August 14, 2009

GROUNDWATER AND SOIL GAS MONITORING REPORT
Second Quarter, 2009

6211 San Pablo Avenue
Oakland, California

Project No. 280346
ACHCS Case No. RO0000127

Prepared For

Mr. Pritpaul Sappal
2718 Washburn Court
Vallejo, California 94591

Prepared By

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August 14, 2009

Mr. Pritpaul Sappal
2718 Washburn Court
Vallejo, California 94591

Subject: **Quarterly Groundwater Monitoring Report**
Second Quarter, 2009
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 Quarter 2009 groundwater monitoring and sampling event conducted on May 15, 2009.

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.

In April 1999, three borings B-1 through B-3 were advanced at the site By Herschy Environmental, Inc. (Herschy). Significant concentrations of hydrocarbons were present in the soil and groundwater samples collected during the investigation. Subsequently, in June 1999, five additional soil borings were advanced (B-4 through B-8) at the site. Based on the data collected during the investigation, it was determined that additional assessment was necessary as the lateral extent of the contamination had not been determined. Therefore, in October 1999 monitoring wells MW-1 through MW-3 were installed and a groundwater monitoring program was initiated.

In November 2001, monitoring wells MW-4 through MW-6 were installed and borings B-9 through B-14 were advanced on the property. Based on the data obtained it was determined that additional wells were necessary offsite and interim remedial action was required, therefore a workplan was prepared for the implementation of both. By 2008, the monitoring wells had not been installed due to Herschy's difficulty obtaining an encroachment permit with the City of Oakland.

In an effort to remediate hydrocarbons at the site, five air sparge wells (AS-1 through AS-5), thirteen vapor extraction wells (VE-1 through VE-13), and one groundwater extraction well (EX-1) were installed in January 2004. In addition, well MW-1R was installed to replace well MW-1. In February 2004, three 10,000 gallon USTs and associated product piping were removed and replaced (with the current UST system) at the site. During construction activities, approximately 1,100 tons of soil and 40,000 to 60,000 gallons of groundwater was removed from the site and properly disposed of.

A soil vapor extraction system was installed and was operational from August 31, 2006 through November 19, 2007. The system is currently not operating at the site with the equipment being removed by the prior consultant in August and September 2008. In August 2007 borings DP-1 and DP-3 were installed at and in the vicinity of the site. Several offsite borings were expected to be completed, however, they were not performed for a variety of reasons. In September 2008, consulting responsibilities were transferred to AEI Consultants. Subsequently, AEI submitted the requested revised Site Conceptual Model (SCM) dated October 8, 2008 which updates a proposed scope of work to complete additional offsite characterization for the site. Approval for the completion of the work was issued in a letter from the ACHCSA dated October 16, 2008.

On November 24 through November 26, 2008, AEI advanced ten shallow soil borings (DP-4, SB-5, SB-7 to SB-14) in the vicinity of the subject property and four deep soil borings (DDP-1 to DDP-4) at the subject property. In addition, three nested soil vapor probes (SG-1 through SG-3) were installed at the site. Elevated hydrocarbon concentrations were reported in several of the soil borings advanced during the investigation. Based on the results, it was determined that the groundwater plume was delineated towards the south/southeast, however delineation and monitoring is necessary to determine the extent of the dissolved hydrocarbon plume to the west/southwest.

A workplan is currently under review by the ACHCSA for proposed pilot testing/remedial investigation work. 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-6, and EX-1) on May 15, 2009. 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 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 and oxidation-reduction potential. 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 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.

Soil Vapor Probe Sampling

On May 15, 2009, soil gas sampling was performed on nested gas probes SG-1 through SG-3 which were screened at two depths, 3 feet bgs and 6 feet bgs. Water was present in vapor probe SG-2-3, therefore a sample was not collected. Prior to sampling the remaining probes, the soil gas probes were purged of three (3) volumes of dead air using a 30 to 60 milliliter (mL) syringe connected via an on-off valve. This helped to ensure that a sufficient volume of ambient air was removed from the sampling point and that samples collected were representative of subsurface conditions. The purged volume was calculated by summing the volume of the sample tubing and annular space around the probe tip. One purge volume for the 3 and 6-foot probes are approximately 12 and 29 milliliters (mL), respectively. Three default purge volumes for the 3 and 6-foot probes are 35 and 58 mL, respectively.

After the probes were adequately purged of three well volumes, soil gas samples were collected into laboratory–evacuated 1-L Summa™ canisters. A sampling manifold with a critical orifice flow controllers designed and provided by McCampbell Analytical Inc. was placed inline between the soil gas probe and Summa™ canister to ensure that it was filled at a constant rate of between 100 to 200 milliliters per minute (mL/min) as recommended by the ASGI. A new laboratory-certified clean sampling manifold was used at each sampling point.

During sampling, an open container of isopropyl alcohol (leak check compound), was placed inside a plastic Tupperware box designed to encompass the well box where the soil gas tubing and the grout seal meet, the sampling manifold, and the Summa canister. Weather stripping was attached to the bottom of the Tupperware box to help seal the box to the pavement. A small access hole was drilled into the box which was used as an access port for PID measurements

during sampling. To avoid possible cross contamination, the isopropyl alcohol leak check compound was stored separately from other sampling tools in a zipper locking bag.

A total of six (6) soil gas samples, which included one field duplicate (SG-3-3) were transported under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification #1644). Samples were analyzed for TPH-g by EPA Method Modified TO-3, and BTEX and MTBE by EPA Method Modified TO-15, when possible. If hydrocarbon concentrations were too high, sample analysis for BTEX and MTBE was run by EPA Method 8260B. In addition, the samples were analyzed for isopropyl alcohol, the leak check compound, as detect or non detect. Laboratory procedures included appropriate quality assurance and quality control analyses, including method blanks and use of surrogates during sample analyses. According to McCampbell Analytical, the analytical equipment was calibrated in conformance with the most current ASGI and the modified EPA Analytical Methods. In addition, the leak compound was not detected at or above the requested detection limit, indicating that a significant leak was not present during sampling.

Field Results – Groundwater

No free product was encountered during monitoring activities during the recent sampling events. Groundwater elevations during the current quarterly monitoring episode ranged from 28.62 to 29.58 feet above mean sea level (amsl). The groundwater was on average 2.06 feet lower then during the previous quarter. Groundwater was as shallow as 4.16 feet below the top of casing (EX-1) resulting in submerged screens in a few of the wells. The direction of the groundwater flow during the May 15, 2009 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 1b, and a groundwater elevation map is included as Figure 4.

Field Results – Soil Gas

During the collection of soil vapor samples, water was observed in the tubing of SG-1-3 after approximately 1 minute of sample collection. The canister was closed and the collected volume, less than the laboratory desired amount, was sent to the laboratory for analysis. In boring SG-3-6, low flow conditions were encountered and after approximately 1 hour of sample collection, the vacuum in the summa canister had only dropped from -30 inches of mercury to -20 inches of mercury. The canister was then closed and, although not full, the summa canister was sent to the laboratory. In addition, tight (or low flow) conditions were observed in several of the soil vapor probes. Please refer to the soil gas sampling probe field sheets in Appendix C for additional field sampling details.

