QUARTERLY GROUNDWATER MONITORING REPORT
Third Quarter 2008

Alaska Gas
1310 Central Avenue
Alameda, California 94501
LOP Case No. RO0000022

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SUBMITTED TO:
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October 16, 2008

Project No. 6022

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ACRONYMS AND ABBRREVIATIONS

ACEHS	Alameda County Environmental Health Services
AEI	All Environmental, Inc.
amsl	above mean sea level
ASE	Aqua Science Engineers, Inc.
BTEX	benzene, toluene, ethyl-benzene, xylenes
COC	chain-of-custody
DCA	1,2-dichloroethane
DIPE	di-isopropyl ether
EDB	ethylene di-bromide
EDF	electronic data file
ESL	Environmental Screening Level
EtBE	ethyl tert-butyl ether
FS/CAP	Feasibility Study/Corrective Action Plan
Geotracker	Geographical Information Management System
Matriks	Matriks Corporation
MtBE	methyl tert-butyl ether
O&G	oil and grease
µg/L	micrograms per liter
mg/Kg	milligrams per kilogram
ml	milliliter
MW	monitoring well
PDF	portable document format
RWQCB	Regional Water Quality Control Board
SC	specific conductance
tAME	tert-amyl methyl ether
tBA	tert butyl alcohol
UST	underground storage tank
VOA	volatile organic analysis

INTRODUCTION

This report has been prepared to describe the results of the third quarter 2008 groundwater monitoring event conducted by Matriks at Alaska Gas (the "Site"), located at 1310 Central Avenue in Alameda, California. The monitoring event described herein is part of an ongoing investigation of subsurface contamination caused by a release of petroleum hydrocarbons from the UST system (tanks, associated piping and dispensers) formerly located at the Site. Matriks is conducting this investigation on behalf of the responsible parties, Mr. Leon Zektser, Mr. Nissan Saidian, and Mr. Joe Zadik. ACEHS is the lead regulatory agency overseeing this investigation. The case number for the Site is RO0000022. The quarterly monitoring program consists of collecting groundwater samples from each of the five MWs to monitor the concentrations of petroleum hydrocarbon compounds in shallow groundwater.

Site Description and Physical Setting

The Site is currently a retail gasoline fueling station located in an area of mixed commercial and residential properties in the south-central part of the island of Alameda. The Site is located at the intersection of Encinal Avenue, Sherman Street, and Central Avenue. A Site location map is shown on **Figure 1** and a site plan showing physical features and monitoring well locations is shown on **Figure 2**.

The Site is relatively flat and the investigation area has a surface elevation of approximately 25 feet amsl. San Francisco Bay and the Alameda Estuary are located approximately one half mile from the Site. Due to the topography of the island and proximity to San Francisco Bay, groundwater beneath the Site is tidally influenced and has a very shallow gradient.

Site History

In May 1996, Petrotek removed four USTs from the Site. Three gasoline USTs including one 10,000-gallon, one 7,500-gallon and one 5,000-gallon UST, were removed from the western corner of the Site. A 500-gallon waste oil UST adjacent to the building, was also removed from the southern portion of the Site. Fuel dispensers and associated product piping were also removed.

Free product was observed floating on the groundwater surface in the gasoline UST excavation. According to the laboratory analytical results, a groundwater sample collected from the gasoline UST excavation contained 2,800 µg/L of TPH-g and 100 µg/L benzene. Soil samples collected from the excavation contained up to 5,000 mg/Kg of THP-g and 31mg/Kg benzene. Soil samples collected beneath the former dispenser island contained up to 6,800 mg/Kg TPH-g and 63 mg/Kg benzene. A water sample from the waste oil UST excavation contained 35,000 µg/L of TPH-d and motor oil range hydrocarbons, and 1,300 µg/L of TPH-g. A records search at

ACEHS did not identify any tank removal reports or subsequent remedial action reports. Sample results are presented on **Table 1.**
Petrotek reportedly excavated and disposed of approximately 600 cubic yards of contaminated soil from both UST excavations. No confirmation soil samples were collected following the soil removal. Approximately 15,000 gallons of water were pumped from the excavations, treated and discharged to the sanitary sewer. Two new gasoline USTs, dispensers and product piping were installed after the excavation work was completed.

In November 1998, AEI drilled 14 soil borings at the Site and collected soil and groundwater samples from the borings and submitted them for laboratory analysis. Up to 5,900 mg/Kg of TPH-g was detected in soil samples collected from the borings. Up to 120,000 µg/L TPH-g and 7,200 µg/L benzene were detected in groundwater samples from the borings.

On May 16, 2000, ASE collected groundwater samples from the three wells. Hydrocarbon concentrations detected in the May 16 groundwater samples were much lower than those detected in the December 1999 sampling event, especially with respect to MW-2. The reason for this is unclear. Sample results are presented in **Table 2**.

On July 28, 2000, ASE collected soil and groundwater samples from 12 Geoprobe borings (borings BH-A through BH-L) to further delineate the extent of petroleum hydrocarbons in the down gradient direction. Soil samples collected from 3.0 feet below ground surface (bgs) in boring BH-K contained 0.00061 mg/Kg of MtBE. There were no petroleum hydrocarbons or oxygenates detected in soil samples from the other 11 borings. However, petroleum hydrocarbons and oxygenates were also detected in groundwater samples collected from borings BH-A, B, C, D, I, J, K, and L. Soil sample results are presented in **Table 1** and groundwater sample results are presented in **Table 3**.

In December 2002, ASE conducted an investigation to assess whether subsurface utility line trenches could provide a pathway for the movement of groundwater. Results of the investigation indicated that it does not appear that the utility line trenches act as conduits for the movement of groundwater. This conclusion was based on the reasonable assumption that the backfill of the utility trenches is the exact same sandy material as the native material and that the Geoprobe boring soil samples containing the highest petroleum hydrocarbon concentrations are located beyond the utility line trenches. Although ASE concluded that the utility line trenches did not provide a pathway for the movement of groundwater, the ACEHS requested that water samples be collected from the sewer to determine whether petroleum hydrocarbon contaminated groundwater may have entered the sewer line through seams or cracks.

In January 2004, ASE drilled four additional soil borings at the Site, BH-M through BH-P. The soil samples collected from all four borings contained low concentrations of TPH-d, with the highest concentration (68 mg/Kg) detected in BH-M. No TPH-d, BTEX or oxygenates were detected in any of the other soil samples. The groundwater samples collected from the four borings

contained concentrations of TPH-d up to 170 µg/L. The groundwater sample collected from boring BH-O also contained 19 µg/L MtBE. None of the other groundwater samples contained detectable concentrations of TPH-g, BTEX or oxygenates.

Groundwater samples were also collected from the sewer line beneath Central Avenue, both up gradient and down gradient of the Site. Low concentrations of TPH-g were detected in both samples. No BTEX or oxygenates were detected in either of these samples
In December 2005, ASE conducted a records search at the Alameda City Public Works Agency and the California Department of Water Resources to identify water wells with ½ mile radius of the Site. A total of 25 wells were located in the search radius. The results include three domestic wells, 10 irrigation wells, one industrial, two cathodic protection wells, four monitoring wells, and five vapor extraction wells. The nearest well is located more than 1,000 feet east of the Site. The nearest, potentially down gradient, well is located approximately 1,260 feet northwest of the Site. ASE proposed additional soil and groundwater assessment for the Site.

In April 2006, ASE installed two additional borings and two monitoring wells at the Site. Borings BH-Q, BH-R and monitoring wells MW-4 and MW-5 were installed using a drill rig equipped with an 8-inch hollow-stem auger. Petroleum hydrocarbons were detected at a concentration of 11 mg/Kg TPH-d in a soil sample from BH-Q and 1.7 mg/Kg TPH-d in a soil sample from the boring MW-5. For both samples, the laboratory noted that the hydrocarbons reported as TPH-D did not exhibit a typical diesel chromatogram pattern. None of the soil samples contained detectable concentrations of TPH-g, BTEX or oxygenates. Well construction details are presented in **Table 4.**

Groundwater samples collected from BH-Q and BH-R contained detectable hydrocarbon concentrations of 220 µg/L TPH-d and 770 µg/L TPH-d, respectively. Similar to the soil samples, the laboratory noted the hydrocarbons reported as TPH-d did not exhibit a typical diesel chromatogram pattern. Based on the results of this investigation, ASE recommended no further definition of the extent of hydrocarbons.

From April 2006 to present, the Site has been monitored on a quarterly basis. In June 2008, the Site owners contracted with Matriks to conduct quarterly groundwater monitoring and prepare for further Site remediation.

SCOPE OF WORK

The scope of work conducted for this quarterly groundwater monitoring event included the following tasks:

- Measurement of static water levels in five monitoring wells;

- Collection of field water quality parameters including pH, temperature, and SC from groundwater in each well;

- Purge at least three casing volumes from each well;

- Collection of groundwater samples from each well;

- Analyze groundwater samples for THP-d, TPH-g, BTEX, MtBE, DIPE, EtBE, tAME, tBA, methanol, ethanol, EDB, and DCA (see the *Monitoring Well Purging and Sampling* section of this report for analytical methods used);

- Update the Geotracker database; and

- Preparation of this *Quarterly Monitoring Report*.

METHODS AND PROCEDURES

Groundwater Level Measurements

The quarterly groundwater monitoring event described in this report was conducted on September 27, 2008. The cap of each well was removed and the water level was allowed to equilibrate with atmospheric pressure for approximately 30 minutes before recording measurements using an electronic water depth indicator. The static water levels were referenced to the surveyed marks on the top of each well casing and the depth-to-water measurements were used to calculate the purge volume of for each monitoring well.

Monitoring Well Purging and Sampling

At least three well volumes were purged from each well using a clean disposable bailer. Groundwater temperature, pH, and SC were measured intermittently during purging with a portable water quality instrument. The Horiba 444 water quality instrument was calibrated by the equipment rental service prior to use. Water quality measurements were recorded on monitoring well sampling logs, copies of which are included in **Appendix A**. Well purge water was placed into labeled and sealed 55-gallon, DOT-approved steel drums and temporarily stored onsite.

Following purging, groundwater samples were collected from each monitoring well using a clean disposable bailer and placed in the appropriate laboratory prepared containers. Care was taken to fill the containers to eliminate headspace and chemical volatilization. Samples were labeled with the project number, sample ID, and collection date. The same information was recorded on the chain-of-custody (COC) forms. Samples were stored in a cooler filled with ice for transport to the laboratory.

