

R0479 JW



October 28, 2005

Alameda County  
DEC 06 2005  
Environmental Health

QUARTERLY GROUNDWATER MONITORING REPORT  
JULY 2005 GROUNDWATER SAMPLING

at  
Lim Family Property  
250 8th Street  
Oakland, California

Submitted by:  
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## **1.0 INTRODUCTION**

This report presents the methods and findings of Aqua Science Engineers, Inc. (ASE)'s quarterly groundwater monitoring at the Lim family property located at 250 8th Street in Oakland, California (*Figures 1 and 2*).

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

On July 19, 2005, ASE measured the depth to water in monitoring wells MW-1 through MW-7 using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. Monitoring well MW-3 contained 1.67-feet of free-floating hydrocarbons. The product was subsequently bailed by ASE and contained in a sealed and labeled 55-gallon steel drum for temporary storage until off-site disposal can be arranged. Injection wells IW-1 through IW-5 were obstructed by parked cars and could not be gauged. Groundwater elevation data is presented in Table One.

A groundwater elevation (potentiometric surface) contour map is shown as Figure 2. The groundwater flow direction at the site is generally to the south-southeast with an approximate gradient of 0.01 feet/foot during this quarterly sampling period. The gradient is consistent with previous findings, while the flow direction is more southeasterly than the previous quarter. It appears that there was a dual phase extraction event taking place on the day of our sampling at the LUM property, located to the southeast.

## **3.0 MONITORING WELL SAMPLING**

On July 19, 2005, ASE collected groundwater samples from monitoring wells MW-1, MW-2, and MW-4 through MW-7 for analysis. Monitoring well MW-3 was not sampled due to the presence of free-floating hydrocarbons.

Prior to sampling, the wells were purged of three well casing volumes of groundwater using disposable polyethylene bailers. The pH, temperature, and conductivity of the purge water were monitored during evacuation, and samples were not collected until these parameters stabilized. Samples were collected from each well using disposable polyethylene bailers. The groundwater samples were decanted from the bottom of the bailers using low-flow emptying devices into 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, sealed without headspace and labeled. All samples were stored on ice for transport to Kiff Analytical, LLC, (KIFF) of Davis, California under appropriate chain of custody documentation. Well sampling purge water was contained in a sealed and labeled 55-gallon steel drum for temporary storage until off-site disposal can be arranged. See Appendix A for copies of the well sampling field logs.

## **4.0 ANALYTICAL RESULTS FOR GROUNDWATER**

All groundwater samples were analyzed by KIFF for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene, total xylenes (collectively known as BTEX), lead scavengers, and methyl tertiary butyl ether (MTBE) by EPA Method 8260B. Samples were

inadvertently not analyzed for total petroleum hydrocarbons as diesel (TPH-D). The analytical results are tabulated in Tables Two and Three, and copies of the certified analytical report and chain of custody form are included in Appendix B.

## **5.0 CONCLUSIONS**

Overall, the dissolved hydrocarbon concentrations are consistent with previous analytical results and remain extremely elevated in downgradient monitoring wells MW-2, MW-4, and MW-7, with some decreasing concentrations in MW-2. Monitoring well MW-3 contained 1.67 feet of free-floating hydrocarbons, 0.47 feet less than measured the previous quarter. The following wells concentrations in groundwater samples collected exceeded Environmental Screening Levels (ESLs) 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:

- In monitoring wells MW-2, MW-4, MW-7 groundwater samples contained concentrations of TPH-G, benzene, toluene, ethyl-benzene and total xylenes exceeding the ESLs.

## **6.0 RECOMMENDATIONS**

ASE prepared a report dated January 10, 2005 detailing the Dual Phase Extraction interim remediation activities performed at the site in 2004, and provided a corrective action plan for future remedial options. This report proposed a second dual phase extraction event as an additional interim remedial measure, to be followed by the installation of a permanent remediation system. To this date, ASE and our client are awaiting approval by the Alameda County Health Care Services Agency (ACHCSA). ASE recommends continued quarterly groundwater monitoring at the site. The next sampling event is scheduled for September 2005.

## **7.0 REPORT LIMITATIONS**

The results presented in this report represent conditions at the time of the groundwater sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from unknown sources, 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.


