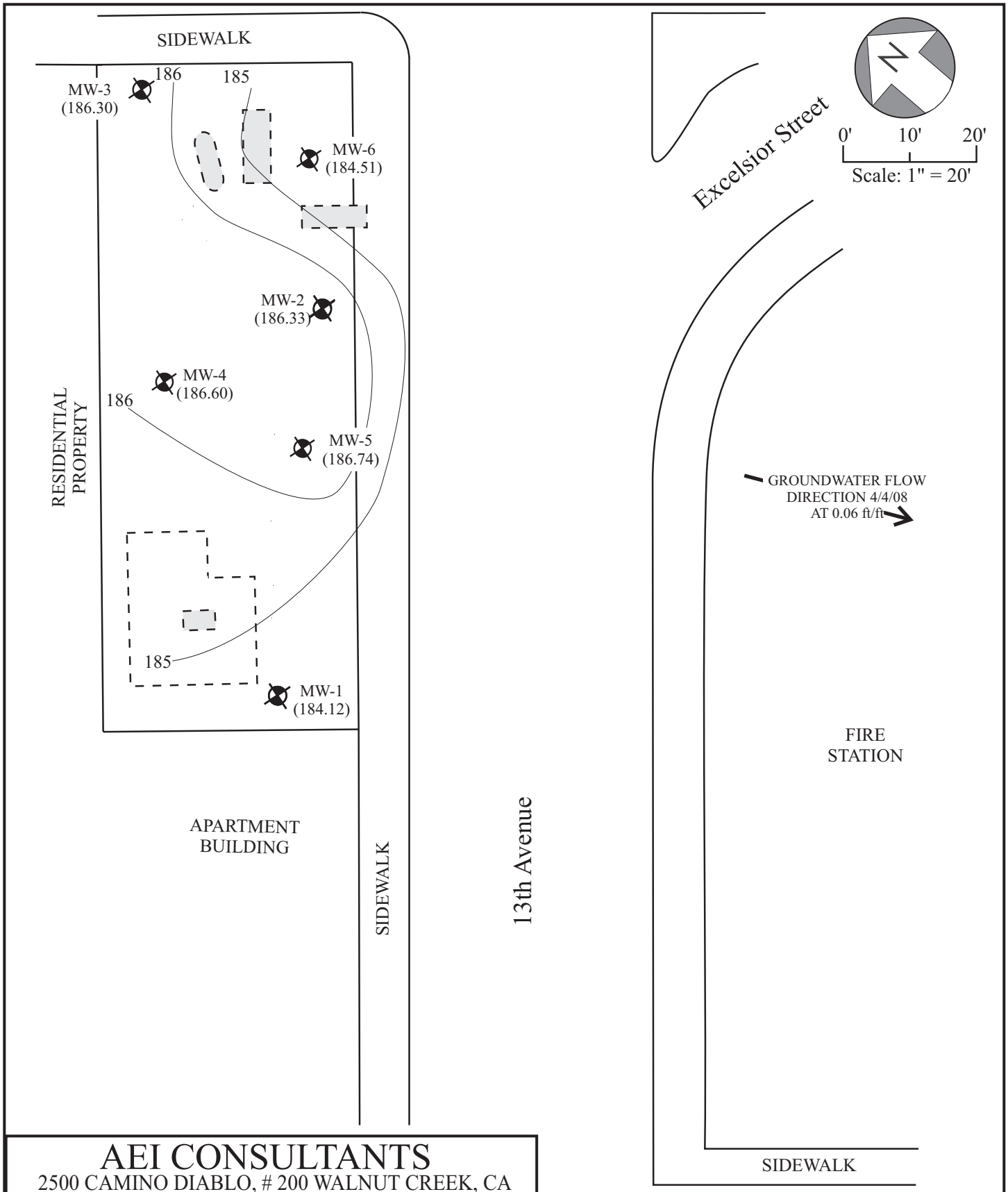
2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

SITE PLAN

3635 13th Avenue Oakland, California	FIGURE 2 AEI Project # 270852

LEGEND (REV. 3/08)

- Monitoring Well
- Soil Boring 11/97 & 1/98
- Soil Boring 8/21 & 10/9-10 2003
- Soil Boring 4/07