Samples were submitted under COC control to McCampbell Analytical, Inc. of Pittsburg, California (DHS ELAP Certification No. 1644) and analyzed for TPH-g and TPH-d by EPA Method 8015 modified; for BTEX by EPA Method 8021B; and for MtBE, DIPE, EtBE, tAME, tBA, methanol, ethanol, EDB, and DCA by EPA Method 8260B.

Geotracker Requirements

All analytical data were submitted electronically to the California State Water Resources Control Board Geotracker database as required by AB2886 (Water Code Section 13195-13198). EDFs are prepared and formatted by the laboratory and submitted by Matriks. Well latitudes, longitudes (GEO_XY files), and elevations (GEO_Z files) were previously submitted to the database. A well status and usage report (GEO_WELL file) is submitted for each monitoring event. A complete electronic copy of this report (GEO_REPORT file) in PDF format was also submitted. Update maps (GEO_MAP files) are submitted when site features such as monitoring wells or soil borings are added.

RESULTS

Groundwater Levels and Gradient

Depth-to-water was measured in each monitoring well. The groundwater flow direction for this monitoring event was calculated at N20ºW with a gradient of 0.011. Well construction details for each well are described in **Table 4**. Groundwater levels and elevations are summarized in **Table 5**. Groundwater elevation contours are depicted on **Figure 3**. Graphs of groundwater elevation versus time for selected monitoring wells are presented on **Figure 4**.

Groundwater Analytical Results

TPH-g, BTEX, and MtBE are the primary constituents of concern and occur in the highest concentrations in wells MW-1 and MW-3. TPH-g was detected in MW-1 at a concentration of 12,000 µg/L and in MW-3 at a concentration of 11,000 µg/L. TPH-g was also detected in MW-5 at a concentration of 670 µg/L. MW-5 is located approximately 60 feet down gradient (north) of the Site. TPH-g was not detected in samples collected from the other monitoring wells.

Benzene was also detected in MW-1 at a concentration of 32 µg/L and MW-3 at a concentration of 190 µg/L. Benzene was not detected in samples collected from the other monitoring wells.

MtBE was detected in MW-2 at a concentration of 7 µg/L, in MW-3 at a concentration of 160 µg/L, in MW-4 at a concentration of 1.3 µg/L, and in MW-5 at 650 µg/L. MtBE was not detected in MW-1.

Groundwater analytical data for the current and previous quarters are summarized in **Table 3**. TPH-g concentrations in monitoring wells for the current sampling event are shown on **Figure 5**. A copy of the laboratory analytical report is included in **Appendix B**. **Figure 6** shows TPH-g and benzene concentration trends in well MW-1 and **Figure 7** shows these same concentration trends in MW-3.

DISCUSSION

In general, petroleum hydrocarbon concentrations have decreased since groundwater monitoring began in September 1999. This appears to indicate that natural attenuation and degradation are slowly taking place.

The highest concentrations of petroleum hydrocarbons were detected in monitoring wells MW-1 and MW-3. TPH-g, TPH-d, and benzene in these wells was detected above the ESLs established by the San Francisco Bay RWQCB. MtBE was also detected above the ESL in MW-3.

TPH-g, benzene, and MtBE were also detected above the ESLs in well MW-5. This appears to indicate that petroleum hydrocarbons are migrating downgradient from the Site.

MtBE was detected in down gradient well MW-4 at a concentration of 1.1 µg/L. This concentration is less than the ESL for MTBE. This also appears to indicate that petroleum hydrocarbons are migrating downgradient from the Site.

Petroleum hydrocarbon concentrations in groundwater tend to increase with seasonally low groundwater elevations.

The source of TPH-d in soil and groundwater samples has not been identified. It is possible that diesel was a component of the waste stored in the former waste oil UST. AEI reported in December 1998, that diesel was detected in soil in boring BH-10 only, at a concentration of 300 mg/Kg. The laboratory analytical results in the appendix of their report indicated diesel was detected at a concentration of 300 mg/Kg, at a depth of 8 feet in boring BH-6, not in boring BH-10. Furthermore, AEI also reported that TPH-d was detected in groundwater samples collected from each boring, with the highest concentration detected in boring BH-11, apparently upgradient of the former waste oil UST. AEI also reported that petroleum as O&G was detected in soil in borings BH-9 through BH-11, at a concentrations ranging between 16 and 3,100 mg/Kg. No O&G was detected in groundwater samples collected from these same borings. If the former waste oil UST was the source of the diesel, it would be reasonable to expect the highest concentrations of O&G in groundwater and soil proximal to the former waste oil UST. It would also be reasonable to expect the highest concentrations in groundwater to be

downgradient of the former waste oil UST. However, with the exception of boring B-11, the AEI results have relatively high concentrations of diesel in groundwater samples distal from the former waste oil UST. All of these factors combined may indicate an off-site TPH-d source or contamination of the samples in the field or in the laboratory.

While benzene and MtBE appear to be migrating in the downgradient direction in low concentrations, The possibility of vapor intrusion into these structures and down gradient must be considered.

RECOMMENDATIONS

We recommend continued quarterly water quality sampling. We also recommend the preparation of a Feasibility Study/Corrective Action Plan (FS/CAP) to address remedial alternatives for petroleum hydrocarbons primarily in groundwater but remedial consideration should also be given to the soil. It is our belief that ozone sparging will be an effective remedial action given the soil and groundwater conditions at the Site and its small area. The FS/CAP may also include limited additional characterization of soil or groundwater to further assess the concentrations of TPH-d.

FIGURES

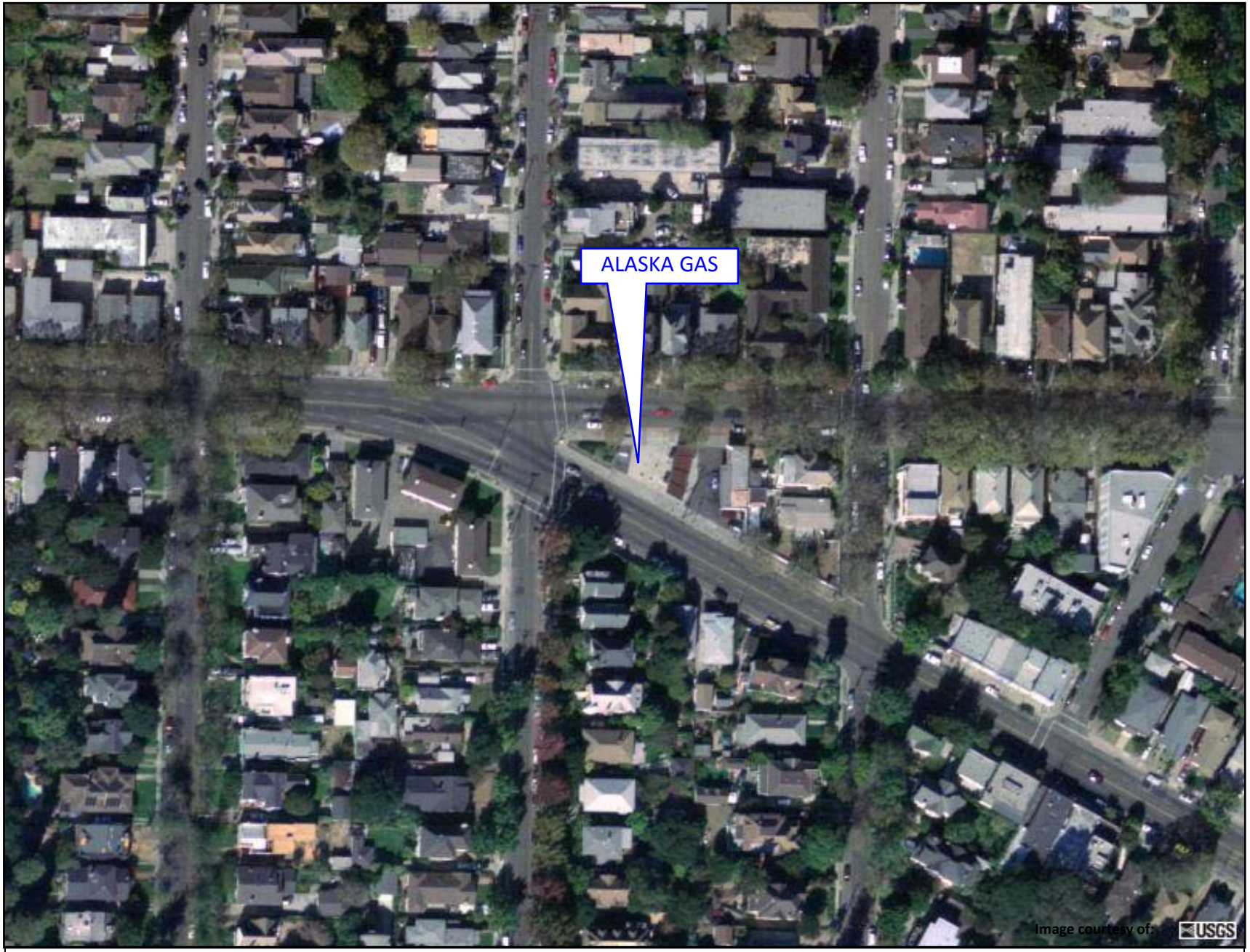
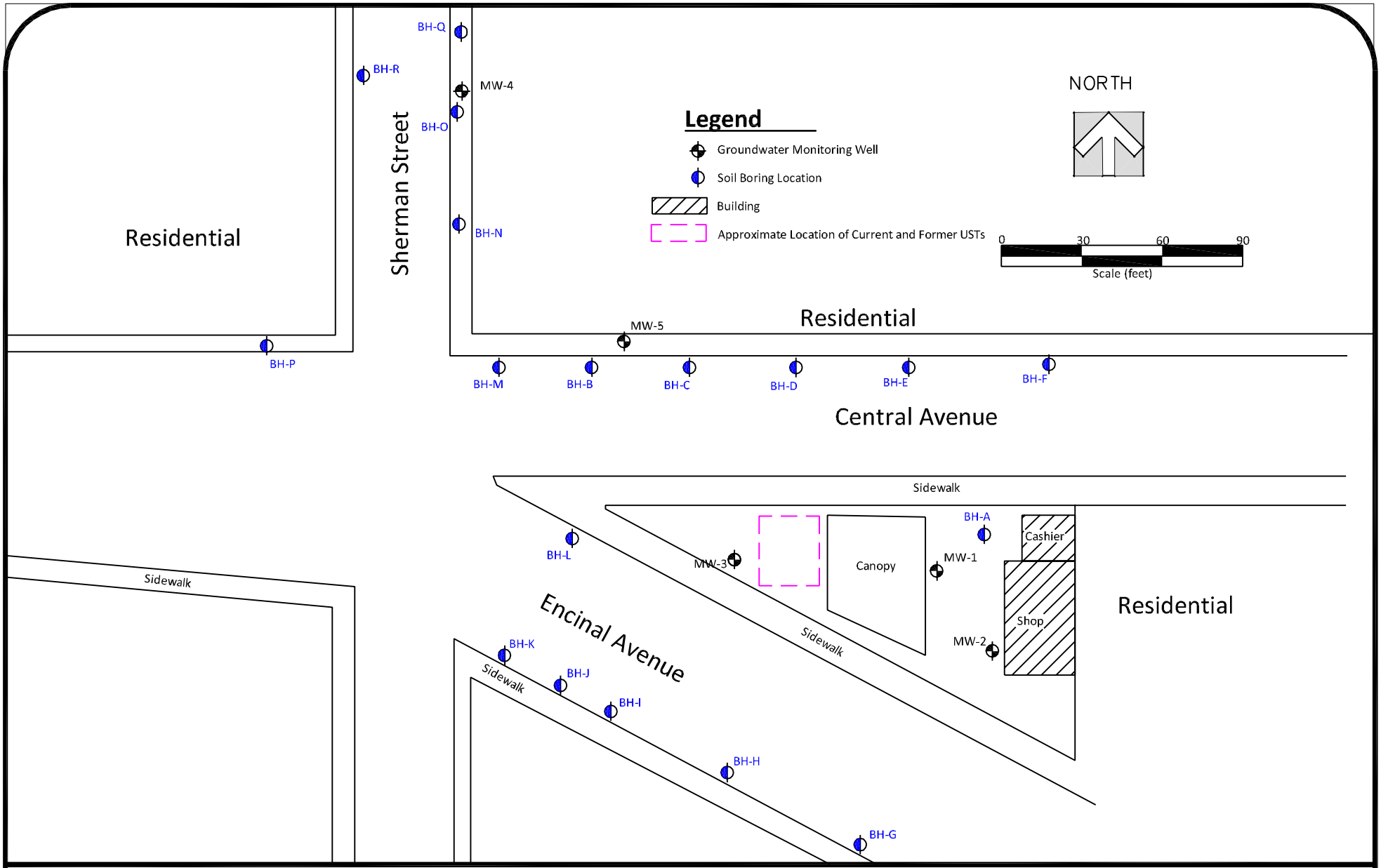