Groundwater Quality

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

- Monitoring well MW-1R was reported to contain TPHg, benzene, and MTBE at concentrations of 890 micrograms per liter (µg/L), 6.0 µg/L, and 1.8 µg/L, respectively. These concentrations are generally higher then last quarter, however relatively similar to concentrations observed since 2007.
- Monitoring well MW-2 was reported to contain TPHg, benzene, MTBE, and TBA at a concentration of 220 µg/L, 13 µg/L, 21 µg/L, and 60 µg/L, respectively. These concentrations are relatively consistent with recent data.
- Monitoring well MW-3 was reported to contain TPHg, benzene, MTBE, and TBA at concentrations of 2,000 µg/L, 15 µg/L, 13,000 µg/L, and 260,000 µg/L, respectively. These concentrations are lower than recently observed, with the exception of TBA, and remain significantly lower than historical concentrations, with the exception of TBA.
- Monitoring well MW-4 was reported to contain TPHg, benzene, MTBE, and TBA at concentrations of 32,000 µg/L, 300 µg/L, 470 µg/L, and 380 µg/L, respectively. TPHg increased since the last quarter and TBA decreased since that last quarter, however these concentrations are fairly similar to recent data and remain at, or near, historical lows.
- Monitoring well MW-5 was reported to contain MTBE at a concentration of 7.6 µg/L. MTBE is typically the only constituent detected in well MW-5.
- Monitoring well MW-6 was reported to contain TPHg, benzene, MTBE, and TBA at a concentration of 53 µg/L, 3.2 µg/L, 44 µg/L, and 89 µg/L, respectively. These concentrations represent an increase since the last quarter, however are relatively consistent with recent data.
- Well EX-1 was reported to contain TPHg, benzene, MTBE, and TBA at concentrations of 18,000 µg/L, 1,400 µg/L, 640 µg/L, and 5,500 µg/L, respectively. These concentrations, are lower then last quarter, with the exception of TBA, however relatively similar to those seen during the historical sampling events.

Complete groundwater sample analytical data from the sampling event is included in Table 2 and select data is displayed on Figure 5. Laboratory results and chain of custody documents are included in Appendix B.

Soil Vapor Analytical Results

Petroleum hydrocarbons were detected in the soil vapor samples obtained from the shallow vapor probes as follows:

- TPHg was detected in each of the two shallow probes sampled at concentrations of 78,000 micrograms per cubic meter (µg/m^3) (SG-3-3) and 150,000 µg/m^3 (SG-1-3).

BTEX and MTBE were not detected in the shallow soil vapor probes at or above the laboratory detection limit.

Petroleum hydrocarbons were detected in the soil vapor samples obtained from the deep vapor probes as follows:

- TPHg was detected in each of the three deep probes at concentrations of 860,000 µg/m^3 (SG-1-6), 860,000 µg/m^3 (SG-2-6), and 860,000 µg/m^3 (SG-3-6).
- Benzene was detected in each of the three deep probes at concentrations of 3,200 µg/m^3 (SG-1-6), 12,000 µg/m^3 (SG-2-6), and 2,300 µg/m^3 (SG-3-6).

Toluene, ethylbenzene, xylenes, and MTBE were not detected at or above the laboratory detection limit in the samples analyzed. Soil vapor analytical results are displayed on Table 3 and Figure 6, and a copy of the laboratory analytical report is included in Appendix B.

Summary

Groundwater during the May 2009 episode 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 quarter by 2.06 feet on average. Although hydrocarbon concentrations onsite were relatively consistent with concentrations observed during the 1st quarter 2009, offsite wells are necessary to further characterize the extent of the offsite plume. A Feasibility Study / Corrective Action Plan was submitted to the ACHCSA on June 29, 2009. Proposed pilot study activities, including the installation of select offsite monitoring wells, were detailed in the report and will be completed following approval from the ACHCSA. In addition, the ACHCSA has requested that groundwater sampling frequency at the subject site decrease from quarterly to semi-annually. AEI proposes to complete the semi-annual sampling events during the 1st and 3rd quarters, therefore, the next sampling event is scheduled for August 2009 (2nd Semester 2009 Event). Once the offsite wells are installed, a revised quarterly or semi-annual sampling program will be proposed.

REPORT LIMITATIONS AND SIGNATURES

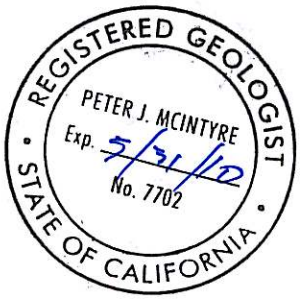
This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen 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



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- Figure 2: Extended Site Plan
- Figure 3: Site Plan
- Figure 4: Groundwater Elevation Map
- Figure 5: Groundwater Analytical Map
- Figure 6: Soil Vapor Analytical Map

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- Table 1b: Groundwater Flow Data
- Table 2: Groundwater Analytical Data
- Table 3: Soil Vapor Analytical Data

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

Distribution:
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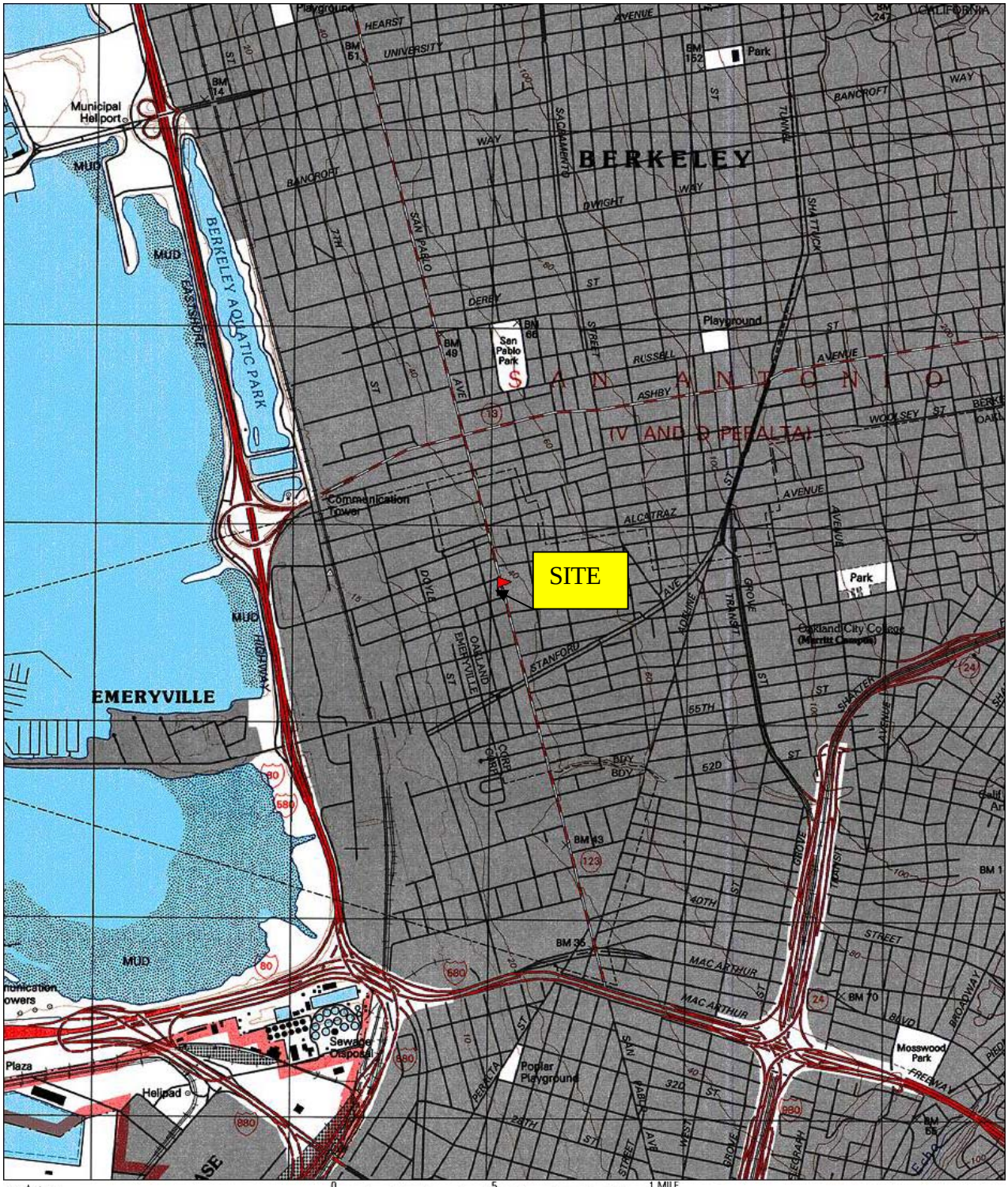
Mr. Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612