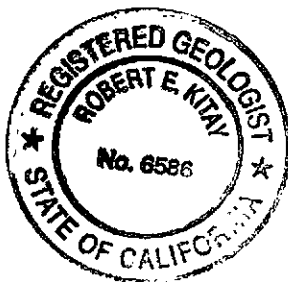
Aqua Science Engineers appreciates the opportunity to assist The Lim Family with their environmental needs. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



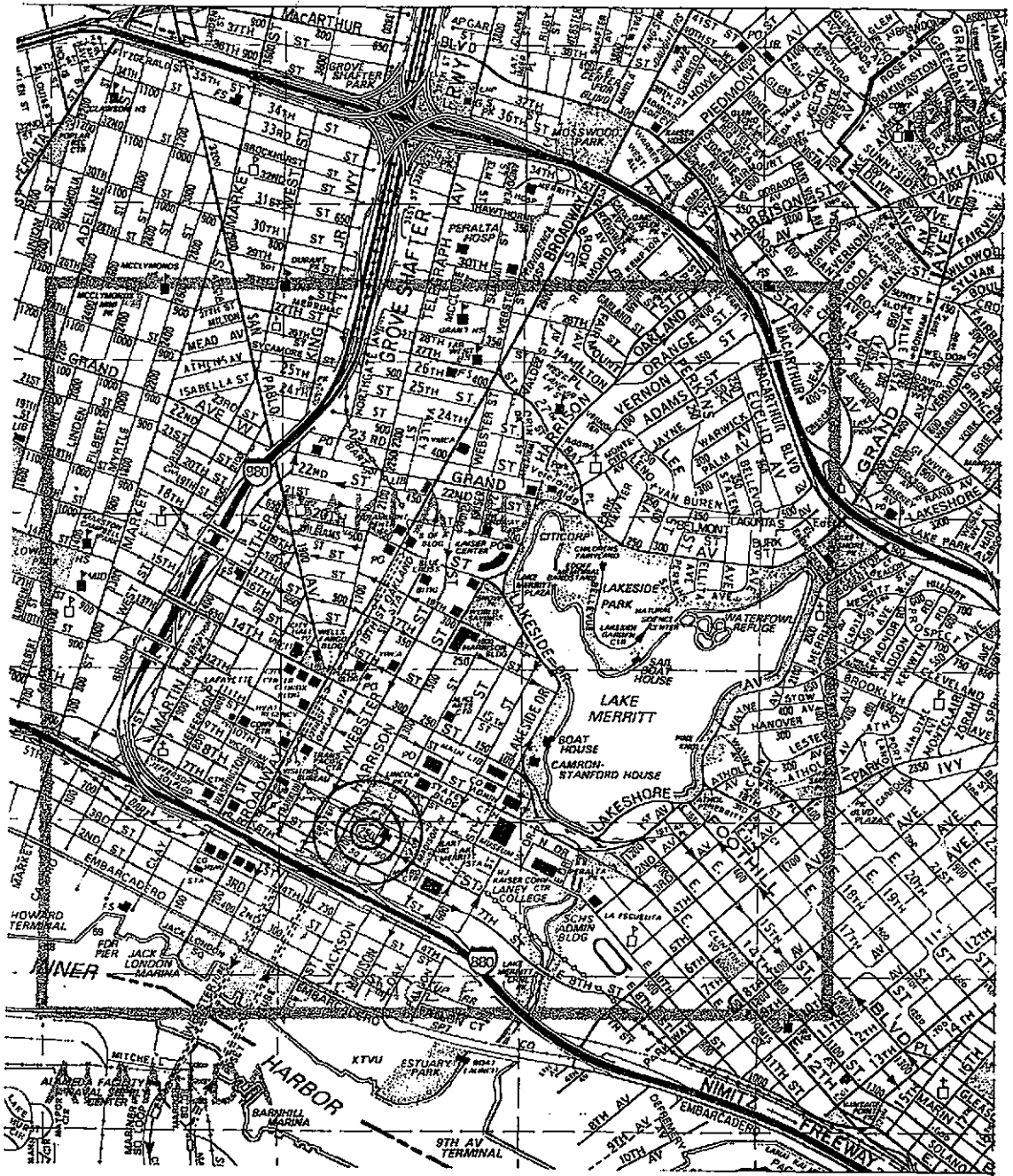
David Rains  
Project Geologist



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

