

**RECEIVED**

1:37 pm, Jul 10, 2007

Alameda County  
Environmental Health



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

June 12, 2007

**QUARTERLY GROUNDWATER MONITORING REPORT  
MAY 2007 GROUNDWATER SAMPLING  
ASE JOB NO. 3934**

at  
Albany Hill Mini Mart  
800 San Pablo Avenue  
Albany, CA 94706

Prepared by:  
AQUA SCIENCE ENGINEERS, INC.  
55 Oak Court, Suite 220  
Danville, CA 94526  
(925) 820-9391



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## 1.0 INTRODUCTION

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

Albany Hill Mini Mart

800 San Pablo Avenue

Albany, CA 94706

### Responsible Party

Dr. Joginder Sikand

1300 Ptarmigan Drive #1

Walnut Creek, CA 94595

### 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

Alameda County Health

Care Services Agency (ACHCSA)

1131 Harbor Bay Pkwy

Suite 250

Alameda, CA 94502

Contact: Jerry Wickham

(510) 567-6791

California Regional Water  
Quality Control Board (RWQCB)  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612  
Contact: Ms. Betty Graham  
(510) 622-2433

The following is a report detailing the results of the May 2007 quarterly groundwater sampling at the Albany Hill Mini Mart Property. This sampling was conducted as required by the ACHCSA and RWQCB. ASE prepared this report on behalf of Dr. Joginder Sikand, the property owner and responsible party.



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## **2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT**

On May 7, 2007, ASE measured the depth to groundwater in all ten site monitoring wells using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. No sheen or free-floating hydrocarbons were observed in any of the monitoring wells. Groundwater elevation data is presented in Table One. A groundwater potentiometric surface map is presented as Figure 2. The groundwater flow direction is to the west and southwest with a gradient of 0.016 this quarter, which is inconsistent with previous findings.

## **3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS**

On May 7, 2007, ASE collected groundwater samples from all ten monitoring wells. On May 25, 2007, ASE returned to the site to collected a groundwater sample from monitoring well MW-3, which had sample breakage during transport during the May 7, 2007 sampling event. Prior to sampling, each monitoring well was purged of at least 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 these parameters stabilized. Groundwater samples were collected from each well using the same polyethylene bailers and 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. The samples were capped without headspace, labeled, and placed in coolers with wet ice for transport to Kiff Analytical of Davis, California (ELAP #2236) under appropriate chain-of-custody documentation. Petroleum hydrocarbon odors were noted during the purging and sampling of all the monitoring wells. Well sampling field logs are presented in Appendix A.

The well purge water was placed into a 55-gallon steel drum and labeled for temporary storage until proper disposal could be arranged.

The groundwater samples were analyzed by Kiff for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX), and fuel oxygenates including methyl tertiary-butyl ether (MTBE) by EPA Method 8260B, and total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 8015M. The analytical results for this and previous sampling events are summarized in Table Two. The most recent certified analytical report and chain-of-custody documentation are included as Appendix B.

## **4.0 RESULTS AND CONCLUSIONS**

- Hydrocarbon concentrations detected in groundwater samples collected from monitoring wells MW-1 and MW-2 were very similar to last quarter's results.
- Concentrations of TPH-G, benzene, and MTBE detected in groundwater samples collected from monitoring well MW-3 decreased this quarter, while TBA concentrations increased in the same sample.



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

- Concentrations of TPH-G, benzene, toluene, ethyl benzene, total xylenes and TBA detected in groundwater samples collected from monitoring well MW-4 increased this quarter, while MTBE concentrations decreased slightly in the same sample.
- Concentrations of TPH-G, benzene, toluene, and xylenes detected in groundwater samples collected from monitoring well MW-5R decreased this quarter, while ethyl benzene concentrations increased slightly in the same sample.
- Hydrocarbon concentrations detected in groundwater samples collected from monitoring well MW-6 decreased significantly this quarter.
- Concentrations of TPH-G and BTEX detected in groundwater samples collected from monitoring well MW-7 decreased this quarter.
- Hydrocarbon concentrations detected in groundwater samples collected from monitoring well MW-8 decreased this quarter.
- Concentrations of TPH-G and BTEX detected in groundwater samples collected from monitoring well MW-9 increased this quarter.
- Concentrations of TPH-G, benzene, TAME, TBA and MTBE detected in groundwater samples collected from monitoring well MW-10 decreased this quarter.

#### Concentrations exceeding Environmental Screening Levels<sup>1</sup> (ESLs)

- In MW-1, the TPH-G and benzene concentrations exceeded the ESLs.
- In MW-3, the benzene and total xylenes concentrations exceeded the ESLs.
- In MW-4, the TPH-G, benzene, and total xylenes concentrations exceeded the ESLs.
- In MW-5R, the TPH-G, benzene, ethyl benzene and total xylene concentrations exceeded the ESLs.
- In MW-7, the benzene concentrations exceeded ESLs.
- In MW-8, the TPH-G and benzene concentrations exceeded ESLs.
- In MW-9, the TPH-G, benzene toluene, ethyl benzene and total xylenes concentrations exceeded ESLs.

## 5.0 RECOMMENDATIONS

ASE recommends continued groundwater monitoring on a quarterly basis. The next groundwater sampling is scheduled for August 2007. Recently, ASE submitted a request for pre-approval from the USTCF for costs related to the installation and operation of an ozone sparging remediation system. The remediation system will be installed as decided in ASE's RAP dated March 9, 2007, which has been approved by the ACHCSA. ASE will implement the RAP immediately upon receipt of the pre-approval letter from the USTCF.

<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 February 2005.



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## 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 an 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.

