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Alameda County  
Environmental Health

January 30, 2008

**QUARTERLY GROUNDWATER MONITORING REPORT  
DECEMBER 2007 GROUNDWATER SAMPLING  
ASE JOB NO. 3648**

at

1310 Central Avenue  
Alameda, California

Prepared for:  
Mr. Nissan Saidian  
5733 Medallion Court  
Castro Valley, CA 94522

Prepared by:  
AQUA SCIENCE ENGINEERS, INC.  
55 Oak Court, Suite 220  
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## 1.0 INTRODUCTION

### Site Location (Site), See Figure 1

1310 Central Avenue  
Alameda, CA

### Responsible Party

Mr. Nissan Saidian  
5733 Medallion Court  
Castro Valley, CA 94522

### Environmental Consulting Firm

Aqua Science Engineers, Inc. (ASE)  
55 Oak Court, Suite 220  
Danville, CA 94526  
Contact: Robert Kitay, Senior Geologist  
(925) 820-9391

### Agency Review

Mr. Barney Chan  
Alameda County Health Care Services Agency (ACHCSA)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Mr. Chuck Headlee  
California Regional Water Quality Control Board (RWQCB)  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

The following is a report detailing the methods and findings of the December 2007 quarterly groundwater sampling at the above-referenced site (*Figure 1*). This sampling was conducted as required by the ACHCSA and RWQCB. ASE has prepared this report on behalf of Mr. Nissan Saidian, owner of the property.



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## 2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On December 26, 2007, ASE measured the depth to water in each site groundwater monitoring well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. No free-floating hydrocarbons were observed in any of the monitoring wells this quarter. Groundwater elevation data is presented as *Table One*.

A groundwater potentiometric surface map is presented as *Figure 2*. Groundwater beneath the site was calculated as flowing to the north-northwest with a gradient of approximately 0.007 feet/foot. The groundwater flow direction beneath the site has varied from quarter to quarter, but now corresponds with the expected groundwater flow direction based on historical analytical results.

## 3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, monitoring wells MW-1, MW-3, and MW-5 were purged of three well casing volumes of groundwater using disposable polyethylene bailers. The parameters pH, temperature, and conductivity were monitored during the well purging, and samples were not collected until the parameters stabilized. Monitoring wells MW-2 and MW-4 were purged dry prior to the removal of three well casing volumes. These wells were allowed to recover to at least 80% of their static water levels prior to sampling. Petroleum hydrocarbon odors were present during the purging and sampling of monitoring wells MW-1, MW-3 and MW-5. Groundwater samples were collected from each well using disposable polyethylene bailers.

The samples were decanted from the bottom of the bailers using low flow emptying devices into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid, and sealed without headspace. The samples were then labeled and placed in a cooler with wet ice for transport to Kiff Analytical, LLC (ELAP #2236) of Davis, California under appropriate chain-of-custody documentation. Well sampling field logs are presented in *Appendix A*.

The well purge water was placed in a 55-gallon steel drum and labeled for temporary storage.

The groundwater samples collected from all five site monitoring wells were analyzed for total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 8015, and total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene, and total xylenes (collectively known as BTEX), and fuel oxygenates including methyl tertiary-butyl ether (MTBE) by EPA Method 8260B. The analytical results are presented in *Table Two*, and the certified analytical report and chain-of-custody documentation are included as *Appendix B*.



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#### 4.0 CONCLUSIONS

- Concentrations of TPH-G, benzene, toluene, ethyl benzene and total xylenes decreased significantly in groundwater samples collected from monitoring well MW-1, while MTBE concentrations increased slightly.
- The only compounds detected in groundwater samples collected from monitoring well MW-2 this quarter were 190 ppb TPH-D and 2.9 ppb MTBE.
- There was a slight increase in the TPH-G concentration in groundwater samples collected from monitoring well MW-3 this quarter, although all BTEX and oxygenate concentrations decreased.
- MTBE was the only compound detected in groundwater samples collected from monitoring well MW-4 at 1.3 ppb, which is generally consistent with previous findings.
- Concentrations of TPH-G, MTBE, TAME and TBA were very similar to last quarter's results in groundwater samples collected from monitoring well MW-5.

Benzene and MTBE isoconcentration contour maps are presented as *Figure 3* and *Figure 4*. The following concentrations exceeded Environmental Screening Levels (ESLs)<sup>1</sup> for sites where groundwater is a current or potential source of drinking water:

- In MW-1, concentrations of TPH-G, benzene, ethylbenzene and total xylenes exceeded ESLs.
- In MW-3, concentrations of TPH-G, benzene and MTBE exceeded ESLs.
- In MW-5, concentrations of TPH-G and MTBE exceeded ESLs.

#### 5.0 RECOMMENDATIONS

ASE recommends that this site remain on a quarterly sampling schedule. The next sampling is scheduled for February 2008. In addition, ASE recommends that a corrective action plan be prepared for the site.

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<sup>1</sup> As presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region dated November 2007.



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## 6.0 REPORT LIMITATIONS

The results presented in this report represent the conditions at the time of the groundwater sampling, at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tanks and associated plumbing at the site, or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CAL-DHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project, and trust that this report meets your needs. Please feel free to call us at (925) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Robert E. Kitay, P.G., R.E.A.  
Senior Geologist



Attachments: Table One and Two  
Figures 1 through 4  
Appendices A and B

cc: Mr. Nissan Saidian  
Mr. Barney Chan, ACHCSA  
Mr. Chuck Headlee, RWQCB, San Francisco Bay Region



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## **TABLES**

TABLE ONE  
 Groundwater Elevation Data  
 Saidian Property-Alameda  
 1310 Central Avenue, Alameda, CA

Well	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation (msl)
MW-1	9/6/99	26.85	5.16	21.69
	5/16/00		3.24	23.61
	8/3/00		4.15	22.70
	12/5/00		4.90	21.95
	3/5/01		3.04	23.81
	6/4/01		4.01	22.84
	6/5/02		3.73	23.12
	9/9/02		5.06	21.79
	12/19/02		4.09	22.76
	3/10/03		3.50	23.35
	6/3/03		3.66	23.19
	9/18/03		4.91	21.94
	12/22/03		4.30	22.55
	3/12/04		2.93	23.92
	6/11/04		4.23	22.62
	9/13/04	5.02	21.83	
	12/16/04	3.76	23.09	
	3/21/05	2.81	24.04	
	6/23/05	3.66	23.19	
	9/30/05	4.55	22.30	
	12/8/05	4.21	22.64	
	3/1/06	2.90	23.95	
	5/25/06	29.18	2.84	26.34
	8/10/06		4.35	24.83
	11/21/06		4.22	24.96
	2/6/07		4.39	24.79
	5/8/07		3.88	25.30
	8/6/07		5.02	24.16
	12/26/07		4.87	24.31