FIGURES



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

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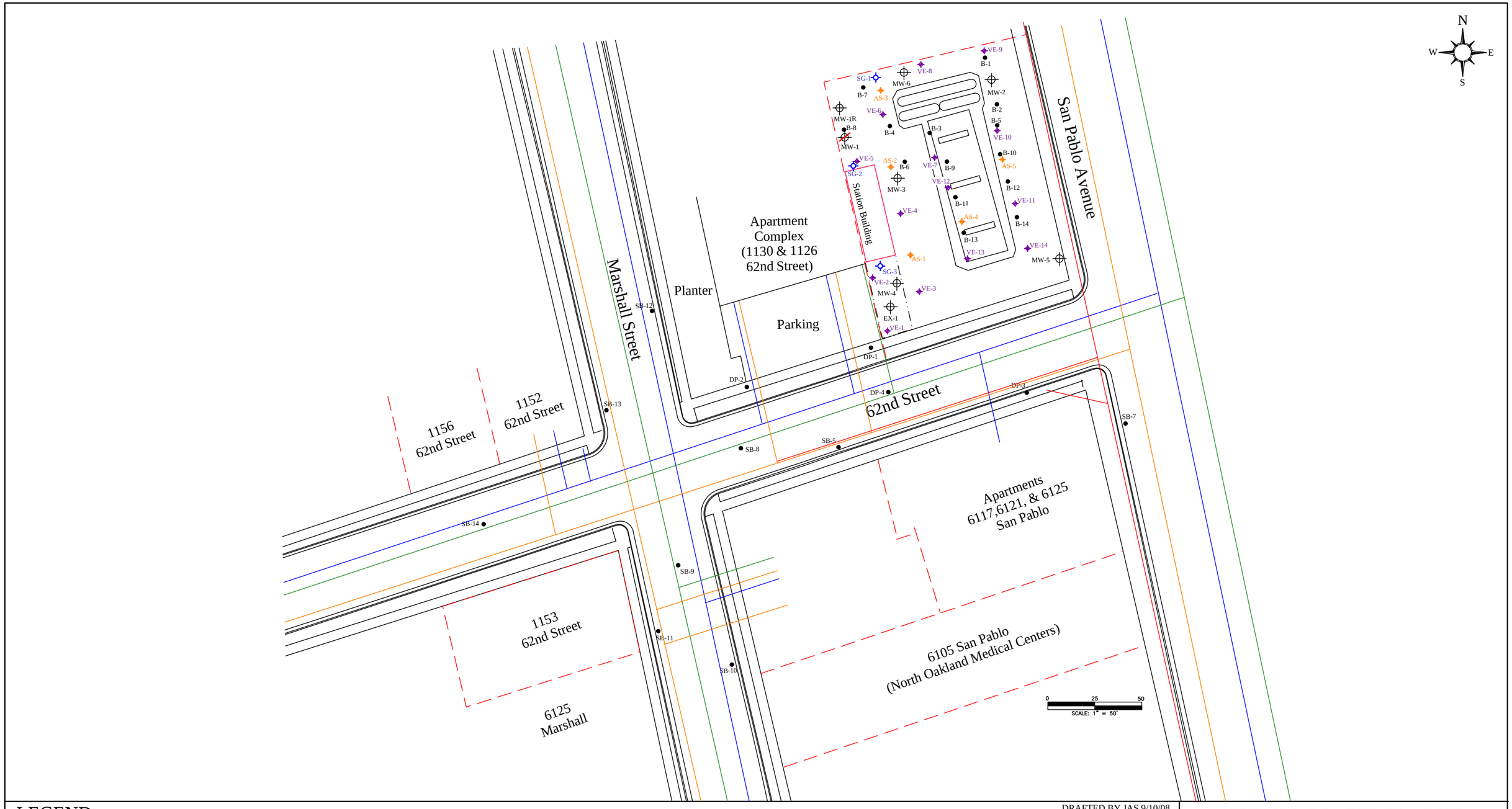
SITE LOCATION PLAN

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

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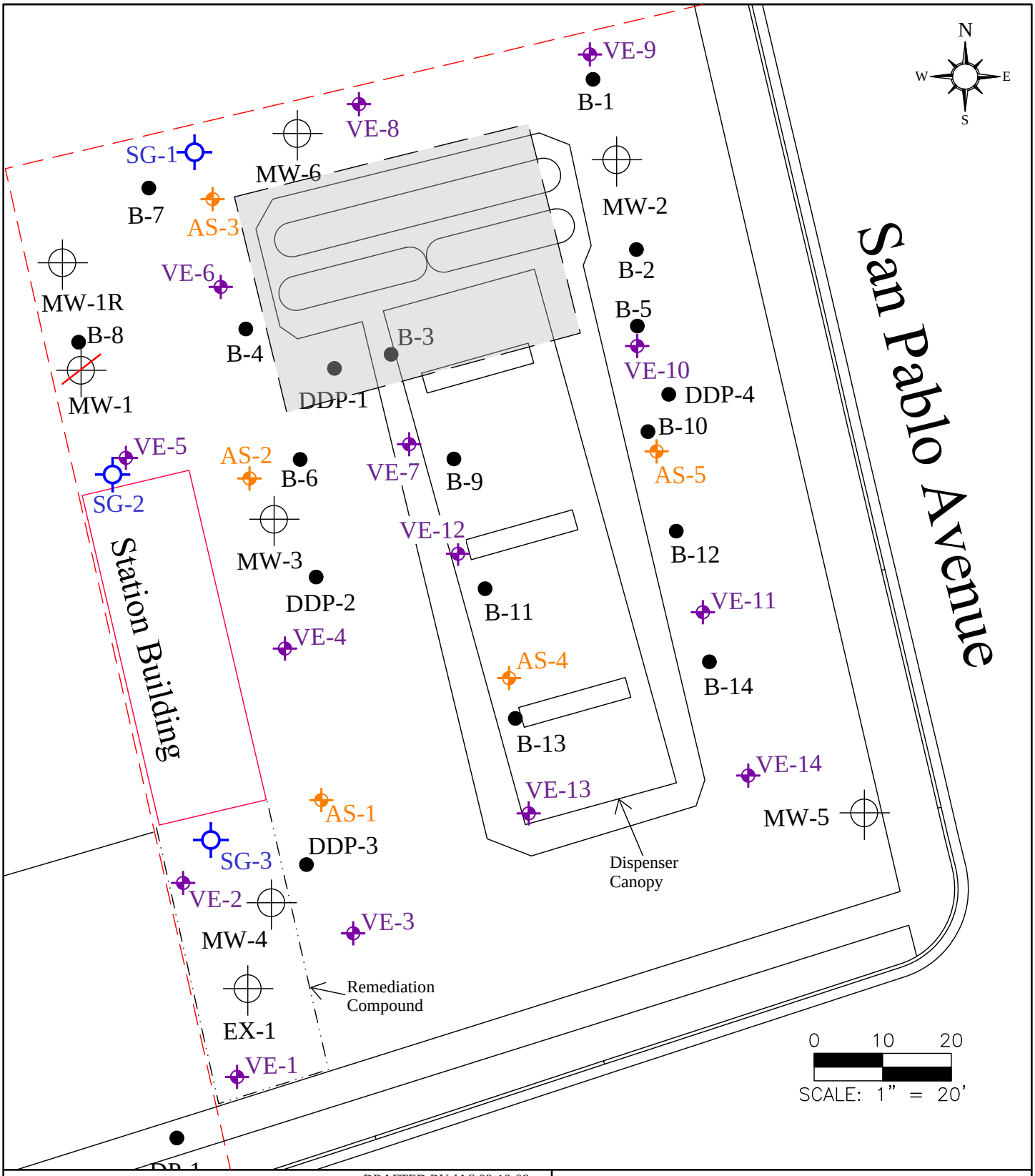
EXTENDED SITE PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 280346