Michael Rauser  
Project Geologist

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



Attachments: Figures 1 and 2  
Tables One and Two  
Appendices A and B

cc: Mr. Jerry Wickham, ACHCSA  
Ms. Betty Graham, RWQCB

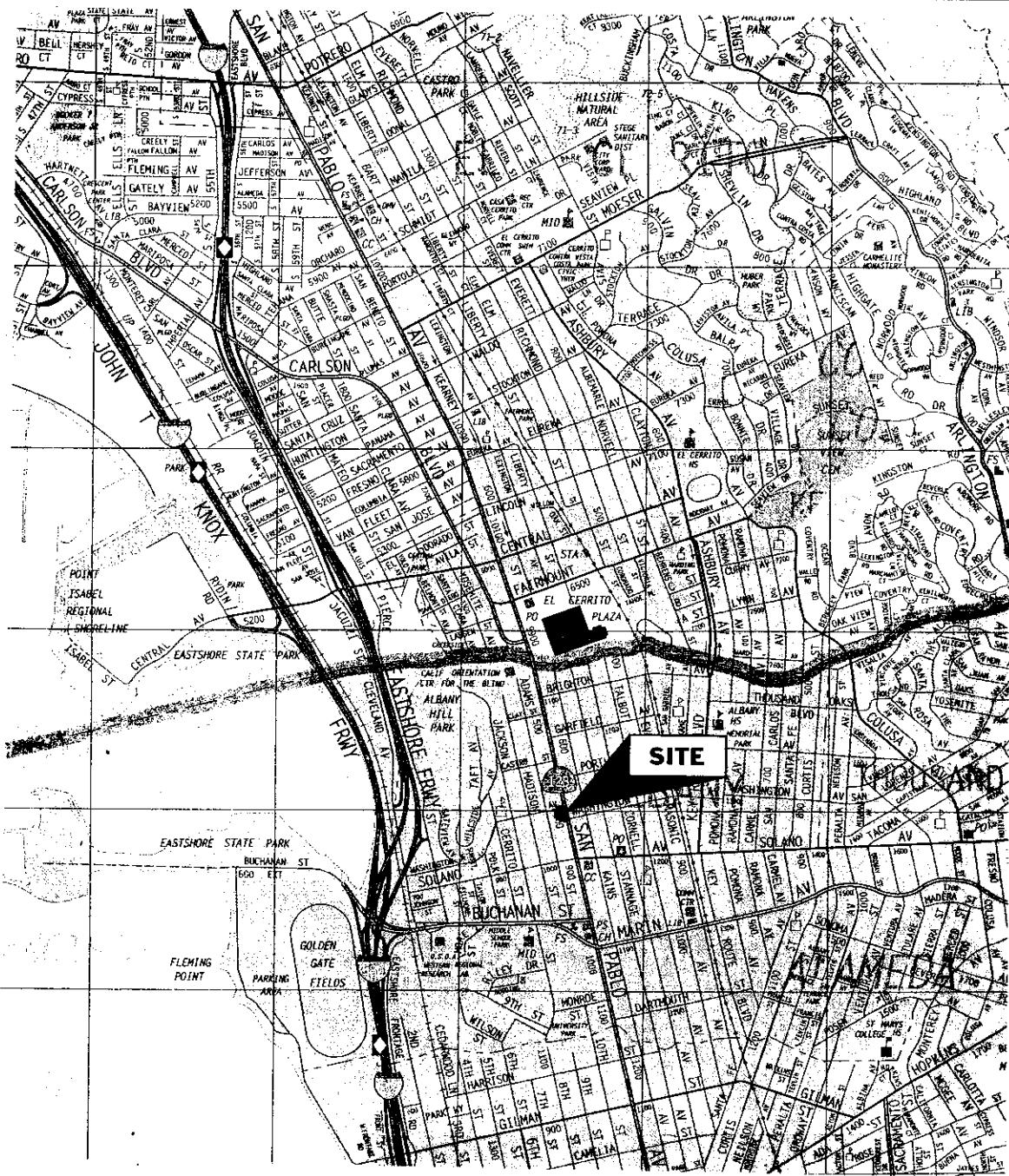


Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## **FIGURES**



NORTH



## SITE LOCATION MAP

ALBANY HILL MINI MART  
800 SAN PABLO AVENUE  
ALBANY, CALIFORNIA

AQUA SCIENCE ENGINEERS

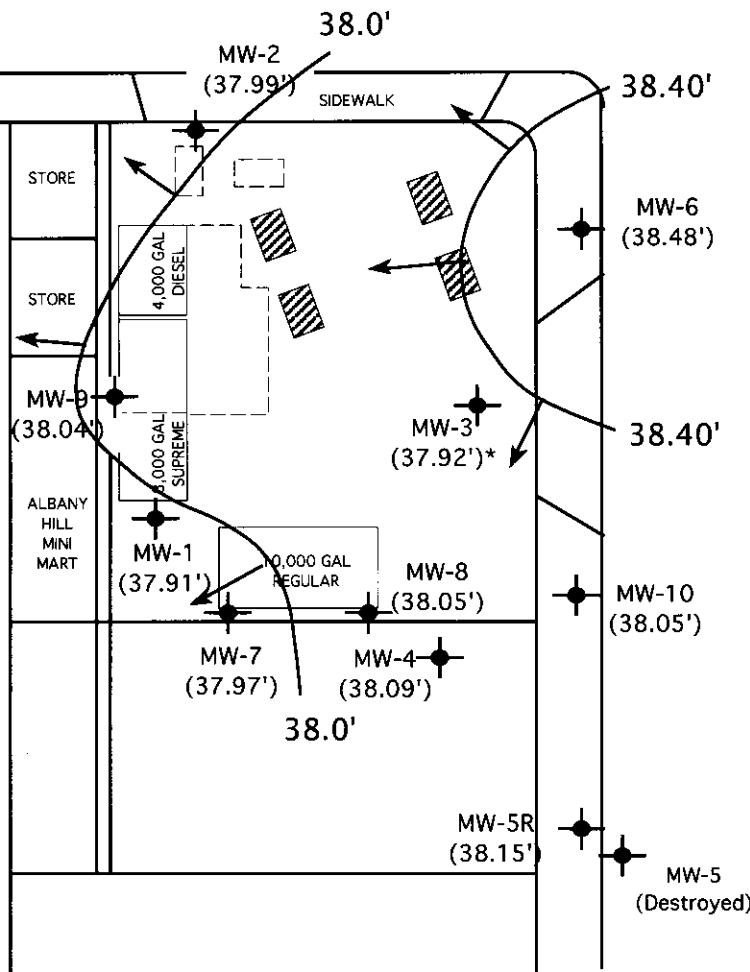
Figure 1



NORTH

SCALE: 1" = 20'

### WASHINGTON AVENUE



### SAN PABLO AVENUE

#### LEGEND

- MW-9 (38.04') MONITORING WELL WITH GROUNDWATER ELEVATION IN FEET
- \* GROUNDWATER ELEVATION NOT USED FOR CONTOURING
- GROUNDWATER ELEVATION CONTOUR LINE WITH FLOW DIRECTION
- APPROXIMATE FORMER UST LOCATION AND AREA OF EXCAVATION

POTENTIOMETRIC  
SURFACE CONTOUR MAP  
MAY 7, 2007

ALBANY HILL MINI MART  
800 SAN PABLO AVENUE  
ALBANY, CALIFORNIA

AQUA SCIENCE ENGINEERS

Figure 2



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## **TABLES**

**TABLE ONE**  
 Groundwater Elevation Data  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA

Well ID	Date of Measurement	Top of Casing Elevation* (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
<b>MW-1</b>	8/6/99	101.68	11.95	89.73
	11/5/99		12.72	88.96
	2/7/00		10.34	91.34
	5/5/00		10.59	91.09
	8/3/00		11.75	89.93
	11/8/00		11.67	90.01
	2/8/01		11.20	90.48
	6/7/01		11.35	90.33
	9/7/01		11.71	89.97
	12/13/01		10.67	91.01
	6/13/02		11.42	90.26
	9/11/02		12.42	89.26
	2/14/03	46.42	10.69	35.73
	9/10/04		13.83	32.59
	12/7/04		12.18	34.24
	4/18/05		9.92	36.50
	6/20/05		10.64	35.78
	10/7/05		12.42	34.00
	12/7/05		11.51	34.91
	3/6/06	48.82	9.35	39.47
	6/27/06		10.07	38.75
	8/24/06		12.02	36.80
	11/20/06		12.02	36.80
	2/5/07		11.68	37.14
	<b>5/7/07</b>		<b>10.91</b>	<b>37.91</b>
<b>MW-2</b>	8/6/99	101.57	10.83	90.74
	11/5/99		11.66	89.91
	2/7/00		9.23	92.34
	5/5/00		9.54	92.03
	8/3/00		10.69	90.88
	11/8/00		10.62	90.95
	2/8/01		10.17	91.40
	6/7/01		10.30	91.27
	9/7/01		10.65	90.92
	12/13/01		9.65	91.92
	6/13/02		10.37	91.20
	9/11/02		11.32	90.25
	2/14/03	45.31	9.59	35.72
	9/10/04		11.78	33.53
	12/7/04		11.13	34.18
	4/18/05		8.71	36.60
	6/20/05		9.60	35.71
	10/7/05		11.39	33.92
	12/7/05		11.49	33.82
	3/6/06	47.71	8.22	39.49
	6/27/06		9.45	38.26
	8/24/06		10.35	37.36
	11/20/06		10.87	36.84
	2/5/07		10.53	37.18
	<b>5/7/07</b>		<b>9.72</b>	<b>37.99</b>

**TABLE ONE**  
 Groundwater Elevation Data  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA

Well ID	Date of Measurement	Top of Casing Elevation* (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
<b>MW-3</b>	8/6/99	100.33	10.58	89.75
	11/5/99		11.39	88.94
	2/7/00		9.05	91.28
	5/5/00		9.29	91.04
	8/3/00		10.43	89.90
	11/8/00		10.33	90.00
	2/8/01		9.94	90.39
	6/7/01		10.04	90.29
	9/7/01		10.31	90.02
	12/13/01		9.38	90.95
	6/13/02		10.03	90.30
	9/11/02		11.02	89.31
	2/14/03	45.08	9.40	35.68
	9/10/04		12.51	32.57
	12/7/04		11.86	33.22
	4/18/05		8.49	36.59
	6/20/05		9.34	35.74
	10/7/05		11.11	33.97
	12/7/05		10.22	34.86
	3/6/06	47.49	8.84	38.65
	6/27/06		6.07	41.42
	8/24/06		10.26	37.23
	11/20/06		10.52	36.97
	2/5/07		10.41	37.08
	<b>5/7/07</b>		<b>9.57</b>	<b>37.92</b>
<b>MW-4</b>	6/13/02	100.05	10.18	89.87
	9/11/02		11.12	88.93
	2/14/03	45.20	9.51	35.69
	9/10/04		11.59	33.61
	12/7/04		10.91	34.29
	4/18/05		8.62	36.58
	6/20/05		9.45	35.75
	10/7/05		11.20	34.00
	12/7/05		10.30	34.90
	3/6/06	47.61	8.19	39.42
	6/27/06		9.71	37.90
	8/24/06		10.43	37.18
	11/20/06		10.70	36.91
	2/5/07		10.60	37.01
	<b>5/7/07</b>		<b>9.52</b>	<b>38.09</b>

**TABLE ONE**  
 Groundwater Elevation Data  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA

Well ID	Date of Measurement	Top of Casing Elevation* (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
<b>MW-5</b>	6/13/02	98.37	8.88	89.49
	9/11/02		9.95	88.42
	2/14/03	44.12	8.66	35.46
	9/10/04		10.26	33.86
	12/7/04		10.79	33.33
	4/18/05	Well Destroyed by City During Street Construction		
	6/20/05	Well Destroyed by City During Street Construction		
	10/7/05		10.94	
	12/7/05		9.97	
<b>MW-5R</b>	3/6/06	47.36	4.93	42.43
	6/27/06		9.47	37.89
	8/24/06		10.10	37.26
	11/20/06		10.00	37.36
	2/5/07		10.21	37.15
	5/7/07		<b>9.21</b>	<b>38.15</b>
	6/13/02	99.36	8.85	90.51
	9/11/02		9.82	89.54
	2/14/03	43.88	8.21	35.67
<b>MW-6</b>	9/10/04		10.33	33.55
	12/7/04		9.83	34.05
	4/18/05		7.08	36.80
	6/20/05		7.52	36.36
	10/7/05		10.92	32.96
	12/7/05		8.85	35.03
	3/6/06	46.27	6.22	40.05
	6/27/06		7.40	38.87
	8/24/06		9.15	37.12
<b>MW-7</b>	11/20/06		10.40	35.87
	2/5/07		9.20	37.07
	5/7/07		<b>7.79</b>	<b>38.48</b>
	6/13/02	100.96	10.95	90.01
	9/11/02		11.90	89.06
	2/14/03	45.59	10.25	35.34
	9/10/04		12.35	33.24
	12/7/04		11.42	34.17
	4/18/05		9.34	36.25
	6/20/05		10.19	35.40
	10/7/05		12.96	32.63
	12/7/05	not sampled		
	3/6/06	48.36	8.92	39.44
	6/27/06		10.41	37.95
	8/24/06		11.21	37.15
	11/20/06		11.46	36.90
	2/5/07		11.34	37.02
	5/7/07		<b>10.39</b>	<b>37.97</b>