FIGURE 1

Site Location Map
Alaska Gas
1310 Central Avenue, Alameda, CA

MATRIKS
321 Court Street
Woodland, CA 95695
Lic. 909563



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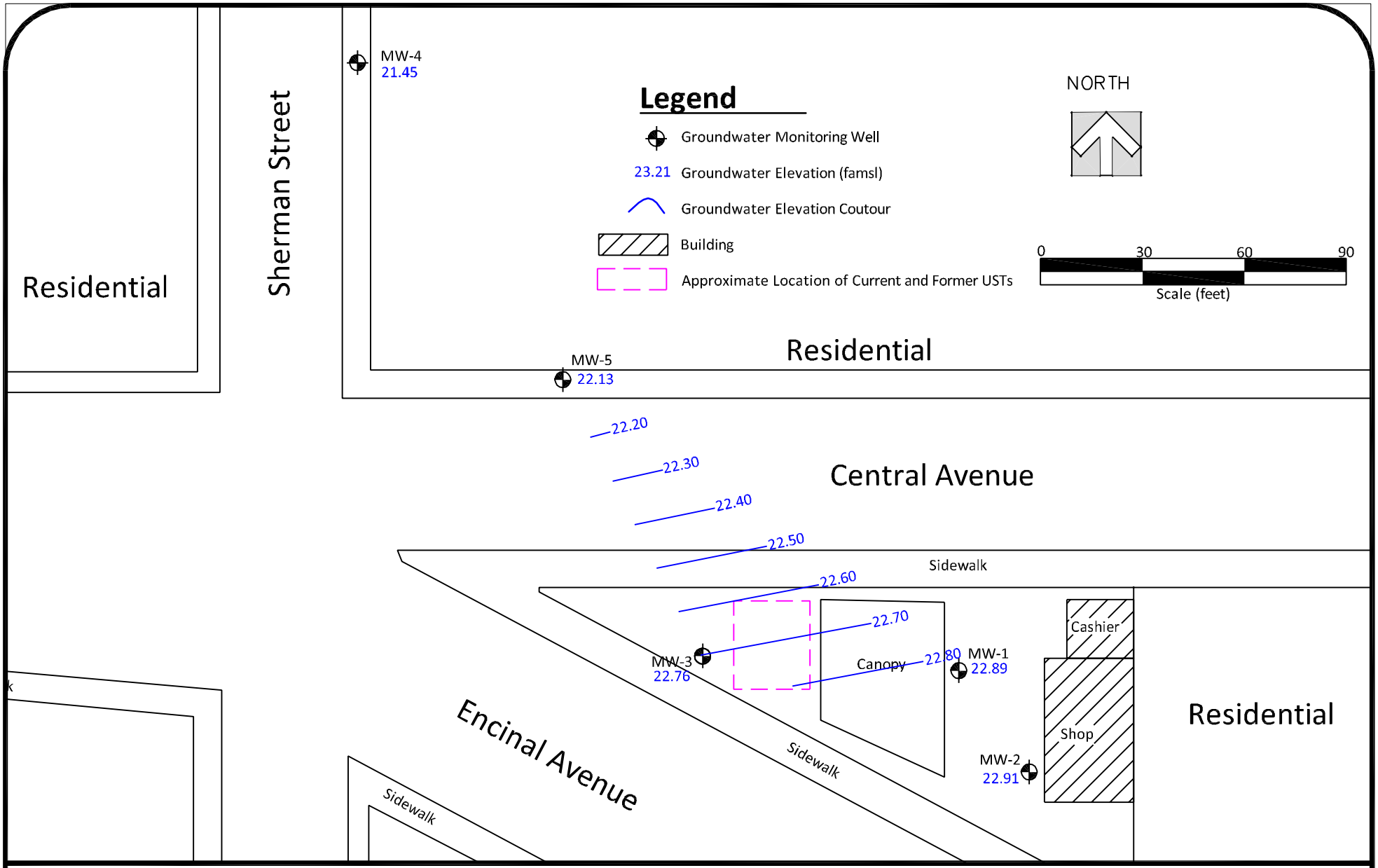
Site Map