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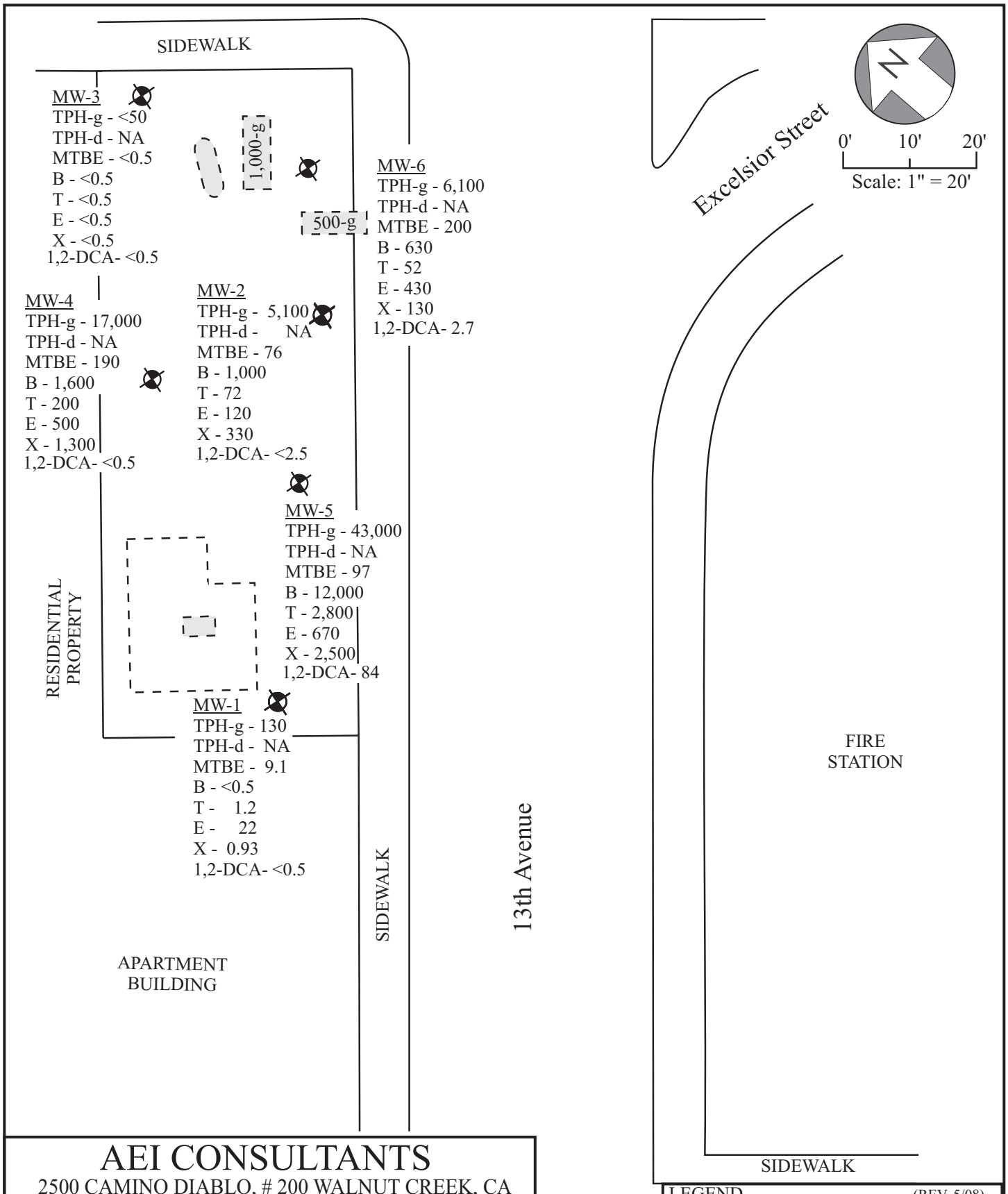
2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

WATER TABLE CONTOURS (4/4/08)

3635 13th Avenue Oakland, California	FIGURE 3 AEI Project # 270852

LEGEND (REV. 5/08)

- Monitoring Well, with water table elevation in ft above msl (4/4/08)
- Water table contours in ft above msl
  Interval = 0.1 ft



AEI CONSULTANTS

2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

GROUNDWATER SAMPLE ANALYTICAL DATA (4/4/08)

3635 13th Avenue
Oakland, California

FIGURE 4
AEI Project # 270852

LEGEND (REV. 5/08)

TPH-g= Total Petroleum Hydrocarbon as gasoline
TPH-d = TPH as diesel
MTBE - Methyl tert-butyl ether
B- Benzene
T - Toluene
E - Ethylbenzene
X- Xylenes
Monitoring well
All data in micrograms/Liter (µg/L)