**TABLE ONE**  
 Groundwater Elevation Data  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA

Well ID	Date of Measurement	Top of Casing Elevation* (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
<b>MW-8</b>	6/13/02	100.54	10.57	89.97
	9/11/02		11.53	89.01
	2/14/03	45.59	9.98	35.61
	9/10/04		11.98	33.61
	12/7/04		11.42	34.17
	4/18/05		8.99	36.60
	6/20/05		9.83	35.76
	10/7/05		11.60	33.99
	12/7/05		11.69	33.90
	3/6/06	47.99	8.58	39.41
	6/27/06		10.06	37.93
	8/24/06		10.77	37.22
	11/20/06		11.12	36.87
	2/5/07		10.97	37.02
<b>MW-9</b>	5/7/07		<b>9.94</b>	<b>38.05</b>
	2/14/03	46.86	10.84	36.02
	9/10/04		12.97	33.89
	12/7/04		12.84	34.02
	4/18/05		9.75	37.11
	6/20/05		10.83	36.03
	10/7/05		12.59	34.27
	12/7/05		12.56	34.30
	3/6/06	49.24	10.24	39.00
	6/27/06		9.83	39.41
	8/24/06		11.91	37.33
	11/20/06		12.42	36.82
	2/5/07		11.95	37.29
	5/7/07		<b>11.20</b>	<b>38.04</b>
<b>MW-10</b>	10/7/05		10.52	
	12/7/05	not sampled		
	3/6/06	46.90	7.46	39.44
	6/27/06		9.03	37.87
	8/24/06		9.75	37.15
	11/20/06		10.30	36.60
	2/5/07		9.83	37.07
	5/7/07		<b>8.85</b>	<b>38.05</b>

Notes:

Data prior to September 10, 2004, including survey data, is based on tables compiled by AARS.

\* Top of casing elevations were initially surveyed to an arbitrary benchmark. The elevations were resurveyed on November 11, 2002 with respect mean sea level.

**TABLE TWO**  
 Summary of Analytical Results for GROUNDWATER Samples  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA  
 All results are in parts per billion (ppb)

Well ID or Sample Point	Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TAME	TBA	MTBE	Other VOCs
MW-1	8/6/99	1,500	1,200	4.3	2.9	9.1	28	--	--	ND	--
	11/5/99	1,800	1,400	5.1	3.2	8.9	33	--	--	ND	--
	2/7/00	1,100	890	3.3	1.9	5.6	21	--	--	ND	--
	5/7/00	970	650	2.9	1.7	4.9	18	--	--	ND	--
	8/3/00	1,200	270*	190	43.0	41	160	--	--	360	--
	11/8/00	4,200	230*	990	200.0	130	560	--	--	840**	--
	2/8/01	2,800	380*	630	130.0	51	250	--	--	390	--
	6/7/01	650	190	97	13.0	20	62	--	--	320	--
	9/7/01	970	400	260	17.0	44	140	--	--	460	--
	12/13/01	291	< 50	91.7	1.4	17.4	7.2	--	--	499	--
	6/13/02	5,120	2,160*	1,860	22.0	316	318	--	--	325	--
	11/11/02	824	< 50	216	< 5	22	20	--	--	290	--
	2/14/03	1,783	590*	546	5.0	90	52	--	--	321	--
	9/10/04	900	82	210	8.4	52	23	< 0.5	5.1	220	< 0.5
	12/7/04	540	< 80	130	3.1	24	14	< 0.5	< 5.0	240	< 0.5
	4/18/05	1,600	< 200	390	3.6	32	57	< 0.5	< 5.0	240	0.53 1,2-DCA
	6/20/05	2,500	< 300	740	12.0	110	69	< 0.5	5.7	240	< 0.50
	10/7/05	520	130	97	26.0	11	28	< 0.50	< 5.0	190	< 0.50
	12/7/05	220	86	42	11.0	6.2	12	< 0.50	< 5.0	230	< 0.50
	3/6/06	180	69	63	1.6	3.8	2.3	< 0.50	< 0.50	180	< 0.50
	6/27/06	2,800	< 300	1,100	7.1	140	44	< 0.50	9.9	220	< 0.50
	8/24/06	3,200	< 200	1,100	6.6	170	16	< 2.0	< 9.0	250	< 2.0
	11/20/06	630	< 50	170	1.2	22	2.8	< 0.50	6.2	220	< 0.50
	2/5/07	570	< 50	180	1.0	23	3.4	< 0.50	< 5.0	180	< 0.50
	5/7/07	500	< 50	200	0.64	12	0.72	< 0.50	< 5.0	210	< 0.50
MW-2	8/6/99	ND	340	ND	ND	ND	ND	--	--	ND	--
	11/5/99	ND	420	ND	ND	0.7	--	--	--	ND	--
	2/7/00	ND	310	ND	ND	0.6	--	--	--	ND	--
	5/7/00	ND	280	ND	ND	< 1	--	--	--	ND	--
	8/3/00	460	70*	79	3.0	43	8	--	--	3,300	--
	11/8/00	200	120	57	2.0	13	8	--	--	3,000	--
	2/8/01	290	80	50	1.0	0.6	4	--	--	3,100	--
	6/7/01	210	80	18	0.6	3	5	--	--	2,000	--
	9/7/01	230	ND	51	ND	8	8	--	--	2,400	--
	12/13/01	172	ND	53	1.2	7.7	8.4	--	--	1,780	--
	6/13/02	86	< 50	6	6.7	1.1	4.5	--	--	1,830	--
	11/11/02	1,040	< 50	5	1.0	< 1	5	--	--	1,250	--
	2/14/03	82	< 50	8	< 1	1	< 3	--	--	1,520	--
	9/10/04	< 100	72	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	620	< 1.0
	12/7/04	< 150	86	17	< 1.5	< 1.5	< 1.5	< 1.5	< 7.0	540	< 1.5
	4/18/05	280	130	55	< 1.5	4.4	< 1.5	< 1.5	< 20	840	< 1.5
	6/20/05	200	100	34	< 0.90	2.4	2.7	< 0.90	5.2	540	< 0.90
	10/7/05	< 90	150	11	< 0.90	< 0.90	< 0.90	< 0.90	< 5.0	360	< 0.90
	12/7/05	< 90	110	1.5	< 0.90	< 0.90	< 0.90	< 0.90	< 5.0	500	< 0.90
	3/6/06	< 90	88	7.0	< 0.90	< 0.90	< 0.90	< 0.50	5.2	610	< 0.50
	6/27/06	270	150	49	< 0.50	5.1	3.4	0.58	8.9	540	< 0.50
	8/24/06	110	120	13	< 0.50	1.3	< 0.50	< 0.50	< 5.0	480	< 0.50
	11/20/06	56	< 50	5.6	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	330	< 0.50
	2/5/07	98	< 50	28	< 0.50	< 0.50	< 0.50	0.61	< 5.0	500	< 0.50
	5/7/07	< 90	< 50	22	< 0.90	< 0.90	< 0.90	< 0.90	6.0	450	< 0.90
MW-3	8/6/99	ND	ND	ND	ND	ND	ND	--	--	ND	--
	11/5/99	92	54	ND	ND	0.6	1.7	--	--	ND	--
	2/7/00	120	71	ND	0.6	0.8	2.2	--	--	ND	--
	5/7/00	100	68	ND	ND	0.7	1.9	--	--	ND	--
	8/3/00	910	300*	220	9.0	35	16	--	--	11,000**	--
	11/8/00	990	200	320	0.8	18	9	--	--	8,000	--
	2/8/01	990	110	180	21.0	7	24	--	--	5,200**	--
	6/7/01	370	140	62	4.0	8	13	--	--	6,600**	--
	9/7/01	460	ND	87	1.0	11	25	--	--	9,400**	--
	12/13/01	251	ND	66.8	0.9	2.6	8.4	--	--	6,610	--
	6/13/02	3,630	< 50	41	60.0	41	187	--	--	8,820**	--
	11/11/02	6,210	< 50	150	< 1	5	< 3	--	--	7,770	--
	2/14/03	176	< 50	31	< 1	2	< 3	--	--	5,040	--
	9/10/04	< 1,000	140	110	< 10	< 10	21	20	200	4,400	< 10
	12/7/04	1,000	150	310	19.0	24	50	21	< 100	4,000	< 10
	4/18/05	750	150	170	16.0	33	36	6.1	< 50	1,700	< 5.0
	6/20/05	680	120	140	9.7	20	38	7.4	< 20	1,900	< 4.0
	10/7/05	630	160	140	10.0	11	34	9.2	< 20	2,000	< 4.0
	12/7/05	550	200	128	6.4	7.2	10	11	56	2,400	< 4.0
	3/6/06	88	36	< 2.0	5.3	2.1	4.2	13	1,000	1,000	< 2.0
	6/27/06	7,400	< 1,500	2,800	12	190	56	9.8	110	760	< 4.0
	8/24/06	< 400	130	24	< 4.0	< 4.0	14	9.0	40	2,800	< 4.0
	11/20/06	< 400	< 50	42	< 4.0	4.4	8.7	7.3	71	1,700	< 4.0
	2/5/07	440	< 50	110	4.2	< 4.0	16	7.3	39	1,600	< 4.0
	5/25/07	240	< 50	52	4.3	4.3	18	4.3	140	1,100	< 2.0