LEGEND

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

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REVISED BY JAS 09-26-08

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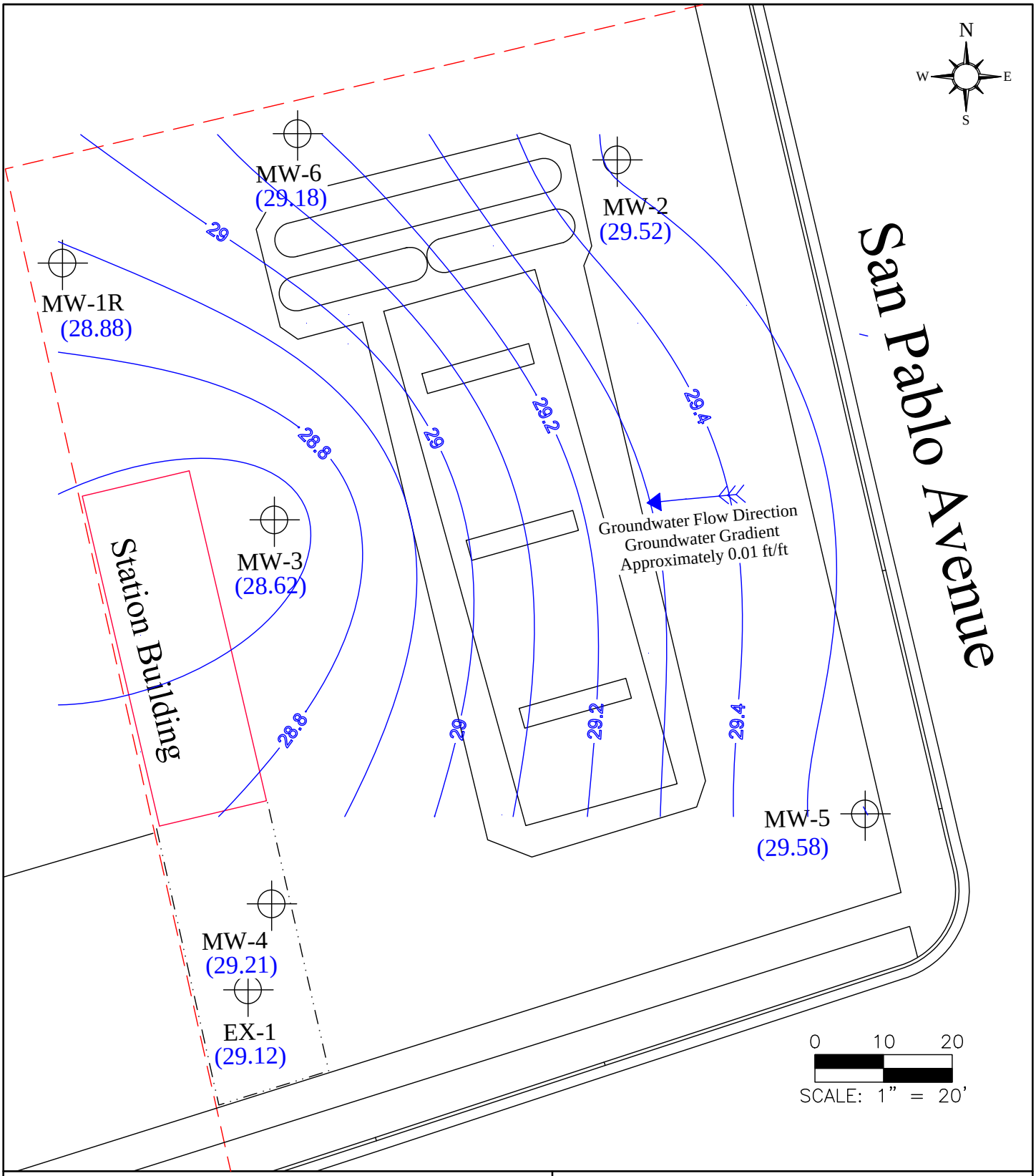
SITE PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 3
PROJECT NO. 280346



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MONITORING WELL

(28.68) = Groundwater Elevation Mean Sea Level

Depth to Groundwater Collected on May 15, 2009
Wells MW-4 and EX-1 not used for groundwater flow calculations
Contour Line Gradient = 0.10 Feet
Contour Line by Surfer® Version 7

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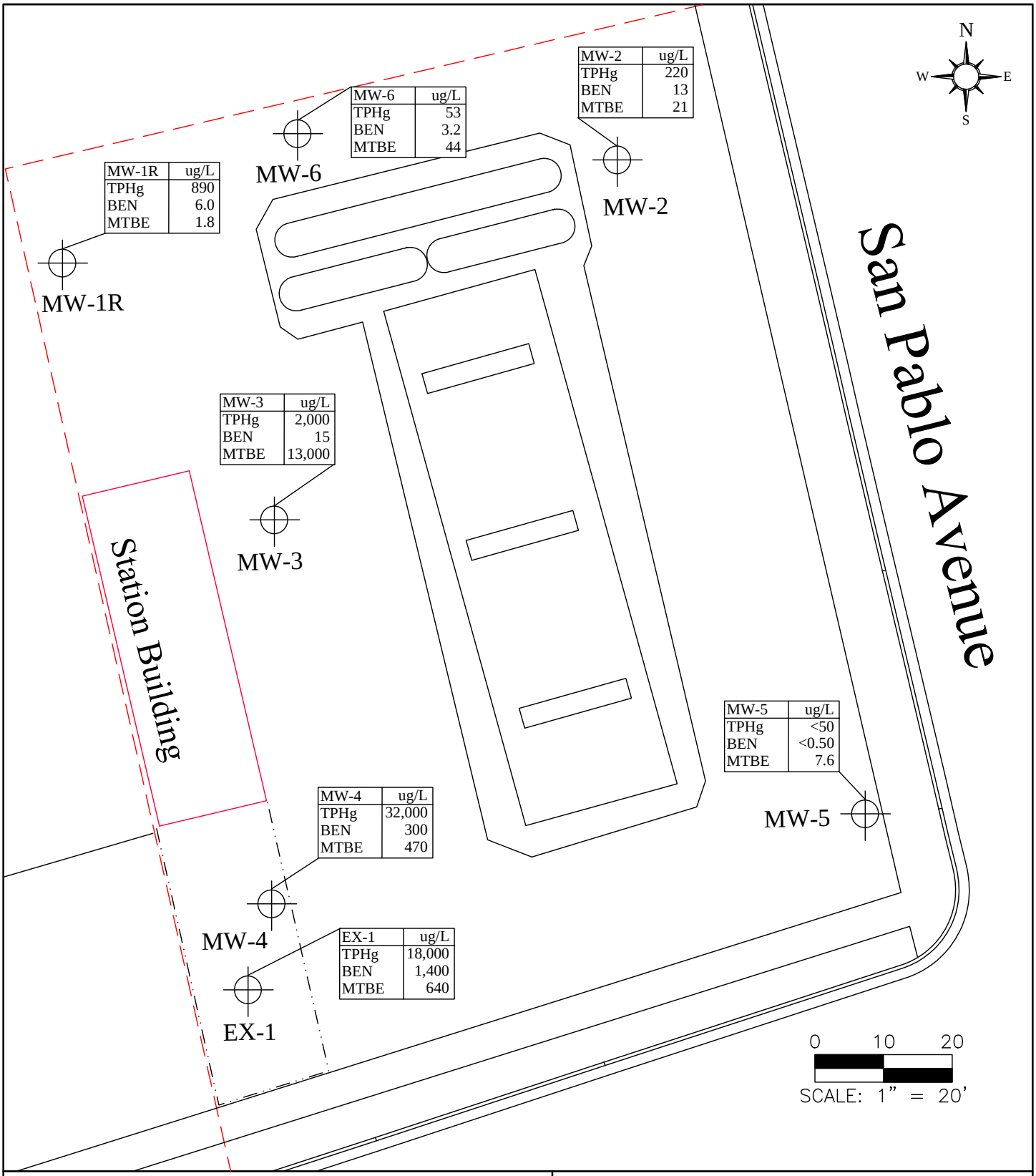
2500 CAMINO DIABLO, WALNUT CREEK