TABLES

Table 1
3635 13th Avenue, Oakland, CA
Monitoring Well Construction Details

Well ID	Date Drilled	Top of Casing Elevation (ft amsl)	Well Depth (ft)	Slotted Casing (ft)	Slot Size (in)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	03/24/94	197.28	25	12 - 25	0.020	11 - 25	# 2/12	10 - 11	0.5 - 10
MW-2	03/24/94	198.93	36	16 - 36	0.020	15 - 36	# 2/12	14 - 15	0.5 - 14
MW-3	03/24/94	201.46	36.5	15.5 - 36	0.020	14 - 36.5	# 2/12	13.5 - 14.5	0.5 - 13.5
MW-4	09/07/07	200.23	22	17 - 22	0.010	16 - 22	# 2/12	15 - 16	0.5 - 15
MW-5	09/07/07	198.52	22	17 - 22	0.010	16 - 22	# 2/12	15 - 16	0.5 - 15
MW-6	09/07/07	200.20	22	17 - 22	0.010	16 - 22	# 2/12	15 - 16	0.5 - 15

Notes:
ft amsl = feet above mean sea level

Table 2
Groundwater Monitoring Data

Well ID	Date	Well Elevation	Depth to Water	Water Table Elevation	TPH-g (ug/L) EPA 8015M	TPH-d (ug/L) EPA 8015M	TOG (ug/L) EPA 5520	MTBE (ug/L) EPA 8020 / 8021	Benzene (ug/L) EPA 8020 / 8021	Toluene (ug/L) EPA 8020 / 8021	E-benzene (ug/L) EPA 8020 / 8021	Xylenes (ug/L) EPA 8020 / 8021
MW - 1	11/22/94	194.75	10.92	183.83	210	<50	<0.5	-	<0.5	<0.5	<0.5	2.3
	02/23/95	194.75	10.58	184.17	140	<50	1.2	-	<0.5	<0.5	0.6	1.5
	05/24/95	194.75	10.94	183.81	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5
	08/18/95	194.75	14.52	180.23	2800	<50	<0.5	-	25	6.2	22	30
	02/07/96	194.75	4.43	190.32	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5
	09/06/96	194.75	13.60	181.15	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	06/19/97	194.75	13.07	181.68	630	400	<5.0	15	25	9.7	100	14
	01/24/02	194.75	9.53	185.22	60	<50	-	<5.0	3.3	2.8	2.0	6.0
	07/15/03	194.75	12.85	181.90	87	<50	-	<5.0	15	4.9	3.3	9.2
	10/10/03	194.75	14.58	180.17	81	110	-	<5.0	<0.5	0.62	0.57	0.5
	04/06/04	194.75	10.92	183.83	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/09/04	194.75	14.34	180.41	130	80	-	<35	<0.5	<0.5	2.8	0.78
	10/08/04	194.75	15.30	179.45	260	120	-	24	3.0	2.9	8.3	10
	04/02/07	194.75	12.19	182.56	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/02/07	194.75	13.28	181.47	150	79	-	<25	<0.5	1.0	<0.5	<0.5
	10/03/07	194.75	17.05	177.70	<50	<50		5.8	<0.5	<0.5	<0.5	<0.5
	01/09/08	197.28	6.74	190.54	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/08	**197.28**	**13.16**	**184.12**	**130**	**-**	**-**	**<10**	**<0.5**	**1.2**	**22**	**0.93**
MW - 2	11/22/94	196.44	12.54	183.90	11,000	<50	<0.5	-	35	21	7	50
	02/23/95	196.44	12.35	184.09	4,000	<50	2	-	<0.5	<0.5	3	6
	05/24/95	196.44	12.11	184.33	8,600	<50	<0.5	-	95	37	37	70
	08/18/95	196.44	16.25	180.19	7,200	<50	<0.5	-	43	21	21	71
	02/07/96	196.44	9.34	187.10	11,000	<50	1	-	17	9	9	25
	09/06/96	196.44	15.22	181.22	15,000	1,900	<5.0	ND	4,300	920	460	1,600
	06/19/97	196.44	13.33	183.11	26,000	2,900	<5.0	<200	5,300	1,500	910	3,200