**TABLE TWO**  
 Summary of Analytical Results for GROUNDWATER Samples  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA  
 All results are in parts per billion (ppb)

Well ID or Sample Point	Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TAME	TBA	MTBE	Other VOCs
MW-4	6/13/02	4,460	1,500*	425	409.0	115	730	--	--	32	--
	11/11/02	5,150	2,380*	2,010	74.0	399	252	--	--	< 20	--
	2/14/03	6,360	2,410*	1,560	82.0	274	573	--	--	< 1	--
	9/10/04	1,600	180	370	6.5	68	93	< 1.0	10	13	1.1 (DIPe)
	12/7/04	1,900	< 200	450	8.2	72	100	< 0.9	5.4	9.5	< 0.9
	4/18/05	10,000	< 800	1,500	27.0	420	900	< 1.5	15	18	< 1.5
	6/20/05	6,100	< 600	830	19.0	280	400	< 1.5	17	22	< 1.5
	10/7/05	3,200	< 500	660	8.7	110	140	< 1.5	12	14	< 1.5
	12/7/05	1,000	< 200	220	2.5	48	37	< 0.5	< 5.0	12	< 0.5
	3/6/06	1,200	< 300	280	2.1	32	77	0.65	< 0.50	75	1.0 (DIPe) / 0.57(1,2-DCA)
	6/27/06	2,000	< 300	570	4.0	110	120	< 0.90	15	110	1.2(DIPe)
	8/24/06	2,500	< 300	830	6.5	120	120	< 0.90	18	95	< 0.90
	11/20/06	1,900	< 80	590	4.8	37	29	< 1.5	< 1.5	14	< 1.5
	2/5/07	2,700	< 80	970	4.4	53	62	< 1.5	< 12	45	< 1.5
	5/7/07	2,900	< 200	1,200	5.0	89	95	< 1.5	18	34	< 1.5
MW-5	6/13/02	536	< 50	6.4	0.6	22	23	--	--	11	--
	11/11/02	3,270	1,230*	< 1	< 1	28	8	--	--	< 1	--
	2/14/03	1,260	610*	9	7.0	22	5	--	--	< 1	--
	9/10/04	1,300	150	2.4	< 0.50	0.77	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50
	12/7/04	1,000	< 200	4.1	< 0.50	1.4	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50
	4/18/05	Improperly Destroyed by City of Albany During Street Improvements									
MW-5R	10/7/05	760	<800	2	< 0.50	8.3	1.2	< 0.50	< 5.0	< 0.50	< 0.50
	12/7/05	5,200	< 2,000	36	1.0	320	15	< 0.50	< 5.0	< 0.50	< 0.50
	3/6/06	6,300	< 3,000	44	1.2	370	19	< 0.90	5.9	< 0.90	< 0.90
	6/27/06	5,100	< 2,000	53	1.3	370	17	< 0.50	5.6	< 0.50	< 0.50
	8/24/06	6,500	< 2,000	80	1.8	510	18	< 0.90	9.9	< 0.90	< 0.90
	11/20/06	5,400	< 600	160	2.4	370	100	< 0.90	10	81	< 0.90
	2/5/07	6,300	< 1,500	69	3.2	480	31	< 0.80	10	< 0.80	< 0.80
MW-6	5/7/07	5,600	< 500	61	2.4	510	19	< 0.90	11	< 0.90	< 0.90
	6/13/02	2,980	1,460*	31	2.3	3.8	12	--	--	310	--
	11/11/02	3,570	1,210*	336	5	< 5	< 15	--	--	95	--
	2/14/03	3,770	1,620*	429	12	7	10	--	--	122	--
	9/10/04	< 1,000	390	2.7	< 0.50	< 0.50	< 0.50	2.3	48	280	< 0.50
	12/7/04	1,800	< 600	32	1.7	< 0.50	1.1	2.2	49	160	< 0.50
	4/18/05	1,200	1,400	34	1.3	< 0.50	0.90	0.86	19	36	< 0.50
	6/20/05	590	1,300	3.3	< 0.50	< 0.50	< 0.50	< 0.50	5.5	8.5	< 0.50
	10/7/05	470	1,300	6.8	< 0.50	< 0.50	< 0.50	0.67	20	82	< 0.50
	12/7/05	420	910	10	< 0.50	< 0.50	< 0.50	< 0.50	7.3	22	< 0.50
	3/6/06	790	590	3.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	4.3	< 0.50
	6/27/06	2,600	980	100	4.0	0.96	2.2	1.0	49	78	< 0.50
	8/24/06	1,200	960	57	2.3	< 0.50	1.1	0.82	34	64	< 0.50
	11/20/06	1,300	< 200	58	1.7	< 0.50	1.3	< 0.50	18	26	< 0.50
	2/5/07	1,200	< 200	49	1.8	< 0.50	1.6	0.90	45	67	< 0.50
	5/7/07	290	< 50	3.1	< 0.50	< 0.50	< 0.50	< 0.50	5.0	< 0.50	< 0.50
MW-7	Not sampled. Inaccessible.										
	6/13/02	24,100	1,570*	2,310	657	945	5,430	--	--	951	--
	11/11/02	4,760	2,160*	1,820	21	316	1,141	--	--	702	--
	2/14/03	4,320	2,380*	1,020	7	223	293	--	--	1,410	--
	9/10/04	4,800	< 300	640	16	250	490	< 1.5	31	590	< 1.5
	12/7/04	990	< 300	140	3.4	49	70	4.0	< 20	960	< 2.0
	4/18/05	1,400	< 300	260	1.3	96	16	< 1.0	20	370	< 1.0
	6/20/05	1,900	< 200	320	1.0	130	24	< 0.50	17	370	< 0.50
	10/7/05	2,600	<800	190	4.7	91	200	<0.73	8.0J	310	< 0.50
	12/7/05	Not sampled. Inaccessible.									
	3/6/06	640	< 200	85	0.88	24	30	< 0.50	8.0	150	< 0.50
	6/27/06	1,200	< 200	180	1.7	64	64	< 0.50	14	150	< 0.50
	8/24/06	990	< 200	120	0.96	36	51	< 0.50	13	180	< 0.50
	11/20/06	1,600	< 200	200	1.6	59	160	< 0.50	5.2	180	< 0.50
	2/5/07	2,300	< 200	390	2.6	120	140	< 0.50	15	190	< 0.50
	5/7/07	490	< 80	190	0.61	9.3	3.2	0.55	16	200	< 0.50

**TABLE TWO**  
 Summary of Analytical Results for GROUNDWATER Samples  
**Albany Hill Mini Mart**  
 800 San Pablo Avenue, Albany, CA  
 All results are in parts per billion (ppb)