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

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



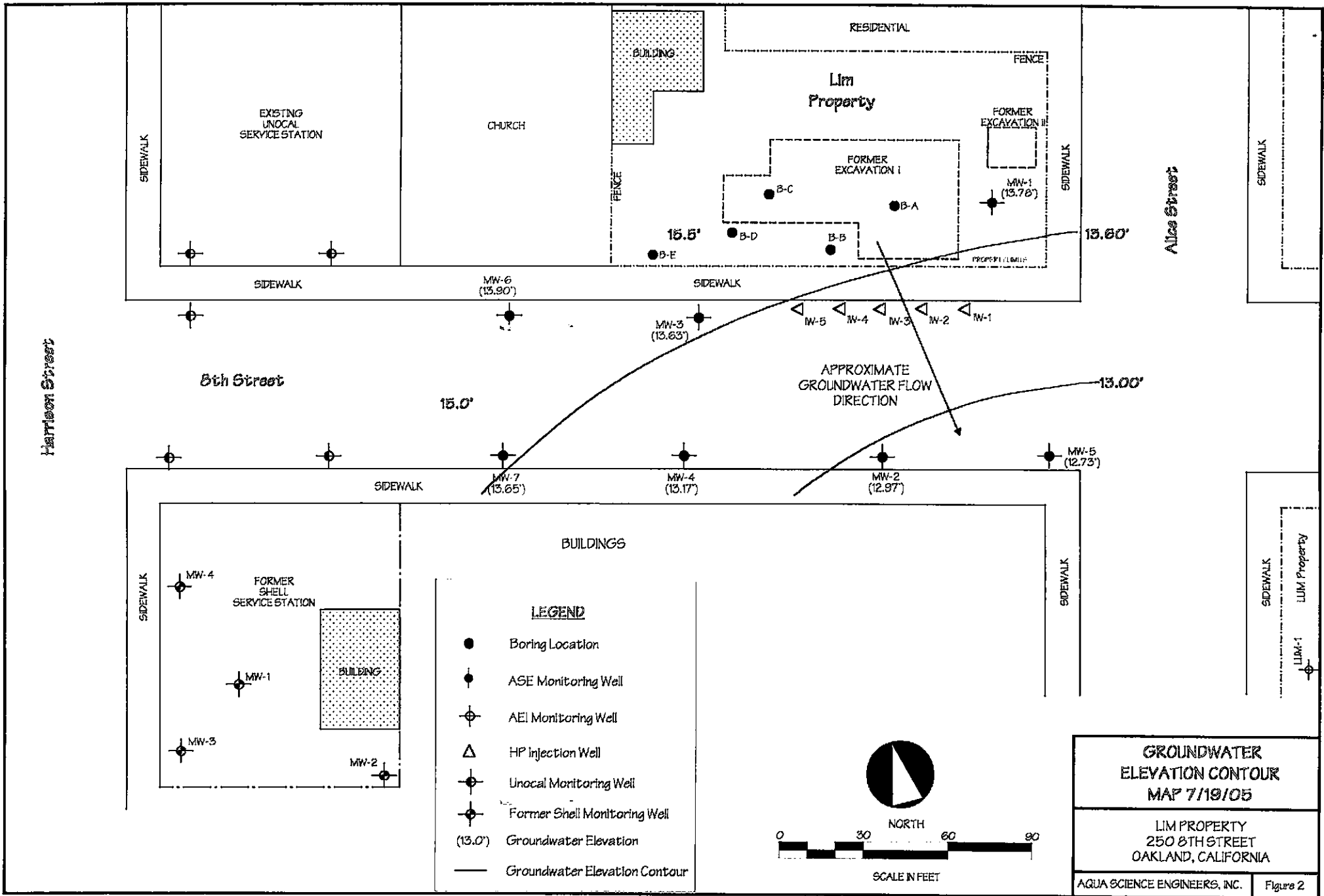
## SITE LOCATION MAP

Lim Property  
250 8th Street  
Oakland, California

BASE: The Thomas Guide, Alameda and Contra Costa  
Counties Street Guide & Directory, 1990