TABLE ONE  
 Groundwater Elevation Data  
 Saidian Property-Alameda  
 1310 Central Avenue, Alameda, CA

Well	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation (msl)
MW-2	9/6/99	27.18	5.56	21.62
	5/16/00		3.52	23.66
	8/3/00		4.44	22.74
	12/5/00		5.24	21.94
	3/5/01		3.28	23.90
	6/4/01		4.33	22.85
	6/5/02		3.98	23.20
	9/9/02		5.34	21.84
	12/19/02		4.33	22.85
	3/10/03		3.58	23.60
	6/3/03		3.87	23.31
	9/18/03		5.24	21.94
	12/22/03		4.47	22.71
	3/12/04		3.10	24.08
	6/11/04		4.51	22.67
	9/13/04		5.35	21.83
	12/16/04		4.09	23.09
	3/21/05		3.01	24.17
	6/23/05		3.91	23.27
	9/30/05		4.86	22.32
	12/8/05	4.49	22.69	
	3/1/06	3.09	24.09	
	5/25/06	29.55	3.16	26.39
	8/10/06		4.98	24.57
	11/21/06		4.81	24.74
	2/6/07		4.37	25.18
5/8/07	4.12		25.43	
8/6/07	5.36		24.19	
12/26/07	5.03		24.52	



**TABLE ONE**  
**Groundwater Elevation Data**  
**Saidian Property-Alameda**  
 1310 Central Avenue, Alameda, CA

Well	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation (msl)
MW-3	9/6/00	25.30	4.02	21.28
	5/16/00		2.06	23.24
	8/3/00		3.20	22.10
	12/5/00		3.71	21.59
	3/5/01		1.90	23.40
	6/4/01		2.72	22.58
	6/5/02		2.75	22.55
	9/9/02		3.88	21.42
	12/19/02		2.79	22.51
	3/10/03		2.36	22.94
	6/3/03		2.65	22.65
	9/19/03		3.15	22.15
	12/22/03		2.83	22.47
	3/12/04		2.00	23.30
	6/11/04		3.11	22.19
	9/13/04		3.90	21.40
	12/16/04		2.89	22.41
	3/21/05		1.93	23.37
	6/23/05		2.69	22.61
	9/30/05	4.54	20.76	
	12/8/05	3.05	22.25	
	3/1/06	1.95	23.35	
	5/25/06	27.74	2.11	25.63
8/10/06	3.25	24.49		
11/21/06	3.35	24.39		
2/6/07	3.34	24.40		
5/8/07	3.53	24.21		
8/6/07	3.91	23.83		
12/26/07	3.57	24.17		
MW-4	5/25/06	26.23	2.54	23.69
	8/10/06		4.65	21.58
	11/21/06		4.63	21.60
	2/6/07		3.87	22.36
	5/8/07		4.21	22.02
	8/6/07		4.54	21.69
12/26/07	2.90	23.33		

TABLE ONE  
 Groundwater Elevation Data  
 Saidian Property-Alameda  
 1310 Central Avenue, Alameda, CA

Well	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation (msl)
MW-5	5/25/06	26.78	2.60	24.18
	8/10/06		3.40	23.38
	11/21/06		3.27	23.51
	2/6/07		3.10	23.68
	5/18/07		3.00	23.78
	8/16/07		3.79	22.99
	12/26/07		3.38	23.40

Notes:

Wells were resurveyed on April 27, 2006

## TABLE TWO

Summary of Chemical Analysis of GROUNDWATER Samples  
Alameda Gas, 1310 Central Avenue, Alameda, California  
All results are in parts per billion (ppb)

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
MW-1										
9/6/99	5,700	8,700	170	59	22	85	20,000	NA	NA	NA
5/16/00	20,000	< 7,500	38	6.3	740	1,600	< 5.0	< 5.0	< 50	< 5.0
8/3/00	20,000	< 6,000	56	9.7	920	1,600	< 0.5	< 0.5	< 50	< 0.5
12/5/00	31,000	< 4,000	64	27	820	2,200	< 10	< 5.0	< 50	< 5.0
3/5/01	20,000	< 4,000	19	< 5.0	480	870	< 5.0	< 5.0	< 50	< 5.0
6/4/01	23,000	< 7,000	58	50	710	2,100	5.1	< 5.0	< 50	< 5.0
6/5/02	7,400	< 1,500	9.3	6.7	180	230	< 1.0	< 1.0	< 10	< 1.0
9/9/02	8,300	< 3,500	32	20	390	670	< 2.0	< 2.0	< 20	< 2.0
12/19/02	5,100	--	7.9	2.5	56	93	< 1.0	< 1.0	< 10	< 1.0
3/10/03	2,000	< 2,000	3.4	2.9	80	98	< 0.5	< 0.5	< 5.0	< 0.5
6/3/03	7,300	< 4,000	6.8	9.9	300	1,000	2.3	< 0.5	< 5.0	< 0.5
9/18/03	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
3/12/04	7,000	< 3,000	8.3	8.2	250	760	3.9	< 2.0	< 20	< 2.0
6/11/04	13,000	< 4,000	26	27	530	1,700	< 2.5	< 2.5	< 15	< 2.5
9/13/04	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
3/21/05	7,500	< 3,000	3.4	4.2	290	760	< 1.5	< 1.5	< 20	< 1.5
6/23/05	11,000	< 8,000	15	11	370	910	2.4	< 1.5	< 7	< 1.5
9/30/05	9,800	< 4000	32	25	540	680	1.6	< 1.5	< 7.0	< 1.5
12/8/05	9,200	< 4,000	27	21	500	490	2.2	< 1.5	< 7.0	< 1.5
3/1/06	6,500	< 4,000	8.1	9.4	370	660	1.8	< 1.5	< 6.0	< 1.5
5/25/06	10,000	< 3,000	19	14	900	620	< 1.5	< 1.5	< 7.0	< 1.5
8/10/06	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	< 0.5	< 5.0	< 0.5
2/6/07	4,600	< 1,500	9.4	6.0	380	220	1.0	< 0.50	< 5.0	< 0.50
5/8/07	3,700	< 800	10	4.6	320	86	1.5	< 0.50	< 5.0	< 0.50
8/6/07	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