Well ID or Sample Point	Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TAME	TBA	MTBE	Other VOCs
MW-8	6/13/02	20,000	7,760*	2,200	1,140	1,050	4,090	--	--	12,000	--
	11/11/02	5,010	2,010*	187	< 1	15	< 3	--	--	16,600	--
	2/14/03	1,980	< 50	607	6	113	40	--	--	11,500	--
	9/10/04	< 2,000	200	110	< 20	26	49	25	< 200	8,600	< 20
	12/7/04	2,000	280	420	< 10	40	61	31	100	6,800	< 10
	4/18/05	< 1000	250	76	< 10	23	< 10	17	< 100	3,700	< 10
	6/20/05	1,300	300	190	< 7.0	21	40	19	< 40	3,400	< 7.0
	10/7/05	<700	200	85	< 7.0	9.3	8.3	23	< 40	4,400	< 7.0
	12/7/05	1,400	300	250	8.7	41	90	18	< 40	4,400	< 7.0
	3/6/06				Not sampled. Inaccessible						
	6/27/06	710	250	100	< 5.0	7.8	26	16	30	3,100	< 5.0
	8/24/06	540	260	74	< 5.0	5.4	45	15	< 25	2,700	< 5.0
	11/20/06	2,100	< 100	380	4.4	18	170	10	530	1,900	< 4.0
	2/5/07	1,700	< 100	560	3.9	7.5	80	2.7	970	630	< 1.0
	<b>5/7/07</b>	<b>510</b>	<b>&lt; 50</b>	<b>170</b>	<b>0.61</b>	<b>2.1</b>	<b>5.4</b>	<b>0.57</b>	<b>460</b>	<b>110</b>	<b>&lt; 0.50</b>
MW-9	6/27/02	19,000	--	1,430	1,750	501	5,410	--	--	< 0.5	--
	11/11/02	19,000	13,200*	3,390	4,540	1,020	9,050	--	--	549	--
	2/14/03	21,300	8,200*	1,700	2,200	701	4,970	--	--	< 1	--
	9/10/04	12,000	< 1,500	890	37	280	2,000	< 5.0	< 50	< 5.0	< 5.0
	12/7/04	13,000	< 1,500	950	580	480	2,900	< 5.0	< 50	< 5.0	< 5.0
	4/18/05	9,600	< 1,000	620	180	260	1,400	< 2.5	< 25	< 2.5	< 2.5
	6/20/05	9,800	< 1,500	760	260	430	1,400	< 2.0	< 9.0	< 2.0	< 2.0
	10/7/05	3,400	<1000	350	170	100	480	< 0.50	< 5.0	< 0.50	< 0.50
	12/7/05	5,600	< 1000	320	97	200	580	< 0.90	< 5.0	< 0.50	< 0.50
	3/6/06	4,200	< 800	460	120	97	600	< 0.90	< 5.0	< 0.90	< 0.50
	6/27/06	8,100	< 1,000	710	330	390	1,700	< 0.50	< 5.0	< 2.0	< 0.50
	8/24/06	6,100	< 800	550	220	280	1,200	< 2.0	< 9.0	< 2.0	< 2.0
	11/20/06	5,200	< 400	310	98	130	850	< 1.0	< 5.0	< 1.0	< 1.0
	2/5/07	4,500	< 400	370	120	190	720	< 1.0	< 5.0	< 1.0	< 1.0
	<b>5/7/07</b>	<b>6,400</b>	<b>&lt; 300</b>	<b>700</b>	<b>220</b>	<b>380</b>	<b>1,200</b>	<b>&lt; 1.0</b>	<b>&lt; 5.0</b>	<b>&lt; 1.0</b>	<b>&lt; 1.0</b>
MW-10	10/7/05	470	330	17	< 0.50	2	11	1.2	9.4J	210	< 0.50
	12/7/05				Not sampled. Inaccessible						
	3/6/06	130	130	4.2	< 0.50	< 0.50	< 0.50	4.9	13	820	0.55 (DIPE)
	6/27/06	< 400	140	4.4	< 0.50	< 0.50	< 0.50	8.9	21	1,300	0.60 (DIPE)
	8/24/06	< 400	140	< 4.0	< 4.0	< 4.0	< 4.0	7.0	< 20	1,400	< 4.0
	11/20/06	< 150	< 50	2.5	< 1.5	< 1.5	< 1.5	3.3	10	750	< 1.5
	2/5/07	170	< 50	3.0	< 0.90	< 0.90	< 0.90	2.4	6.5	440	< 0.90
	<b>5/7/07</b>	<b>96</b>	<b>&lt; 50</b>	<b>2.3</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>0.83</b>	<b>&lt; 5.0</b>	<b>180</b>	<b>&lt; 0.50</b>
ESL		<b>500</b>	<b>640</b>	<b>46</b>	<b>130</b>	<b>290</b>	<b>13</b>	<b>NE</b>	<b>NE</b>	<b>\$1,000</b>	<b>Varies</b>

**Notes:**

Data prior to August 2004 is based on a table compiled by AARS - ASE has not checked results against original laboratory reports.

\* Does not match diesel pattern

\*\* Confirmed by GC/MS method 8260

ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (July 2003)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

Most recent concentrations are in **Bold**.

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

NE indicates that no ESL has been established for this compound.



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## **APPENDIX A**

### **Well Sampling Field Logs**

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

5-7-07

WELL ID.

MW-1

SAMPLER

MLR

TOTAL DEPTH OF WELL

24.2

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

10.9

PRODUCT THICKNESS

13.29

DEPTH OF WELL CASING IN WATER

2.1

NUMBER OF GALLONS PER WELL CASING VOLUME

3

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

6.3

EQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1210

TIME EVACUATION COMPLETED

1220

TIME SAMPLES WERE COLLECTED

1230

ID WELL GO DRY

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

6.5

AMPLING DEVICE

AMPLE COLOR

Clear

ODOR/SEDIMENT

strong 0110, S

## CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
2	64.2	7.12	1281
4	64.5	7.16	1269
6	64.4	7.14	1260

## AMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

WELL ID.

MW-2

SAMPLER

TOTAL DEPTH OF WELL

24.8

WELL DIAMETER

DEPTH TO WATER PRIOR TO PURGING

4.72

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

5.08

NUMBER OF GALLONS PER WELL CASING VOLUME

2.4

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

EQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

7.2

QUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1300

TIME EVACUATION COMPLETED

1310

TIME SAMPLES WERE COLLECTED

1320

DO WELL GO DRY

No

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

7.5

AMPLING DEVICE

SAMPLE COLOR

ODOR/SEDIMENT

## CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	pH	CONDUCTIVITY
2	65.4	7.25	622
4	65.6		617
6	65.7	7.16	609

## AMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

S-7-07

WELL ID.

MW-3

SAMPLER

MLK

TOTAL DEPTH OF WELL

23.8

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

9.57

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

14.23

NUMBER OF GALLONS PER WELL CASING VOLUME

82.3

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

EQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

6.8

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1550

TIME EVACUATION COMPLETED

1610

TIME SAMPLES WERE COLLECTED

1620

ID WELL GO DRY

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

7.0

AMPLING DEVICE

AMPLE COLOR

Clear

ODOR/SEDIMENT

slight o/ No s

## CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
2	66.1	6.92	893
4	66.5	6.88	897
6	66.7	6.84	895

## AMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
	2	-brake 2 in transport to office.		

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME	Albany Hill RC-Sample	DATE OF SAMPLING	S-28-07
JOB NUMBER		SAMPLER	MLK
WELL ID.	MV-3	WELL DIAMETER	2
TOTAL DEPTH OF WELL	23.8		
DEPTH TO WATER PRIOR TO PURGING	6.10		
PRODUCT THICKNESS	6		
DEPTH OF WELL CASING IN WATER	17.70		
NUMBER OF GALLONS PER WELL CASING VOLUME	2.8		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	8.4		
EQUIPMENT USED TO PURGE WELL	Bailer		
TIME EVACUATION STARTED	1416	TIME EVACUATION COMPLETED	1420
TIME SAMPLES WERE COLLECTED	1440		
DID WELL GO DRY	No	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED			
SAMPLING DEVICE	Bailor		
SAMPLE COLOR	Clear	ODOR/SEDIMENT	Slight O/N, S

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	68.1	7.08	774
2	66.2	7.10	783
3	66.4	7.07	796

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

5-7-07

WELL ID.

MW-4

SAMPLER

MLK

TOTAL DEPTH OF WELL

24.5

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

1.52

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

14.98

NUMBER OF GALLONS PER WELL CASING VOLUME

2.3

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

71

EQUIPMENT USED TO PURGE WELL

Baileen

TIME EVACUATION STARTED

920

TIME EVACUATION COMPLETED

~ 940

TIME SAMPLES WERE COLLECTED

950

ID WELL GO DRY

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

7.5

AMPLIFICATION DEVICE

SAMPLE COLOR

Clear

ODOR/SEDIMENT

slight O / No S

## CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	pH	CONDUCTIVITY
2	67.1	6.86	2097
4	67.0	6.77	2086
6	66.9	6.74	2092

## SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

5-7-07

WELL ID.

MW-SR

SAMPLER

MLK

TOTAL DEPTH OF WELL

19.58

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

8.85 - 9.21

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

10.37

NUMBER OF GALLONS PER WELL CASING VOLUME

1.6

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

4.9

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1430

TIME EVACUATION COMPLETED

1440

TIME SAMPLES WERE COLLECTED

1450

ID WELL GO DRY

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

5.0

AMPLIFICATION DEVICE

SAMPLE COLOR

Clear

ODOR/SEDIMENT

Slight O/N S

## CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	pH	CONDUCTIVITY
1	68.9 66.9	7.19 6.94	1287 6.39
2	67.8 67.5	7.10 7.02	1261 621
3	67.5 67.7	7.0 7.04	1249 607

## SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

5-7-87

WELL ID.

MW-6

SAMPLER

MLR

TOTAL DEPTH OF WELL

24.7

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

7.79

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

16.91

NUMBER OF GALLONS PER WELL CASING VOLUME

2.7

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

8

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1105

TIME EVACUATION COMPLETED

1130

TIME SAMPLES WERE COLLECTED

1140

DID WELL GO DRY

No

AFTER HOW MANY GALLONS

-

VOLUME OF GROUNDWATER PURGED

8.2

SAMPLING DEVICE

SAMPLE COLOR

clear

ODOR/SEDIMENT

No O/Bru Sed

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
2	73.0	7.61	639
4	75.0	7.57	643
6	75.4	7.62	657

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

5-7-7

WELL ID.