Alaska Gasoline
1310 Central Avenue
Alameda, Californi a

Project #: 6022	Figure: 2
Date: 10/16/2008	
Scale: as shown	



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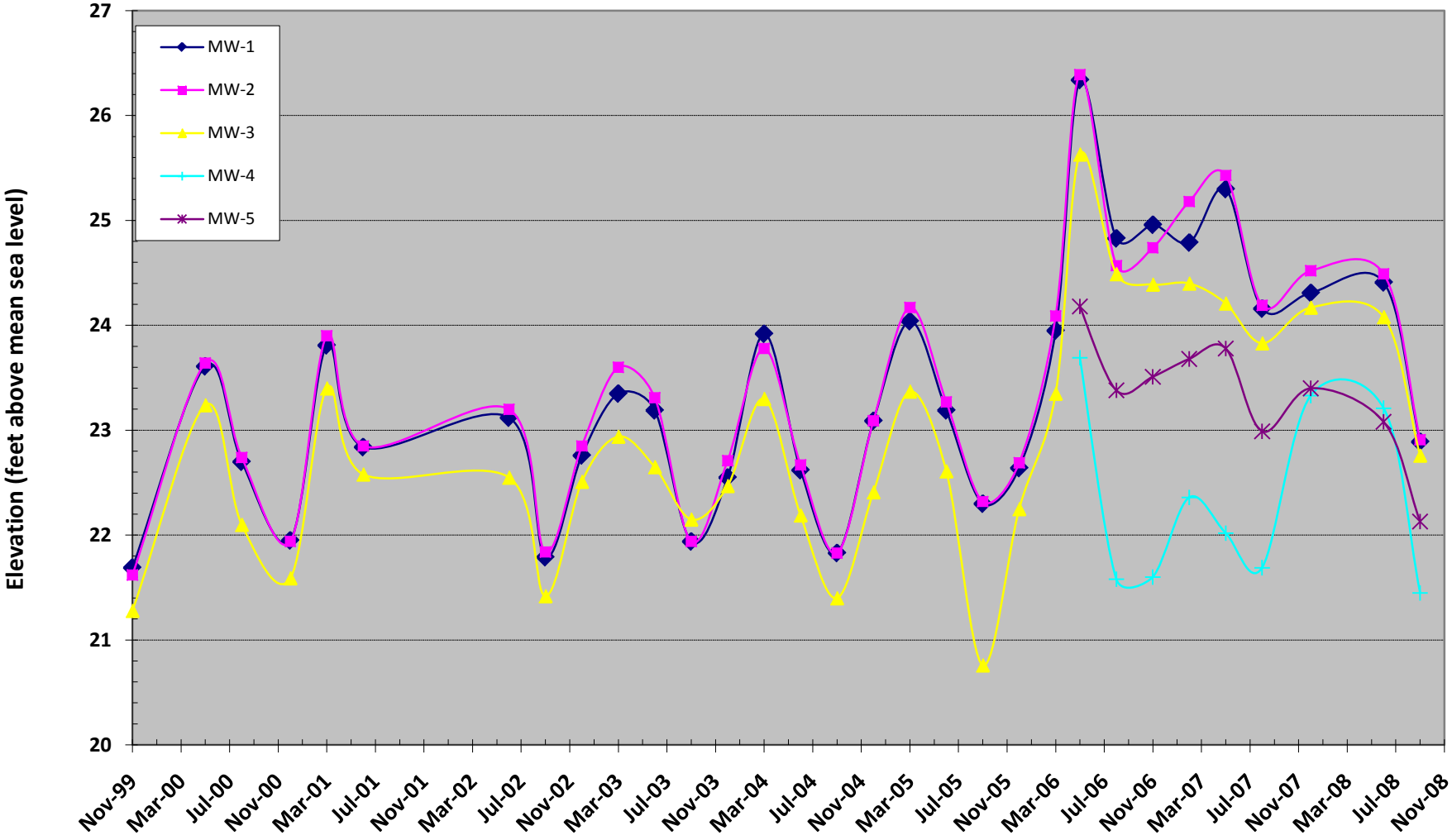
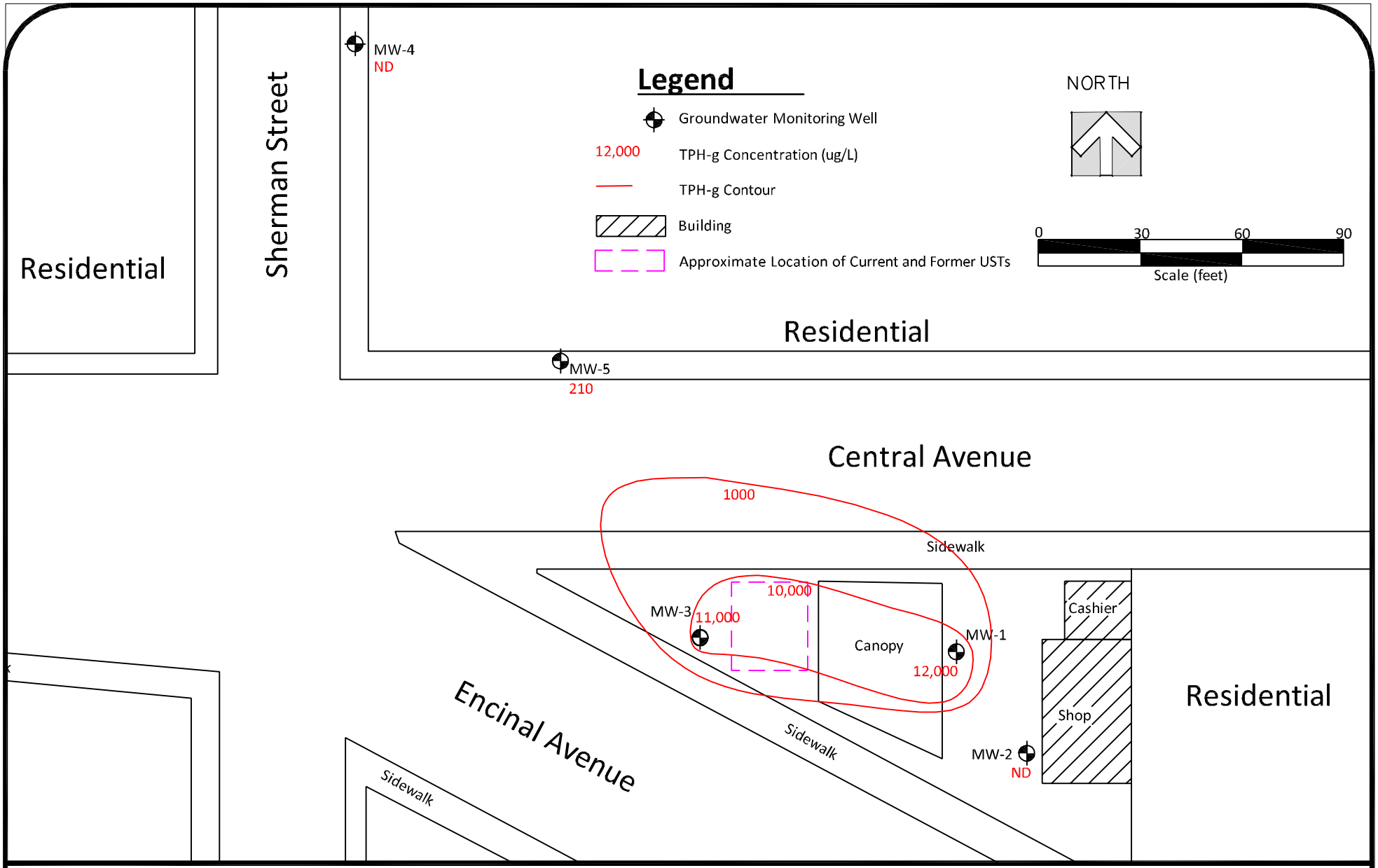
Groundwater Elevations on September 27, 2008

Alaska Gasoline
1310 Central Avenue
Alameda, California

Project #: 6022	Figure: 3
Date: 10/16/2008	
Scale: as shown	

Figure 4. Monitoring Well Hydrographs
Alaska Gas
Alameda, CA





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TPH-g Concentrations on September 27, 2008

Alaska Gasoline
1310 Central Avenue
Alameda, California

Project #: 6022	Figure: 5
Date: 10/10/08	
Scale: as shown	

Figure 6. TPH-g and Benzene vs. Time in Well MW-1

Alaska Gas

Alameda, California

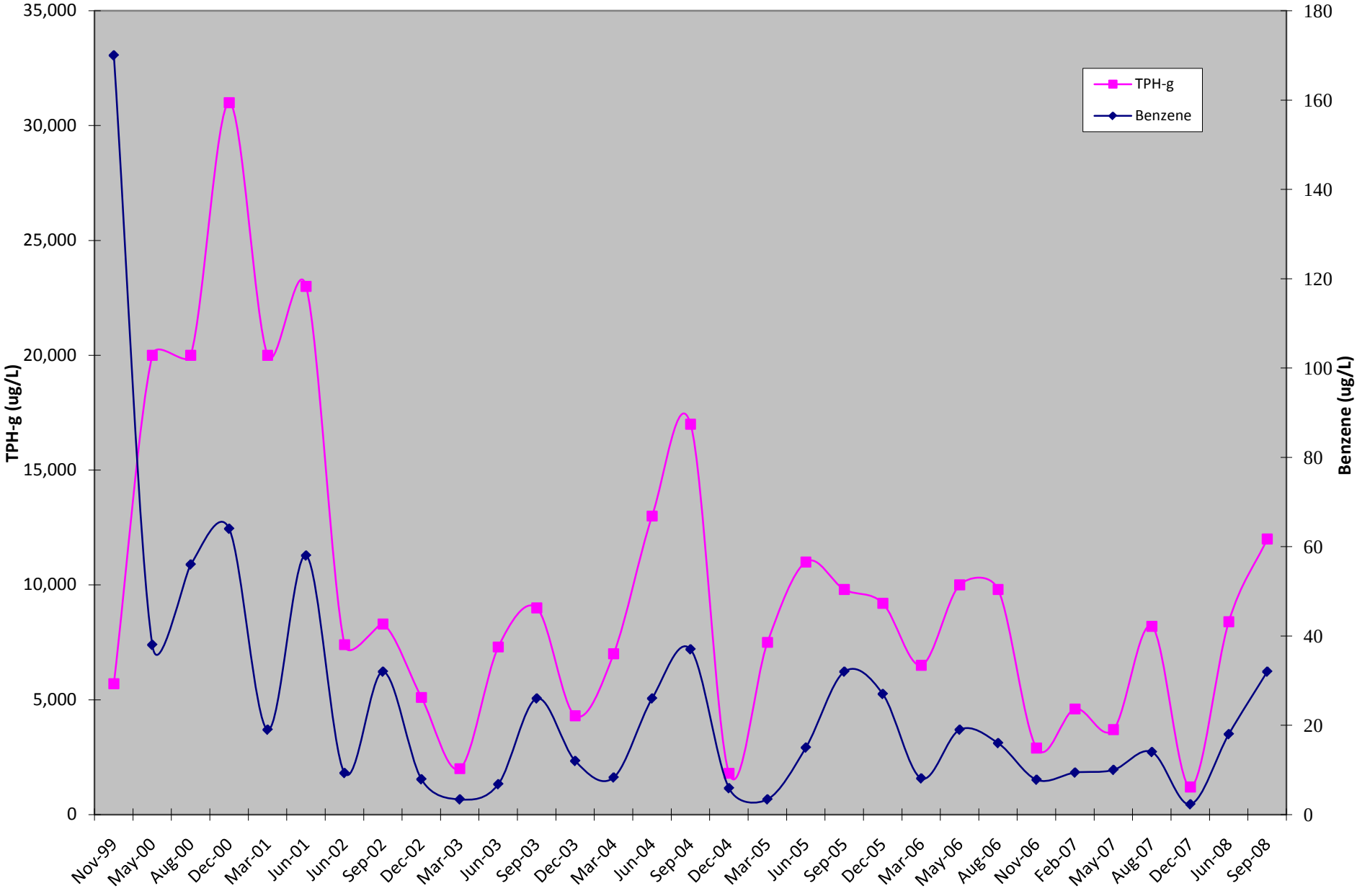
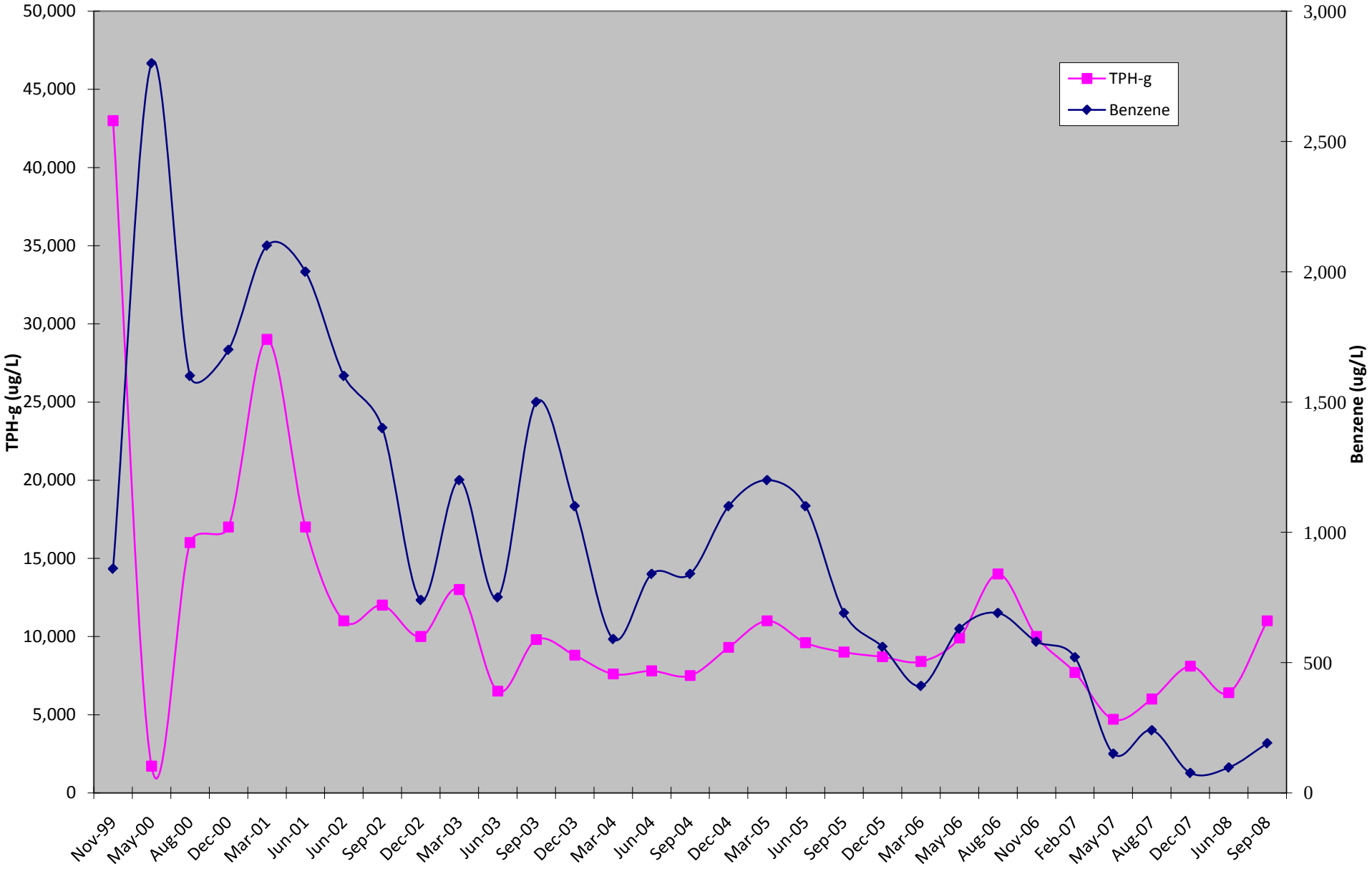


