November 4, 2010

Paresh Khatri
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Authorization To Sign On Behalf of Ms. Kanwaljit Sappal**
6211 San Pablo Avenue
Oakland, California
AEI Project # 280346
Fuel Leak Case RO0000127

Dear Mr. Khatri:

This letter has been submitted to inform you that I (Ms. Kanwaljit K. Sappal) am the owner of the property located at 6211 San Pablo Avenue in San Pablo, California, and that Jeremy Smith of AEI Consultants is authorized to sign reports and correspondence submitted to the Alameda County Health Care Services Agency on my behalf. I declare, to the best of my knowledge, that the information and/or recommendations contained in the attached document are true and correct.

If you have any additional questions or require additional information, please contact me at (707) 553-1200.

Best Regards,

Kanwaljit Sappal

cc: Mr. Jeremy Smith – AEI Consultants

November 3, 2010

GROUNDWATER MONITORING REPORT
Second Semester, 2010

6211 San Pablo Avenue
Oakland, California

AEI Project No. 280346
ACHCS Case No. RO0000127

Prepared For

Mr. Pritpaul Sappal
2718 Washburn Court
Vallejo, California 94591

Prepared By

AEI Consultants
2500 Camino Diablo
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AEI

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November 3, 2010

Mr. Pritpaul Sappal
2718 Washburn Court
Vallejo, California 94591

Subject: **Quarterly Groundwater Monitoring Report**
Second Semester, 2010
6211 San Pablo Avenue
Oakland, California
AEI Project No. 280346
ACHCS Case No. RO0000127

Dear Mr. Sappal:

AEI Consultants (AEI) has prepared this report on behalf of Mr. Pritpaul Sappal (client), owner of the subject site, located at 6211 San Pablo Avenue, Oakland, California (Figure 1: Site Location Plan). This report has been prepared at the request of the client, as required by the Alameda County Health Care Services Agency (ACHCSA), and presents the findings of the 2nd Semester 2010 groundwater monitoring and sampling event conducted on August 12, 2010.

Background

The subject property is located at 6211 San Pablo Avenue, northwest of the intersection of San Pablo Avenue and 62nd Street in a mixed residential and light commercial area of Oakland, California (Figure 1 and 2). The site currently consists of a retail gasoline station with three underground storage tanks (USTs) dispensing gasoline fuel through six dual-sided fuel dispensing islands. Site features are included in Figure 3.

Between 1999 and 2007, Herschy Environmental, Inc. (Herschy) advanced sixteen soil borings (B-1 through B-14, DP-1, and DP-3), installed six monitoring wells (MW-1 through MW-6), five air sparge wells (AS-1 through AS-5), thirteen vapor extraction wells (VE-1 through VE-13), one groundwater extraction well (EX-1), and replaced MW-1 with MW-1R. In addition, three 10,000 gallon USTs and associated product piping were removed and replaced (with the current UST system) at the site. A soil vapor extraction system was operated at the site between 2006 and 2007, however is no longer present.

In September 2008, consulting responsibilities were transferred to AEI Consultants. Between 2008 and 2010, AEI advanced ten shallow soil borings (DP-4, SB-5, SB-7 to SB-14), four deep

soil borings (DDP-1 to DDP-4), three nested soil vapor probes (SG-1 through SG-3), four offsite monitoring wells (MW-7 through MW-10), and five soil vapor wells (SG-4 through SG-8) to further evaluate the extent of contamination. From February 17, 2010 through April 16, 2010, AEI conducted pilot testing activities to investigate the possibility of using Bioventing and/or ozone sparging as a remedial option for the adsorbed and dissolved phase contamination.

Please refer to AEI's Well Installation and Feasibility Study Report dated October 5, 2010 for a detailed description of historical site activities. The remainder of this report describes the findings of the recent monitoring and sampling event for the subject property.

Summary of Groundwater Sampling Activities

AEI measured the depth to groundwater in the well network (MW-1R, MW-2 through MW-10, and EX-1) on August 12, 2010. The wells caps were first removed from each well, allowing the groundwater to equilibrate with the atmosphere. The depth to water from the top of each well casing was measured with an electric water level indicator prior to sampling. The wells were also checked for the presence of light non-aqueous phase liquid (LNAPL) using an oil/water interface meter, however LNAPL was not detected in any of the wells. The wells were then purged by using a submersible pump and groundwater samples were collected using clean, unused disposable plastic bailers. The following parameters were measured during purging: temperature, pH, specific conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP). At least three well volumes of water were removed from the wells that were sampled. Once the wells had recharged to at least 90% of the original water level, a water sample was collected. Groundwater field sampling forms are included in Appendix A.

Groundwater was collected into 40 ml volatile organic analysis (VOA) vials and capped so that neither headspace nor air bubbles were visible within the sample containers. Samples were transported on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification #1644).

The groundwater samples were collected and analyzed for total petroleum hydrocarbons as gasoline (TPHg) (EPA Method 8015Cm), and benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX) and methyl tert-butyl ether (MTBE), by EPA Method 8021B. The groundwater samples were also analyzed for tert-Amyl Methyl Ether (TAME), tert-Butanol (TBA), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), 1,2-Dichloroethane (1,2-DCA), ethylene dibromide (EDB), and MTBE by EPA method 8260.

Field Results

No free product was encountered during monitoring activities during the recent sampling events. Groundwater elevations during the current monitoring episode ranged from 24.37 to 28.63 feet above mean sea level (amsl). The groundwater was on average 1.90 feet lower then during the previous sampling event. The direction of the groundwater flow during the August 12, 2010 sampling event was towards the west/southwest with an estimated overall hydraulic gradient of

0.01 feet/foot, relatively consistent with historical groundwater flow data. Groundwater elevation data is summarized in Table 1 and 2, and a groundwater elevation map is included as Figure 4.

Groundwater Quality

Select dissolved hydrocarbons were detected in the groundwater samples as follows:

- Monitoring well MW-1R was reported to contain TPHg and benzene at a concentration of 1,300 µg/L and 13 µg/L, respectively. MTBE was not reported at or above the laboratory detection limit. These concentrations are generally lower than the previous sampling event, however relatively similar to historical concentrations.

- Monitoring well MW-2 was reported to contain benzene, MTBE, and TBA at a concentration of 1.1 µg/L, 3.7 µg/L, and 6.3 µg/L, respectively. TPHg was not reported at or above the laboratory detection limit. These concentrations represent a decrease since the previous event, and are at or near historical lows.

- Monitoring well MW-3 was reported to contain TPHg, benzene, MTBE, and TBA at concentrations of 1,600 µg/L, 5.8 µg/L, 4,200 µg/L, and 250,000 µg/L, respectively. These concentrations are relatively consistent with recent data, however MTBE continues to decrease and is the lowest concentration observed in MW-3 to date.

- Monitoring well MW-4 was reported to contain TPHg, benzene, MTBE, and TBA at concentrations of 17,000 µg/L, 200 µg/L, 150 µg/L, and 1,800 µg/L, respectively. These concentrations are relatively consistent with those recently observed.

- Monitoring well MW-5 was reported to contain TPHg, benzene, MTBE, and TBA at a concentration of 120 µg/L, 1.5 µg/L, 13 µg/L, and 3.0 µg/L, respectively. These concentrations are either similar to or slightly higher than typical results.

- Monitoring well MW-6 was reported to contain TPHg, benzene, MTBE, and TBA at a concentration of 92 µg/L, 7.5 µg/L, 32 µg/L, and 180 µg/L, respectively. These concentrations represent a general increase since the last event.

- Monitoring well MW-7 was reported to contain TPHg, benzene, MTBE, and TBA at a concentration of 2,000 µg/L, 26 µg/L, 2,400 µg/L, and 9,600 µg/L, respectively. TPHg and benzene were significantly lower than during the first sampling event, however MTBE and TBA increased.

- Monitoring well MW-8 was reported to contain TPHg, benzene, MTBE, and TBA at a concentration of 260 µg/L, 4.1 µg/L, 2,100 µg/L, and 25,000 µg/L, respectively. These are relatively consistent with the initial sampling event.

- Monitoring well MW-9 was reported to contain MTBE and TBA at a concentration of 85 µg/L and 880 µg/L, respectively. These concentrations are significantly lower than during the initial sampling event.

- Monitoring well MW-10 was reported to contain TPHg and MTBE at a concentration of 61 µg/L and 39 µg/L, respectively. Benzene and TBA were not detected at or above the laboratory detection limit. TPHg decreased significantly from the initial sampling event, however MTBE increased.

- Well EX-1 was reported to contain TPHg, benzene, MTBE, and TBA at concentrations of 12,000 µg/L, 1,000 µg/L, 660 µg/L, and 1,000 µg/L, respectively. With the exception of TBA, these concentrations, are lower than the last sampling event.

Complete groundwater sample analytical data from the sampling event is included in Table 3 and select data is displayed on Figure 5. Laboratory results and chain of custody documents are included in Appendix B.

Summary

Groundwater during the August 2010 monitoring and sampling event was calculated to flow towards the west/southwest with an estimated overall hydraulic gradient of 0.01 feet/foot, relatively consistent with historical data. Groundwater levels decreased during the recent event by 1.90 feet on average. Although hydrocarbons remain elevated in several wells, many of the wells have exhibited a decrease in hydrocarbon concentrations. Trends have not yet been established in offsite wells. The recent Well Installation and Feasibility Study Report, dated October 5, 2010, is currently under review, and in the meantime, AEI plans to continue monitoring the existing well network on a semi-annual basis with the next semi-annual sampling event currently scheduled for February 2011 (1st Semester 2011 Event).

Report Limitations and Signatures

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 requested 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 consulting 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 one of us at (925) 746-6000.