## TABLE TWO

### Summary of Chemical Analysis of GROUNDWATER Samples

Alameda Gas, 1310 Central Avenue, Alameda, California

All results are in parts per billion (ppb)

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
<u>MW-2</u>										
9/6/99	6,000	70	1,300	92	50	400	6,800	NA	NA	NA
5/16/00	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 5.0
8/3/00	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
12/5/00	< 50	1,400	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
3/5/01	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
6/4/01	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
6/5/02	< 50	2,300	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
9/9/02	< 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
3/10/03	< 50	3,000	< 0.5	< 0.5	< 0.5	< 0.5	1.0	< 0.5	< 5.0	< 0.5
6/3/03	< 50	700	< 0.5	< 0.5	< 0.5	< 0.5	2.0	< 0.5	< 5.0	< 0.5
9/18/03	< 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
3/12/04	< 50	250	< 0.5	< 0.5	< 0.5	< 0.5	2.1	< 0.5	< 5.0	< 0.5
6/11/04	< 50	920	< 0.5	< 0.5	< 0.5	< 0.5	0.75	< 0.5	< 5.0	< 0.5
9/13/04	< 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
3/21/05	< 50	130	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
6/23/05	< 50	1,100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
9/30/05	< 50	300	< 0.5	< 0.5	< 0.5	< 0.5	1.6	< 0.5	< 5.0	< 0.5
12/8/05	< 50	600	< 0.5	< 0.5	< 0.5	< 0.5	1.9	< 0.5	< 5.0	< 0.5
3/1/06	< 50	920	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
5/25/06	< 50	160	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5
8/10/06	< 50	870	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50
11/21/06	< 50	130	< 0.50	< 0.50	< 0.50	< 0.50	1.8	< 0.50	< 5.0	< 0.50
2/6/07	< 50	450	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50
5/8/07	< 50	160	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50
8/6/07	< 50	180	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50
12/26/07	< 50	190	< 0.50	< 0.50	< 0.50	< 0.50	2.9	< 0.50	< 5.0	< 0.50

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Alameda Gas, 1310 Central Avenue, Alameda, California**  
All results are in parts per billion (ppb)

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
<b>MW-3</b>										
9/6/99	43,000	870	860	70	< 0.5	65	120,000	NA	NA	NA
5/16/00	17,000	< 5,000	2,800	60	380	190	990	9.1	350	< 5.0
8/3/00	16,000	< 2,000	1,600	29	210	53	1,200	21	260	< 2.0
12/5/00	17,000	5,800	1,700	45	460	240	1,100	21	230	< 5.0
3/5/01	29,000	< 1300	2,100	68	280	100	180	< 8.0	< 80	< 8.0
6/4/01	17,000	< 6,000	2,000	56	340	230	300	< 10	130	< 10
6/5/02	11,000	< 2,000	1,600	46	210	47	790	< 10	220	< 10
9/9/02	12,000	< 800	1,400	44	130	27	760	< 10	160	< 10
12/19/02	10,000	--	740	32	180	38	86	< 5.0	< 50	< 5.0
3/10/03	13,000	< 6,000	1,200	42	240	35	470	5.3	140	< 5.0
6/3/03	6,500	< 3,000	750	21	46	15	1,300	< 50	280	< 2.5
9/18/03	9,800	< 3,000	1,500	38	170	32	420	< 10	150	< 10
12/22/03	8,800	< 2,000	1,100	32	82	20	330	5.8	52	< 5.0
3/12/04	7,600	< 3,000	590	23	69	17	470	9.2	63	< 2.5
6/11/04	7,800	< 2,000	840	19	58	15	710	12	140	< 1.5
9/13/04	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
3/21/05	11,000	< 3,000	1,200	37	190	24	460	9.3	100	< 2.5
6/23/05	9,600	< 4,000	1,100	28	93	23	370	8.2	67	< 2.5
9/30/05	9,000	< 3,000	690	18	32	14	380	8.4	72	< 1.5
12/8/05	8,700	< 3,000	560	23	38	12	350	6.9	82	< 1.5
3/1/06	8,400	< 2,000	410	24	42	13	360	8.0	58	< 1.5
5/25/06	9,900	< 2,000	630	25	13	13	190	5.3	59	< 1.5
8/10/06	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
2/6/07	7,700	< 1,000	520	36	90	23	260	7.4	54	< 1.5
5/8/07	4,700	< 800	150	0.86	< 0.50	< 0.50	170	5.0	52	< 0.50
8/6/07	6,000	< 1,000	240	26	34	17	180	5.0	55	< 0.50
12/26/07	8,100	< 1,500	76	14	17	12	150	4.3	37	< 0.90

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Alameda Gas, 1310 Central Avenue, Alameda, California**  
 All results are in parts per billion (ppb)

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
<b>MW-4</b>										
5/25/06	< 50	86	< 0.5	< 0.5	< 0.5	< 0.5	1.2	< 0.5	< 5.0	< 0.5
8/10/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	1.2	< 0.50	< 5.0	< 0.50
11/21/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	0.59	< 0.50	< 5.0	< 0.50
2/6/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50
5/8/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50
8/6/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	0.82	< 0.50	< 5.0	< 0.50
12/26/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	1.3	< 0.50	< 5.0	< 0.50
<b>MW-5</b>										
5/25/06	410	< 80	< 2.5	< 2.5	< 2.5	< 2.5	1,800	28	44	< 2.5
8/10/06	55	< 50	< 0.50	< 0.50	< 0.50	< 0.50	1,100	19	9.1	< 0.50
11/21/06	< 250	< 50	< 2.5	< 2.5	< 2.5	< 2.5	1,500	25	28	< 2.5
2/6/07	430	< 50	6.9	< 2.5	< 2.5	< 2.5	1,600	26	34	< 2.5
5/8/07	< 250	< 50	< 2.5	< 2.5	< 2.5	< 2.5	1,200	20	38	< 2.5
8/6/07	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
ESL	100	100	1	40	30	20	5	NE	NE	VARIES

Notes:

MTBE = Methyl-t-butyl ether

TAME = Tert-amyl methyl ether

TBA = Tert-Butanol

ESL = Environmental screening levels for sites where groundwater is a current or potential source of drinking water as presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (November 2007)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

NA = Samples Not Analyzed for this compound.

NE = ESLs are not established.