	01/24/02	196.44	9.72	186.72	34,000	5,300	-	<200	3,100	1,100	1,100	2,900
	07/15/03	196.44	12.42	184.02	18,000	6,600	-	<1000	2,300	310	690	1,600
	10/10/03	196.44	13.79	182.65	19,000	1,800	-	<500	2,700	460	850	1,800
	04/06/04	196.44	10.55	185.89	6,900	1,300	-	<200	1,100	100	380	780
	07/09/04	196.44	13.78	182.66	17,000	4,400	-	<450	2,800	240	710	1,300
	10/08/04	196.44	14.78	181.66	6,900	890	-	<150	1,500	240	340	670
	04/02/07	196.44	11.32	185.12	21,000	4,300	-	<450	2,000	300	1,000	1,700
	07/02/07	196.44	13.18	183.26	5,100	750	-	<180	260	21	320	370
	10/03/07	196.44	16.71	179.73	8,600	1,500	-	<300	1,700	140	520	790
	01/09/08	198.93	8.48	190.45	38,000	48,000	-	<400	3,000	380	1,200	1,900
	04/04/08	**198.93**	**12.60**	**186.33**	**5,100**	**-**	**-**	**<130**	**1,000**	**72**	**120**	**330**
MW -3	11/22/94	198.93	11.53	187.40	200	<50	3	-	<0.5	<0.5	<0.5	2
	02/23/95	198.93	11.89	187.04	1500	<50	0.9	-	6.6	6.4	4.2	13
	05/24/95	198.93	12.71	186.22	710	<50	<0.5	-	2.5	3.2	3.1	16
	08/18/95	198.93	16.14	182.79	310	<50	<0.5	-	3.1	2.1	2.2	11
	02/07/96	198.93	6.22	192.71	400	<50	2.2	-	1.4	2.5	2.2	7
	09/06/96	198.93	13.51	185.42	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	06/19/97	198.93	12.46	186.47	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	01/24/02	198.93	10.08	188.85	58	<50	-	<5.0	4	2.7	2.3	6.7
	07/15/03	198.93	12.45	186.48	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/10/03	198.93	14.00	184.93	350	75	-	<5.0	14	16	23	60
	04/06/04	198.93	10.78	188.15	<50	<50	-	<5.0	<0.5	1.7	<0.5	1.7
	07/09/04	198.93	14.14	184.79	260	<50	-	<5.0	12	13	14	36
	10/08/04	198.93	14.99	183.94	450	76	-	<5.0	21	22	30	86
	04/02/07	198.93	11.87	187.06	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	07/02/07	198.93	14.45	184.48	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/03/07	198.93	17.10	181.83	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	01/09/08	201.46	9.42	192.04	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/08	**201.46**	**15.16**	**186.30**	**<50**	**-**	**-**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-4	10/03/07	200.23	17.21	183.02	11,000	2,000	-	<1,500	1,100	87	<17	1,300
	01/09/08	200.23	9.20	191.03	17,000	2,600	-	<900	1,300	120	580	790
	04/04/08	**200.23**	**13.63**	**186.60**	**17,000**	**-**	**-**	**<1,500**	**1,600**	**200**	**500**	**1,300**
MW-5	10/03/07	198.52	17.44	181.08	8,800	680	-	<250	2,800	74	100	190
	01/09/08	198.52	10.01	188.51	7,400	580	-	<350	2,000	5.6	93	29
	04/04/08	**198.52**	**11.78**	**186.74**	**43,000**	**-**	**-**	**<500**	**12,000**	**2,800**	**670**	**2,500**
MW-6	10/03/07	200.20	18.46	181.74	11,000	1,400	-	<1,200	1,400	64	74	320
	01/09/08	200.20	11.93	188.27	8,400	1,300	-	<400	790	17	210	51
	04/04/08	**200.20**	**15.69**	**184.51**	**6,100**	**-**	**-**	**<500**	**630**	**52**	**430**	**130**