GROUNDWATER ELEVATION MAP

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 4
PROJECT NO. 280346



LEGEND

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MONITORING WELL

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

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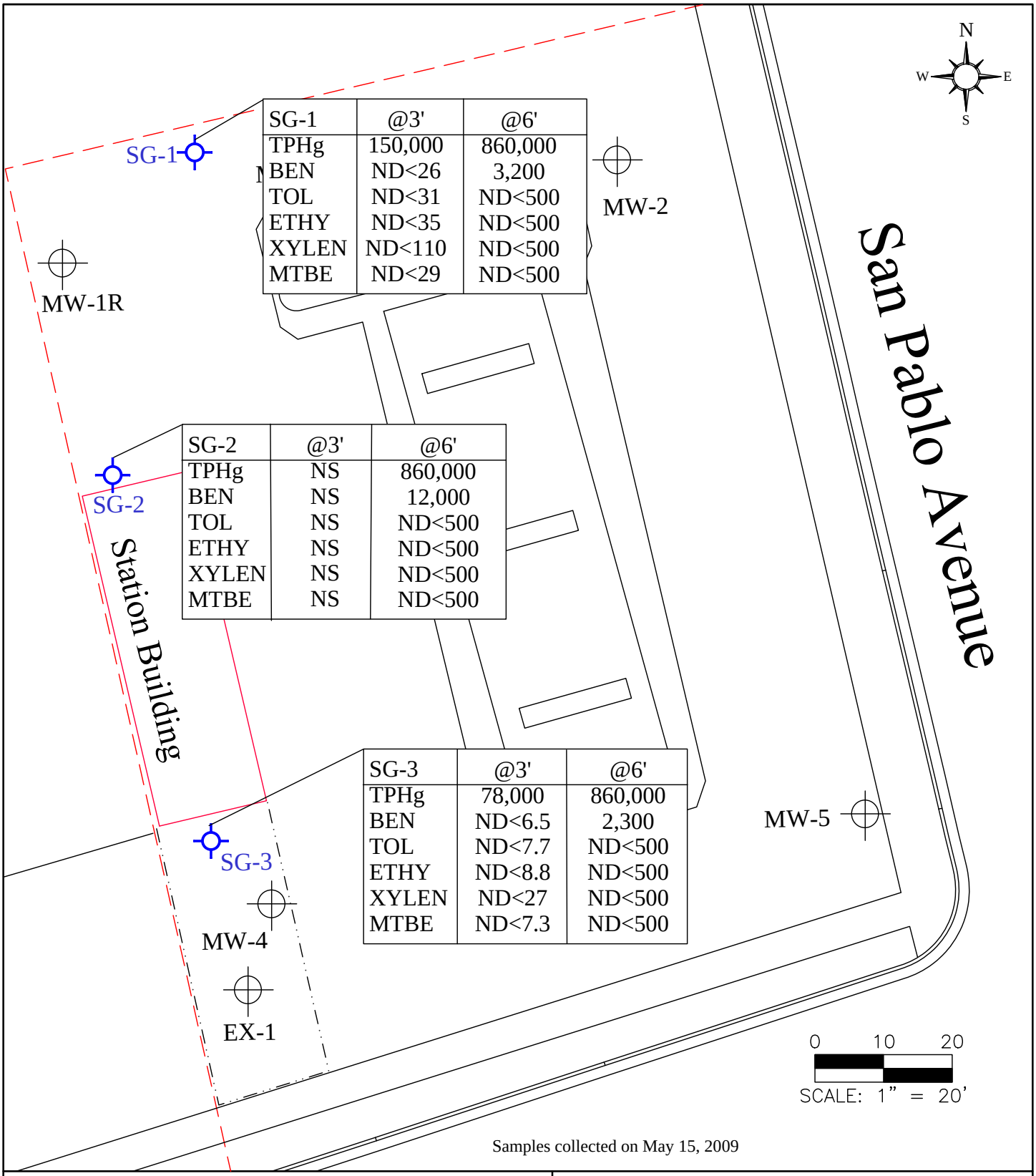
2500 CAMINO DIABLO, WALNUT CREEK

GROUNDWATER ANALYTICAL MAP - May 15, 2009

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
PROJECT NO. 280346



SG-1	@3'	@6'
TPHg	150,000	860,000
BEN	ND<26	3,200
TOL	ND<31	ND<500
ETHY	ND<35	ND<500
XYLEN	ND<110	ND<500
MTBE	ND<29	ND<500

SG-2	@3'	@6'
TPHg	NS	860,000
BEN	NS	12,000
TOL	NS	ND<500
ETHY	NS	ND<500
XYLEN	NS	ND<500
MTBE	NS	ND<500

SG-3	@3'	@6'
TPHg	78,000	860,000
BEN	ND<6.5	2,300
TOL	ND<7.7	ND<500
ETHY	ND<8.8	ND<500
XYLEN	ND<27	ND<500
MTBE	ND<7.3	ND<500

Samples collected on May 15, 2009

LEGEND

MONITORING WELL

NESTED VAPOR PROBE

All results in micrograms per cubic meter (ug/m3)
TPHg = Total Petroleum Hydrocarbons as gasoline
BEN = benzene, TOL= toluene, ETHY = ethylbenzene,
XYLEN = xylenes, MTBE = methyl tert butyl ether

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REVISED BY JAS 09-26-08

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2500 CAMINO DIABLO, WALNUT CREEK

SOIL VAPOR ANALYTICAL MAP

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 6

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**
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**
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**
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**
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**
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**
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**

Table 1b, 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)**

ft amsl = feet above mean sea level
All water level depths are measured from the top of casing
NA = not available

Table 2, 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**
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

Table 2, 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	2/17/2005	18,000	2,100	31	800	680	20,000	ND	ND	1,000	ND	NA	NA
(cont.)	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**
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**

Table 2, 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**
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
	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
	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**
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

Table 2, 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-6	5/5/2006	1,600	130	21	37	65	1,400	ND	ND	53	3,100	ND	ND
(cont.)	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**
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**

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

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346
Soil Vapor Analytical Data

Sample ID	Date	TPHg ug/m^3	Benzene ug/m^3	Toluene ug/m^3	Ethylbenzene ug/m^3	Xylenes ug/m^3	MTBE ug/m^3
Shallow Probes							
SG-1-3	12/3/2008	**20,000**	ND<6.5	**25**	**10**	**39**	ND<7.3
	5/15/2009	**150,000**	ND<26	ND<31	ND<35	ND<110	ND<29
SG-2-3	12/3/2008	**18,000**	ND<26	ND<31	ND<35	ND<110	**470**
	5/15/2009	NS	NS	NS	NS	NS	NS
SG-3-3	12/3/2008*	**470,000**	ND<140	**10,000**	ND<120	**750**	ND<1,200
	5/15/2009	**78,000**	ND<6.5	ND<7.7	ND<8.8	ND<27	ND<7.3
Deep Probes							
SG-1-6	12/3/2008*	**43,000,000**	**12,000**	**480,000**	ND<7,600	**21,000**	ND<110,000
	5/15/2009	**860,000**	**3,200****	ND<500**	ND<500**	ND<500**	ND<500**
SG-2-6	12/3/2008*	**38,000,000**	**41,000**	**370,000**	ND<5,400	ND<8,000	ND<290,000
	5/15/2009	**860,000**	**12,000****	ND<500**	ND<500**	ND<500**	ND<500**
SG-3-6	12/3/2008*	**1,200,000**	**890**	**26,000**	ND<1.5	**2,300**	ND<15,000
	5/15/2009	**860,000**	**2,300****	ND<500**	ND<500**	ND<500**	ND<500**
Duplicates							
SG-3-6-DUP	12/3/2008*	**440,000**	**570**	**8,800**	ND<390	**1,100**	ND<17,000
SG-3-3	5/15/2009	**10,000**	ND<6.5	ND<7.7	ND<8.8	ND<27	ND<7.3
ESL - Residential		10,000	84	63,000	980	21,000	9,400
ESL - Commercial		29,000	280	180,000	3,300	58,000	31,000

Notes:
TPHg = total petroleum hydrocarbons as gasoline using TO3 or EPA Method 8015*
Benzene, toluene, ethylbenzene, and xylenes using Method TO15, EPA Method 8021B*, or EPA Method 8260**
MTBE = methyl-tertiary butyl ether using Method TO15, EPA Method 8021B*, or EPA Method 8260**
$\mu g/m^3$= micrograms per cubic meter
ND = non detect at respective reporting limit
NS = not sampled
ESL = Environmental Screening Level for shallow soil vapor as determined by the Regional Water Quality Control Board - San Francisco Bay Region.