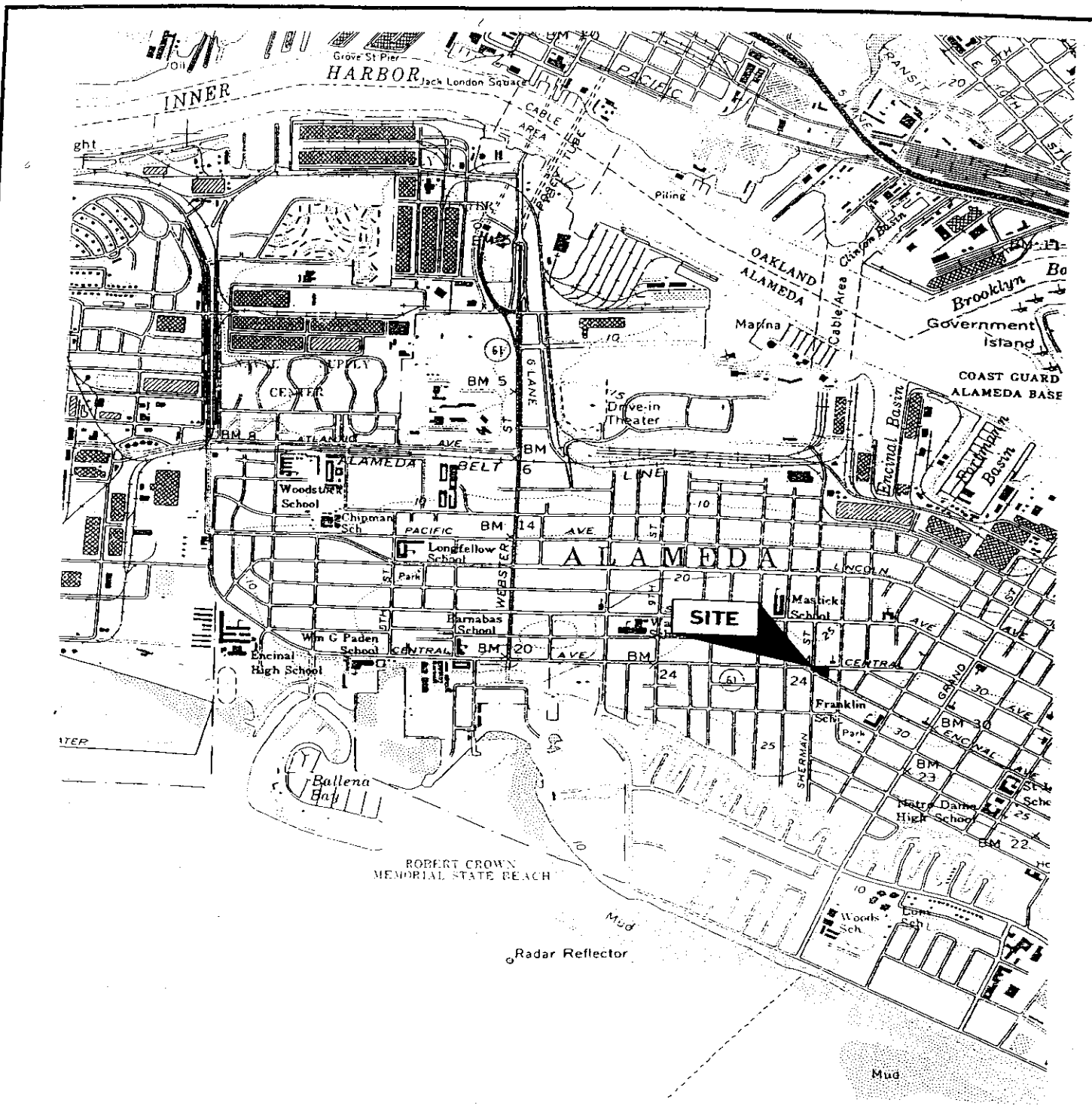
Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Most recent data in bold.



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## **FIGURES**

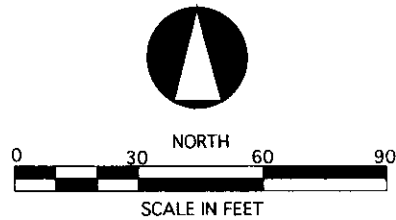
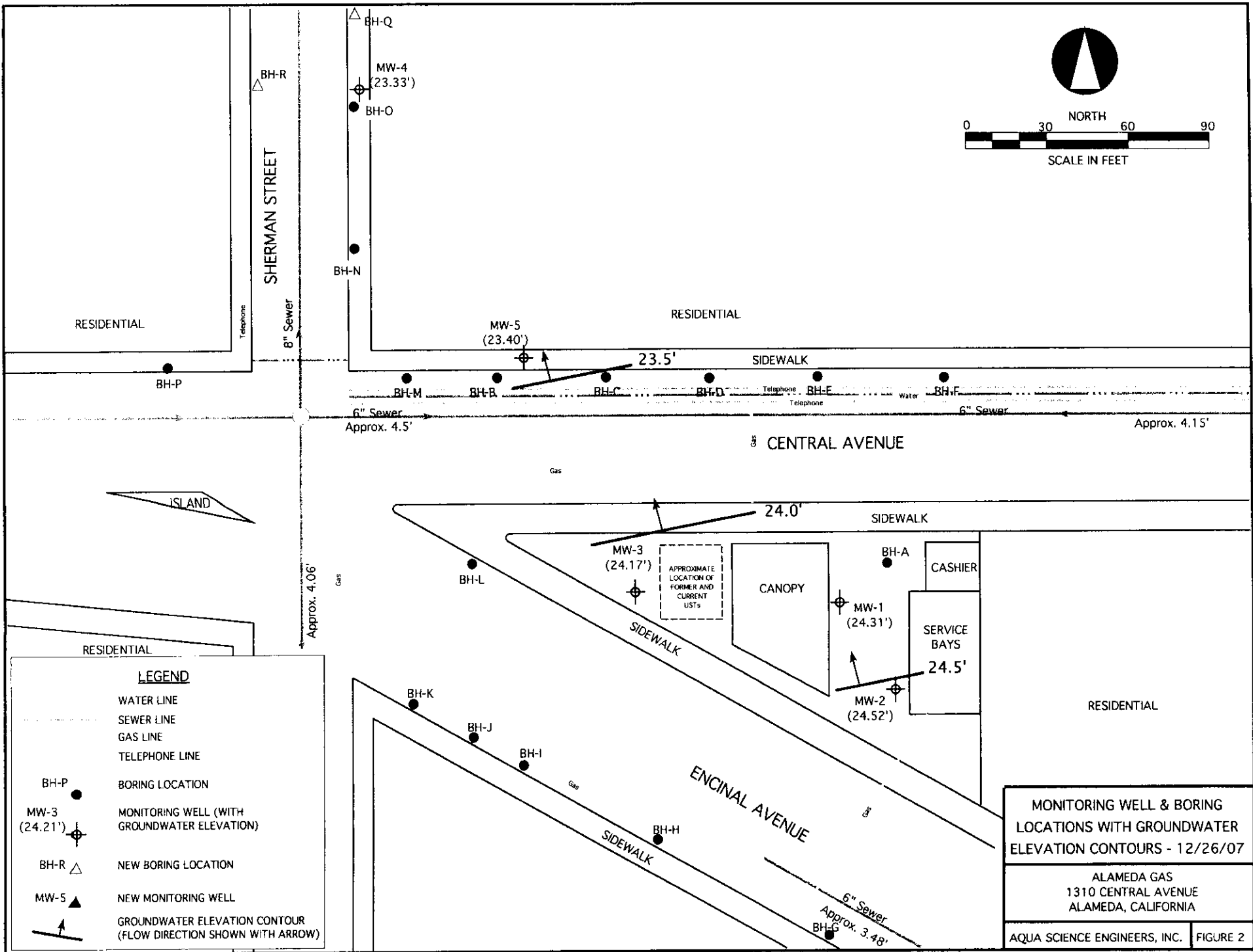