Well Elevation in feet above mean sea level (msl)
Depth to water in feet below the tops of the well casings
TPH-g - Total petroleum hydrocarbons (TPH) as gasoline
ND = non detect (detection limit not known)
*Monitoring Well elevation for MW-1 through MW-3 was resurveyed on 11/7/08

TOG - Total oil and grease
MTBE - Methyl tertiary butyl ether
E-benzene: Ethyl-benzene
TPH-d - TPH as diesel

mg/L - milligrams per liter
ug/L - micrograms per liter
- = sample not analyzed by this method

Table 3
Fuel Additive Analyses

Well ID	Date	TAME (ug/L)	TBA (ug/L)	EDB (ug/L)	1,2-DCA (ug/L)	DIPE (ug/L)	Ethanol (ug/L)	ETBE (ug/L)	Methanol (ug/L)	MTBE (ug/L)
		EPA method 8260								
MW - 1	04/06/04	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	07/09/04	-	-	-	-	-	-	-	-	-
	10/08/04	-	-	-	-	-	-	-	-	-
	04/02/07	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	07/02/07	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	23
	10/03/07	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	7.4
	01/09/08	-	<2.0	-	<0.5	<0.5	-	-	-	<0.5
	04/04/08	**-**	**<2.0**	**-**	**<0.5**	**<0.5**	**-**	**-**	**-**	**9.1**
MW - 2	04/06/04	<5.0	110	<5.0	<5.0	<5.0	<500	<5.0	<5000	87
	07/09/04	-	98	-	-	-	-	-	-	120
	10/08/04	-	230	-	-	-	-	-	-	84
	04/02/07	<5.0	100	<5.0	<5.0	<5.0	<500	<5.0	<5000	81
	07/02/07	<5.0	150	<5.0	<5.0	<5.0	<500	<5.0	<5000	88
	10/03/07	<5.0	<50	<5.0	<5.0	<5.0	<500	<5.0	<5000	77
	01/09/08	-	64	-	<5.0	<5.0	-	-	-	63
	04/04/08	**-**	**100**	**-**	**<2.5**	**<2.5**	**-**	**-**	**-**	**76**
MW-3	04/06/04	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	07/09/04	-	-	-	-	-	-	-	-	-
	10/08/04	-	-	-	-	-	-	-	-	-
	04/02/07	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	07/02/07	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	10/03/07	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	01/09/08	-	<2.0	-	<0.5	<0.5	-	-	-	<0.5
	04/04/08	**-**	**<2.0**	**-**	**<0.5**	**<0.5**	**-**	**-**	**-**	**<0.5**
MW-4	10/03/07	<2.5	<25	<2.5	6.4	<2.5	<250	<2.5	<2500	230
	01/09/08	-	79	-	<0.5	<0.5	-	-	-	220
	04/04/08	**-**	**<20**	**-**	**<5.0**	**<5.0**	**-**	**-**	**-**	**190**
MW-5	10/03/07	<5.0	1,300	<5.0	66	5.9	<500	<5.0	<5000	150
	01/09/08	-	1,000	-	54	5.6	-	-	-	140
	04/04/08	**-**	**1,200**	**-**	**84**	**<25**	**-**	**-**	**-**	**97**
MW-6	10/03/07	<5.0	<50	<5.0	6.6	<5.0	<500	<5.0	<5000	210
	01/09/08	-	87	-	<0.5	<0.5	-	-	-	160
	04/04/08	**-**	**<10**	**-**	**2.7**	**<2.5**	**-**	**-**	**-**	**200**

TAME: tert amyle methyl ether
TBA: t-butyl alcohol
EDB: 1,2-Dibromoethane
1,2-DCA: 1,2-Dichloroethane
DIPE: DiIsopropyl ether
ETBE: Ethyl tert-butyl ether
MTBE: Methyl tert-butyl ether
ug/L: Micrograms per liter
- = sample not analyzed by this method

Table 4
Groundwater Elevation and Gradient

Event	Sample Date	Average Water Table elevation (ft amsl)	Water Table Elevation Change (ft)	Hydraulic Gradient Flow Direction (ft/ft)
1	11/22/94	185.04	-	-
2	02/23/95	185.10	0.06	-
3	05/24/95	184.79	-0.31	-
4	08/18/95	181.07	-3.72	-
5	02/07/96	190.04	8.97	0.32 (Southeast)
6	09/06/96	182.60	-7.45	0.18 (Southeast)
7	06/19/97	183.75	1.16	0.08 (South/Southeast)
8	01/24/02	186.93	3.18	0.05 (South)
9	07/15/03	184.13	-2.80	0.06 (south)
10	10/10/03	182.58	-1.55	0.05 (South)
11	04/06/04	185.96	3.37	0.05 (South)
12	07/09/04	182.62	-3.34	0.05 (South)
13	10/08/04	181.68	-0.94	0.05 (South)
14	04/02/07	184.91	3.23	0.05 (South/Southeast)
15	07/02/07	183.07	-1.84	0.03 (South/Southeast)
16*	10/03/07	180.85	-	0.06 (Southeast)
17	01/09/08	190.14	9.29	0.03 (South/Southeast)
18	**04/04/08**	**185.77**	**-4.37**	**0.06 (South/Southeast)**

ft amsl = feet above mean sea level
All water level depths are measured from top of casing
"*" = Monitoring wells MW-4, MW-5, MW-6 installed April, 2007
"-" = no information available

APPENDIX A

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Williamson	Date of Sampling:	4/4/2008
Job Number:	270852	Name of Sampler:	A Nieto
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)	197.28		
Depth of Well	23.50		
Depth to Water (from top of casing)	13.16		
Water Elevation (feet above msl)	184.12		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.9**		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Light brown, fast clearing		
Free Product Present?	No	Thickness (ft):	-