Figure 7. TPH-g and Benzene vs Time in Well MW-3
Alaska Gas
Alameda, California



TABLES

Table 1
Soil Analytical Results
Alaska Gas
Alameda, California

Boring	Depth(ft)/ Location	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
1	Fuel Tank Ex.	05/02/96	5,000	NA	31	250	74	560	<5.0	NA	NA	NA
2	Fuel Tank Ex.	05/02/96	2,900	NA	<2.0	16	8.3	190	<5.0	NA	NA	NA
3	Fuel Tank Ex.	05/02/96	4,400	NA	25	190	75	400	<5.0	NA	NA	NA
4	Fuel Tank Ex.	05/02/96	3,600	NA	2.6	34	21	250	<5.0	NA	NA	NA
5	N. Waste Oil Tank	05/02/96	<5.0	<200	<0.05	<0.05	<0.05	<0.05	<0.10	NA	NA	NA
6	Waste Oil Tank	05/08/96	470	<1,000	<0.25	<0.25	0.30	0.85	<0.50	NA	NA	NA
D1	Beneath Dispenser	05/09/96	6,800	NA	63	370	120	680	<40	NA	NA	NA
D2	Beneath Dispenser	05/09/96	3,700	NA	<10	20	9.7	280	<20	NA	NA	NA
D3	Beneath Dispenser	05/09/96	1,500	NA	<4.0	<4.0	<4.0	20	<8.0	NA	NA	NA
D5	Beneath Dispenser	05/09/96	2,600	NA	<8.0	28	12	200	<16	NA	NA	NA
D6	Beneath Dispenser	05/09/96	<5.0	NA	<0.05	<0.05	<0.05	<0.05	<0.10	NA	NA	NA
T1	Unknown Trench	05/09/96	2,100	NA	<4.0	5.7	<4.0	140	<8.0	NA	NA	NA
T2	Unknown Trench	05/09/96	1,400	NA	<2.0	5.1	<2.0	20	<5.0	NA	NA	NA
BH-1 4'	4	11/12/98	810	<1	27	170	110	560	<0.02	NA	NA	NA
BH-1 8'	8	11/12/98	1,100	<1	9.8	33	11	64	<0.02	NA	NA	NA
BH-2 4'	4	11/12/98	5,900	<1	2.9	76	57	410	1.8	NA	NA	NA
BH-3 4'	4	11/12/98	570	<1	<0.005	0.065	0.073	0.38	<0.02	NA	NA	NA
BH-4 3'	3	11/12/98	4,600	<1	<0.005	13	47	310	<0.02	NA	NA	NA
BH-5 4'	4	11/12/98	3,700	<1	<0.005	3.2	29	190	<0.02	NA	NA	NA
BH-6 4'	4	11/11/98	<0.05	<1	<0.005	<0.005	<0.005	<0.015	<0.02	NA	NA	NA
BH-7 4'	4	11/12/98	2,600	<1	<0.005	<0.005	6.9	68	<0.02	NA	NA	NA
BH-8 6'	6	11/11/98	270	<1	0.18	0.11	0.45	1.2	<0.02	NA	NA	NA
BH-8.1 5'	5	11/11/98	<0.05	<1	<0.005	0.008	<0.005	<0.015	<0.02	NA	NA	NA
BH-9 5'	5	11/11/98	<0.05	<1	<0.005	0.02	<0.005	<0.015	<0.02	NA	NA	NA
BH-10 8'	8	11/11/98	250	300	<0.005	<0.005	0.19	1.4	<0.02	NA	NA	NA
BH-11 5'	5	11/11/98	<0.05	<1	<0.005	<0.005	<0.005	<0.015	<0.02	NA	NA	NA
BH-11.1 7'	7	11/11/98	<0.05	<1	<0.005	<0.005	<0.005	<0.015	<0.02	NA	NA	NA
BH-12 5'	5	11/11/98	<0.05	<1	<0.005	<0.005	<0.005	<0.015	<0.02	NA	NA	NA
BH-13 5'	5	11/11/98	<0.05	<1	<0.005	<0.005	<0.005	<0.015	<0.02	NA	NA	NA
BH-14 5'	5	11/11/98	<0.05	<1	<0.005	<0.005	<0.005	<0.015	<0.02	NA	NA	NA
BH-A	3.5	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-B	2.5	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-C	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-D	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-E	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-F	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-G	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-H	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-I	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-J	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.0061	<0.005	<0.005	<0.005
BH-K	3.0	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-L	3.5	07/28/00	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 1
Soil Analytical Results
Alaska Gas
Alameda, California

Boring	Depth(ft)/ Location	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
BH-M	**2.5**	01/14/04	<1.0	68*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-N	**2.5**	01/14/04	<1.0	7.2*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-O	**2.0**	01/14/04	<1.0	2.2*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-P	**2.0**	01/14/04	<1.0	4.9*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-Q	**2.0**	04/03/06	<1.0	11*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH-R	**2.0**	04/03/06	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-4	**2.0**	04/03/06	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-5	**2.0**	04/03/06	<1.0	1.7*	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
ESL			100	100	0.044	2.9	3.3	1.5	0.023	NE	NE	NE

Notes:

Units are milligrams per kilogram (mg/KG).

NE ESL has not been established

TPH-g total petroleum hydrocarbons as gasoline

TPH-d total petroleum hydrocarbons as diesel

NA Not analyzed

MtBE methyl tert-butyl ether

tAME tert-amyl methyl ether

tBA tert-butanol

* Laboratory noted that the hydrocarbons reported as TPH-d exhibited a non-typical diesel pattern.

Table 2
Groundwater Analytical Results
Alaska Gas
Alameda, California

Well ID	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
MW-1	11/06/99	**5,700**	**8,700**	**170**	59	22	85	**20,000**	NA	NA	NA
	05/16/00	**20,000**	<7,500	**38**	6.3	740	1,600	<5.0	<5.0	<50	<5.0
	08/03/00	**20,000**	<6,000	**56**	9.7	920	1,600	<0.5	<0.5	<50	<0.5
	12/05/00	**31,000**	<4,000	**64**	27	820	2,200	<10	<5.0	<50	<5.0
	03/05/01	**20,000**	<4,000	**19**	<5.0	480	870	<5	<5.0	<50	<5.0
	06/04/01	**23,000**	<7,000	**58**	50	710	2,100	**5.1**	<5.0	<50	<5.0
	06/05/02	**7,400**	<1,500	**9.3**	6.7	180	230	<1.0	<1.0	<10	<1.0
	09/09/02	**8,300**	<3500	**32**	20	390	670	<2.0	<2.0	<20	<2.0
	12/19/02	**5,100**	NS	**7.9**	2.5	56	93	<1.0	<1.0	<10	<1.0
	03/10/03	**2,000**	<2,000	**3.4**	2.9	80	98	<0.5	<0.5	<5.0	<0.5
	06/03/03	**7,300**	<4,000	**6.8**	9.9	300	1,000	2.3	<0.5	<5.0	<0.5
	09/19/03	**9,000**	<3,000	**26**	22	420	1,200	4.5	<1.5	<20	<1.5
	12/22/03	**4,300**	<2,000	**12**	6.7	200	290	**9.1**	<1.0	<10	<1.0
	03/12/04	**7,000**	<3,000	**8.3**	8.2	250	760	3.9	<2.0	<20	<2.0
	06/11/04	**13,000**	<4,000	**26**	27	530	1,700	<2.5	<2.5	<15	<2.5
	09/13/04	**17,000**	<4,000	**37**	42	840	2,000	<5.0	<5.0	<50	<5.0
	12/16/04	**1,800**	<1,000	**5.9**	1.9	100	35	**16**	<0.5	<5.0	<0.5
	03/21/05	**7,500**	<3,000	**3.4**	4.2	290	760	<1.5	<1.5	<20	<1.5
	06/23/05	**11,000**	<8,000	**15**	11	370	910	2.4	<1.5	<7.0	<1.5
	09/30/05	**9,800**	<4,000	**32**	25	540	680	1.6	<1.5	<7.0	<1.5
	12/08/05	**9,200**	<4,000	**27**	21	500	490	2.2	<1.5	<7.0	<1.5
	03/01/06	**6,500**	<4,000	**8.1**	9.4	370	660	**18**	<1.5	<6.0	<1.5
	05/25/06	**10,000**	<3,000	**19**	14	900	620	<1.5	<1.5	<7.0	<1.5
	08/10/06	**9,800**	<1,500	**16**	8.1	640	180	<1.5	<1.5	<7.0	<1.5
	11/21/06	**2,900**	<1,000	**7.8**	2.5	160	12	2.5	2.5	<5.0	<0.5
	02/06/07	**4,600**	<1,500	**9.4**	6	380	220	1	<0.50	<5.0	<0.50
	05/08/07	**3,700**	<800	**10**	4.6	320	86	1.5	<0.50	<5.0	<0.50
	08/06/07	**8,200**	<2,000	**14**	8.8	730	180	<0.50	<0.50	<5.0	<0.50
	12/26/07	**1,200**	<300	**2.3**	1.1	89	21	4.8	<0.50	<5.0	<0.50
	06/28/08	**8,400**	**3,900**	**18**	26	670	1,100	<2.5	<2.5	<10	<2.5
	09/27/08	**12,000**	**4,600**	**32**	49	1,200	680	<25	<25	<100	<25