**LOCATION MAP**

SAIDIAN PROPERTY  
1310 CENTRAL AVENUE  
ALAMEDA, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.	Figure 1
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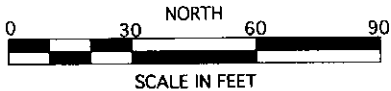


LEGEND	
	WATER LINE
	SEWER LINE
	GAS LINE
	TELEPHONE LINE
	BORING LOCATION
	MONITORING WELL (WITH GROUNDWATER ELEVATION)
	NEW BORING LOCATION
	NEW MONITORING WELL
	GROUNDWATER ELEVATION CONTOUR (FLOW DIRECTION SHOWN WITH ARROW)

MONITORING WELL & BORING  
 LOCATIONS WITH GROUNDWATER  
 ELEVATION CONTOURS - 12/26/07

ALAMEDA GAS  
 1310 CENTRAL AVENUE  
 ALAMEDA, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | FIGURE 2



MW-4  
( $< 0.50$ )

SHERMAN STREET

RESIDENTIAL

MW-5  
( $< 2.5$ )

RESIDENTIAL

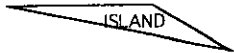
SIDEWALK

6" Sewer  
Approx. 4.5'

6" Sewer

Approx. 4.15' BGS

CENTRAL AVENUE



ISLAND

Gas

10

SIDEWALK

MW-3  
(76)



APPROXIMATE  
LOCATION OF  
FORMER AND  
CURRENT  
USTs

CANOPY

MW-1  
(2.3)

CASHIER

SERVICE  
BAYS

RESIDENTIAL

MW-2  
( $< 0.50$ )

SIDEWALK

ENCINAL AVENUE

Gas

SIDEWALK

6" Sewer  
Approx. 3.48'

### LEGEND

WATER LINE

SEWER LINE

GAS LINE

TELEPHONE LINE

MW-3  
(240)

MONITORING WELL (WITH  
BENZENE CONCENTRATION IN PPB)

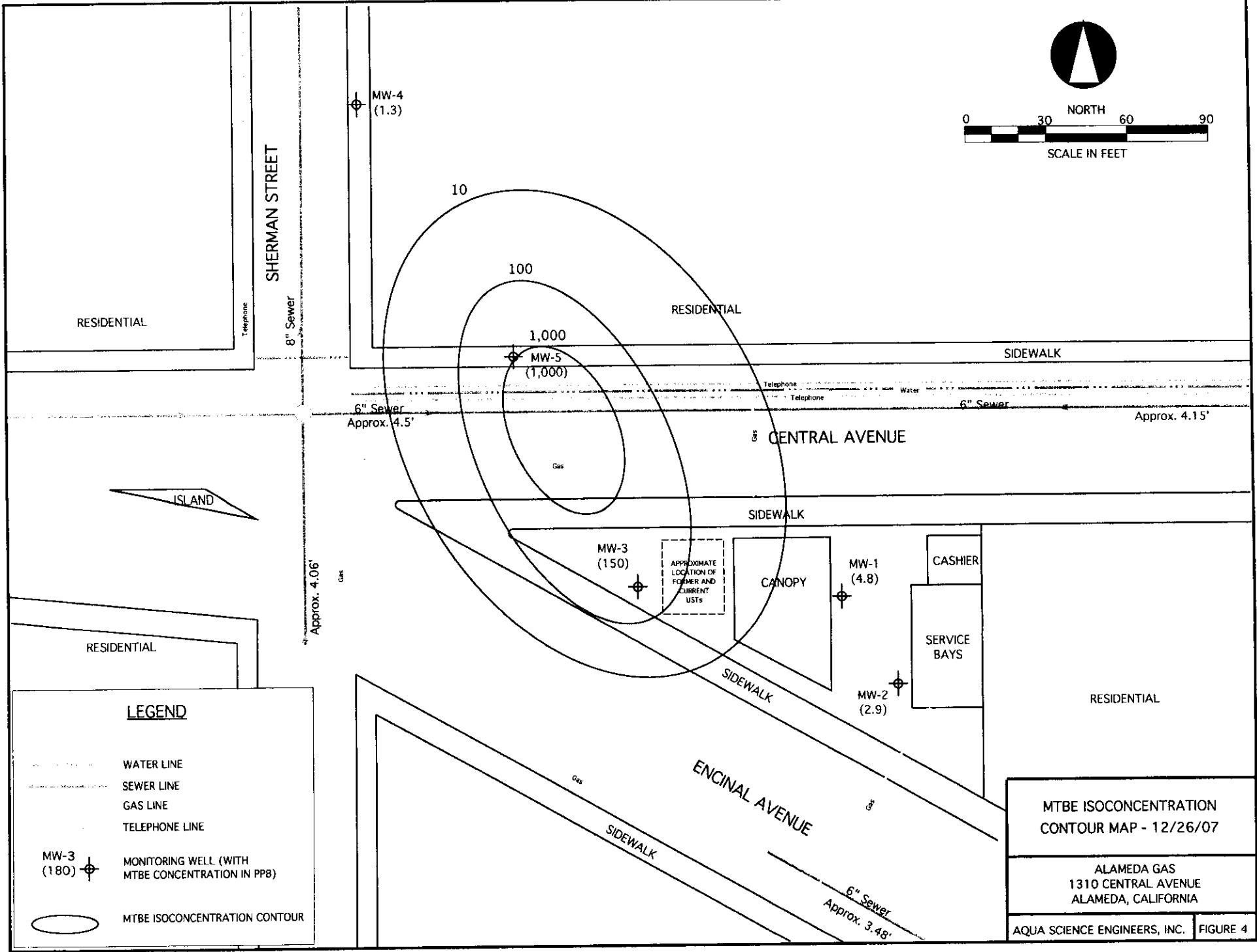
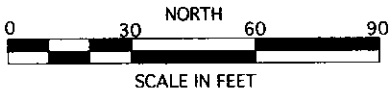