Sincerely,
AEI Consultants

Jeremy Smith
Senior Project Manager

Peter J. McIntyre, P.G.
Senior Project Geologist

REGISTERED GEOLOGIST
PETER J. MCINTYRE
Exp. 5/31/12
No. 7702
STATE OF CALIFORNIA

Figures

Figure 1: Site Location Plan
Figure 2: Extended Site Plan
Figure 3: Site Plan
Figure 4: Groundwater Elevation Map
Figure 5: Groundwater Analytical Map

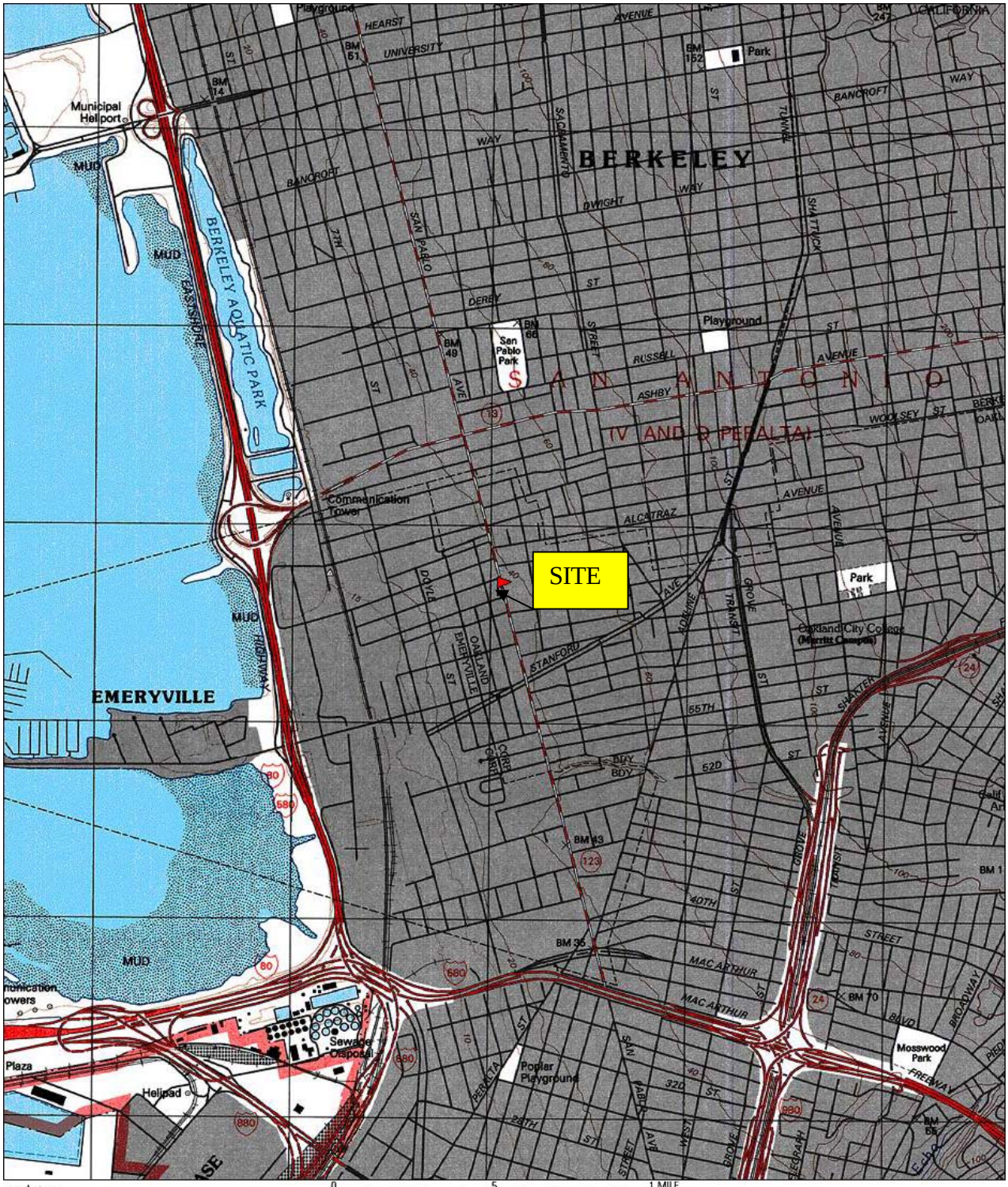
Tables

Table 1: Groundwater Elevation Data
Table 2: Groundwater Flow Data
Table 3: Groundwater Analytical Data

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

Distribution:
Mr. Pritpaul Sappal, 2718 Washburn Court, Vallejo, CA 94591
Mr. Paresh Khatri, ACHCSA, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502 (electronic upload)
Mr. Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612

FIGURES



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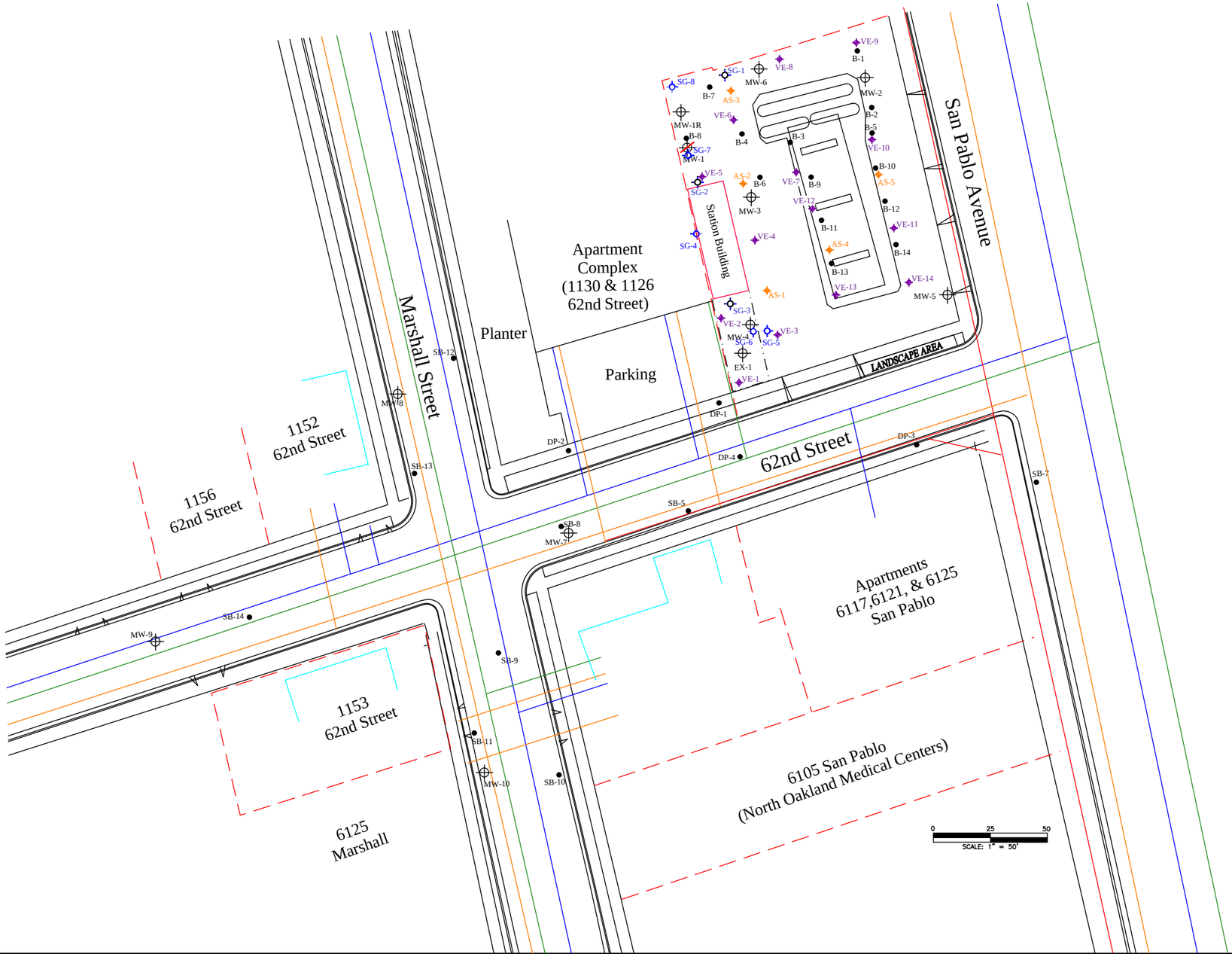
SITE LOCATION PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 1
PROJECT NO. 280346



LEGEND

- MONITORING WELL
- SOIL BORING
- ABANDONED WELL
- NESTED VAPOR PROBE
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- APPROXIMATE PROPERTY BOUNDARY
- WATER LINE
- NATURAL GAS LINE
- ELECTRIC LINE
- SEWER LINE