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	18.43	6.63	1,972	2.27	134.4	Clear
	2	17.96	6.60	1,878	2.06	116.2	Clear
	3	18.01	6.60	1,881	1.94	107.1	Clear
	4	18.08	6.60	1,892	1.89	100.4	Clear
	5	18.17	6.60	1,867	1.85	94.6	Clear

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

Light brown but fast clearing,presence of silt and no hydrocarbon odor present

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Williamson	Date of Sampling:	4/4/2008
Job Number:	270852	Name of Sampler:	A Nieto
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)	198.93		
Depth of Well	36.00		
Depth to Water (from top of casing)	12.60		
Water Elevation (feet above msl)	186.33		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**11.2**		
Actual Volume Purged (gallons)	12.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	19.86	6.70	1,420	1.75	-99.6	Clear
	2	19.74	6.70	1,413	1.64	-106.9	Clear
	3	19.59	6.70	1,405	1.63	-109.4	Clear
	4	19.45	6.69	1,401	1.62	-111.1	Clear
	6	19.70	6.65	1,478	1.52	-118.1	Clear
	8	19.85	6.61	1,504	1.51	-112.2	Clear
	10	19.91	6.72	1,407	1.50	-94.3	Clear
	12	20.03	6.71	1,481	1.46	-93.7	Clear

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

Water clear with strong hydrocarbon odor present

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Williamson	Date of Sampling:	4/4/2008
Job Number:	270852	Name of Sampler:	A Nieto
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)	201.46		
Depth of Well	35.50		
Depth to Water (from top of casing)	15.16		
Water Elevation (feet above msl)	186.30		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**9.7**		
Actual Volume Purged (gallons)	10.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	19.36	7.03	868	5.88	126.1	Clear
	2	19.40	7.04	866	5.74	118.1	Clear
	3	18.28	7.04	863	5.58	108.9	Clear
	4	19.12	7.06	863	5.29	100.3	Clear
	5	19.15	7.06	847	4.75	93.4	Clear
	6	19.28	7.06	856	4.65	78.1	Clear
	8	19.43	7.07	866	4.91	79.9	Clear
	10	19.5	7.09	870	5.66	79.7	Clear

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

Clear with no petroleum hydrocarbon odors

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Williamson	Date of Sampling:	4/4/2008
Job Number:	270852	Name of Sampler:	A Nieto
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	22.00		
Depth to Water (from top of casing)	13.63		
Water Elevation (feet above msl)	186.60		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.0**		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:32	1	18.28	6.67	1,510	2.93	-83.7	Clear
11:33	2	18.35	6.70	1,555	2.45	-73.1	Clear
11:34	3	18.67	6.69	1,556	2.40	-78.8	Clear
11:35	4	18.74	6.70	1,571	2.33	-78.5	Clear
11:36	5	18.75	6.71	1,574	2.30	-78.0	Clear

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

Clear with petroleum hydrocarbon odors

Presence of pressure when pulling well plug out

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Williamson	Date of Sampling:	4/4/2008
Job Number:	270852	Name of Sampler:	A Nieto
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)	11.78		
Water Elevation (feet above msl)	186.74		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.9**		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Clears quickly		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
10:48	1	18.70	6.39	1,962	2.34	3.4	Clear
10:49	2	18.84	6.36	2,026	2.20	3.7	Clear
10:50	3	19.13	6.36	1,981	2.18	-6.9	Clear
10:51	4	19.21	6.37	1,988	2.23	-19.3	Clear
10:52	5	19.22	6.38	1,990	2.40	-20.9	Clear

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

Almost clear with hydrocarbon odors

Fast clearing

Presence of pressure when pulling well plug out

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Williamson	Date of Sampling:	4/4/2008
Job Number:	270852	Name of Sampler:	A Nieto
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	22.00		
Depth to Water (from top of casing)	15.69		
Water Elevation (feet above msl)	184.51		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**3.0**		
Actual Volume Purged (gallons)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
10:58	1	19.32	6.66	1,368	1.90	-31.0	Clear
10:59	2	19.54	6.58	1,469	1.66	-26.9	Clear
11:00	3	19.36	6.83	1,436	3.35	-27.6	Clear
11:01	4	19.67	6.68	1,425	2.67	-19.8	Clear

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

Clear with strong petroleum hydrocarbon odors

Well dry at 2 gallons (11:00 am). Recharged at 11:26 am

APPENDIX B

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: Williamson; 13th Avenue, Oakland C.A.	Date Sampled: 04/04/08
		Date Received: 04/04/08
	Client Contact: Adrian Angel	Date Reported: 04/10/08
	Client P.O.:	Date Completed: 04/10/08