BENZENE ISOCONCENTRATION CONTOUR

BENZENE ISOCONCENTRATION  
CONTOUR MAP - 12/26/07

ALAMEDA GAS  
1310 CENTRAL AVENUE  
ALAMEDA, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. FIGURE 3



**LEGEND**

- WATER LINE
- SEWER LINE
- GAS LINE
- TELEPHONE LINE
- MW-3 (180) MONITORING WELL (WITH MTBE CONCENTRATION IN PPB)
- MTBE ISOCONCENTRATION CONTOUR

MTBE ISOCONCENTRATION CONTOUR MAP - 12/26/07	
ALAMEDA GAS 1310 CENTRAL AVENUE ALAMEDA, CALIFORNIA	
AQUA SCIENCE ENGINEERS, INC.	FIGURE 4



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## **APPENDIX A**

### **Well Sampling Field Logs**

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME ALAMEDA

JOB NUMBER 3648 DATE OF SAMPLING 12-26-07

WELL ID. MW-1 SAMPLER DA

TOTAL DEPTH OF WELL 16.0 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 4.87

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 11.13

NUMBER OF GALLONS PER WELL CASING VOLUME 1.8

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5.4

EQUIPMENT USED TO PURGE WELL N.D.B.

TIME EVACUATION STARTED 1235 TIME EVACUATION COMPLETED 12.37

TIME SAMPLES WERE COLLECTED 1435

DID WELL GO DRY YES AFTER HOW MANY GALLONS 2

VOLUME OF GROUNDWATER PURGED 2

SAMPLING DEVICE N.D.B.

SAMPLE COLOR LT. BROWN, ODOR/SEDIMENT SLIGHT H<sub>2</sub>S / SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1/2	68.1	6.85	310
1	68.2	6.90	305
1 1/2	68.0	6.82	315

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-1	5	40 ml VOA	82603 + D	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME AUX MEDIA

JOB NUMBER 3648 DATE OF SAMPLING 12-26-07

WELL ID. MW-2 SAMPLER DA

TOTAL DEPTH OF WELL 12.20 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 5.23

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 7.17

NUMBER OF GALLONS PER WELL CASING VOLUME 1.2

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 3.6

EQUIPMENT USED TO PURGE WELL N.D.B.

TIME EVACUATION STARTED 1222 TIME EVACUATION COMPLETED 1228

TIME SAMPLES WERE COLLECTED 1230

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

VOLUME OF GROUNDWATER PURGED 4

SAMPLING DEVICE N.D.B.

SAMPLE COLOR LT. TAN ODOR/SEDIMENT NONE / SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	67.9	6.70	220
2	68.0	6.65	225
3	68.1	6.71	222

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-2	5	40 ml VOA	8260BT D	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME ALAMEDA

JOB NUMBER 3648 DATE OF SAMPLING 12.26.07

WELL ID. MW-3 SAMPLER DA

TOTAL DEPTH OF WELL 16.0 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 3.57

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 12.43

NUMBER OF GALLONS PER WELL CASING VOLUME 2

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 6

EQUIPMENT USED TO PURGE WELL N.D.B.

TIME EVACUATION STARTED 1240 TIME EVACUATION COMPLETED 1250

TIME SAMPLES WERE COLLECTED 1252

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

VOLUME OF GROUNDWATER PURGED 6

SAMPLING DEVICE N.D.B.

SAMPLE COLOR LT GRAY ODOR/SEDIMENT MOD. HC / SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	68.5	6.40	510
2	68.7	6.42	480
3	68.4	6.41	491

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-3</u>	<u>5</u>	<u>40 ml VOA</u>	<u>82603+D</u>	<u>✓</u>

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME Alameda

JOB NUMBER 3648 DATE OF SAMPLING 12.26.07

WELL ID. MW-4 SAMPLER D+

TOTAL DEPTH OF WELL 140 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 2.90

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 11.1

NUMBER OF GALLONS PER WELL CASING VOLUME 1.78

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5.3

EQUIPMENT USED TO PURGE WELL N.D.B.

TIME EVACUATION STARTED 1310 TIME EVACUATION COMPLETED 1314

TIME SAMPLES WERE COLLECTED 1520

DID WELL GO DRY YES AFTER HOW MANY GALLONS 3

VOLUME OF GROUNDWATER PURGED 3

SAMPLING DEVICE N D B

SAMPLE COLOR LT BRN ODOR/SEDIMENT NONE / 5464T

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
<u>1/2</u>	<u>68.4</u>	<u>7.10</u>	<u>400</u>
<u>1</u>	<u>68.6</u>	<u>7.20</u>	<u>423</u>

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-4</u>	<u>5</u>	<u>40 ml Vof</u>	<u>8260B+D</u>	<u>K</u>



# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME ALAMEDA

JOB NUMBER 3048 DATE OF SAMPLING 12.26.07

WELL ID. MW-5 SAMPLER D+

TOTAL DEPTH OF WELL 14.8 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 3.38

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 11.42

NUMBER OF GALLONS PER WELL CASING VOLUME 1.82

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5.5

EQUIPMENT USED TO PURGE WELL N.D.B.

TIME EVACUATION STARTED 1255 TIME EVACUATION COMPLETED 1302

TIME SAMPLES WERE COLLECTED 1305

DID WELL GO DRY NO AFTER HOW MANY GALLONS 0

VOLUME OF GROUNDWATER PURGED 5.5

SAMPLING DEVICE N.D.B.