Table 2
Groundwater Analytical Results
Alaska Gas
Alameda, California

Well ID	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
MW-2	11/06/99	**6,000**	70	**1,300**	92	50	400	**6,800**	NA	NA	NA
	05/16/00	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	08/03/00	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	12/05/00	<50	**1,400**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	03/05/01	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	06/04/01	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	06/05/02	<50	**2,300**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	09/09/02	<50	**1,300**	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<5.0	<0.5
	12/19/02	<50	--	<0.5	<0.5	<0.5	<0.5	**16**	<0.5	<5.0	<0.5
	03/10/03	<50	**3,000**	<0.5	<0.5	<0.5	<0.5	1	<0.5	<5.0	<0.5
	06/03/03	<50	**700**	<0.5	<0.5	<0.5	<0.5	2	<0.5	<5.0	<0.5
	09/19/03	<50	**1,400**	<0.5	<0.5	<0.5	<0.5	4.7	<0.5	<5.0	<0.5
	12/22/03	<50	**1,000**	<0.5	<0.5	<0.5	<0.5	**39**	<0.5	<5.0	<0.5
	03/12/04	<50	**250**	<0.5	<0.5	<0.5	<0.5	2.1	<0.5	<5.0	<0.5
	06/11/04	<50	**920**	<0.5	<0.5	<0.5	<0.5	0.75	<0.5	<5.0	<0.5
	09/13/04	<50	**140**	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<5.0	<0.5
	12/16/04	<50	**150**	<0.5	<0.5	<0.5	<0.5	**12**	<0.5	<5.0	<0.5
	03/21/05	<50	**130**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	06/23/05	<50	**1,100**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	09/30/05	<50	**300**	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<5.0	<0.5
	12/08/05	<50	**600**	<0.5	<0.5	<0.5	<0.5	1.9	<0.5	<5.0	<0.5
	03/01/06	<50	**920**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	05/25/06	<50	**160**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	08/10/06	<50	**870**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	11/21/06	<50	**130**	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<5.0	<0.5
	02/06/07	<50	**450**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	05/08/07	<50	**160**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	08/06/07	<50	**180**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	12/26/07	<50	**190**	<0.5	<0.5	<0.5	<0.5	2.9	<0.5	<5.0	<0.5
	06/28/08	<50	**180**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<2.0
	09/27/08	<50	**78**	<0.5	<0.5	<0.5	<0.5	7	<0.5	<2.0	<0.5

Table 2
Groundwater Analytical Results
Alaska Gas
Alameda, California

Well ID	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
MW-3	11/06/99	**43,000**	**870**	**860**	70	<0.5	65	**120,000**	NA	NA	NA
	05/16/00	**1,700**	<5,000	**2,800**	60	380	190	**990**	9.1	350	<5.0
	08/03/00	**16,000**	<2,000	**1,600**	29	210	53	**1,200**	21	260	<2.0
	12/05/00	**17,000**	**5800**	**1,700**	45	460	240	**1,100**	21	230	<5.0
	03/05/01	**29,000**	<1,300	**2,100**	68	280	100	**180**	<8.0	<80	<8.0
	06/04/01	**17,000**	<6,000	**2,000**	56	340	230	**300**	<10	130	<10
	06/05/02	**11,000**	<2,000	**1,600**	46	210	47	**790**	<10	220	<10
	09/09/02	**12,000**	<800	**1,400**	44	130	27	**760**	<10	160	<5.0
	12/19/02	**10,000**	NS	**740**	32	180	38	**86**	<5.0	<50	<5.0
	03/10/03	**13,000**	<6,000	**1,200**	42	240	35	**470**	5.3	140	<2.5
	06/03/03	**6,500**	<3,000	**750**	21	46	15	**1,300**	<50	280	<10
	09/19/03	**9,800**	<3,000	**1,500**	38	170	32	**420**	<10	150	<5.0
	12/22/03	**8,800**	<2,000	**1,100**	32	82	20	**330**	5.8	52	<2.5
	03/12/04	**7,600**	<3,000	**590**	23	69	17	**470**	9.2	63	<1.5
	06/11/04	**7,800**	<2,000	**840**	19	58	15	**710**	12	140	<2.5
	09/13/04	**7,500**	<1,500	**840**	17	23	7.8	**730**	15	93	<2.5
	12/16/04	**9,300**	<2,000	**1,100**	26	76	13	**600**	12	130	<2.5
	03/21/05	**11,000**	<3,000	**1,200**	37	190	24	**460**	9.3	100	<2.5
	06/23/05	**9,600**	<4,000	**1,100**	28	93	23	**370**	8.2	67	<1.5
	09/30/05	**9,000**	<3,000	**690**	18	32	14	**380**	8.4	72	<1.5
	12/08/05	**8,700**	<3,000	**560**	23	38	12	**350**	6.9	82	<1.5
	03/01/06	**8,400**	<2,000	**410**	24	42	13	**360**	8	58	<1.5
	05/25/06	**9,900**	<2,000	**630**	25	13	13	**190**	5.3	59	<1.5
	08/10/06	**14,000**	<3,000	**690**	**43**	130	26	**200**	5.4	70	<1.5
	11/21/06	**10,000**	<3,000	**580**	37	96	25	**240**	6.3	72	<1.5
	02/06/07	**7,700**	<1,000	**520**	36	90	23	**260**	7.4	54	<1.5
	05/08/07	**4,700**	<800	**150**	0.86	<0.5	<0.5	**170**	5	52	<0.5
	08/06/07	**6,000**	<1,000	**240**	26	34	17	**180**	5	55	<0.5
	12/26/07	**8,100**	<1,500	**76**	14	17	12	**150**	4.3	37	<0.9
	06/28/08	**6,400**	**3,100**	**97**	17	19	13	**200**	5.6	38	<5.0
	09/27/08	**11,000**	**15,000**	**190**	24	29	16	**160**	<5.0	40	<5.0

Table 2
Groundwater Analytical Results
Alaska Gas
Alameda, California

Well ID	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
MW-4	05/25/06	<50	86	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<5.0	<0.5
	08/10/06	<50	<50	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<5.0	<0.5
	11/21/06	<50	<50	<0.5	<0.5	<0.5	<0.5	0.59	<0.5	<5.0	<0.5
	02/06/07	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	05/08/07	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	08/06/07	<50	<50	<0.5	<0.5	<0.5	<0.5	0.82	<0.5	<5.0	<0.5
	12/26/07	<50	<50	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<5.0	<0.5
	06/28/08	<50	88	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<2.0	<0.5
	09/27/08	<50	<50	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<5.0	<0.5
MW-5	11/21/06	**410**	<80	<2.5	<2.5	<2.5	<2.5	**1,800**	28	44	<2.5
	05/25/06	55	<50	<0.5	<0.5	<0.5	<0.5	**1,100**	19	9.1	<0.5
	08/10/06	<250	<50	<2.5	<2.5	<2.5	<2.5	**1,500**	25	28	<2.5
	02/06/07	**430**	<50	6.9	<2.5	<2.5	<2.5	**1,600**	26	34	<2.5
	05/08/07	<250	<50	<2.5	<2.5	<2.5	<2.5	**1,200**	20	38	<2.5
	08/06/07	**330**	<80	<2.5	<2.5	<2.5	<2.5	**1,000**	20	39	<2.5
	12/26/07	**490**	<50	<2.5	<2.5	<2.5	<2.5	**1,000**	18	28	<2.5
	06/28/08	**510**	**290**	**6.2**	1.0	<0.5	2.3	**550**	11	<40	<10
	09/27/08	**670**	**320**	<17	<17	<17	<17	**650**	<17	95	<17
ESL		100	100	1.0	40	30	20	5	NE	50,000	NA

Notes:

Units are micrograms per liter (ug/L).

NT analyte not tested
TPH-g total petroleum hydrocarbons as gasoline
TPH-d total petroleum hydrocarbons as diesel
MtBE methyl tert-butyl ether
tAME tert-amyl methyl ether
tBA tert-butanol

Table 3
Groundwater Analytical Results from Boring Installations
Alaska Gas
Alameda, California

Boring	Date	TPH-g	TPH-d	benzene	toluene	ethyl-benzene	xylenes	MtBE	tAME	tBA	Other Oxygen-ates
BH-A	07/28/00	<50	<50	<0.5	0.7	<0.5	0.9	<0.5	<0.5	<5.0	<0.5
BH-B	07/28/00	**1,800**	<2000	270	**8.8**	**18**	**13**	**4100**	5.6	440	<3.0
BH-C	07/28/00	**230**	<100	**11**	1.2	<0.5	0.98	760	6.6	130	<0.5
BH-D	07/28/00	<50	**72**	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<5.0	<0.5
BH-E	07/28/00	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-F	07/28/00	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-G	07/28/00	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-H	07/28/00	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-I	07/28/00	<50	<50	<0.5	<0.5	<0.5	<0.5	0.55	<0.5	<5.0	<0.5
BH-J	07/28/00	<50	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-K	07/28/00	<50	**520**	<0.5	<0.5	<0.5	<0.5	0.77	<0.5	<5.0	<0.5
BH-L	07/28/00	<50	<50	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<5.0	<0.5
BH-M	01/14/04	<50	**170***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-N	01/14/04	<50	68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-O	01/14/04	<50	**100**	<0.5	<0.5	<0.5	<0.5	**19**	<0.5	<5.0	<0.5
BH-P	01/14/04	<50	72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-Q	04/03/06	<50	**220***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
BH-R	04/03/06	<50	**770***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
ESL		100	100	1	2.9	3.3	1.5	5	NE	NE	NE

Notes:

Units are milligrams per kilogram (mg/KG).

NE ESL has not been established

TPH-g total petroleum hydrocarbons as gasoline

TPH-d total petroleum hydrocarbons as diesel

MtBE methyl tert-butyl ether

tAME tert-amyl methyl ether

tBA tert-butanol

* Laboratory noted that the hydrocarbons reported as TPH-d exhibited a non-typical diesel pattern.