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:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	7.79		
Water Elevation (feet above msl)	28.88		
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)	**7.2**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
9:37	1	18.11	6.23	526	0.46	-191.4	Clear
	2	18.11	6.23	524	0.43	-187.4	Clear
	3	18.13	6.17	522	0.46	-181.0	Clear
	4	18.16	6.14	522	0.5	-179.4	Clear
	5	18.19	6.09	521	0.65	-175.5	Clear
	6	18.23	6.02	523	1.23	-173.6	Clear
	7	18.24	6.02	524	1.56	-175.6	Clear
9:42	8	18.24	6.01	526	1.73	-177.3	Clear

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

Strong hydrocarbons odors noted

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Alaska Gas	Date of Sampling:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	6.81		
Water Elevation (feet above msl)	29.52		
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)	7.0		
Appearance of Purge Water	Initially light brown, clearing by 3 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
10:09	1	18.95	6.78	595	0.41	-172.9	Light brown
	2	19.00	6.73	602	0.30	-181.8	Light brown
	3	19.38	6.66	615	0.29	184.6	Clear
	4	19.55	6.62	631	0.25	-188.8	Clear
	5	19.29	6.61	630	0.27	-193.7	Clear
	6	19.05	6.60	628	0.27	-198.4	Clear
10:15	7	19.06	6.60	598	0.33	-207.1	Clear

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

No hydrocarbon odors noted

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Alaska Gas	Date of Sampling:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	6.50		
Water Elevation (feet above msl)	28.62		
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)	**6.9**		
Actual Volume Purged (gallons)	7.0		
Appearance of Purge Water	Clear at 1 gallon		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
10:40	1	19.25	6.78	761	1.12	-163.9	Clear
	2	18.94	6.64	760	1.13	-178.6	Clear
	3	19.00	6.54	759	3.07	-182.1	Clear
	4	19.06	6.43	778	3.51	-189.8	Clear
	5	19.05	6.41	784	3.43	-194.3	Clear
	6	19.05	6.40	783	3.32	-196.9	Clear
10:46	7	19.05	6.38	784	3.06	-200.8	Clear

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

Strong hydrocarbon odors noted

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Alaska Gas	Date of Sampling:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	4.90		
Water Elevation (feet above msl)	29.21		
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)	**7.1**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Initially dark, clear at 1.5 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
10:57	1	19.48	6.68	619	0.45	-225.8	Dark
	23	19.02	6.65	613	0.29	-230.7	clear
	3	19.08	6.59	600	0.27	-228.3	clear
	4	19.08	6.59	640	0.26	-228.7	clear
	5	19.08	6.61	658	0.28	-229.8	clear
	6	19.04	6.65	695	0.38	-232.3	clear
	7	19.03	6.70	720	0.78	-234.5	clear
	8	19.01	6.76	734	1.36	-234.5	clear

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

Strong petroleum odors noted

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Alaska Gas	Date of Sampling:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	5.59		
Water Elevation (feet above msl)	29.58		
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)	**9.0**		
Actual Volume Purged (gallons)	9.0		
Appearance of Purge Water	Initially light brown, clear at 1.5 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
9:53	1	19.53	6.54	743	0.86	-139.3	Light brown
	2	19.38	6.52	743	0.51	-163.6	clear
	3	19.36	6.61	737	0.44	-172.5	clear
	4	19.38	6.50	728	0.38	-181.9	clear
	5	19.39	6.50	723	0.36	-182.7	clear
	6	19.40	6.48	714	0.35	-186.9	clear
	7	19.42	6.47	707	0.32	-188.0	clear
	8	19.43	6.43	703	0.33	-188.1	clear
10:00	9	19.43	6.41	701	0.34	-189.7	clear

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

No hydrocarbons odors noted

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Alaska Gas	Date of Sampling:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	6.89		
Water Elevation (feet above msl)	29.18		
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)	**7.9**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
9:28	1	18.53	6.79	537	1.70	-105.8	Clear
	2	18.03	6.72	534	0.86	-132.9	Clear
	3	18.06	6.63	531	0.80	-139.8	Clear
	4	18.11	6.49	526	1.03	-142.3	Clear
	5	18.12	6.39	524	1.36	-139.8	Clear
	6	18.15	6.30	522	2.53	-140.3	Clear
	7	18.17	6.25	522	3.09	-138.4	Clear
9:34	8	18.19	6.22	522	3.15	-137.4	Clear

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

No hydrocarbon odors noted.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: EX-1

Project Name:	Alaska Gas	Date of Sampling:	5/15/2009
Job Number:	280346	Name of Sampler:	A. Nieto
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)	4.16		
Water Elevation (feet above msl)	29.12		
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)	**45.5**		
Actual Volume Purged (gallons)	46.0		
Appearance of Purge Water	Initiallly dark grey, clearing at 2 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 4 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
11:07	1	19.44	6.84	772	0.32	-166.6	dark grey
	2	19.40	6.88	772	0.30	-170.0	clear
	3	19.37	6.89	770	0.30	-181.9	clear
	4	19.31	6.94	770	0.27	-195.2	clear
	5	19.28	6.94	769	0.25	-205.8	clear
	10	19.01	6.92	763	1.46	-248.0	clear
	15	19.05	6.83	800	1.40	-236.8	clear
	20	19.22	6.80	853	1.34	-250.9	clear
	25	19.28	6.76	857	1.28	-265.0	clear
	30	19.24	6.73	833	1.24	-258.7	clear
	35	19.14	6.77	787	1.14	-262.8	clear
	40	19.01	6.80	753	0.97	-272.5	clear
	45	18.98	6.82	748	0.93	-270.1	clear
11:39	46	19.93	6.78	746	0.81	-272.2	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 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #280346; Alaska Gas, 6211 San Pablo Avenue	Date Sampled: 05/15/09
		Date Received: 05/15/09
	Client Contact: Jeremy Smith	Date Reported: 05/21/09
	Client P.O.: #WC081622	Date Completed: 05/18/09

WorkOrder: 0905327

May 21, 2009

Dear Jeremy:

Enclosed within are:

1) The results of the **7** analyzed samples from your project: **#280346; Alaska Gas, 6211 San Pabl**
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.