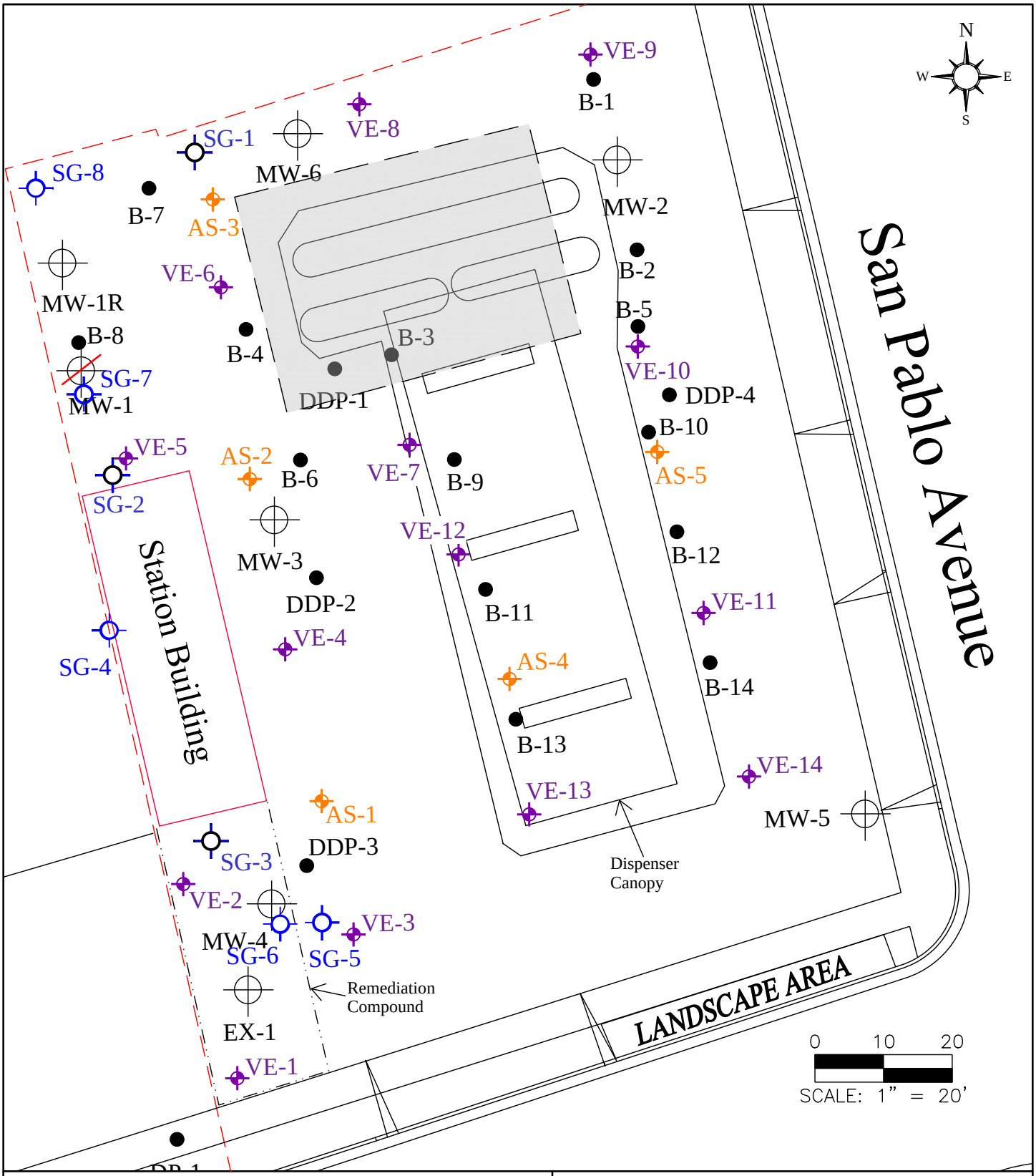
DRAFTED BY JAS 9/10/08
REVISED BY JAS 9/26/08

AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

EXTENDED SITE PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 280346



LEGEND

- MONITORING WELL
- SOIL BORING
- ABANDONED WELL
- SOIL VAPOR PROBE
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- UNDERGROUND STORAGE TANK
- DISPENSER ISLAND
- FORMER UST EXCAVATION

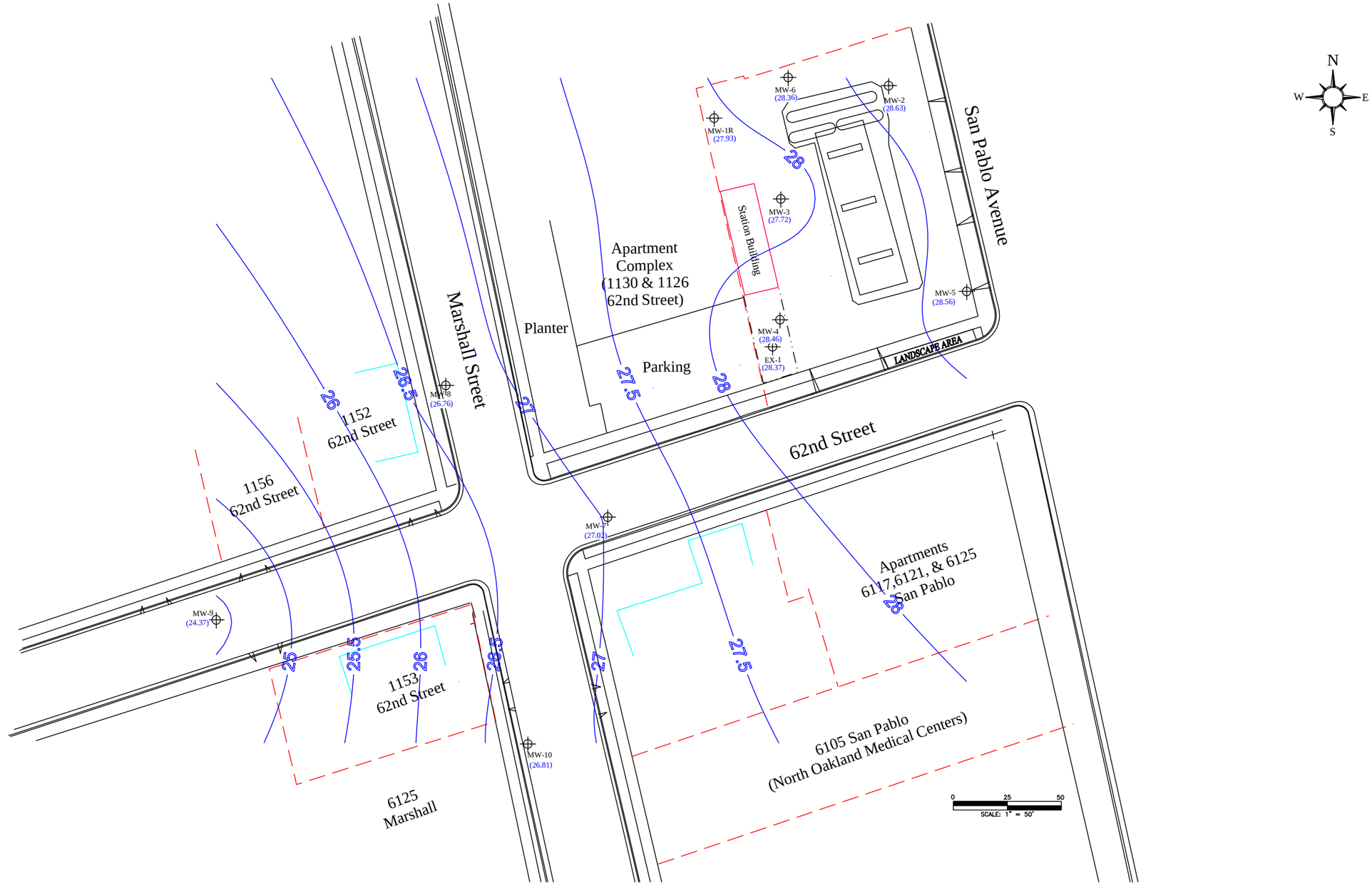
DRAFTED BY JAS 09-10-08
REVISED BY JAS 09-26-08

AEI CONSULTANTS
2500 CAMINO DIABLO, WALNUT CREEK

SITE PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 280346



LEGEND

MONITORING WELL

(28.68) = Groundwater Elevation Mean Sea Level

Depth to Groundwater Collected on August 12, 2010

Contour Line Gradient = 0.50 Feet

Contour Lines by Surfer® Version 7

Groundwater Flow Direction
Groundwater Gradient
Approximately 0.01 ft/ft

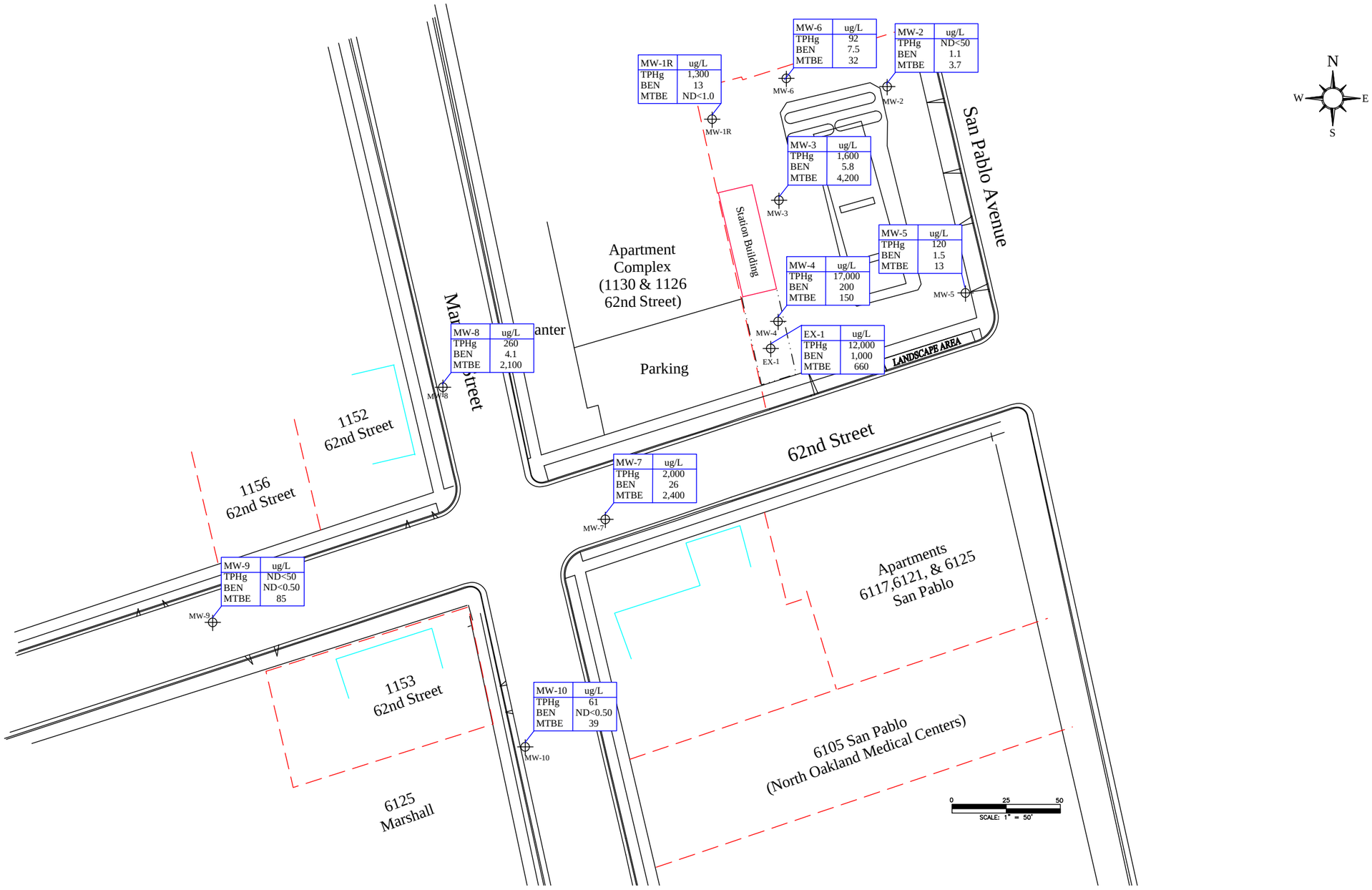
DRAFTED BY JAS 9/10/08
REVISED BY JAS 5/10/10

AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

GROUNDWATER ELEVATION MAP

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 4
PROJECT NO. 280346



LEGEND

MONITORING WELL

TPHg = Total Petroleum Hydrocarbons as Gasoline
BEN = Benzene
MTBE = Methyl Ter-butyl Ether
ug/L = Micrograms per Liter (ppb)

DRAFTED BY JAS 9/10/08
REVISED BY JAS 5/10/10

AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

GROUNDWATER ANALYTICAL MAP - August 12, 2010

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
PROJECT NO. 280346

TABLES

Table 1, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346
Groundwater Elevation Data

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl)*
MW-1R	5/15/2008	36.67	8.53	28.14
(3-23)	9/10/2008	36.67	9.36	27.31
	11/18/2008	36.67	8.82	27.85
	2/17/2009	36.67	5.67	31.00
	5/15/2009	36.67	7.79	28.88
	8/13/2009	36.67	9.20	27.47
	2/23/2010	36.67	6.67	30.00
	8/12/2010	**36.67**	**8.74**	**27.93**
MW-2	5/15/2008	36.33	7.63	28.70
(6-21)	9/10/2008	36.33	8.43	27.90
	11/18/2008	36.33	7.83	28.50
	2/17/2009	36.33	4.92	31.41
	5/15/2009	36.33	6.81	29.52
	8/13/2009	36.33	8.23	28.10
	2/23/2010	36.33	6.06	30.27
	8/12/2010	**36.33**	**7.70**	**28.63**
MW-3	5/15/2008	35.12	7.23	27.89
(6-21)	9/10/2008	35.12	8.08	27.04
	11/18/2008	35.12	7.52	27.60
	2/17/2009	35.12	4.36	30.76
	5/15/2009	35.12	6.50	28.62
	8/13/2009	35.12	7.96	27.16
	2/23/2010	35.12	5.10	30.02
	8/12/2010	**35.12**	**7.40**	**27.72**
MW-4	5/15/2008	34.11	5.43	28.68
(5-20)	9/10/2008	34.11	7.26	26.85
	11/18/2008	34.11	5.84	28.27
	2/17/2009	34.11	2.67	31.44
	5/15/2009	34.11	4.90	29.21
	8/13/2009	34.11	6.02	28.09
	2/23/2010	34.11	3.84	30.27
	8/12/2010	**34.11**	**5.65**	**28.46**

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl)*
MW-5	5/15/2008	35.17	6.29	28.88
(5-25)	9/10/2008	35.17	6.99	28.18
	11/18/2008	35.17	6.41	28.76
	2/17/2009	35.17	4.07	31.10
	5/15/2009	35.17	5.59	29.58
	8/13/2009	35.17	6.81	28.36
	2/23/2010	35.17	5.05	30.12
	8/12/2010	**35.17**	**6.61**	**28.56**
MW-6	5/15/2008	36.07	7.51	28.56
(5-25)	9/10/2008	36.07	8.32	27.75
	11/18/2008	36.07	7.73	28.34
	2/17/2009	36.07	4.64	31.43
	5/15/2009	36.07	6.89	29.18
	8/13/2009	36.07	8.26	27.81
	2/23/2010	36.07	5.76	30.31
	8/12/2010	**36.07**	**7.71**	**28.36**
MW-7	2/23/2010	31.16	2.09	29.07
(6-16)	**8/12/2010**	**31.16**	**4.14**	**27.02**
MW-8	2/23/2010	30.92	2.66	28.26
(5-15)	**8/12/2010**	**30.92**	**4.16**	**26.76**
MW-9	2/23/2010	28.90	2.84	26.06
(5-15)	**8/12/2010**	**28.90**	**4.53**	**24.37**
MW-10	2/23/2010	30.28	0.98	29.30
(5-15)	**8/12/2010**	**30.28**	**3.47**	**26.81**
EX-1	5/15/2008	33.28	4.69	28.59
(5-30)	9/10/2008	33.28	5.46	27.82
	11/18/2008	33.28	4.79	28.49
	2/17/2009	33.28	1.86	31.42
	5/15/2009	33.28	4.16	29.12
	8/13/2009	33.28	8.36	24.92
	2/23/2010	33.28	3.09	30.19
	8/12/2010	**33.28**	**4.91**	**28.37**

Table 2, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346
Groundwater Flow Data

Event #	Date	Average Water Table Elevation (ft amsl)	Change from Previous Episode (ft)	Gradient (Flow Direction) (ft/ft)
1	11/7/1999	NA	NA	0.0068 (SW)
2	3/8/2001	NA	NA	0.0092 (SW)
3	11/17/2001	NA	NA	0.0091 (SW)
4	3/31/2002	NA	NA	0.0108 (SSW)
5	9/9/2003	NA	NA	0.0031 (SW)
6	12/9/2003	NA	NA	0.0031 (SW)
7	2/19/2004	NA	NA	0.0154 (SW)
8	5/24/2004	NA	NA	0.0081 (WSW)
9	9/3/2004	NA	NA	0.0075 (SW)
10	11/2/2004	NA	NA	0.0083 (WSW)
11	2/17/2005	NA	NA	0.0036 (SW)
12	5/24/2005	NA	NA	0.0097 (SSW)
13	8/15/2005	NA	NA	0.013 (SW)
14	11/17/2005	NA	NA	0.010 (SW)
15	2/8/2006	NA	NA	0.010 (SW)
16	5/5/2006	NA	NA	0.013 (SSW)
17	8/18/2006	NA	NA	0.0125 (SSW)
18	12/1/2006	NA	NA	0.03 (S)
19	2/23/2007	NA	NA	0.012 (SW)
20	5/10/2007	NA	NA	0.013 (SW)
21	8/16/2007	NA	NA	0.022 (SW)
22	11/8/2007	NA	NA	0.012 (WSW)
23	2/14/2008	NA	NA	0.013 (SW)
24	5/15/2008	28.49	NA	0.01 (W)
25	9/10/2008	27.55	-0.94	0.015 (SW)
26	11/18/2008	28.26	0.71	0.012 (W)
27	2/17/2009	31.22	2.96	0.01 (SW)
28	5/15/2009	29.16	-2.06	0.01 (WSW)
29	8/13/2009	27.42	-1.74	0.01 (W)
30 [1]	2/23/2010	29.44	2.03	0.01 (W)
31	**8/12/2010**	**27.54**	**-1.90**	**0.01 (WSW)**

ft amsl = feet above mean sea level
All water level depths are measured from the top of casing
NA = not available
[1] = Includes data from newly installed monitoring wells MW-7 through MW-10.

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-1	11/7/1999	5,700	170	59	22	85	20,000	NA	NA	NA	NA	NA	NA
	3/8/2001	17,000	480	150	52	170	38,000	NA	NA	NA	NA	NA	NA
	11/17/2001	10,000	230	210	60	250	22,000	NA	NA	NA	NA	NA	NA
	3/31/2002	12,000	61	ND	ND	29	35,000	NA	NA	NA	NA	NA	NA
	11/9/2003	19,000	ND	ND	ND	ND	50,000	NA	NA	NA	NA	NA	NA
	12/9/2003	22,000	150	ND	ND	ND	66,000	NA	NA	NA	NA	NA	NA
MW-1R	11/17/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/31/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/9/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/19/2004	1,800	95	130	44	200	220	NA	NA	NA	NA	NA	NA
	5/24/2004	210	12	10	5.4	23	79	ND	ND	2.1	37	ND	ND
	9/3/2004	300	1.5	7.1	9.4	42	81	ND	ND	1.6	ND	ND	ND
	11/2/2004	290	14	30	9.5	45	45	ND	ND	1.1	ND	NA	NA
	2/17/2005	530	3.4	ND	ND	2.6	1,000	ND	ND	100	ND	NA	NA
	5/24/2005	NA	NA	NA	NA	NA	NA	ND	ND	610	ND	ND	ND
	8/15/2005	2,500	64	240	61	210	2,300	ND	ND	210	ND	ND	ND
	11/17/2005	2,500	66	290	75	290	1,300	ND	ND	110	1,600	ND	ND
	2/8/2006	3,300	100	310	86	470	1,400	ND	ND	130	1,400	ND	ND
	5/5/2006	3,400	170	350	97	550	1,100	ND	ND	100	2,400	ND	ND
	8/18/2006	5,800	190	1,000	230	1,000	490	ND	ND	36	2,900	ND	ND
	12/1/2006	410	1.7	6.3	1.2	47	100	ND	ND	4.7	100	ND	ND
	2/23/2007	ND	ND	0.51	ND	1.4	3	ND	ND	ND	ND	ND	ND
	5/10/2007	ND	ND	ND	ND	2.0	5.9	ND	ND	ND	ND	ND	ND
	8/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/8/2007	1,300	11	82	54	270	1.4	ND	ND	ND	ND	ND	ND
	2/14/2008	800	7.6	31	23	150	1.7	ND	ND	ND	ND	ND	ND
	5/15/2008	3,200	20	200	110	550	4.2	ND<0.50	ND<0.50	1.0	ND<20	ND<0.50	ND<0.50
	9/10/2008	1,000	6.5	22	19	120	2.3	ND<0.50	ND<0.50	ND<0.50	4.0	ND<0.50	ND<0.50
	11/18/2008	430	4.1	18	12	100	1.8	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	2/17/2009	220	3.6	6.1	2.0	41	1.3	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	5/15/2009	890	6.0	17	27	110	1.8	ND<0.50	ND<0.50	ND<0.50	3.9	ND<0.50	ND<0.50
	8/13/2009	2,000	17	23	73	350	2.1	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	2/23/2010	3,200	31	77	120	810	3.9	ND<1.7	ND<1.7	ND<1.7	ND<6.7	ND<1.7	ND<1.7
	8/12/2010	**1,300**	**13**	**16**	**40**	**280**	**ND<1.0**	**ND<1.0**	**ND<1.0**	**ND<1.0**	**ND<4.0**	**ND<1.0**	**ND<1.0**