Table 4
Well Construction Details
Alaska Gas
Alameda, California

Well ID	Date Installed	Total Depth (feet bg)	Screened Interval (feet bg)	Water-Bearing Zone	Screen Slot Size (inches)	Filter Pack Interval (feet bg)	Bentonite Interval (feet bg)	Grout Interval (feet bg)	TOC Elevation (feet amsl)	Northing Coordinates (feet)	Westing Coordinates (feet)
MW-1	10/11/99	18	17.35-2.5	Silty Sand	0.02	18-1.5	1.5-0.5	0.5-0	29.18	15.20394	46.13606
MW-2	10/11/99	18	18-4	Silty Sand	0.02	18-3	3-1.5	1.5-0	29.55	14.93558	45.97882
MW-3	10/11/99	20	19-4	Silty Sand	0.02	20-3	3-1.5	1.5-0	27.74	15.28672	47.24157
MW-4	04/03/06	16	15-5	Sand-Clayey Sand	0.02	15-4.5	4.5-4	4-0.5	26.23	17.12115	48.05243
MW-5	04/04/06	17	15-5	Sand-Clayey Sand	0.02	15-4.5	4.5-4	4-0.5	26.78	16.21022	47.48996

Table 5
Groundwater Elevation Data
Alaska Gas
Alameda, California

Well ID	Date	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation
MW-1	11/06/99	26.85	5.16	21.69
	05/16/00		3.24	23.61
	08/03/00		4.15	22.70
	12/05/00		4.90	21.95
	03/05/01		3.04	23.81
	06/04/01		4.01	22.84
	06/05/02		3.73	23.12
	09/09/02		5.06	21.79
	12/19/02		4.09	22.76
	03/10/03		3.50	23.35
	06/03/03		3.66	23.19
	09/19/03		4.91	21.94
	12/22/03		4.30	22.55
	03/12/04		2.93	23.92
	06/11/04		4.23	22.62
	09/13/04		5.02	21.83
	12/16/04		3.76	23.09
	03/21/05		2.81	24.04
	06/23/05		3.66	23.19
	09/30/05		4.55	22.30
	12/08/05		4.21	22.64
	03/01/06		2.90	23.95
	05/25/06	29.18	2.84	26.34
	08/10/06		4.35	24.83
	11/21/06		4.22	24.96
	02/06/07		4.39	24.79
	05/08/07		3.88	25.30
	08/06/07		5.02	24.16
	12/26/07		4.87	24.31
	06/28/08		4.77	24.41
	09/27/08		6.29	22.89

Table 5
Groundwater Elevation Data
Alaska Gas
Alameda, California

Well ID	Date	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation
MW-2	11/06/99	27.18	5.56	21.62
	05/16/00		3.54	23.64
	08/03/00		4.44	22.74
	12/05/00		5.24	21.94
	03/05/01		3.28	23.90
	06/04/01		4.33	22.85
	06/05/02		3.98	23.20
	09/09/02		5.34	21.84
	12/19/02		4.33	22.85
	03/10/03		3.58	23.60
	06/03/03		3.87	23.31
	09/19/03		5.24	21.94
	12/22/03		4.47	22.71
	03/12/04		3.40	23.78
	06/11/04		4.51	22.67
	09/13/04		5.35	21.83
	12/16/04		4.09	23.09
	03/21/05		3.01	24.17
	06/23/05		3.91	23.27
	09/30/05		4.86	22.32
	12/08/05		4.49	22.69
	03/01/06		3.09	24.09
	05/25/06	29.55	3.16	26.39
	08/10/06		4.98	24.57
	11/21/06		4.81	24.74
	02/06/07		4.37	25.18
	05/08/07		4.12	25.43
	08/06/07		5.36	24.19
	12/26/07		5.03	24.52
	06/28/08		5.06	24.49
	09/27/08		6.64	22.91

Table 5
Groundwater Elevation Data
Alaska Gas
Alameda, California

Well ID	Date	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation
MW-3	11/06/99	25.3	4.02	21.28
	05/16/00		2.06	23.24
	08/03/00		3.20	22.10
	12/05/00		3.71	21.59
	03/05/01		1.90	23.40
	06/04/01		2.72	22.58
	06/05/02		2.75	22.55
	09/09/02		3.88	21.42
	12/19/02		2.79	22.51
	03/10/03		2.36	22.94
	06/03/03		2.65	22.65
	09/19/03		3.15	22.15
	12/22/03		2.83	22.47
	03/12/04		2.00	23.30
	06/11/04		3.11	22.19
	09/13/04		3.90	21.40
	12/16/04		2.89	22.41
	03/21/05		1.93	23.37
	06/23/05		2.69	22.61
	09/30/05		4.54	20.76
	12/08/05		3.05	22.25
	03/01/06		1.95	23.35
	05/25/06	27.74	2.11	25.63
	08/10/06		3.25	24.49
	11/21/06		3.35	24.39
	02/06/07		3.34	24.40
	05/08/07		3.53	24.21
	08/06/07		3.91	23.83
	12/26/07		3.57	24.17
	06/28/08		3.66	24.08
	09/27/08		4.98	22.76

Table 5
Groundwater Elevation Data
Alaska Gas
Alameda, California

Well ID	Date	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation
MW-4	05/25/06	26.23	2.54	23.69
	08/10/06		4.65	21.58
	11/21/06		4.63	21.60
	02/06/07		3.87	22.36
	05/08/07		4.21	22.02
	08/06/07		4.54	21.69
	12/26/07		2.90	23.33
	06/28/08		3.02	23.21
	09/27/08		4.78	21.45
MW-5	05/25/06	26.78	2.60	24.18
	08/10/06		3.40	23.38
	11/21/06		3.27	23.51
	02/06/07		3.10	23.68
	05/08/07		3.00	23.78
	08/06/07		3.79	22.99
	12/26/07		3.38	23.40
	06/28/08		3.70	23.08
	09/27/08		4.65	22.13

All measurements are in feet. DTW = Depth to water below top of PVC casing.
TOC = Top of casing. ELEV = Elevation above mean sea level.
D = The change in water level (elevation this quarter minus elevation last quarter).
Wells resurveyed on April 27, 2006

APPENDIX A

MONITORING WELL PURGE LOGS

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Alaska Gas PROJECT #: 002

DATE: 9/27/08 SAMPLER'S INITIALS: CM

WELL ID: MW- 2 WELL DIAMETER (in): 2

WELL DEPTH (ft): 12.2 DEPTH TO WATER (ft): 6.64 WATER COLUMN Ht (ft): 5.56

STANDING WATER VOLUME (gal): 0.92 3 VOLUMES (gal): 2.8

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: (Bailer) or Mini-Whaler Pump (circle the correct method) SAMPLING METHOD: disposable PE bailer

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (F)	pH	SC (uS)		Comments
						DO prior to purging
1339	1	75.5	6.52	344		
1341	2	74.4	6.36	414		
1343	3	74.3	6.37	479		
1345	4	73.9	6.30	459		good recharge
						sampled @ 1350

WELL ID: MW- WELL DIAMETER (in):

WELL DEPTH (ft): DEPTH TO WATER (ft): WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal): 3 VOLUMES (gal):

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: Bailer or Mini-Whaler Pump (circle the correct method) SAMPLING METHOD: disposable PE bailer

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (F)	pH	SC (uS)		Comments
						DO prior to purging

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Alaska Gas PROJECT #: 002

DATE: 9/27/08 SAMPLER'S INITIALS: CM

WELL ID: MW-3 WELL DIAMETER (in): 2

WELL DEPTH (ft): 16.03 DEPTH TO WATER (ft): 4.98 WATER COLUMN Ht (ft): 11.05

STANDING WATER VOLUME (gal): 1.83 3 VOLUMES (gal): 5.5

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: Bailer or Mini-Whaler Pump (circle the correct method) SAMPLING METHOD: disposable PE bailer

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (F)	pH	SC (uS)		Comments
						DO prior to purging
1414	2	74.4	6.32	629		
1417	4	73.5	6.37	647		
1419	5	73.5	6.43	639		
1422	6	73.4	6.45	637		
						Sampled @ 1425

WELL ID: MW-1 WELL DIAMETER (in): 2

WELL DEPTH (ft): 11.03 DEPTH TO WATER (ft): 6.29 WATER COLUMN Ht (ft): 4.74

STANDING WATER VOLUME (gal): 0.78 3 VOLUMES (gal): 2.4

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: (Bailer) or Mini-Whaler Pump (circle the correct method) SAMPLING METHOD: disposable PE bailer

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (F)	pH	SC (uS)		Comments
						DO prior to purging
1356	1	74.5	6.40	503		Slow recharge
1400	2	74.2	6.51	521		Sand coming into well
1403	2.5	74.3	6.55	509		
						Sampled @ 1405

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Alaska Gas PROJECT #: 002

DATE: 9/27/08 SAMPLER'S INITIALS: CM

WELL ID: MW-5 WELL DIAMETER (in): 2

WELL DEPTH (ft): 14.8 DEPTH TO WATER (ft): 4.65 WATER COLUMN Ht (ft): 10.15

STANDING WATER VOLUME (gal): 1.68 3 VOLUMES (gal): 5.05

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: (Bailer) or Mini-Whaler Pump (circle the correct method) SAMPLING METHOD: disposable PE bailer

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (F)	pH	SC (uS)		Comments
						DO prior to purging
1300	1	71.1	6.67	572		some odor / No Sheen
1301	2	70.8	6.64	621		
1305	3	70.3	6.60	778		Sampled @ 1310
	4	70.3	6.64	768		
1307	5	70.0	6.66	754		

WELL ID: MW-4 WELL DIAMETER (in): 2

WELL DEPTH (ft): 14.2 DEPTH TO WATER (ft): 4.78 WATER COLUMN Ht (ft): 9.42

STANDING WATER VOLUME (gal): 1.56 3 VOLUMES (gal): 4.7

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: (Bailer) or Mini-Whaler Pump (circle the correct method) SAMPLING METHOD: disposable PE bailer

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (F)	pH	SC (uS)		Comments
						DO prior to purging
1252	1	72.7	6.84	442		Slow recharge
1320	2		6.91	422		sampled @ 1330
1321	3	71.6	6.91	426		
1324	4	69.9	6.90	424		

APPENDIX B

LABORATORY ANALYTICAL REPORTS FOR GROUNDWATER SAMPLES

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

Matriks Corporation 321 Court Street Woodland, CA 95695	Client Project ID: Alameda	Date Sampled: 09/27/08
		Date Received: 09/29/08
	Client Contact: Robert Neely	Date Reported: 10/06/08
	Client P.O.:	Date Completed: 10/06/08

WorkOrder: 0809883

October 07, 2008

Dear Robert:

Enclosed within are:

1) The results of the **5** analyzed samples from your project: **Alameda,**
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.