0905327

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. # WC081622**

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		5/15/04	1150	4	VOA	X					X				X	X			X											
MW-2		"	1200	"	"	X					X				X	X			X											
MW-3		"	1210	"	"	X					X				X	X			X											
MW-4		"	1230	"	"	X					X				X	X			X											
MW-5		"	1220	"	"	X					X				X	X			X											
MW-6		"	1215	"	"	X					X				X	X			X											
EX-1		"	1240	"	"	X					X				X	X			X											

Relinquished By:	Date:	Time:	Received By:
	5/15/04	16:16	Envirotech T.L
Enviro Tech SR.	5/15	1735	
	5-15-04	6:10 PM	

ICE/t° 4 4
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB

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: 0905327 **ClientCode: AEL**

☐ 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: #WC081622
ProjectNo: #280346; Alaska Gas, 6211 San Pablo Avenue

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

Requested TAT: 5 days

Date Received: **05/15/2009**
Date Printed: **05/15/2009**

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
0905327-001	MW-1R	Water	5/15/2009 11:50	☐	B	A	A									
0905327-002	MW-2	Water	5/15/2009 12:00	☐	B	A										
0905327-003	MW-3	Water	5/15/2009 12:10	☐	B	A										
0905327-004	MW-4	Water	5/15/2009 12:30	☐	B	A										
0905327-005	MW-5	Water	5/15/2009 12:20	☐	B	A										
0905327-006	MW-6	Water	5/15/2009 12:15	☐	B	A										
0905327-007	EX-1	Water	5/15/2009 12:40	☐	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.

McCampbell Analytical, Inc.
"When Quality Counts"

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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: **5/15/2009 6:46:25 PM**

Project Name: **#280346; Alaska Gas, 6211 San Pablo Avenue** Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0905327** Matrix Water Carrier: EnviroTech

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: 4.4°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 ☑
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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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #280346; Alaska Gas, 6211 San Pablo Avenue	Date Sampled: 05/15/09
		Date Received: 05/15/09
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 05/15/09-05/18/09
Walnut Creek, CA 94597	Client P.O.: #WC081622	Date Analyzed 05/15/09-05/18/09

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0905327

Lab ID	0905327-001B	0905327-002B	0905327-003B	0905327-004B	Reporting Limit for DF =1	
Client ID	MW-1R	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	1	1	2000	20	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	0.87	ND<1000	95	NA	0.5
t-Butyl alcohol (TBA)	3.9	60	260,000	380	NA	2.0
1,2-Dibromoethane (EDB)	ND	ND	ND<1000	ND<10	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND<1000	ND<10	NA	0.5
Diisopropyl ether (DIPE)	ND	ND	ND<1000	ND<10	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND<1000	ND<10	NA	0.5
Methyl-t-butyl ether (MTBE)	1.8	21	13,000	470	NA	0.5
Surrogate Recoveries (%)						
%SS1:	86	83	86	86		
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 coelutes with another peak; &) low surrogate due to matrix interference.

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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, 6211 San Pablo Avenue	Date Sampled: 05/15/09
		Date Received: 05/15/09
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 05/15/09-05/18/09
Walnut Creek, CA 94597	Client P.O.: #WC081622	Date Analyzed 05/15/09-05/18/09

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0905327

Lab ID	0905327-005B	0905327-006B	0905327-007B		Reporting Limit for DF =1	
Client ID	MW-5	MW-6	EX-1			
Matrix	W	W	W			
DF	1	2	50		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	4.3	200		NA	0.5
t-Butyl alcohol (TBA)	ND	89	5500		NA	2.0
1,2-Dibromoethane (EDB)	ND	ND<1.0	ND<25		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<1.0	ND<25		NA	0.5
Diisopropyl ether (DIPE)	ND	ND<1.0	ND<25		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<1.0	ND<25		NA	0.5
Methyl-t-butyl ether (MTBE)	7.6	44	640		NA	0.5
Surrogate Recoveries (%)						
%SS1:	85	84	86			
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 coelutes with another peak; &) low surrogate due to matrix interference.

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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AEI Consultants	Client Project ID: #280346; Alaska Gas, 6211 San Pablo Avenue	Date Sampled: 05/15/09
		Date Received: 05/15/09
2500 Camino Diablo, Ste. #200	Client Contact: Jeremy Smith	Date Extracted: 05/18/09-05/20/09
Walnut Creek, CA 94597	Client P.O.: #WC081622	Date Analyzed: 05/18/09-05/20/09

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 0905327

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1R	W	890	ND<15	6.0	17	27	110	1	99	d1
002A	MW-2	W	220	21	13	0.93	26	13	1	117	d1
003A	MW-3	W	2000	12,000	15	21	13	35	10	110	d1
004A	MW-4	W	32,000	ND<900	300	190	880	3200	10	114	d1
005A	MW-5	W	ND	6.1	ND	ND	ND	ND	1	107	
006A	MW-6	W	53	43	3.2	ND	ND	1.7	1	110	d1
007A	EX-1	W	18,000	ND<1100	1400	250	530	1700	10	123	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 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:

d1) weakly modified or unmodified gasoline is significant

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 43239 WorkOrder: 0905327

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 0905282-003b**

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
tert-Amyl methyl ether (TAME)	ND	10	101	100	0.132	102	100	1.54	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	81.6	86.8	6.26	87.8	85.7	2.40	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	110	111	1.35	115	110	4.14	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	110	111	1.06	111	107	3.61	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	106	106	0	105	103	1.28	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	115	116	0.645	117	115	1.72	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	101	101	0	103	100	2.52	70 - 130	30	70 - 130	30
%SS1:	81	25	81	81	0	82	82	0	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 43239 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905327-001B	05/15/09 11:50 AM	05/18/09	05/18/09 8:29 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: 43258 WorkOrder: 0905327

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 0905327-006B**

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)	4.3	10	108	103	3.18	79.9	96.1	18.4	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	89	50	98.3	105	2.32	74.6	88	16.4	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND<1.0	10	114	110	3.16	88.4	106	18.1	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND<1.0	10	111	107	4.08	85.1	102	18.1	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND<1.0	10	106	101	4.85	84.8	103	19.1	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND<1.0	10	117	110	5.58	92.8	112	18.5	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	44	10	NR	NR	NR	81.6	99	19.3	70 - 130	30	70 - 130	30
%SS1:	84	25	80	81	0.260	82	84	1.70	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 43258 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905327-002B	05/15/09 12:00 PM	05/15/09	05/15/09 9:52 PM	0905327-003B	05/15/09 12:10 PM	05/18/09	05/18/09 9:07 PM
0905327-004B	05/15/09 12:30 PM	05/18/09	05/18/09 9:45 PM	0905327-005B	05/15/09 12:20 PM	05/18/09	05/18/09 10:24 PM
0905327-006B	05/15/09 12:15 PM	05/18/09	05/18/09 11:02 PM	0905327-007B	05/15/09 12:40 PM	05/18/09	05/18/09 11:40 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 SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 43257 WorkOrder: 0905327

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 0905329-001A**

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
TPH(btex)£	ND	60	118	124	4.97	107	109	2.03	70 - 130	20	70 - 130	20
MTBE	ND	10	104	99.6	4.05	119	120	0.764	70 - 130	20	70 - 130	20
Benzene	ND	10	101	99.1	1.63	98.9	92.1	7.14	70 - 130	20	70 - 130	20
Toluene	ND	10	103	99.1	3.59	97	90.5	7.01	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	102	98.4	3.44	95.3	89.1	6.67	70 - 130	20	70 - 130	20
Xylenes	ND	30	105	102	3.05	96.2	90.3	6.29	70 - 130	20	70 - 130	20
%SS:	102	10	98	101	3.29	98	94	4.44	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 43257 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905327-001A	05/15/09 11:50 AM	05/19/09	05/19/09 12:18 AM	0905327-002A	05/15/09 12:00 PM	05/19/09	05/19/09 12:51 AM
0905327-003A	05/15/09 12:10 PM	05/18/09	05/18/09 4:04 PM	0905327-003A	05/15/09 12:10 PM	05/19/09	05/19/09 5:55 PM
0905327-004A	05/15/09 12:30 PM	05/18/09	05/18/09 5:05 PM	0905327-005A	05/15/09 12:20 PM	05/20/09	05/20/09 4:19 AM
0905327-006A	05/15/09 12:15 PM	05/18/09	05/18/09 5:59 PM	0905327-007A	05/15/09 12:40 PM	05/18/09	05/18/09 5:36 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