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-2	11/7/1999	6,000	1,300	92	50	400	6,800	NA	NA	NA	NA	NA	NA
	3/8/2001	41,000	8,100	870	2,000	4,100	26,000	NA	NA	NA	NA	NA	NA
	11/17/2001	18,000	3,700	180	610	640	16,000	NA	NA	NA	NA	NA	NA
	3/31/2002	32,000	6,500	270	1,700	2,700	19,000	NA	NA	NA	NA	NA	NA
	9/9/2003	24,000	4,600	ND	1,200	440	19,000	NA	NA	NA	NA	NA	NA
	12/9/2003	31,000	6,200	170	1,600	2,700	19,000	NA	NA	NA	NA	NA	NA
	2/19/2004	21,000	4,600	120	970	2,000	15,000	NA	NA	NA	NA	NA	NA
	5/24/2004	1,200	120	3	63	67	1,900	ND	ND	ND	ND	ND	ND
	9/3/2004	2,300	120	ND	51	70	1,700	ND	ND	26	ND	ND	ND
	11/2/2004	530	35	ND	17	30	520	ND	ND	28	100	NA	NA
	2/17/2005	18,000	2,100	31	800	680	20,000	ND	ND	1,000	ND	NA	NA
	5/24/2005	22,000	3,200	52	1,400	1,700	16,000	ND	ND	NS	NS	ND	ND
	8/15/2005	2,000	66	ND	46	47	2,400	ND	ND	95	880	ND	ND
	11/17/2005	760	19	0.64	15	13	1,000	ND	ND	26	810	ND	ND
	2/8/2006	10,000	1,500	8	660	380	4,300	ND	ND	120	2,800	ND	ND
	5/5/2006	15,000	1,800	ND	1,200	1,200	5,800	ND	ND	150	4,300	ND	ND
	8/18/2006	360	11	ND	13	9.7	160	ND	ND	4.6	600	ND	ND
	12/1/2006	11,000	1,000	ND	990	910	2,100	ND	ND	87	2,000	ND	ND
	2/23/2007	3,200	210	ND	270	85	900	ND	ND	33	1,400	ND	ND
	5/10/2007	590	31	ND	39	22	200	ND	ND	5.9	250	ND	ND
	8/16/2007	650	49	ND	71	49	100	ND	ND	3.5	82	ND	ND
	11/8/2007	110	1.6	ND	1.9	1.6	23	ND	ND	0.64	48	ND	ND
	2/14/2008	350	24	ND	12	5.9	190	ND	ND	7.7	320	ND	ND
	5/15/2008	81	0.59	ND<0.50	0.71	0.66	38	ND<0.50	ND<0.50	1.4	54	ND<0.50	ND<0.50
	9/10/2008	150	6.4	ND<0.50	8.4	5.1	14	ND<0.50	ND<0.50	0.55	38	ND<0.50	ND<0.50
	11/18/2008	420	25	0.70	46	47	29	ND<0.50	ND<0.50	1.3	60	ND<0.50	ND<0.50
	2/17/2009	460	23	0.96	51	37	26	ND<0.50	ND<0.50	1.4	61	ND<0.50	ND<0.50
	5/15/2009	220	13	0.93	26	13	21	ND<0.50	ND<0.50	0.87	60	ND<0.50	ND<0.50
	8/13/2009	110	7.0	ND<0.50	13	5.0	7.7	ND<0.50	ND<0.50	ND<0.50	26	ND<0.50	ND<0.50
	2/23/2010	170	9.4	0.65	27	5.6	14	ND<0.50	ND<0.50	ND<0.50	36	ND<0.50	ND<0.50
	8/12/2010	**ND<50**	**1.1**	**ND<0.50**	**1.8**	**0.63**	**3.7**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**6.3**	**ND<0.50**	**ND<0.50**

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-3	11/7/1999	43,000	860	70	ND	65	120,000	NA	NA	NA	NA	NA	NA
	3/8/2001	90,000	1,800	ND	ND	ND	210,000	NA	NA	NA	NA	NA	NA
	11/17/2001	110,000	1,600	ND	ND	ND	300,000	NA	NA	NA	NA	NA	NA
	3/31/2002	130,000	2,400	670	300	390	300,000	NA	NA	NA	NA	NA	NA
	9/9/2003	190,000	1,600	ND	ND	ND	420,000	NA	NA	NA	NA	NA	NA
	12/9/2003	170,000	2,000	ND	ND	ND	4,500,000	NA	NA	NA	NA	NA	NA
	2/19/2004	86,000	1,800	630	ND	ND	160,000	NA	NA	NA	NA	NA	NA
	5/24/2004	120,000	2,200	ND	180	220	400,000	ND	ND	15,000	ND	ND	ND
	9/3/2004	180,000	2,000	ND	ND	ND	510,000	ND	ND	14,000	ND	ND	ND
	11/2/2004	150,000	1,700	ND	ND	ND	350,000	ND	ND	31,000	140,000	NA	NA
	2/17/2005	130,000	2,100	420	210	730	290,000	ND	ND	11,000	ND	NA	NA
	5/24/2005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/15/2005	110,000	1,500	ND	ND	ND	260,000	ND	ND	21,000	25,000	ND	ND
	11/17/2005	200,000	2,400	ND	ND	ND	580,000	ND	ND	24,000	49,000	ND	ND
	2/8/2006	470,000	3,800	660	ND	790	490,000	ND	ND	26,000	49,000	ND	ND
	5/5/2006	400,000	3,300	ND	ND	ND	590,000	ND	ND	21,000	86,000	ND	ND
	8/18/2006	310,000	1,800	ND	ND	ND	440,000	ND	ND	23,000	79,000	ND	ND
	12/1/2006	270,000	ND	ND	ND	ND	290,000	ND	ND	11,000	90,000	ND	ND
	2/23/2007	220,000	ND	ND	ND	ND	260,000	ND	ND	15,000	33,000	ND	ND
	5/10/2007	140,000	ND	ND	ND	ND	180,000	ND	ND	7,100	80,000	ND	ND
	8/16/2007	69,000	ND	ND	ND	ND	85,000	ND	ND	3,400	180,000	ND	ND
	11/8/2007	34,000	ND	ND	ND	ND	38,000	ND	ND	1,400	140,000	ND	ND
	2/14/2008	41,000	ND	ND	ND	ND	44,000	ND	ND	1,900	110,000	ND	ND
	5/15/2008	43,000	ND<100	ND<100	ND<100	ND<100	62,000	ND<100	ND<100	1,100	200,000	ND<100	ND<100
	9/10/2008	1,600	14	8.6	7.7	23	21,000	ND<1,000	ND<1,000	ND<1,000	290,000	ND<1,000	ND<1,000
	11/18/2008	4,500	86	150	100	590	29,000	ND<1,000	ND<1,000	ND<1,000	290,000	ND<1,000	ND<1,000
	2/17/2009	2,500	45	53	35	160	16,000	ND<1,000	ND<1,000	ND<1,000	190,000	ND<1,000	ND<1,000
	5/15/2009	2,000	15	21	13	35	13,000	ND<1,000	ND<1,000	ND<1,000	260,000	ND<1,000	ND<1,000
	8/13/2009	1,300	10	11	4.1	14	7,900	ND<1,200	ND<1,200	ND<1,200	250,000	ND<1,200	ND<1,200
	2/23/2010	1,700	22	21	11	38	4,700	ND<1,700	ND<1,700	ND<1,700	260,000	ND<1,700	ND<1,700
	8/12/2010	**1,600**	**5.8**	**16**	**5.8**	**16**	**4,200**	**ND<1,200**	**ND<1,200**	**ND<1,200**	**250,000**	**ND<1,200**	**ND<1,200**

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-4	11/17/2001	64,000	960	1,400	360	1,600	140,000	NA	NA	NA	NA	NA	NA
	3/31/2002	78,000	4,400	4,700	690	2,700	150,000	NA	NA	NA	NA	NA	NA
	9/6/2007	49,000	710	840	ND	10,000	3,600	ND	ND	510	32,000	ND	ND
	11/8/2007	64,000	1,300	2,600	1,000	8,500	1,500	ND	ND	360	14,000	ND	ND
	2/14/2008	60,000	390	460	230	2,000	52,000	ND	ND	2,000	58,000	ND	ND
	5/15/2008	22,000	670	130	740	2,700	3,300	ND<5.0	ND<5.0	340	35,000	ND<5.0	ND<5.0
	9/10/2008	16,000	500	150	730	2,500	2,000	ND<250	ND<250	ND<250	65,000	ND<250	ND<250
	11/18/2008	24,000	820	190	1,200	5,000	1,400	ND<50	ND<50	260	9,300	ND<50	ND<50
	2/17/2009	17,000	350	170	620	2,600	360	ND<10	ND<10	82	2,100	ND<10	ND<10
	5/15/2009	32,000	300	190	880	3,200	470	ND<10	ND<10	95	380	ND<10	ND<10
	8/13/2009	29,000	320	250	980	3,400	350	ND<50	ND<50	61	10,000	ND<50	ND<50
	2/23/2010	15,000	250	77	580	2,200	180	ND<5.0	ND<5.0	41	400	ND<5.0	ND<5.0
	8/12/2010	**17,000**	**200**	**47**	**580**	**1,400**	**150**	**ND<10**	**ND<10**	**28**	**1,800**	**ND<10**	**ND<10**
MW-5	11/17/2001	210	15	12	11	23	4.8	NA	NA	NA	NA	NA	NA
	3/31/2002	120	11	7.4	6.1	16	4.2	NA	NA	NA	NA	NA	NA
	9/9/2003	ND	1.5	ND	ND	ND	1.7	NA	NA	NA	NA	NA	NA
	12/9/2003	130	32	ND	2.6	0.57	5	NA	NA	NA	NA	NA	NA
	2/19/2004	ND	ND	ND	ND	ND	1.5	NA	NA	NA	NA	NA	NA
	5/24/2004	ND	ND	ND	ND	ND	0.55	ND	ND	ND	ND	ND	ND
	9/3/2004	100	6.4	ND	ND	0.79	4.2	ND	ND	ND	ND	ND	ND
	11/2/2004	ND	2.6	ND	1.7	0.87	1	ND	ND	ND	ND	ND	ND
	2/17/2005	51	0.74	ND	0.94	ND	1.5	ND	ND	ND	ND	ND	ND
	5/24/2005	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
	8/15/2005	ND	ND	ND	ND	ND	0.88	ND	ND	ND	ND	ND	ND
	11/17/2005	71	0.81	ND	1.1	ND	1.4	ND	ND	ND	ND	ND	ND
	2/8/2006	50	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
	5/5/2006	ND	ND	ND	ND	ND	0.93	ND	ND	ND	ND	ND	ND
	8/18/2006	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
	12/1/2006	ND	0.69	ND	ND	0.52	0.97	ND	ND	ND	ND	ND	ND
	2/23/2007	73	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND
	5/10/2007	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND
	8/16/2007	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND
	11/8/2007	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND
	2/14/2008	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND
	5/15/2008	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.7	ND<0.50	ND<0.50	ND<0.50	ND<20	ND<0.50	ND<0.50
	9/10/2008	480	17	1.8	2.7	0.59	12	ND<0.50	ND<0.50	ND<0.50	4.4	ND<0.50	ND<0.50