SAMPLE COLOR LT. BRN. ODOR/SEDIMENT TRACE HC / TRACE

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	68.7	7.01	510
2	69.1	6.93	520
3	68.4	6.99	515

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-5	3	40 ml WVA	8260B+D	✓



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## **APPENDIX B**

**Certified Analytical Report  
and  
Chain of Custody Documentation**



Report Number : 60372

Date : 1/8/2008

David Allen  
Aqua Science Engineers, Inc.  
55 Oak Court, Suite 220  
Danville, CA 94526

Subject : 5 Water Samples  
Project Name : ALAMEDA  
Project Number : 3648

Dear Mr. Allen,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,



Joel Kiff



Subject : 5 Water Samples  
Project Name : ALAMEDA  
Project Number : 3648

## Case Narrative

Tert-Butanol results for sample MW-5 may be biased slightly high and are flagged with a 'J'. A fraction of MtBE (typically less than 1%) converts to Tert-Butanol during the analysis of water samples. We consider this conversion effect to be mathematically significant in samples that contain MtBE/Tert-Butanol in ratios of over 20:1.

Approved By: \_\_\_\_\_

  
Joe Kiff



Report Number : 60372

Date : 1/8/2008

Project Name : **ALAMEDA**

Project Number : **3648**


Sample : **MW-1**

Matrix : Water

Lab Number : 60372-01

Sample Date :12/26/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>2.3</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Toluene</b>	<b>1.1</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Ethylbenzene</b>	<b>89</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Total Xylenes</b>	<b>21</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Methyl-t-butyl ether (MTBE)</b>	<b>4.8</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	1/2/2008
<b>Tert-Butanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	1/2/2008
<b>TPH as Gasoline</b>	<b>1200</b>	50	ug/L	EPA 8260B	1/2/2008
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	1/2/2008
4-Bromofluorobenzene (Surr)	93.0		% Recovery	EPA 8260B	1/2/2008
<b>TPH as Diesel (Silica Gel)</b>	<b>&lt; 300</b>	300	ug/L	M EPA 8015	1/6/2008
(Note: MRL increased due to interference from Gasoline-range hydrocarbons.)					
Octacosane (Diesel Silica Gel Surr)	117		% Recovery	M EPA 8015	1/6/2008

Approved By:  Joel Kiff



Report Number : 60372

Date : 1/8/2008

Project Name : **ALAMEDA**

Project Number : **3648**

Sample : **MW-2**

Matrix : Water

Lab Number : 60372-02

Sample Date : 12/26/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Methyl-t-butyl ether (MTBE)</b>	2.9	0.50	ug/L	EPA 8260B	12/29/2007
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	12/29/2007
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	12/29/2007
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	12/29/2007
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	12/29/2007
<b>TPH as Diesel (Silica Gel)</b>	190	50	ug/L	M EPA 8015	1/8/2008
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Diesel Silica Gel Surr)	111		% Recovery	M EPA 8015	1/8/2008

Approved By:

Joel Kiff



Report Number : 60372

Date : 1/8/2008

Project Name : **ALAMEDA**

Project Number : **3648**

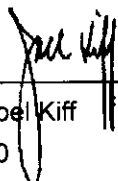
Sample : **MW-3**

Matrix : Water

Lab Number : 60372-03

Sample Date :12/26/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>76</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Toluene</b>	<b>14</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Ethylbenzene</b>	<b>17</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Total Xylenes</b>	<b>12</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Methyl-t-butyl ether (MTBE)</b>	<b>150</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 0.90</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.90</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Tert-amyl methyl ether (TAME)</b>	<b>4.3</b>	0.90	ug/L	EPA 8260B	1/1/2008
<b>Tert-Butanol</b>	<b>37</b>	5.0	ug/L	EPA 8260B	1/1/2008
<b>TPH as Gasoline</b>	<b>8100</b>	90	ug/L	EPA 8260B	1/1/2008
Toluene - d8 (Surr)	97.1		% Recovery	EPA 8260B	1/1/2008
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	1/1/2008
<b>TPH as Diesel (Silica Gel)</b>	<b>&lt; 1500</b>	1500	ug/L	M EPA 8015	1/6/2008
(Note: MRL increased due to interference from Gasoline-range hydrocarbons.)					
Octacosane (Diesel Silica Gel Surr)	120		% Recovery	M EPA 8015	1/6/2008

Approved By:  Joel Kiff



Report Number : 60372

Date : 1/8/2008

Project Name : **ALAMEDA**

Project Number : **3648**

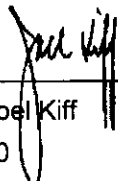
Sample : **MW-4**

Matrix : Water

Lab Number : 60372-04

Sample Date :12/26/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Methyl-t-butyl ether (MTBE)</b>	1.3	0.50	ug/L	EPA 8260B	12/29/2007
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	12/29/2007
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	12/29/2007
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	12/29/2007
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	12/29/2007
4-Bromofluorobenzene (Surr)	99.4		% Recovery	EPA 8260B	12/29/2007
<b>TPH as Diesel (Silica Gel)</b>	< 50	50	ug/L	M EPA 8015	1/6/2008
Octacosane (Diesel Silica Gel Surr)	122		% Recovery	M EPA 8015	1/6/2008

Approved By:  Joel Kiff





Report Number : 60372

Date : 1/8/2008

Project Name : **ALAMEDA**

Project Number : **3648**


Sample : **MW-5**

Matrix : Water

Lab Number : 60372-05

Sample Date :12/26/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 2.5	2.5	ug/L	EPA 8260B	1/1/2008
<b>Toluene</b>	< 2.5	2.5	ug/L	EPA 8260B	1/1/2008
<b>Ethylbenzene</b>	< 2.5	2.5	ug/L	EPA 8260B	1/1/2008
<b>Total Xylenes</b>	< 2.5	2.5	ug/L	EPA 8260B	1/1/2008
<b>Methyl-t-butyl ether (MTBE)</b>	<b>1000</b>	2.5	ug/L	EPA 8260B	1/1/2008
<b>Diisopropyl ether (DIPE)</b>	< 2.5	2.5	ug/L	EPA 8260B	1/1/2008
<b>Ethyl-t-butyl ether (ETBE)</b>	< 2.5	2.5	ug/L	EPA 8260B	1/1/2008
<b>Tert-amyl methyl ether (TAME)</b>	<b>18</b>	2.5	ug/L	EPA 8260B	1/1/2008
<b>Tert-Butanol</b>	<b>28 J</b>	15	ug/L	EPA 8260B	1/1/2008
<b>TPH as Gasoline</b>	<b>490</b>	250	ug/L	EPA 8260B	1/1/2008
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	1/1/2008
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	1/1/2008
<b>TPH as Diesel (Silica Gel)</b>	< 50	50	ug/L	M EPA 8015	1/6/2008
Octacosane (Diesel Silica Gel Surr)	119		% Recovery	M EPA 8015	1/6/2008