APPENDIX C

SOIL GAS PROBE FIELD SAMPLING FORMS

AEI CONSULTANTS

SOIL GAS SAMPLING FIELD FORM

SOIL GAS PROBE ID:	SG-1-3

Project Name:	Alaska Gasoline	Date of Sampling:	05/15/09
Job Number:	280346	Start Time:	8:05
Project Address:	6211 San Pablo Avenue	End Time:	8:06
		Name of Sampler:	J.Sigg

SOIL GAS PROBE DATA

Starting Vacuum (in-Hg)	-29.0
Ending Vacuum (in-Hg)	-22.0
Flow Controller / Sampling Flow Rate (mL/min)	**250**
Tubing Inside Diameter (1/8" or 1/4")	**1/8"**
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	WELL BOX IN GOOD CONDITION
Depth of Probe (ft bgs)	**3**
Length of Tubing Above Grade (ft)	**2**
Total Length of Tubing Purged (ft)	**5**
Number of Purge Volumes (default = 3 purge volumes)	**3**
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	**35 mL**
Appreciable Amount of Rain (>1/2") in Last Five Days?	**NO**
Moisture / Water Present in Tubing?	**YES**

SOIL GAS SAMPLING EQUIPMENT

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6165
Sampling Manifold / Flow Controller Number	MAN316-715
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS

PID Readings at 1 Minute =
PID Readings at 3 Minutes =
Bailed water from well box; water in the tubing after one minute of sample collection, sample stopped.

cc = cubic centimeter
mL = milliliter
1 L = 1000 mL
1 mL = 1 cc
in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL GAS SAMPLING FIELD FORM

SOIL GAS PROBE ID:	SG-1-6

Project Name:	Alaska Gasoline	Date of Sampling:	05/15/09
Job Number:	280346	Start Time:	8:17
Project Address:	6211 San Pablo Avenue	End Time:	8:24
		Name of Sampler:	J.Sigg

SOIL GAS PROBE DATA

Starting Vacuum (in-Hg)	-30.0
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	**250**
Tubing Inside Diameter (1/8" or 1/4")	**1/8"**
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	WELL BOX IN GOOD CONDITION
Depth of Probe (ft bgs)	**6**
Length of Tubing Above Grade (ft)	**2**
Total Length of Tubing Purged (ft)	**8**
Number of Purge Volumes (default = 3 purge volumes)	**3**
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	**58 mL**
Appreciable Amount of Rain (>1/2") in Last Five Days?	**NO**
Moisture / Water Present in Tubing?	**NO**

SOIL GAS SAMPLING EQUIPMENT

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	1461
Sampling Manifold / Flow Controller Number	762
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS

PID Readings at 1 Minute = 0.523

PID Readings at 3 Minutes = 1.021

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL GAS SAMPLING FIELD FORM

SOIL GAS PROBE ID:	SG-2-3

Project Name:	Alaska Gasoline	Date of Sampling:	05/15/09
Job Number:	280346	Start Time:	
Project Address:	6211 San Pablo Avenue	End Time:	
		Name of Sampler:	J.Sigg

SOIL GAS PROBE DATA

Starting Vacuum (in-Hg)	
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	**250**
Tubing Inside Diameter (1/8" or 1/4")	**1/8"**
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	WELL BOX IN GOOD CONDITION
Depth of Probe (ft bgs)	**3**
Length of Tubing Above Grade (ft)	**2**
Total Length of Tubing Purged (ft)	**5**
Number of Purge Volumes (default = 3 purge volumes)	**3**
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	**35 mL**
Appreciable Amount of Rain (>1/2") in Last Five Days?	**NO**
Moisture / Water Present in Tubing?	**NO**

SOIL GAS SAMPLING EQUIPMENT

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	
Sampling Manifold / Flow Controller Number	
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS

PID Readings at 1 Minute =
PID Readings at 3 Minutes =
Soil Probe Not Sampled, water in the tubing

cc = cubic centimeter
mL = milliliter
1 L = 1000 mL
1 mL = 1 cc
in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL GAS SAMPLING FIELD FORM

SOIL GAS PROBE ID:	SG-2-6

Project Name:	Alaska Gasoline	Date of Sampling:	05/15/09
Job Number:	280346	Start Time:	9:15
Project Address:	6211 San Pablo Avenue	End Time:	9:30
		Name of Sampler:	J.Sigg

SOIL GAS PROBE DATA

Starting Vacuum (in-Hg)	-29.0
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	**250**
Tubing Inside Diameter (1/8" or 1/4")	**1/8"**
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	WELL BOX IN GOOD CONDITION
Depth of Probe (ft bgs)	**6**
Length of Tubing Above Grade (ft)	**2**
Total Length of Tubing Purged (ft)	**8**
Number of Purge Volumes (default = 3 purge volumes)	**3**
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	**58 mL**
Appreciable Amount of Rain (>1/2") in Last Five Days?	**NO**
Moisture / Water Present in Tubing?	**NO**

SOIL GAS SAMPLING EQUIPMENT

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	1462
Sampling Manifold / Flow Controller Number	722
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS

PID Readings at 1 Minute = 0.655

PID Readings at 3 Minutes = 0.912

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL GAS SAMPLING FIELD FORM

SOIL GAS PROBE ID:	SG-3-3

Project Name:	Alaska Gasoline	Date of Sampling:	05/15/09
Job Number:	280346	Start Time:	10:30
Project Address:	6211 San Pablo Avenue	End Time:	10:45
		Name of Sampler:	J.Sigg

SOIL GAS PROBE DATA

Starting Vacuum (in-Hg)	-30.0
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	**250**
Tubing Inside Diameter (1/8" or 1/4")	**1/8"**
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	WELL BOX IN GOOD CONDITION
Depth of Probe (ft bgs)	**3**
Length of Tubing Above Grade (ft)	**2**
Total Length of Tubing Purged (ft)	**5**
Number of Purge Volumes (default = 3 purge volumes)	**3**
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	**35 mL**
Appreciable Amount of Rain (>1/2") in Last Five Days?	**NO**
Moisture / Water Present in Tubing?	**NO**

SOIL GAS SAMPLING EQUIPMENT

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6169
Sampling Manifold / Flow Controller Number	718
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS

PID Readings at 1 Minute = 0.877

PID Readings at 3 Minutes = 1.372

Duplicate sample collected from SG-3-3

cc = cubic centimeter
mL = milliliter
1 L = 1000 mL
1 mL = 1 cc
in-Hg = inches of mercury
ft bgs = feet below ground surface

AEI CONSULTANTS

SOIL GAS SAMPLING FIELD FORM

SOIL GAS PROBE ID:	SG-3-6

Project Name:	Alaska Gasoline	Date of Sampling:	05/15/09
Job Number:	280346	Start Time:	11:30
Project Address:	6211 San Pablo Avenue	End Time:	12:30
		Name of Sampler:	J.Sigg

SOIL GAS PROBE DATA

Starting Vacuum (in-Hg)	-30.0
Ending Vacuum (in-Hg)	-20.0
Flow Controller / Sampling Flow Rate (mL/min)	**250**
Tubing Inside Diameter (1/8" or 1/4")	**1/8"**
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF)
Wellbox Condition	WELL BOX IN GOOD CONDITION
Depth of Probe (ft bgs)	**6**
Length of Tubing Above Grade (ft)	**2**
Total Length of Tubing Purged (ft)	**8**
Number of Purge Volumes (default = 3 purge volumes)	**3**
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	**58 mL**
Appreciable Amount of Rain (>1/2") in Last Five Days?	**NO**
Moisture / Water Present in Tubing?	**NO**

SOIL GAS SAMPLING EQUIPMENT

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	6164
Sampling Manifold / Flow Controller Number	770
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS

PID Readings at 1 Minute = 0.913

PID Readings at 3 Minutes = 1.280

Very low flow, tight conditions. Only dropped 10 in-Hg in 1 hour.

cc = cubic centimeter
mL = milliliter

1 L = 1000 mL
1 mL = 1 cc

in-Hg = inches of mercury
ft bgs = feet below ground surface