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-5	11/18/2008	130	2.3	1.6	ND<0.50	ND<0.50	7.3	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
(cont.)	2/17/2009	170	ND<0.50	2.7	ND<0.50	ND<0.50	4.2	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	5/15/2009	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	7.6	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	8/13/2009	380	19	2.1	3.8	0.88	11	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	2/23/2010	ND<50	ND<0.50	0.87	ND<0.50	ND<0.50	1.9	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	8/12/2010	**120**	**1.5**	**2.9**	**0.74**	**3.5**	**13**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**3.0**	**ND<0.50**	**ND<0.50**
MW-6	11/17/2001	3,500	160	260	95	420	1,500	NA	NA	NA	NA	NA	NA
	3/31/2002	3,200	410	170	82	280	3,000	NA	NA	NA	NA	NA	NA
	9/9/2003	800	49	ND	7.4	ND	1,700	NA	NA	NA	NA	NA	NA
	12/9/2003	970	150	9.9	31	83	1,200	NA	NA	NA	NA	NA	NA
	2/19/2004	1,900	280	58	17	160	2,700	NA	NA	NA	NA	NA	NA
	9/3/2004	1,100	27	ND	14	27	2,200	ND	ND	85	ND	ND	ND
	11/2/2004	1,800	32	ND	5	11	4,100	ND	ND	170	270	ND	ND
	2/17/2005	5,600	190	34	41	110	10,000	ND	ND	780	2,000	ND	ND
	8/15/2005	1,800	27	ND	6	23	3,800	ND	ND	300	3,500	ND	ND
	11/17/2005	1,100	30	ND	4	9	2,400	ND	ND	190	9,500	ND	ND
	2/8/2006	3,600	220	43	66	160	2,700	ND	ND	180	7,800	ND	ND
	5/5/2006	1,600	130	21	37	65	1,400	ND	ND	53	3,100	ND	ND
	8/18/2006	270	27	ND	3	4	240	ND	ND	11	2,400	ND	ND
	12/1/2006	1,700	ND	ND	ND	ND	1,700	ND	ND	92	800	ND	ND
	2/23/2007	ND	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND
	5/10/2007	ND	3.0	ND	ND	1.9	26	ND	ND	2	48	ND	ND
	8/16/2007	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND
	11/8/2007	ND	ND	ND	ND	ND	5.3	ND	ND	ND	ND	ND	ND
	2/14/2008	ND	ND	ND	ND	ND	11	ND	ND	0.94	220	ND	ND
	5/15/2008	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	13	ND<0.50	ND<0.50	1.0	130	ND<0.50	ND<0.50
	9/10/2008	78	1.4	0.60	0.94	1.3	71	ND<1.0	ND<1.0	6.2	160	ND<1.0	ND<1.0
	11/18/2008	ND<50	2.4	ND<0.50	ND<0.50	0.70	72	ND<1.2	ND<1.2	7.2	180	ND<1.2	ND<1.2
	2/17/2009	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	5/15/2009	53	3.2	ND<0.50	ND<0.50	1.7	44	ND<1.0	ND<1.0	4.3	89	ND<1.0	ND<1.0
	8/13/2009	74	5.9	0.57	0.97	5.0	27	ND<0.50	ND<0.50	2.2	140	ND<0.50	ND<0.50
	2/23/2010	ND<50	0.66	ND<0.50	ND<0.50	0.57	5.7	ND<0.50	ND<0.50	ND<0.50	15	ND<0.50	ND<0.50
	8/12/2010	**92**	**7.5**	**0.94**	**ND<0.50**	**1.0**	**32**	**ND<1.0**	**ND<1.0**	**2.7**	**180**	**ND<1.0**	**ND<1.0**

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-7	2/23/2010	29,000	410	380	2,100	6,100	410	ND<10	ND<10	19	1,500	ND<10	ND<10
	8/12/2010	**2,000**	**26**	**17**	**140**	**250**	**2,400**	**ND<50**	**ND<50**	**75**	**9,600**	**ND<50**	**ND<50**
MW-8	2/23/2010	690	3.5	2.8	29	40	1,600	ND<100	ND<100	ND<100	24,000	ND<100	ND<100
	8/12/2010	**260**	**4.1**	**1.4**	**6.9**	**7.2**	**2,100**	**ND<170**	**ND<170**	**ND<170**	**25,000**	**ND<170**	**ND<170**
MW-9	2/23/2010	ND<50	ND<0.50	0.70	ND<0.50	ND<0.50	260	ND<10	ND<10	ND<10	1,600	ND<10	ND<10
	8/12/2010	**ND<50**	**ND<0.50**	**1.6**	**ND<0.50**	**ND<0.50**	**85**	**ND<10**	**ND<10**	**ND<10**	**880**	**ND<10**	**ND<10**
MW-10	2/23/2010	1,300	ND<0.50	11	3.1	2.6	2.8	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	8/12/2010	**61**	**ND<0.50**	**0.72**	**ND<0.50**	**ND<0.50**	**39**	**ND<0.50**	**ND<0.50**	**1.8**	**ND<2.0**	**ND<0.50**	**ND<0.50**
EX-1	2/19/2004	120,000	9,500	4,300	840	3,900	150,000	NA	NA	NA	NA	NA	NA
	2/14/2008	84,000	2,300	4,900	1,800	14,000	3,900	ND	ND	610	10,000	ND	ND
	5/15/2008	24,000	2,100	750	640	2,100	1,800	ND<0.50	ND<0.50	380	11,000	ND<0.50	ND<0.50
	9/10/2008	9,200	1,000	160	300	1,000	780	ND<100	ND<100	180	22,000	ND<100	ND<100
	11/18/2008	8,900	1,400	290	360	1,300	840	ND<100	ND<100	230	20,000	ND<100	ND<100
	2/17/2009	70,000	2,700	3,600	1,900	13,000	1,400	ND<25	ND<25	480	1,500	ND<25	ND<25
	5/15/2009	18,000	1,400	250	530	1,700	640	ND<25	ND<25	200	5,500	ND<25	ND<25
	8/13/2009	10,000	1,100	150	410	940	520	ND<25	ND<25	120	5,200	ND<25	ND<25
	2/23/2010	39,000	1,300	1,100	1,100	7,700	880	ND<25	ND<25	250	670	ND<25	ND<25
	8/12/2010	**12,000**	**1,000**	**160**	**470**	**1,200**	**660**	**ND<17**	**ND<17**	**160**	**1,000**	**ND<17**	**ND<17**

Notes:
TPHg = total petroleum hydrocarbons as gasoline using EPA Method 8015
Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B
MTBE = methyl-tertiary butyl ether using EPA Method 8021B; EPA Method 8260B Beginning in May 2008
TBA = tert-butyl alcohol using EPA Method 8260B
TAME = tert-amyl methyl ether using EPA Method 8260B
DIPE = diisopropyl ether using EPA Method 8260B
ETBE = ethyl tert-butyl ether using EPA Method 8260B
1,2-DCA = 1,2-dichloroethane using EPA Method 8260B
EDB = Ethylene dibromide using EPA Method 8260B
µg/L= micrograms per liter
ND = non detect at respective reporting limit
NA - not analyzed

APPENDIX A

GROUNDWATER MONITORING WELL FIELD SAMPLING FORMS

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1R

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	36.67		
Depth of Well	22.75		
Depth to Water (from top of casing)	8.74		
Water Elevation (feet above msl)	27.93		
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)	**6.7**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Initially black, clearing by 2 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
12:54	1	22.82	7.44	508	7.08	256.7	Black
12:55	2	20.08	7.06	488	4.56	222.8	Clear
12:56	3	19.95	6.97	477	3.12	205.8	Clear
12:56	4	19.93	6.94	475	2.59	198.3	Clear
12:56	5	19.78	6.89	472	1.94	187.2	Clear
12:57	6	19.63	6.86	469	1.58	179.0	Clear
12:58	7	19.51	6.84	466	1.46	173.5	Clear
12:58	8	19.41	6.82	463	1.44	169.0	Clear

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

Hydrocarbon odors noted during purging

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	36.33		
Depth of Well	20.70		
Depth to Water (from top of casing)	7.70		
Water Elevation (feet above msl)	28.63		
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)	**6.2**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Milky Brown		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
11:59	1	21.17	7.51	516	6.33	264.3	Milky
12:00	2	21.02	7.21	521	4.72	261.9	Slightly milky
12:00	3	21.56	6.99	540	2.90	259.7	Slightly milky
12:01	4	21.67	6.93	547	2.01	258.6	Clear
12:01	5	21.51	6.90	548	1.31	257.1	Clear
12:02	6	21.15	6.90	533	0.79	254.6	Milky
12:02	7	20.59	6.92	506	0.51	251.7	Brown
12:03	8	20.24	6.89	504	0.41	249.6	Brown