MW-7

SAMPLER

MLR

TOTAL DEPTH OF WELL

24.7

WELL DIAMETER

3

DEPTH TO WATER PRIOR TO PURGING

10.39

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

14.31

NUMBER OF GALLONS PER WELL CASING VOLUME

2.2

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

6.8

EQUIPMENT USED TO PURGE WELL

100

TIME EVACUATION COMPLETED

1030

TIME SAMPLES WERE COLLECTED

1040

DID WELL GO DRY

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

7.0

SAMPLING DEVICE

AMPLE COLOR

Clear

ODOR/SEDIMENT

slight O / No S

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
2	65.5	7.17	1103
4	65.1	7.12	1088
6	65.2	7.09	1071

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

9-7-07

WELL ID.

MW- 8

SAMPLER

MLR

TOTAL DEPTH OF WELL

19.1

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

9.94

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

9.16

NUMBER OF GALLONS PER WELL CASING VOLUME

1.4

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

4.3

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1500

TIME EVACUATION COMPLETED

1510

TIME SAMPLES WERE COLLECTED

1520

DID WELL GO DRY

No

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

4.5

SAMPLING DEVICE

SAMPLE COLOR

clear

ODOR/SEDIMENT

Slight / No S

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	64.4	6.96	1020
2	64.6	6.97	1028
3	64.5	6.94	1012

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

5-7-07

WELL ID.

MW-9

SAMPLER

MLR

TOTAL DEPTH OF WELL

16.8

WELL DIAMETER

2

DEPTH TO WATER PRIOR TO PURGING

11.20

PRODUCT THICKNESS

0

DEPTH OF WELL CASING IN WATER

5.60

NUMBER OF GALLONS PER WELL CASING VOLUME

0.8

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

2.6

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1535

TIME EVACUATION COMPLETED

1540

TIME SAMPLES WERE COLLECTED

16.30

DID WELL GO DRY

Yes

AFTER HOW MANY GALLONS

1.0

VOLUME OF GROUNDWATER PURGED

1.0

SAMPLING DEVICE

SAMPLE COLOR

Clear

ODOR/SEDIMENT slight off some brown silt.

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
4.2	65.2	7.4.2	834
1	65.2	7.32	804
- dry			

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED

## AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME

JOB NUMBER

DATE OF SAMPLING

WELL ID.

MW-10

SAMPLER

TOTAL DEPTH OF WELL

24.7

WELL DIAMETER

DEPTH TO WATER PRIOR TO PURGING

8.85

PRODUCT THICKNESS

3

DEPTH OF WELL CASING IN WATER

15.85

NUMBER OF GALLONS PER WELL CASING VOLUME

2.5

NUMBER OF WELL CASING VOLUMES TO BE REMOVED

3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING

7.6

EQUIPMENT USED TO PURGE WELL

TIME EVACUATION STARTED

1350

TIME EVACUATION COMPLETED

1400

TIME SAMPLES WERE COLLECTED

1410

DID WELL GO DRY

AFTER HOW MANY GALLONS

VOLUME OF GROUNDWATER PURGED

8.0

SAMPLING DEVICE

SAMPLE COLOR

clear

ODOR/SEDIMENT

Very Slight O/N/S

## CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
2	68.2	7.19	1287
4	67.8	7.08	1261
6	67.5	7.03	1249

## SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526  
(925) 820-9391 - Fax (925) 837-4853 - [www.aquascienceengineers.com](http://www.aquascienceengineers.com)

## **APPENDIX B**

Certified Analytical Report  
and  
Chain of Custody Documentation



Report Number : 56434

Date : 05/21/2007

Mike Rauser  
Aqua Science Engineers, Inc.  
208 West El Pintado Rd.  
Danville, CA 94526

Subject : 10 Water Samples  
Project Name : Albany Hill  
Project Number : 3934

Dear Mr. Rauser,

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,

A handwritten signature in black ink, appearing to read "Joel Kiff".  
Joel Kiff



Report Number : 56434

Date : 05/21/2007

Subject : 10 Water Samples  
Project Name : Albany Hill  
Project Number : 3934

## Case Narrative

For sample MW-8, repeat analysis by test method EPA 8260B yielded inconsistent results. The concentrations appear to vary between the bottles. The highest valid results are reported.

There was insufficient sample to analyze and report analytes by EPA method 8260B for sample MW-3.

EPA method 8260B values reported for sample MW-2 are flagged with a 'J', meaning that they should be considered estimates. The sample was analyzed outside of the 12-hour instrument time window wherein results are considered to be technically valid. No other vials were available for re-analysis. The results are likely to be representative, however.

The Method Reporting Limit for TPH as Diesel is increased due to interference from Gasoline-Range Hydrocarbons for samples MW-4, MW-5R, MW-7 and MW-9.

Tert-Butanol results for sample MW-2 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 : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-1

Matrix : Water

Lab Number : 56434-01

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	200	0.50	ug/L	EPA 8260B	05/18/2007
Toluene	0.64	0.50	ug/L	EPA 8260B	05/18/2007
Ethylbenzene	12	0.50	ug/L	EPA 8260B	05/18/2007
Total Xylenes	0.72	0.50	ug/L	EPA 8260B	05/18/2007
Methyl-t-butyl ether (MTBE)	210	0.50	ug/L	EPA 8260B	05/18/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/18/2007
TPH as Gasoline	500	50	ug/L	EPA 8260B	05/18/2007
Toluene - d8 (Surr)	97.3		% Recovery	EPA 8260B	05/18/2007
4-Bromofluorobenzene (Surr)	90.2		% Recovery	EPA 8260B	05/18/2007
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	92.4		% Recovery	M EPA 8015	05/18/2007

Approved By:  Joel Kiff



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-2

Matrix : Water

Lab Number : 56434-02

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	22 J	0.90	ug/L	EPA 8260B	05/18/2007
Toluene	< 0.90 J	0.90	ug/L	EPA 8260B	05/18/2007
Ethylbenzene	< 0.90 J	0.90	ug/L	EPA 8260B	05/18/2007
Total Xylenes	< 0.90 J	0.90	ug/L	EPA 8260B	05/18/2007
Methyl-t-butyl ether (MTBE)	450 J	0.90	ug/L	EPA 8260B	05/18/2007
Diisopropyl ether (DIPE)	< 0.90 J	0.90	ug/L	EPA 8260B	05/18/2007
Ethyl-t-butyl ether (ETBE)	< 0.90 J	0.90	ug/L	EPA 8260B	05/18/2007
Tert-amyl methyl ether (TAME)	< 0.90 J	0.90	ug/L	EPA 8260B	05/18/2007
Tert-Butanol	6.0 J	5.0	ug/L	EPA 8260B	05/18/2007
TPH as Gasoline	< 90 J	90	ug/L	EPA 8260B	05/18/2007
Toluene - d8 (Surr)	96.9		% Recovery	EPA 8260B	05/18/2007
4-Bromofluorobenzene (Surr)	88.4		% Recovery	EPA 8260B	05/18/2007
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	98.6		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-3

Matrix : Water

Lab Number : 56434-03

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	100		% Recovery	M EPA 8015	05/18/2007

Approved By:  Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-4

Matrix : Water

Lab Number : 56434-04

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1200	2.5	ug/L	EPA 8260B	05/14/2007
Toluene	5.0	1.5	ug/L	EPA 8260B	05/14/2007
Ethylbenzene	89	1.5	ug/L	EPA 8260B	05/14/2007
Total Xylenes	95	1.5	ug/L	EPA 8260B	05/14/2007
Methyl-t-butyl ether (MTBE)	34	1.5	ug/L	EPA 8260B	05/14/2007
Diisopropyl ether (DIPE)	< 1.5	1.5	ug/L	EPA 8260B	05/14/2007
Ethyl-t-butyl ether (ETBE)	< 1.5	1.5	ug/L	EPA 8260B	05/14/2007
Tert-amyl methyl ether (TAME)	< 1.5	1.5	ug/L	EPA 8260B	05/14/2007
Tert-Butanol	18	7.0	ug/L	EPA 8260B	05/14/2007
TPH as Gasoline	2900	150	ug/L	EPA 8260B	05/14/2007
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	05/14/2007
4-Bromofluorobenzene (Surr)	99.4		% Recovery	EPA 8260B	05/14/2007
TPH as Diesel (Silica Gel)	< 200	200	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	98.8		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-5R

Matrix : Water

Lab Number : 56434-05

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	61	0.90	ug/L	EPA 8260B	05/14/2007
Toluene	2.4	0.90	ug/L	EPA 8260B	05/14/2007
Ethylbenzene	510	0.90	ug/L	EPA 8260B	05/14/2007
Total Xylenes	19	0.90	ug/L	EPA 8260B	05/14/2007
Methyl-t-butyl ether (MTBE)	< 0.90	0.90	ug/L	EPA 8260B	05/14/2007
Diisopropyl ether (DIPE)	< 0.90	0.90	ug/L	EPA 8260B	05/14/2007
Ethyl-t-butyl ether (ETBE)	< 0.90	0.90	ug/L	EPA 8260B	05/14/2007
Tert-amyl methyl ether (TAME)	< 0.90	0.90	ug/L	EPA 8260B	05/14/2007
Tert-Butanol	11	5.0	ug/L	EPA 8260B	05/14/2007
TPH as Gasoline	5600	90	ug/L	EPA 8260B	05/14/2007
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	05/14/2007
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	05/14/2007
TPH as Diesel (Silica Gel)	< 500	500	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	123		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-6