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

0809883

CHAIN OF CUSTODY RECORD

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

GeoTracker EDF ☐ PDF ☑ Excel ☐ Write On (DW) ☐

☐ Check if sample is effluent and "J" flag is required

Report To: CMOKRIE comcast.net Bill To: Matriks Corp.

Company: Matriks Corp.
321 Court St
Woodland CA 95695

E-Mail: CMokrie comcast.net

Tele: (530) 902-7106 Fax: ( )

Project #: Project Name: Alameda

Project Location: 1310 Central Ave, Alameda CA

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: ICE	HCL	HNO_3	Other
+1 MW-5		9/27/08	1310	5	*	X					X	X		
+1 MW-4		"	1330	"	"	"					"	"		
+1 MW-3		"	1425	"	"	"					"	"		
+1 MW-1		"	1405	"	"	"					"	"		
+1 MW-2		"	1350	"	"	"					"	"		

Analysis Request

BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Other	Other	Comments
	X															X (TPHg, BTEX, 5 OXY)			Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
	9/29/08	845	
Relinquished By: Emmit - Tech 8R.	Date: 9/29	Time: 1950	Received By:
Relinquished By:	Date: 9-29	Time: 8:15	Received By:

ICE/t [redacted] YES 6.3°C
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB MA
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB WO

PRESERVATION VOAS O&G METALS OTHER pH<2

COMMENTS:

* = 4 VOA + 1 amber

MULTI-RANGE 3

BTEX + OXYS by 8260B per CM

6.3

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0809883 **ClientCode: MCW**

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

Report to:
Robert Neely
Matriks Corporation
321 Court Street
Woodland, CA 95695
(530) 406-1760 FAX (530) 406-1771

Email: thenderson@matrikscorp.com; Cmokri
cc:
PO:
ProjectNo: Alameda

Bill to:
Robert Neely
Matriks Corporation
321 Court Street
Woodland, CA 95695

Requested TAT: 5 days

Date Received: **09/29/2008**
Date Printed: **09/30/2008**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0809883-001	MW-5	Water	9/27/2008 13:10	☐	A	B										
0809883-002	MW-4	Water	9/27/2008 13:30	☐	A	B										
0809883-003	MW-3	Water	9/27/2008 14:25	☐	A	B										
0809883-004	MW-1	Water	9/27/2008 14:05	☐	A	B										
0809883-005	MW-2	Water	9/27/2008 13:50	☐	A	B										

Test Legend:

1	G-MBTEX_W	2	MBTEXOXY-8260B_W	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A contain testgroup.

Prepared by: Samantha Arbuckle

Comments:

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

McCampbell Analytical, Inc.
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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: **Matriks Corporation**
Date and Time Received: **9/29/2008 9:09:08 PM**

Project Name: **Alameda**
Checklist completed and reviewed by: Samantha Arbuckle

WorkOrder N°: **0809883** 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: 6.3°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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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Matriks Corporation	Client Project ID: Alameda	Date Sampled: 09/27/08
		Date Received: 09/29/08
321 Court Street	Client Contact: Robert Neely	Date Extracted: 10/01/08-10/03/08
Woodland, CA 95695	Client P.O.:	Date Analyzed 10/01/08-10/03/08

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method SW5030B Analytical methods SW8015Cm Work Order: 0809883

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-5	W	670,d1,b1	1	104
002A	MW-4	W	ND,b1	1	92
003A	MW-3	W	11,000,d1,b1	10	102
004A	MW-1	W	12,000,d2,b1	20	105
005A	MW-2	W	ND,b1	1	91

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

* 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:

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?)

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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

Matriks Corporation	Client Project ID: Alameda	Date Sampled: 09/27/08
		Date Received: 09/29/08
321 Court Street	Client Contact: Robert Neely	Date Extracted: 10/03/08
Woodland, CA 95695	Client P.O.:	Date Analyzed: 10/03/08

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0809883

Lab ID	0809883-001B	0809883-002B	0809883-003B	0809883-004B	Reporting Limit for DF =1	
Client ID	MW-5	MW-4	MW-3	MW-1		
Matrix	W	W	W	W		
DF	33	1	10	50	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<17	ND	ND<5.0	ND<25	NA	0.5
Benzene	ND<17	ND	190	32	NA	0.5
t-Butyl alcohol (TBA)	95	ND	40	ND<100	NA	2.0
Diisopropyl ether (DIPE)	ND<17	ND	ND<5.0	ND<25	NA	0.5
Ethylbenzene	ND<17	ND	29	1200	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<17	ND	ND<5.0	ND<25	NA	0.5
Methyl-t-butyl ether (MTBE)	650	1.3	160	ND<25	NA	0.5
Toluene	ND<17	ND	24	49	NA	0.5
Xylenes	ND<17	ND	16	680	NA	0.5
Surrogate Recoveries (%)						
%SS1:	80	78	77	79		
%SS2:	77	80	79	78		
%SS3:	77	76	73	75		
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; 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.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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Matriks Corporation	Client Project ID: Alameda	Date Sampled: 09/27/08
		Date Received: 09/29/08
321 Court Street	Client Contact: Robert Neely	Date Extracted: 10/03/08
Woodland, CA 95695	Client P.O.:	Date Analyzed: 10/03/08

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0809883

					Reporting Limit for DF =1	
Lab ID	0809883-005B					
Client ID	MW-2					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND				NA	0.5
Benzene	ND				NA	0.5
t-Butyl alcohol (TBA)	ND				NA	2.0
Diisopropyl ether (DIPE)	ND				NA	0.5
Ethylbenzene	ND				NA	0.5
Ethyl tert-butyl ether (ETBE)	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	7.0				NA	0.5
Toluene	ND				NA	0.5
Xylenes	ND				NA	0.5
Surrogate Recoveries (%)						
%SS1:	77					
%SS2:	78					
%SS3:	75					
Comments	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; 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.

b1) aqueous sample that contains greater than ~1 vol. % sediment

Angela Rydelius, Lab Manager

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"When Quality Counts"

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Matriks Corporation	Client Project ID: Alameda	Date Sampled: 09/27/08
		Date Received: 09/29/08
321 Court Street	Client Contact: Robert Neely	Date Extracted: 09/30/08
Woodland, CA 95695	Client P.O.:	Date Analyzed 10/04/08-10/06/08

Total Extractable Petroleum Hydrocarbons*

Extraction method SW3510C Analytical methods: SW8015B Work Order: 0809883

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0809883-001A	MW-5	W	320,e4,e2,b1	1	112
0809883-002A	MW-4	W	ND,b1	1	113
0809883-003A	MW-3	W	15,000,e4,b1	1	109
0809883-004A	MW-1	W	4600,e4,b1	1	114
0809883-005A	MW-2	W	78,e2,b1	1	106

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

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+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
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 38576 WorkOrder 0809883

EPA Method SW8021B/8015Cm **Extraction SW5030B** **Spiked Sample ID: 0809864-008A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	94.8	93.9	0.972	100	99.3	0.743	70 - 130	20	70 - 130	20
MTBE	ND	10	96.7	97.7	1.03	104	115	9.67	70 - 130	20	70 - 130	20
Benzene	ND	10	93.3	93.4	0.0689	99.3	96.7	2.64	70 - 130	20	70 - 130	20
Toluene	ND	10	84.9	85	0.109	100	97.8	2.50	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	94.9	95.7	0.871	106	103	2.25	70 - 130	20	70 - 130	20
Xylenes	ND	30	92.7	94.3	1.65	118	116	1.66	70 - 130	20	70 - 130	20
%SS:	96	10	98	96	2.42	92	89	3.29	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 38576 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809883-001A	09/27/08 1:10 PM	10/01/08	10/01/08 8:42 PM	0809883-001A	09/27/08 1:10 PM	10/03/08	10/03/08 5:34 AM
0809883-002A	09/27/08 1:30 PM	10/03/08	10/03/08 12:48 AM	0809883-003A	09/27/08 2:25 PM	10/03/08	10/03/08 2:34 AM
0809883-004A	09/27/08 2:05 PM	10/01/08	10/01/08 10:45 PM	0809883-005A	09/27/08 1:50 PM	10/02/08	10/02/08 6:11 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.

£ 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

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 38586 WorkOrder 0809883

EPA Method SW8260B **Extraction SW5030B** **Spiked Sample ID: 0809880-002B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	117	114	2.75	106	105	1.25	70 - 130	30	70 - 130	30
Benzene	ND	10	112	110	1.58	101	100	0.724	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	121	111	8.06	83.4	85.1	2.00	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	118	118	0	95	95.3	0.293	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	109	107	2.25	114	114	0	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	102	100	1.85	113	111	1.74	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	119	116	2.62	111	110	1.07	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	108	106	2.07	97	95.8	1.32	70 - 130	30	70 - 130	30
Toluene	ND	10	115	117	0.974	106	105	0.575	70 - 130	30	70 - 130	30
%SS1:	86	25	81	81	0	88	86	1.37	70 - 130	30	70 - 130	30
%SS2:	87	25	79	82	3.05	91	91	0	70 - 130	30	70 - 130	30
%SS3:	89	2.5	74	74	0	77	76	1.67	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 38586 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809883-001B	09/27/08 1:10 PM	10/03/08	10/03/08 10:27 PM	0809883-002B	09/27/08 1:30 PM	10/03/08	10/03/08 5:51 PM
0809883-003B	09/27/08 2:25 PM	10/03/08	10/03/08 11:09 PM	0809883-004B	09/27/08 2:05 PM	10/03/08	10/03/08 11:52 PM
0809883-005B	09/27/08 1:50 PM	10/03/08	10/03/08 6:33 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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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 38587 WorkOrder 0809883

EPA Method SW8015B **Extraction SW3510C** **Spiked Sample ID: N/A**

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-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	105	106	0.989	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	82	84	1.97	N/A	N/A	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 38587 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0809883-001A	09/27/08 1:10 PM	09/30/08	10/04/08 10:19 AM	0809883-002A	09/27/08 1:30 PM	09/30/08	10/04/08 7:25 PM
0809883-003A	09/27/08 2:25 PM	09/30/08	10/05/08 1:11 AM	0809883-004A	09/27/08 2:05 PM	09/30/08	10/04/08 9:42 PM
0809883-005A	09/27/08 1:50 PM	09/30/08	10/06/08 10:11 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.

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