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	35.12		
Depth of Well	20.82		
Depth to Water (from top of casing)	7.40		
Water Elevation (feet above msl)	27.72		
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)	**6.4**		
Actual Volume Purged (gallons)	7.0		
Appearance of Purge Water	Light Brown		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
14:07	1	23.02	7.54	700	10.01	154.3	Brown
14:08	2	21.26	7.17	692	7.15	142.6	Light Brown
14:08	3	21.22	6.94	695	2.62	130.3	Light Brown
14:09	4	21.02	6.83	717	1.07	119.1	Light Brown
14:10	5	20.77	6.83	713	0.65	111.6	Little Milky
14:10	6	20.50	6.81	708	0.48	102.3	Little Milky
14:11	7	20.32	6.80	707	0.46	95.6	Little Milky

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	34.11		
Depth of Well	19.75		
Depth to Water (from top of casing)	5.65		
Water Elevation (feet above msl)	28.46		
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)	**6.8**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Initially black, clearing at 4 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
14:33	1	24.14	7.58	604	6.94	120.5	Black
14:34	2	21.97	7.27	592	4.83	96.1	Black
14:34	3	21.97	7.15	590	2.64	74.1	Black
14:35	4	21.81	7.10	601	1.00	49.5	Clear
14:35	5	21.70	7.10	612	0.62	37.6	Clear
14:36	6	21.64	7.11	620	0.40	23.8	Clear
14:37	7	21.58	7.11	624	0.32	15.1	Clear
14:37	8	21.56	7.12	630	0.27	4.1	Clear

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	35.17		
Depth of Well	24.31		
Depth to Water (from top of casing)	6.61		
Water Elevation (feet above msl)	28.56		
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)	**8.5**		
Actual Volume Purged (gallons)	10.0		
Appearance of Purge Water	Initially brown clearing around 8 gallons		
Free Product Present?	No.	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
11:33	1	21.79	7.80	535	7.04	255.7	Brown
11:33	2	20.29	7.56	584	5.07	255.8	Brown
11:34	3	20.16	7.32	580	3.29	255.3	Brown
11:34	4	20.14	7.24	570	2.51	254.7	Brown
11:35	5	20.12	7.18	574	1.81	254.3	Brown
11:35	6	20.10	7.14	571	1.32	253.2	Milky
11:36	7	20.06	7.10	568	0.89	252.3	Slightly Milky
11:36	8	20.01	7.07	566	0.66	251.5	Clear
11:37	9	19.98	7.05	564	0.45	250.1	Clear
11:37	10	19.97	7.05	564	0.39	249.4	Clear

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	36.07		
Depth of Well	23.45		
Depth to Water (from top of casing)	7.71		
Water Elevation (feet above msl)	28.36		
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)	**7.6**		
Actual Volume Purged (gallons)	9.0		
Appearance of Purge Water	Brown		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
12:28	1	20.89	7.63	476	6.11	263.4	Brown
12:29	2	19.96	7.30	467	5.01	260.8	Brown
12:29	3	19.56	7.21	458	3.61	257.2	Brown
12:30	4	19.35	7.08	454	2.61	253.8	Brown
12:30	5	19.24	6.99	452	1.70	250.0	Less Brown
12:31	6	19.21	6.94	451	1.23	246.5	Milky
12:31	7	19.19	6.90	450	0.84	242.1	Milky
12:32	8	19.17	6.86	450	0.63	238.8	Milky
12:33	9	19.16	6.83	450	0.52	236.7	Milky

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-7

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.16		
Depth of Well	16.00		
Depth to Water (from top of casing)	4.14		
Water Elevation (feet above msl)	27.02		
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)	**5.7**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Brown		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
13:40	1	24.67	7.97	802	7.88	193.8	Brown
13:41	2	22.94	7.61	719	5.93	184.3	Brown
13:41	3	23.01	7.40	718	3.44	172.4	Brown
13:42	4	23.26	7.31	710	1.92	158.1	Brown
13:42	5	23.04	7.19	702	0.90	144.0	Brown
13:43	6	22.88	7.18	695	0.59	136.7	Brown
13:44	7	22.60	7.13	714	0.37	127.4	Brown
13:44	8	22.50	7.12	712	0.32	123.5	Brown

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-8

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	30.92		
Depth of Well	15.00		
Depth to Water (from top of casing)	4.16		
Water Elevation (feet above msl)	26.76		
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)	**5.2**		
Actual Volume Purged (gallons)	7.0		
Appearance of Purge Water	Milky		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
13:18	1	25.48	7.47	900	7.78	200.8	Milky
13:18	2	22.74	7.08	923	5.00	194.1	Milky
13:19	3	22.81	7.01	955	2.32	189.6	Milky
13:19	4	22.66	6.97	952	1.00	183.1	Milky
13:20	5	22.41	6.95	945	0.63	179.1	Milky
13:21	6	22.10	6.92	940	0.45	175.3	Milky
13:21	7	21.76	6.91	955	0.45	173.0	Brown

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-9

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	28.90		
Depth of Well	15.00		
Depth to Water (from top of casing)	4.53		
Water Elevation (feet above msl)	24.37		
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)	**5.0**		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Brown		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
10:27	1	20.08	8.32	661	4.46	305.6	Brown
10:28	2	22.19	7.80	509	1.43	294.8	Brown
10:28	3	22.90	7.52	531	0.88	290.3	Brown
10:28	4	22.94	7.41	554	0.85	279.7	Brown
10:29	5	22.87	7.35	570	0.82	271.9	Brown

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-10

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	30.28		
Depth of Well	15.00		
Depth to Water (from top of casing)	3.47		
Water Elevation (feet above msl)	26.81		
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)	**5.5**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Brown		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
11:01	1	19.17	8.20	490	5.51	274.0	Brown
11:02	2	19.35	7.83	468	4.08	272.5	Brown
11:03	3	19.51	7.64	464	2.86	270.7	Brown
11:03	4	19.66	7.50	483	1.72	268.5	Brown
11:04	5	19.72	7.42	496	1.16	266.6	Brown
11:04	6	19.72	7.37	497	0.74	264.1	Brown
11:05	7	19.69	7.35	494	0.54	261.7	Brown
11:06	8	19.64	7.33	487	0.44	259.6	Brown

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

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: EX-1

Project Name:	Alaska Gas	Date of Sampling:	8/12/2010
Job Number:	280346	Name of Sampler:	A. Hawkins
Project Address:	6211 San Pablo Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	33.28		
Depth of Well	27.50		
Depth to Water (from top of casing)	4.91		
Water Elevation (feet above msl)	28.37		
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)	**44.1**		
Actual Volume Purged (gallons)	15.0		
Appearance of Purge Water	Initially black, clearing at 5 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
14:54	2.5	20.62	7.17	582	2.72	53.1	Black
14:55	5	20.18	7.12	578	0.63	22.7	Clear
14:57	7.5	20.35	7.11	583	0.24	-2.9	Clear
14:59	10	20.77	7.11	589	0.25	-13.1	Clear
15:00	12.5	21.24	7.12	590	0.26	-19.9	Clear
15:01	15	21.54	7.12	592	0.27	-21.7	Clear

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

APPENDIX B

LABORATORY ANALYTICAL REPORT WITH CHAIN OF CUSTODY DOCUMENTATION

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	Client Project ID: #280346; Alaska Gas	Date Sampled: 08/13/10
		Date Received: 08/13/10
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Reported: 08/19/10
Walnut Creek, CA 94597	Client P.O.: #WC082586	Date Completed: 08/19/10

WorkOrder: 1008440

August 19, 2010

Dear Jeremy:

Enclosed within are:

1) The results of the **11** analyzed samples from your project: **#280346; Alaska Gas,**
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.

1008440

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565
Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

EDF Required? ☒ Yes ☐ No

Report To: Jeremy Smith | Bill To: same | P.O. # WC082586

Company: AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597 E-Mail: jasmith@aeiconsultants.com
Tele: (925) 746-6000 Fax: (925) 746-6099
Project #: 280346 Project Name: Alaska Gas
Project Location: 6211 San Pablo Avenue, Oakland, California
Sampler Signature:

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: BTEX / MTBE 8021B	TPH - gasoline (8015)	Total Petroleum Oil & Grease (413.1) w/ Silica	Total Petroleum Hydrocarbons (418.1)	Fuel Oxys (8260) – MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, EDB	Nitrate/Nitrite	EPA 608 / 8080 PCB's ONLY	VOCs 8260	SVOCs (with PAHs) 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals (Cd, Cr, pb,,Ni,zinc (6010C).	Lead (field filtered 200.8)	RCI	Other	Comments
MW-1R			1310	3	VOA	X					X	X			X	X			X											
MW-2			1210												X	X			X											
MW-3			1420												X	X			X											
MW-4			1445												X	X			X											
MW-5			1140												X	X			X											
MW-6			1240												X	X			X											
MW-7			1355												X	X			X											
MW-8			1330												X	X			X											
MW-9			1035												X	X			X											
MW-10			1115												X	X			X											
EX-1			1505												X	X			X											

X 1 X 1 X 1 X 1 X 1 X 1 X 1 X 1 X 1 X

Relinquished By:	Date:	Time:	Received By:
[signature]	8/12	1630	Enviro-Tech Svc.
Relinquished By: Envirotech DM	Date: 8/13/10	Time: 5:51p	Received By:
Relinquished By: [signature]	Date: 8/13/10	Time: 1630	Received By: [signature]

ICE/t° 5.8
GOOD CONDITION____
HEAD SPACE ABSENT____
DECHLORINATED IN LAB____

PRESERVATION APPROPRIATE CONTAINERS____ PERSERVED IN LAB____

VOAS	O&G	METALS	OTHER

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1008440 **ClientCode: AEL**

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

Report to:
Jeremy Smith
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(925) 283-6000 FAX (925) 944-2895

Email: jasmith@aeiconsultants.com
cc:
PO: #WC082586
ProjectNo: #280346; Alaska Gas