Matrix : Water

Lab Number : 56434-06

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	3.1	0.50	ug/L	EPA 8260B	05/17/2007
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Methyl-t-butyl ether (MTBE)	5.0	0.50	ug/L	EPA 8260B	05/17/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/17/2007
TPH as Gasoline	290	50	ug/L	EPA 8260B	05/17/2007
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	05/17/2007
4-Bromofluorobenzene (Surr)	97.3		% Recovery	EPA 8260B	05/17/2007
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	94.3		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-7

Matrix : Water

Lab Number : 56434-07

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	190	0.50	ug/L	EPA 8260B	05/18/2007
Toluene	0.61	0.50	ug/L	EPA 8260B	05/18/2007
Ethylbenzene	9.3	0.50	ug/L	EPA 8260B	05/18/2007
Total Xylenes	3.2	0.50	ug/L	EPA 8260B	05/18/2007
Methyl-t-butyl ether (MTBE)	200	0.50	ug/L	EPA 8260B	05/18/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Tert-amyl methyl ether (TAME)	0.55	0.50	ug/L	EPA 8260B	05/18/2007
Tert-Butanol	16	5.0	ug/L	EPA 8260B	05/18/2007
TPH as Gasoline	490	50	ug/L	EPA 8260B	05/18/2007
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	05/18/2007
4-Bromofluorobenzene (Surr)	96.6		% Recovery	EPA 8260B	05/18/2007
TPH as Diesel (Silica Gel)	< 80	80	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	114		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-8

Matrix : Water

Lab Number : 56434-08

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	170	1.0	ug/L	EPA 8260B	05/14/2007
Toluene	0.61	0.50	ug/L	EPA 8260B	05/15/2007
Ethylbenzene	2.1	1.0	ug/L	EPA 8260B	05/14/2007
Total Xylenes	5.4	1.0	ug/L	EPA 8260B	05/14/2007
Methyl-t-butyl ether (MTBE)	110	1.0	ug/L	EPA 8260B	05/14/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/15/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/15/2007
Tert-amyl methyl ether (TAME)	0.57	0.50	ug/L	EPA 8260B	05/15/2007
Tert-Butanol	460	5.0	ug/L	EPA 8260B	05/14/2007
TPH as Gasoline	510	100	ug/L	EPA 8260B	05/14/2007
Toluene - d8 (Surr)	97.8		% Recovery	EPA 8260B	05/14/2007
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	05/14/2007
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	122		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-9

Matrix : Water

Lab Number : 56434-09

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	700	1.0	ug/L	EPA 8260B	05/14/2007
Toluene	220	1.0	ug/L	EPA 8260B	05/14/2007
Ethylbenzene	380	1.0	ug/L	EPA 8260B	05/14/2007
Total Xylenes	1200	1.0	ug/L	EPA 8260B	05/14/2007
Methyl-t-butyl ether (MTBE)	< 1.0	1.0	ug/L	EPA 8260B	05/14/2007
Diisopropyl ether (DIPE)	< 1.0	1.0	ug/L	EPA 8260B	05/14/2007
Ethyl-t-butyl ether (ETBE)	< 1.0	1.0	ug/L	EPA 8260B	05/14/2007
Tert-amyl methyl ether (TAME)	< 1.0	1.0	ug/L	EPA 8260B	05/14/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/14/2007
TPH as Gasoline	6400	100	ug/L	EPA 8260B	05/14/2007
Toluene - d8 (Surr)	98.9		% Recovery	EPA 8260B	05/14/2007
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	05/14/2007
TPH as Diesel (Silica Gel)	< 300	300	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	108		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 56434

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-10

Matrix : Water

Lab Number : 56434-10

Sample Date : 05/07/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2.3	0.50	ug/L	EPA 8260B	05/18/2007
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Methyl-t-butyl ether (MTBE)	180	0.50	ug/L	EPA 8260B	05/18/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Tert-amyl methyl ether (TAME)	0.83	0.50	ug/L	EPA 8260B	05/18/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/18/2007
TPH as Gasoline	96	50	ug/L	EPA 8260B	05/18/2007
Toluene - d8 (Surr)	96.5		% Recovery	EPA 8260B	05/18/2007
4-Bromofluorobenzene (Surr)	89.1		% Recovery	EPA 8260B	05/18/2007
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/18/2007
Octacosane (Diesel Silica Gel Surr)	99.1		% Recovery	M EPA 8015	05/18/2007

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 56434

## QC Report : Method Blank Data

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	05/15/2007
Octacosane (Diesel Silica Gel Surr)	105		%	M EPA 8015	05/15/2007
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/14/2007
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/14/2007
Toluene - d8 (Surr)	99.4		%	EPA 8260B	05/14/2007
4-Bromofluorobenzene (Sur)	99.6		%	EPA 8260B	05/14/2007
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/14/2007
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/17/2007
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/17/2007
Toluene - d8 (Surr)	95.7		%	EPA 8260B	05/17/2007
4-Bromofluorobenzene (Sur)	88.6		%	EPA 8260B	05/17/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/18/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/18/2007
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/18/2007
Toluene - d8 (Surr)	96.4		%	EPA 8260B	05/18/2007
4-Bromofluorobenzene (Surr)	89.9		%	EPA 8260B	05/18/2007
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/17/2007
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/17/2007
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/17/2007
Toluene - d8 (Surr)	100		%	EPA 8260B	05/17/2007
4-Bromofluorobenzene (Surr)	95.1		%	EPA 8260B	05/17/2007

Approved By: Joel Kiff

Report Number : 56434

QC Report : Method Blank Data

Date : 05/21/2007

Project Name : Albany Hill

Project Number : 3934

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/15/2007
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/15/2007
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/15/2007
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/15/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
-----------	----------------	------------------------	-------	-----------------	---------------

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 : Albany Hill

Project Number : 3934

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 Percent Recov. Limit	Relative Percent Diff. Limit
TPH-D (Si Gel)	Blank	<50	1000	1000	885	911	ug/L	M EPA 8015	5/15/07	88.5	91.1	2.96	70-130	25
Benzene	56379-01	<0.50	40.0	40.0	45.1	44.6	ug/L	EPA 8260B	5/14/07	113	112	1.06	70-130	25
Toluene	56379-01	<0.50	40.0	40.0	44.6	45.0	ug/L	EPA 8260B	5/14/07	112	112	0.765	70-130	25
Tert-Butanol	56379-01	<5.0	200	200	229	224	ug/L	EPA 8260B	5/14/07	114	112	2.08	70-130	25
Methyl-t-Butyl Ether	56379-01	<0.50	40.0	40.0	38.2	42.6	ug/L	EPA 8260B	5/14/07	95.6	106	10.8	70-130	25
Benzene	56348-10	<0.50	39.9	40.0	40.2	40.9	ug/L	EPA 8260B	5/14/07	101	102	1.34	70-130	25
Toluene	56348-10	<0.50	39.9	40.0	40.5	40.7	ug/L	EPA 8260B	5/14/07	101	102	0.350	70-130	25
Tert-Butanol	56348-10	<5.0	200	200	218	214	ug/L	EPA 8260B	5/14/07	109	107	2.02	70-130	25
Methyl-t-Butyl Ether	56348-10	<0.50	39.9	40.0	41.1	40.7	ug/L	EPA 8260B	5/14/07	103	102	1.25	70-130	25
Benzene	56486-07	<0.50	40.0	40.0	41.8	39.4	ug/L	EPA 8260B	5/17/07	104	98.6	5.91	70-130	25
Toluene	56486-07	<0.50	40.0	40.0	39.1	37.2	ug/L	EPA 8260B	5/17/07	97.8	93.1	4.92	70-130	25
Tert-Butanol	56486-07	<5.0	200	200	210	201	ug/L	EPA 8260B	5/17/07	105	101	4.10	70-130	25
Methyl-t-Butyl Ether	56486-07	6.7	40.0	40.0	49.7	49.1	ug/L	EPA 8260B	5/17/07	108	106	1.56	70-130	25
Benzene	56496-04	<0.50	40.0	40.0	40.8	40.1	ug/L	EPA 8260B	5/18/07	102	100	1.77	70-130	25
Toluene	56496-04	<0.50	40.0	40.0	38.7	38.6	ug/L	EPA 8260B	5/18/07	96.8	96.5	0.309	70-130	25
Tert-Butanol	56496-04	<5.0	200	200	198	209	ug/L	EPA 8260B	5/18/07	99.0	105	5.54	70-130	25
Methyl-t-Butyl Ether	56496-04	<0.50	40.0	40.0	42.1	43.2	ug/L	EPA 8260B	5/18/07	105	108	2.41	70-130	25