Aqua Science Engineers

Figure 1



**LEGEND**

- Boring Location
- ASE Monitoring Well
- ⊕ AEI Monitoring Well
- △ HP Injection Well
- ⊕ Unocal Monitoring Well
- ⊕ Former Shell Monitoring Well
- (13.0') Groundwater Elevation
- Groundwater Elevation Contour

NORTH

SCALE IN FEET

**GROUNDWATER  
ELEVATION CONTOUR  
MAP 7/19/05**

LIM PROPERTY  
250 8TH STREET  
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. Figure 2

**TABLE ONE**  
**Groundwater Elevation Data**  
**Lim Family Property**  
**250 8th Street**  
**Oakland, CA**

Well I.D.	Date of Measurement	Top of Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-1	01/30/95	25.51	16.21		9.30
	04/12/95		15.71		9.80
	07/14/95		16.71		8.80
	10/17/95		17.72		7.79
	01/12/96		18.03		7.48
	07/25/96		16.82		8.69
	01/06/97		15.60		9.91
	07/08/97		17.31		8.20
	01/26/98		15.21		10.30
	07/23/98		15.38		10.13
	01/05/99		16.82		8.69
	07/13/99		15.89		9.62
	01/12/00		17.44		8.07
	04/24/00		16.37		9.14
	07/20/00		16.30		9.21
	10/24/00		17.25		8.26
	01/18/01		17.29		8.22
	04/05/01	15.88		9.63	
	07/17/01	16.54		8.97	
	10/25/01	16.89		8.62	
	01/21/02	14.92		10.59	
	04/11/02	14.02		11.49	
	06/11/02	29.72	15.33		14.39
	09/17/02		15.90		13.76
	12/18/02		16.14		13.58
	03/25/03		16.16		13.56
	06/23/03		16.01		13.71
	09/26/03		16.57		13.15
	12/18/03		16.41		13.31
	03/12/04		14.64		15.08
	06/17/04		15.71		14.01
	09/17/04		16.35		13.37
12/17/04	16.10		13.62		
04/28/05	14.10		15.62		
07/19/05	15.94		13.78		

**TABLE ONE**  
**Groundwater Elevation Data**  
**Lim Family Property**  
**250 8th Street**  
**Oakland, CA**

Well I.D.	Date of Measurement	Top of Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
<b>MW-2</b>	01/30/95	23.99	15.02		8.97
	04/12/95		14.75		9.24
	07/14/95		16.02		7.97
	10/17/95		16.94		7.05
	01/12/96		17.05		6.94
	07/25/96		16.02		7.97
	01/06/97		14.34		9.65
	07/08/97		16.52		7.47
	01/26/98		14.10		9.89
	07/23/98		14.70		9.29
	01/05/99		16.01		7.98
	07/13/99		15.40		8.59
	01/12/00		16.76		7.23
	04/24/00		15.67		8.32
	07/20/00		15.70		8.29
	10/24/00		16.56		7.43
	01/18/01		16.47		7.52
	04/05/01		15.88		8.11
	07/17/01		15.35		8.64
	10/25/01		15.63		8.36
	01/21/02		13.55		10.44
	04/11/02		13.74		10.25
	06/11/02		28.19	14.06	
	09/17/02	14.67			13.52
	12/18/02	14.88			13.31
	03/25/03	15.11			13.08
	06/23/03	14.94			13.25
	09/26/03	15.49			12.70
	12/18/03	15.13			13.06
	03/12/04	13.50			14.69
	06/17/04	14.63			13.56
	09/17/04	15.19			13.00
	12/17/04	14.88		13.31	
04/28/05	13.39		14.80		
<b>07/19/05</b>	<b>15.27</b>		<b>12.92</b>		