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

Requested TAT: 5 days

Date Received: **08/13/2010**
Date Printed: **08/13/2010**

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
1008440-001	MW-1R	Water	8/13/2010 13:10	☐	B	A	A									
1008440-002	MW-2	Water	8/13/2010 12:10	☐	B	A										
1008440-003	MW-3	Water	8/13/2010 12:20	☐	B	A										
1008440-004	MW-4	Water	8/13/2010 14:45	☐	B	A										
1008440-005	MW-5	Water	8/13/2010 11:40	☐	B	A										
1008440-006	MW-6	Water	8/13/2010 12:40	☐	B	A										
1008440-007	MW-7	Water	8/13/2010 13:55	☐	B	A										
1008440-008	MW-8	Water	8/13/2010 13:30	☐	B	A										
1008440-009	MW-9	Water	8/13/2010 10:35	☐	B	A										
1008440-010	MW-10	Water	8/13/2010 11:15	☐	B	A										
1008440-011	EX-1	Water	8/13/2010 15:05	☐	B	A										

Test Legend:

1	5-OXYS+PBSCV_W	2	G-MBTEX_W	3	PREDF REPORT	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

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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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **8/13/2010 7:17:28 PM**

Project Name: **#280346; Alaska Gas**

Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1008440** Matrix Water

Carrier: Rob Pringle (MAI Courier)

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: 5.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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AEI Consultants	Client Project ID: #280346; Alaska Gas	Date Sampled: 08/13/10
		Date Received: 08/13/10
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 08/18/10
Walnut Creek, CA 94597	Client P.O.: #WC082586	Date Analyzed: 08/18/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1008440

Lab ID	1008440-001B	1008440-002B	1008440-003B	1008440-004B	Reporting Limit for DF =1	
Client ID	MW-1R	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	2	1	2500	20	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<1.0	ND	ND<1200	28	NA	0.5
t-Butyl alcohol (TBA)	ND<4.0	6.3	250,000	1800	NA	2.0
1,2-Dibromoethane (EDB)	ND<1.0	ND	ND<1200	ND<10	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<1.0	ND	ND<1200	ND<10	NA	0.5
Diisopropyl ether (DIPE)	ND<1.0	ND	ND<1200	ND<10	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<1.0	ND	ND<1200	ND<10	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<1.0	3.7	4200	150	NA	0.5
Surrogate Recoveries (%)						
%SS1:	113	115	104	115		
Comments	a3,b1	b1	b1	b1		

* 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/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

a3) sample diluted due to high organic content.
b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #280346; Alaska Gas	Date Sampled: 08/13/10
		Date Received: 08/13/10
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 08/18/10
Walnut Creek, CA 94597	Client P.O.: #WC082586	Date Analyzed: 08/18/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1008440

Lab ID	1008440-005B	1008440-006B	1008440-007B	1008440-008B	Reporting Limit for DF =1	
Client ID	MW-5	MW-6	MW-7	MW-8		
Matrix	W	W	W	W		
DF	1	2	100	330	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	2.7	75	ND<170	NA	0.5
t-Butyl alcohol (TBA)	3.0	180	9600	25,000	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND<1.0	ND<50	ND<170	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<1.0	ND<50	ND<170	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<1.0	ND<50	ND<170	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<1.0	ND<50	ND<170	NA	0.5
Methyl-t-butyl ether (MTBE)	13	32	2400	2100	NA	0.5
Surrogate Recoveries (%)						
%SS1:	111	108	113	105		
Comments	b1	b1	b1	b1		

* 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/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

a3) sample diluted due to high organic content.
b1) aqueous sample that contains greater than ~1 vol. % sediment

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AEI Consultants	Client Project ID: #280346; Alaska Gas	Date Sampled: 08/13/10
		Date Received: 08/13/10
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 08/18/10
Walnut Creek, CA 94597	Client P.O.: #WC082586	Date Analyzed: 08/18/10

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 1008440

Lab ID	1008440-009B	1008440-010B	1008440-011B		Reporting Limit for DF =1	
Client ID	MW-9	MW-10	EX-1			
Matrix	W	W	W			
DF	20	1	33		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<10	1.8	160		NA	0.5
t-Butyl alcohol (TBA)	880	ND	1000		NA	2.0
1,2-Dibromoethane (EDB)	ND<10	ND	ND<17		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<10	ND	ND<17		NA	0.5
Diisopropyl ether (DIPE)	ND<10	ND	ND<17		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<10	ND	ND<17		NA	0.5
Methyl-t-butyl ether (MTBE)	85	39	660		NA	0.5
Surrogate Recoveries (%)						
%SS1:	104	109	107			
Comments	b1	b1				

* 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/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

a3) sample diluted due to high organic content.
b1) aqueous sample that contains greater than ~1 vol. % sediment

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Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #280346; Alaska Gas	Date Sampled: 08/13/10
		Date Received: 08/13/10
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 08/16/10-08/17/10
Walnut Creek, CA 94597	Client P.O.: #WC082586	Date Analyzed: 08/16/10-08/17/10

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1008440

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1R	W	1300	ND<17	13	16	40	280	3.3	104	d1,b1
002A	MW-2	W	ND	ND	1.1	ND	1.8	0.63	1	100	b1
003A	MW-3	W	1600	2900	5.8	16	5.8	16	10	115	d1,b1
004A	MW-4	W	17,000	ND<400	200	47	580	1400	33	110	d1,b1
005A	MW-5	W	120	ND<20	1.5	2.9	0.74	3.5	1	113	d1,b1
006A	MW-6	W	92	31	7.5	0.94	ND	1.0	1	110	d1,b1
007A	MW-7	W	2000	2300	26	17	140	250	10	107	d1,b1
008A	MW-8	W	260	2200	4.1	1.4	6.9	7.2	2	118	d1,b1
009A	MW-9	W	ND	69	ND	1.6	ND	ND	1	116	b1
010A	MW-10	W	61	33	ND	0.72	ND	ND	1	106	b1
011A	EX-1	W	12,000	700	1000	160	470	1200	10	87	d1

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	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

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

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

%SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant
d2) heavier gasoline range compounds are significant (aged gasoline?)

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Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 52501 WorkOrder 1008440

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 1008437-009B**

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
tert-Amyl methyl ether (TAME)	ND	10	82.5	84.7	2.73	83.3	82.7	0.665	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	73.6	75	1.87	80.1	80.8	0.874	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	85.2	87.5	2.70	91.8	89.2	2.83	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	97.1	96.9	0.222	95.8	96	0.209	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	116	117	0.983	107	108	1.03	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	96.9	98.8	1.88	97.2	98.4	1.22	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	94.9	97.2	2.36	104	104	0	70 - 130	30	70 - 130	30
%SS1:	112	25	101	102	1.21	111	110	1.20	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 52501 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1008440-001B	08/13/10 1:10 PM	08/18/10	08/18/10 3:03 AM	1008440-002B	08/13/10 12:10 PM	08/18/10	08/18/10 3:47 AM
1008440-003B	08/13/10 12:20 PM	08/18/10	08/18/10 9:52 PM	1008440-004B	08/13/10 2:45 PM	08/18/10	08/18/10 10:30 PM
1008440-005B	08/13/10 11:40 AM	08/18/10	08/18/10 11:08 PM	1008440-006B	08/13/10 12:40 PM	08/18/10	08/18/10 11:46 PM
1008440-007B	08/13/10 1:55 PM	08/18/10	08/18/10 7:25 AM	1008440-008B	08/13/10 1:30 PM	08/18/10	08/18/10 4:07 PM
1008440-009B	08/13/10 10:35 AM	08/18/10	08/18/10 3:29 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.

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.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 52506 WorkOrder 1008440

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 1008439-001A**

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
tert-Amyl methyl ether (TAME)	ND	10	85.6	86.7	1.34	83.8	82.5	1.55	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	79.1	85.5	7.82	75.9	73.4	3.36	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	89	90.9	2.14	85.5	83	2.93	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	97.6	99	1.45	97	94.8	2.29	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	117	118	1.14	109	107	1.22	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	99.6	101	1.65	96.8	95.6	1.26	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	97.5	99.5	2.07	92	91.1	0.983	70 - 130	30	70 - 130	30
%SS1:	110	25	105	104	0.404	103	105	2.26	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 52506 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1008440-010B	08/13/10 11:15 AM	08/18/10	08/18/10 12:35 AM	1008440-011B	08/13/10 3:05 PM	08/18/10	08/18/10 1:13 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.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 52505 WorkOrder 1008440

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 1008437-009A**

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	123	125	1.10	126	122	2.81	70 - 130	20	70 - 130	20
MTBE	ND	10	122	115	5.94	118	119	0.379	70 - 130	20	70 - 130	20
Benzene	ND	10	93.3	91.7	1.73	94.6	93.2	1.49	70 - 130	20	70 - 130	20
Toluene	ND	10	94.2	90	4.48	92.7	91.7	1.15	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.7	90	1.83	93.4	92.4	1.07	70 - 130	20	70 - 130	20
Xylenes	ND	30	91.8	89.8	2.18	93.4	92.1	1.33	70 - 130	20	70 - 130	20
%SS:	105	10	95	94	1.61	94	96	1.84	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 52505 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1008440-001A	08/13/10 1:10 PM	08/16/10	08/16/10 6:20 PM	1008440-002A	08/13/10 12:10 PM	08/17/10	08/17/10 3:02 AM
1008440-003A	08/13/10 12:20 PM	08/16/10	08/16/10 6:55 PM	1008440-004A	08/13/10 2:45 PM	08/16/10	08/16/10 7:28 PM
1008440-005A	08/13/10 11:40 AM	08/17/10	08/17/10 3:33 AM	1008440-006A	08/13/10 12:40 PM	08/17/10	08/17/10 4:05 AM
1008440-007A	08/13/10 1:55 PM	08/16/10	08/16/10 3:27 PM	1008440-008A	08/13/10 1:30 PM	08/16/10	08/16/10 4:01 PM
1008440-008A	08/13/10 1:30 PM	08/17/10	08/17/10 6:35 PM	1008440-009A	08/13/10 10:35 AM	08/17/10	08/17/10 4:36 AM
1008440-010A	08/13/10 11:15 AM	08/17/10	08/17/10 5:08 AM	1008440-011A	08/13/10 3:05 PM	08/16/10	08/16/10 4:36 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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QA/QC Officer