Approved By:  Joel Kiff

**QC Report : Method Blank Data**Project Name : **ALAMEDA**Project Number : **3648**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed	Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	1/8/2008	Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Octacosane (Diesel Silica Gel Surr)	112		%	M EPA 8015	1/8/2008	Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	1/2/2008	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Octacosane (Diesel Silica Gel Surr)	126		%	M EPA 8015	1/2/2008	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	1/2/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	1/2/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/2/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	Toluene - d8 (Surr)	101		%	EPA 8260B	1/2/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	12/28/2007	4-Bromofluorobenzene (Surr)	93.6		%	EPA 8260B	1/2/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	12/28/2007						
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/28/2007						
Toluene - d8 (Surr)	102		%	EPA 8260B	12/28/2007						
4-Bromofluorobenzene (Surr)	103		%	EPA 8260B	12/28/2007						
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	12/31/2007						
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	12/31/2007						
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/31/2007						
Toluene - d8 (Surr)	100		%	EPA 8260B	12/31/2007						
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	12/31/2007						

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC


2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Project Name : **ALAMEDA**

Project Number : **3648**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Recov. Limit	Relative Percent Diff. Limit
TPH-D (Si Gel)	Blank	<50	1000	1000	988	994	ug/L	M EPA 8015	1/8/08	98.8	99.4	0.584	70-130	25
TPH-D (Si Gel)	Blank	<50	1000	1000	927	972	ug/L	M EPA 8015	1/2/08	92.7	97.2	4.76	70-130	25
Benzene	60303-25	<0.50	39.8	39.9	40.5	40.7	ug/L	EPA 8260B	12/28/07	102	102	0.0705	70-130	25
Toluene	60303-25	<0.50	39.8	39.9	39.7	39.9	ug/L	EPA 8260B	12/28/07	99.8	99.9	0.110	70-130	25
Tert-Butanol	60303-25	<5.0	199	200	189	186	ug/L	EPA 8260B	12/28/07	95.2	93.2	2.12	70-130	25
Methyl-t-Butyl Ether	60303-25	<0.50	39.8	39.9	37.2	38.3	ug/L	EPA 8260B	12/28/07	93.6	95.9	2.44	70-130	25
Benzene	60335-05	<0.50	40.0	40.0	38.9	37.9	ug/L	EPA 8260B	12/31/07	97.4	94.7	2.74	70-130	25
Toluene	60335-05	<0.50	40.0	40.0	39.2	38.4	ug/L	EPA 8260B	12/31/07	98.0	95.9	2.17	70-130	25
Tert-Butanol	60335-05	<5.0	200	200	204	202	ug/L	EPA 8260B	12/31/07	102	101	0.981	70-130	25
Methyl-t-Butyl Ether	60335-05	<0.50	40.0	40.0	37.3	37.1	ug/L	EPA 8260B	12/31/07	93.3	92.8	0.532	70-130	25
Benzene	60394-01	<0.50	40.0	40.0	39.6	39.0	ug/L	EPA 8260B	1/2/08	99.1	97.6	1.57	70-130	25
Toluene	60394-01	<0.50	40.0	40.0	39.9	39.5	ug/L	EPA 8260B	1/2/08	99.7	98.8	0.837	70-130	25
Tert-Butanol	60394-01	75	200	200	274	270	ug/L	EPA 8260B	1/2/08	99.4	97.4	2.02	70-130	25
Methyl-t-Butyl Ether	60394-01	36	40.0	40.0	78.2	80.7	ug/L	EPA 8260B	1/2/08	104	111	5.70	70-130	25

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

**QC Report : Laboratory Control Sample (LCS)**Project Name : **ALAMEDA**Project Number : **3648**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	12/28/07	101	70-130
Toluene	40.0	ug/L	EPA 8260B	12/28/07	98.9	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/28/07	93.7	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/28/07	95.7	70-130
Benzene	40.0	ug/L	EPA 8260B	12/31/07	97.1	70-130
Toluene	40.0	ug/L	EPA 8260B	12/31/07	99.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/31/07	104	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/31/07	95.2	70-130
Benzene	40.0	ug/L	EPA 8260B	1/2/08	100	70-130
Toluene	40.0	ug/L	EPA 8260B	1/2/08	103	70-130
Tert-Butanol	200	ug/L	EPA 8260B	1/2/08	99.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	1/2/08	106	70-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Approved By:


  
 Joe Kiff

Aqua Science Engineers, Inc.  
 208 W. El Pintado Road  
 Danville, CA 94526  
 (925) 820-9391  
 FAX (925) 837-4853

100372

# Chain of Custody

PAGE 1 of 1

SAMPLER (SIGNATURE)

*[Signature]*

PROJECT NAME ALAMEDA

JOB NO. 3648

ADDRESS 1310 CENTRAL AVE, ALAMEDA

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	QUANTITY	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 8510/8015) <i>w/SILICA GEL CLEANUP</i>	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	CAM 17 METALS (EPA 6010+7000)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	Pb (TOTAL or DISSOLVED) (EPA 6010)	PESTICIDES (EPA 8081)	FUEL OXYGENATES (EPA 8260)	PURGEABLE HALOCARBONS (EPA 801/8010)	TPH-G/BTEX/5 OXYS (EPA METHOD 8260)	MULT-RANGE HYDROCARBONS WITH SILICA GEL CLEANUP (EPA 8015)	VOLATILE ORGANICS (EPA 624/8240/8260)	LUFT METALS (5) (EPA 6010+7000)	COMPOSITE 4:1	EDF			
																					MW-1	12-26-07
MW-2	}	1230	}	}		X								X						X	02	
MW-3		1252			X						X					X					X	03
MW-4		1520			X						X					X					X	04
MW-5		1305			X							X				X					X	05

**SAMPLE RECEIPT**  
 Temp °C 3.0 Therm. ID# IR-5  
 Initial JA Date 12/28/07  
 Time 1635 Coolant present: Yes/No

RELINQUISHED BY:  
*[Signature]*  
 (signature) (time) 1040

RECEIVED BY:  
 (signature) (time)

RELINQUISHED BY:  
 (signature) (time)

RECEIVED BY LABORATORY:  
*[Signature]* 1040  
 (signature) (time)

COMMENTS:  
ALL VOA'S  
Hecl preserved

D. Allen 12.28.07  
 (printed name) (date)

(printed name) (date)

(printed name) (date)

Jerry N. Henry 12/28/07  
 (printed name) (date)  
 Company- Kitt Arj 1

TURN AROUND TIME  
 STANDARD 24Hr 48Hr 72Hr  
 OTHER: [Signature]