WorkOrder: 0804145

April 10, 2008

Dear Adrian:

Enclosed within are:

1) The results of the **6** analyzed samples from your project: **Williamson; 13th Avenue, Oakland**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

Revised C.O.C per client (Fax) 0804145

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel Bill To: Same
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132 Fax: (925) 944-2895
Project #: Project Name: Williamsen
Project Location: 13th Avenue, Oakland Cal
Sampler Signature: [signature]

SAMPLE ID (Field Point Name)	LOCATION	Sampling Date	Sampling Time	# Containers	Type Containers	Matrix: Water	Soil	Air	Sludge	Other	Method Preserved: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel + Motor oil (NO AA)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: TBA, 1-2DCA, DIPE, MTBE (8260)				Comments
MW-1		4/4/08		3	VOA	X					X	X			X	X														X				
MW-2						X					X	X			X	X														X				
MW-3						X					X	X			X	X														X				
MW-4						X					X	X			X	X														X				
MW-5						X					X	X			X	X														X				
MW-6						X					X	X			X	X														X				

Relinquished By:	Date:	Time:	Received By:
[signature]	4/4/08	4:00	[signature]
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 6.1
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB NA

	VOAS	O&G	METALS	OTHER
PRESERVATION				

APPROPRIATE CONTAINERS ✓
PERSERVED IN LAB ✓

AEI CONSULTANTS
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597
PHONE: (925) 283-6000
(800) 801-3224
FAX: (925) 944-2895

Date: 4/8/08

Hard Copy Sent? Y ☐ N ☑

To: M^c Campbell

Phone:

Fax: 925/252-9269

From: Adrian Angel

Pages: 2 , including this cover page

Subject: WO# 0804145 Remove TPH-multi range!
Job Name: Williamson

For samples MW-1 thru MW-6,
please analyze them for TPH-gas / BTEX (8021/8015)
and MTBE, DIPE, 1-2 DCA, and TBA (8260)

Thanks!

AA

0804145

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAY

EDF Required? ☑ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel Bill To: Same
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132 Fax: (925) 944-2895
Project #: Project Name: Williamsen
Project Location: 873 th Avenue, Oakland Calif
Sampler Signature:

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH mutirange + Motor oil	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1		8/4/08		4	VOA	X					X	X			X	X															
MW-2						X					X	X			X	X															
MW-3						X					X	X			X	X															
MW-4						X					X	X			X	X															
MW-5						X					X	X			X	X															
MW-6						X					X	X			X	X															

Relinquished By:	Date:	Time:	Received By:
	8/4/08	9:00	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 6.1
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB NA

PRESERVATION APPROPRIATE CONTAINERS ✓	VOAS	O&G	METALS	OTHER
PERSERVED IN LAB ✓				

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0804145 **ClientCode: AEL**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Email: aangel@aeiconsultants.com
TEL: (925) 944-2899 FAX: (925) 283-6121
PO:
ProjectNo: Williamson; 13th Avenue, Oakland C.A.

Bill to:
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received: **04/04/2008**
Date Printed: **04/08/2008**

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
0804145-001	MW-1	Water	4/4/2008	☐	A	B										
0804145-002	MW-2	Water	4/4/2008	☐	A	B										
0804145-003	MW-3	Water	4/4/2008	☐	A	B										
0804145-004	MW-4	Water	4/4/2008	☐	A	B										
0804145-005	MW-5	Water	4/4/2008	☐	A	B										
0804145-006	MW-6	Water	4/4/2008	☐	A	B										

Test Legend:

1	5-OXYS_W	2	G-MBTEX_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

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.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **AEI Consultants**
Date and Time Received: **04/04/08 8:34:27 PM**

Project Name: **William San; 13th Avenue, Oakland C.A.**
Checklist completed and reviewed by: Samantha Arbuckle

WorkOrder N°: **0804145** 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 ☐	
Container/Temp Blank temperature	Cooler Temp: 6.1°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑

Client contacted: Date contacted: Contacted by:

Comments:

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: Williamson; 13th Avenue, Oakland C.A.	Date Sampled: 04/04/08
		Date Received: 04/04/08
	Client Contact: Adrian Angel	Date Extracted: 04/09/08-04/10/08
	Client P.O.:	Date Analyzed 04/09/08-04/10/08