Approved By: Joel Kiff

Project Name : Albany Hill

Project Number : 3934

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 Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	56466-04	<0.50	40.0	40.0	40.6	40.5	ug/L	EPA 8260B	5/17/07	101	101	0.266	70-130	25
Toluene	56466-04	<0.50	40.0	40.0	41.3	40.9	ug/L	EPA 8260B	5/17/07	103	102	1.00	70-130	25
Tert-Butanol	56466-04	<5.0	200	200	204	202	ug/L	EPA 8260B	5/17/07	102	101	0.965	70-130	25
Methyl-t-Butyl Ether	56466-04	1.1	40.0	40.0	39.8	39.8	ug/L	EPA 8260B	5/17/07	96.9	96.7	0.138	70-130	25
Benzene	56408-06	<0.50	40.0	40.0	40.0	39.5	ug/L	EPA 8260B	5/15/07	100	98.9	1.19	70-130	25
Toluene	56408-06	<0.50	40.0	40.0	39.4	39.1	ug/L	EPA 8260B	5/15/07	98.4	97.8	0.675	70-130	25
Tert-Butanol	56408-06	<5.0	200	200	197	200	ug/L	EPA 8260B	5/15/07	98.7	100	1.42	70-130	25
Methyl-t-Butyl Ether	56408-06	<0.50	40.0	40.0	32.4	32.4	ug/L	EPA 8260B	5/15/07	80.9	81.1	0.233	70-130	25

KIFF ANALYTICAL, LLC

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

Approved By: Joel Kiff



Report Number : 56434

Date : 05/21/2007

## QC Report : Laboratory Control Sample (LCS)

Project Name : Albany Hill

Project Number : 3934

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	5/14/07	108	70-130
Toluene	40.0	ug/L	EPA 8260B	5/14/07	107	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/14/07	90.5	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	5/14/07	112	70-130
Benzene	40.0	ug/L	EPA 8260B	5/14/07	101	70-130
Toluene	40.0	ug/L	EPA 8260B	5/14/07	102	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/14/07	104	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	5/14/07	102	70-130
Benzene	40.0	ug/L	EPA 8260B	5/17/07	97.5	70-130
Toluene	40.0	ug/L	EPA 8260B	5/17/07	94.7	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/17/07	94.9	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	5/17/07	104	70-130
Benzene	40.0	ug/L	EPA 8260B	5/18/07	98.5	70-130
Toluene	40.0	ug/L	EPA 8260B	5/18/07	96.0	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/18/07	95.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	5/18/07	102	70-130
Benzene	40.0	ug/L	EPA 8260B	5/17/07	102	70-130

KIFF ANALYTICAL, LLC

Approved By:

Joe Kiff

Report Number : 56434

Date : 05/21/2007

QC Report : Laboratory Control Sample (LCS)

Project Name : Albany Hill

Project Number : 3934

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Toluene	40.0	ug/L	EPA 8260B	5/17/07	96.1	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/17/07	103	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	5/17/07	88.5	70-130
Benzene	40.0	ug/L	EPA 8260B	5/15/07	100	70-130
Toluene	40.0	ug/L	EPA 8260B	5/15/07	98.3	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/15/07	96.9	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	5/15/07	102	70-130

KIFF ANALYTICAL, LLC

Approved By:

Joe Kiff

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

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

56434

# Chain of Custody

SAMPLER (SIGNATURE)

M. Rausen

PAGE 1 OF 1

Albany Hill

PROJECT NAME

ADDRESS

800 San Pablo, Albany Hill, CA

JOB NO. 3934

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	QUANTITY	TPH-GAS / MTBE & BTEX (5) (EPA 5030/8020) <u>09/05</u>	TPH-DIESEL W/ SILICA (EPA 3510/8015) <u>Clean up</u>	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	VOLATILE ORGANICS (EPA 624/8240/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LIQUID METALS (5) (EPA 6010-7000)	CAM 17 METALS (EPA 6010-7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140 EPA 608/8080)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	PURGEABLE HALOCARBONS (EPA 601/8010)	MULTI-RANGE HYDROCARBONS	SILICA-GEL CLEANUP	EDF
MW-1	5-7-07	1230	W	4	X	X	X											0		
MW-2		1320		3		X	X											0		
MW-3		1620		2		X	X											0		
MW-4		950		4		X	X											0		
MW-5R		1450		4		X	X											0		
MW-6		1140		4		X	X											0		
MW-7		1040		4		X	X											0		
MW-8		1520		4		X	X											0		
MW-9		1630		4		X	X											0		
MW-10		1410		4		X	X											0		

SAMPLE RECEIPT  
Temp: 22.8 Therm. ID# 10-5  
Initial Rec'd Date 05/11/07  
Time 1205 constant pressure

RELINQUISHED BY:

M. Rausen See  
(signature) (time)

RECEIVED BY:

(signature) (time)

RELINQUISHED BY:

(signature) (time)

RECEIVED BY LABORATORY:

Ron McGee 1148  
(signature) (time)

COMMERCIAL NO:

HLC = Uof

(signature) (time)

D. ALLEN 5-9-07  
(printed name) (date)

Company-ASE, INC.

(signature) (time)

(printed name) (date)

(signature) (time)

(printed name) (date)

(signature) (time)

Ron McGee 051107  
(printed name) (date)

TURN AROUND TIME:

STANDARD 24Hr 48Hr 72Hr  
OTHER: Kiff Analytical



Report Number : 56756

Date : 6/5/2007

Mike Rauser  
Aqua Science Engineers, Inc.  
208 West El Pintado Rd.  
Danville, CA 94526

Subject : 1 Water Sample  
Project Name : Albany Hill  
Project Number : 3934

Dear Mr. Rauser,

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



Report Number : 56756

Date : 6/5/2007

Subject : 1 Water Sample  
Project Name : Albany Hill  
Project Number : 3934

## Case Narrative

The Method Reporting Limit for Methanol has been increased due to the presence of an interfering compound for sample MW-3.

Approved By:

  
Joe Kiff

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 56756

QC Report : Laboratory Control Sample (LCS)

Date : 6/5/2007

Project Name : Albany Hill

Project Number : 3934

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	6/4/07	96.3	70-130
Toluene	40.0	ug/L	EPA 8260B	6/4/07	95.4	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/4/07	98.2	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/4/07	90.2	70-130

KIFF ANALYTICAL, LLC

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

Approved By:

Joe Kiff





Report Number : 56756

Date : 6/5/2007

Project Name : Albany Hill

Project Number : 3934

Sample : MW-3

Matrix : Water

Lab Number : 56756-01

Sample Date : 5/25/2007

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	52	2.0	ug/L	EPA 8260B	6/4/2007
Toluene	4.3	2.0	ug/L	EPA 8260B	6/4/2007
Ethylbenzene	4.3	2.0	ug/L	EPA 8260B	6/4/2007
Total Xylenes	18	2.0	ug/L	EPA 8260B	6/4/2007
Methyl-t-butyl ether (MTBE)	1100	2.0	ug/L	EPA 8260B	6/4/2007
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	6/4/2007
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	6/4/2007
Tert-amyl methyl ether (TAME)	4.3	2.0	ug/L	EPA 8260B	6/4/2007
Tert-Butanol	140	9.0	ug/L	EPA 8260B	6/4/2007
Methanol	< 800	800	ug/L	EPA 8260B	6/4/2007
Ethanol	< 20	20	ug/L	EPA 8260B	6/4/2007
TPH as Gasoline	240	200	ug/L	EPA 8260B	6/4/2007
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	6/4/2007
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	6/4/2007

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Project Number : 3934

Project Name : Albany Hill

GC Report : Method Blank Data

Report Number : 56756  
Date : 6/5/2007

Parameter	Method	Measured	Reporting Units	Analysis	Date	Value	Limit	Units	Method	Analysis	Date
Benzene	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Toluene	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Ethylbenzene	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Total Xylenes	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Dissopropanyl ether (DIPPE)	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Tetra-methyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 6260B	6/4/2007						
Ethanol	< 5.0	5.0	ug/L	EPA 6260B	6/4/2007						
Methanol	< 5.0	5.0	ug/L	EPA 6260B	6/4/2007						
Tetra-Butanol	< 5.0	5.0	ug/L	EPA 6260B	6/4/2007						
Ter-Butanol	< 5.0	5.0	ug/L	EPA 6260B	6/4/2007						
Ethylene - di (Surf)	101	50	ug/L	EPA 6260B	6/4/2007	%	EPA 6260B	6/4/2007			
4-Bromofluorobenzene (Surf)	97.1					%	EPA 6260B	6/4/2007			

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

KIFF ANALYTICAL, LLC

Approved By: Joe Kiff

Report Number : 56756

## QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 6/5/2007

Project Name : Albany Hill

Project Number : 3934

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 Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	56776-01	<0.50	40.0	40.0	38.0	36.1	ug/L	EPA 8260B	6/4/07	94.9	90.4	4.88	70-130	25
Toluene	56776-01	<0.50	40.0	40.0	38.0	37.4	ug/L	EPA 8260B	6/4/07	94.9	93.6	1.42	70-130	25
Tert-Butanol	56776-01	20	200	200	216	217	ug/L	EPA 8260B	6/4/07	98.4	98.6	0.176	70-130	25
Methyl-t-Butyl Ether	56776-01	5.7	40.0	40.0	40.4	38.5	ug/L	EPA 8260B	6/4/07	86.7	82.0	5.52	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