Oxygenated Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0804145

Lab ID	0804145-001A	0804145-002A	0804145-003A	0804145-004A	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	1	5	1	10	S	W
Compound	**Concentration**				ug/kg	µg/L
t-Butyl alcohol (TBA)	ND	100	ND	ND<20	NA	2.0
1,2-Dichloroethane (1,2-DCA)	ND	ND<2.5	ND	ND<5.0	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<2.5	ND	ND<5.0	NA	0.5
Methyl-t-butyl ether (MTBE)	9.1	76	ND	190	NA	0.5
Surrogate Recoveries (%)						
%SS1:	107	108	104	108		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: Williamson; 13th Avenue, Oakland C.A.	Date Sampled: 04/04/08
		Date Received: 04/04/08
	Client Contact: Adrian Angel	Date Extracted: 04/09/08-04/10/08
	Client P.O.:	Date Analyzed 04/09/08-04/10/08

Oxygenated Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0804145

Lab ID	0804145-005A	0804145-006A			Reporting Limit for DF =1	
Client ID	MW-5	MW-6				
Matrix	W	W				
DF	50	5			S	W
Compound	**Concentration**				ug/kg	µg/L
t-Butyl alcohol (TBA)	1200	ND<10			NA	2.0
1,2-Dichloroethane (1,2-DCA)	84	2.7			NA	0.5
Diisopropyl ether (DIPE)	ND<25	ND<2.5			NA	0.5
Methyl-t-butyl ether (MTBE)	97	200			NA	0.5
Surrogate Recoveries (%)						
%SS1:	104	108				
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: Williamson; 13th Avenue, Oakland C.A.	Date Sampled: 04/04/08
		Date Received: 04/04/08
	Client Contact: Adrian Angel	Date Extracted: 04/07/08-04/08/08
	Client P.O.:	Date Analyzed 04/07/08-04/08/08

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0804145

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001B	MW-1	W	130,m	ND<10	ND	1.2	22	0.93	1	103
002B	MW-2	W	5100,a	ND<130	1000	72	120	330	10	101
003B	MW-3	W	ND	ND	ND	ND	ND	ND	1	103
004B	MW-4	W	17,000,a	ND<1500	1600	200	500	1300	50	107
005B	MW-5	W	43,000,a	ND<500	12,000	2800	670	2500	100	101
006B	MW-6	W	6100,a	ND<500	630	52	430	130	10	112

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0804145

EPA Method SW8021B/8015Cm **Extraction SW5030B** **BatchID: 34834** **Spiked Sample ID: 0804145-003B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	94.3	92	2.52	92.1	94.3	2.35	70 - 130	20	70 - 130	20
MTBE	ND	10	103	98.5	4.31	86.1	98.7	13.6	70 - 130	20	70 - 130	20
Benzene	ND	10	88.3	88.9	0.691	97.5	101	4.06	70 - 130	20	70 - 130	20
Toluene	ND	10	82.5	83.7	1.37	89.9	93.3	3.71	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.5	92.9	1.47	98.7	103	4.15	70 - 130	20	70 - 130	20
Xylenes	ND	30	87.5	88	0.511	95.5	99.9	4.53	70 - 130	20	70 - 130	20
%SS:	103	10	84	92	8.87	97	94	2.98	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 34834 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0804145-001B	04/04/08	04/07/08	04/07/08 7:04 PM	0804145-002B	04/04/08	04/08/08	04/08/08 6:40 PM
0804145-003B	04/04/08	04/07/08	04/07/08 8:34 PM	0804145-004B	04/04/08	04/08/08	04/08/08 3:16 AM
0804145-005B	04/04/08	04/08/08	04/08/08 3:50 AM	0804145-006B	04/04/08	04/08/08	04/08/08 2:38 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0804145

EPA Method SW8260B **Extraction SW5030B** **BatchID: 34876** **Spiked Sample ID: 0804165-002B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
t-Butyl alcohol (TBA)	ND	50	104	96.4	7.42	94.4	103	8.92	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	121	114	5.98	115	119	3.66	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	113	111	1.62	112	115	2.39	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	85	92.7	8.65	94	95.6	1.67	70 - 130	30	70 - 130	30
%SS1:	105	10	104	101	3.13	103	100	2.99	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 34876 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0804145-001A	04/04/08	04/09/08	04/09/08 10:08 PM	0804145-002A	04/04/08	04/09/08	04/09/08 10:51 PM
0804145-003A	04/04/08	04/09/08	04/09/08 11:35 PM	0804145-004A	04/04/08	04/10/08	04/10/08 12:18 AM
0804145-005A	04/04/08	04/10/08	04/10/08 1:02 AM	0804145-006A	04/04/08	04/10/08	04/10/08 1:46 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification N° 1644

QA/QC Officer