**TABLE ONE**  
 Groundwater Elevation Data  
 Lim Family Property  
 250 8th Street  
 Oakland, CA

Well I.D.	Date of Measurement	Top of Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
<b>MW-3</b>	01/12/00	24.25	16.68	0.01	7.58*
	04/24/00		15.58	0.15	8.79*
	07/20/00		16.01	0.41	8.57*
	10/24/00		16.95	0.21	7.47*
	01/18/01		16.63	0.21	7.79*
	04/05/01		15.16	0.23	9.27*
	07/17/01		15.92	0.39	8.64*
	10/25/01		16.26	0.38	8.29*
	01/21/02		14.08	0.16	10.30*
	04/11/02		14.59	0.54	10.09*
	06/11/02	28.58	15.16	0.90	14.14*
	09/17/02		16.04	1.24	13.53*
	10/01/02		16.14	1.23	13.42*
	10/25/02		15.80	0.60	13.26*
	11/12/02		15.87	0.47	13.09*
	12/18/02		15.42	0.47	13.54*
	03/25/03		16.11	1.14	13.38*
	06/23/03		16.58	1.86	13.49*
	09/26/03		16.11	0.66	13.00*
	12/18/03		15.83	0.59	13.22*
	03/12/04	14.51	1.21	15.04*	
	06/17/04	15.25	0.68	13.87*	
	09/17/04	16.14	0.96	13.21*	
	12/17/04	15.05	0.25	13.73*	
	01/13/05	13.40	0.45	15.54*	
	04/28/05	15.31	2.43	15.21*	
	<b>07/19/05</b>	<b>16.29</b>	<b>1.67</b>	<b>13.63*</b>	

**TABLE ONE**  
 Groundwater Elevation Data  
 Lim Family Property  
 250 8th Street  
 Oakland, CA

Well I.D.	Date of Measurement	Top of Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-4	01/12/00	23.71	17.24		6.47
	04/24/00		16.18		7.53
	07/20/00		16.18		7.53
	10/24/00		17.03		6.68
	01/18/01		16.87		6.84
	04/05/01		15.28		8.43
	07/17/01		15.92		7.79
	10/25/01		16.23		7.48
	01/21/01		14.14		9.57
	04/11/02		14.43		9.28
	06/11/02	28.61	14.72		13.89
	09/17/02		15.29		13.32
	12/18/02		15.20		13.41
	03/25/03		15.53		13.08
	06/23/03		15.35		13.26
	09/26/03		15.91		12.70
	12/18/03		15.63		12.98
	03/12/04		13.88		14.73
	06/17/04		15.03		13.58
	09/17/04		15.61		13.00
12/17/04	15.32		13.29		
04/28/05	13.82		14.79		
07/19/05	15.44		13.17		

**TABLE ONE**  
**Groundwater Elevation Data**  
**Lim Family Property**  
**250 8th Street**  
**Oakland, CA**

Well I.D.	Date of Measurement	Top of Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)	
<b>MW-5</b>	06/11/02	28.40	14.23		14.17	
	09/17/02		14.80		13.60	
	12/18/02		15.08		13.32	
	03/25/03		15.31		13.09	
	06/23/03		15.16		13.24	
	09/26/03		15.72		12.68	
	12/18/03		15.47		12.93	
	03/12/04		13.44		14.96	
	06/17/04		14.90		13.50	
	09/17/04		15.45		12.95	
	12/17/04		15.12		13.28	
	04/28/05		13.63		14.77	
	<b>07/19/05</b>		<b>15.67</b>		<b>12.73</b>	
<b>MW-6</b>	06/11/02	29.20	14.95		14.25	
	09/17/02		15.47		13.73	
	12/18/02		15.43		13.77	
	03/25/03		15.67		13.53	
	06/23/03		15.48		13.72	
	09/26/03		NOT MEASURED - SOUNDER MALFUNCTION			
	12/18/03		15.79		13.41	
	03/12/04		14.04		15.16	
	06/17/04		15.13		14.07	
	09/17/04		15.74		13.46	
	12/17/04		15.54		13.66	
	04/28/05		13.91		15.29	
	<b>07/19/05</b>		<b>15.30</b>		<b>13.90</b>	

**TABLE ONE**  
**Groundwater Elevation Data**  
**Lim Family Property**  
**250 8th Street**  
**Oakland, CA**

Well I.D.	Date of Measurement	Top of Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)	
<b>MW-7</b>	06/11/02	28.95	15.19		13.76	
	09/17/02		15.73		13.22	
	12/18/02	NOT MEASURED - CAR PARKED OVER WELL				
	03/25/03		15.96		12.99	
	06/23/03		15.75		13.20	
	09/26/03		16.29		12.66	
	12/18/03		16.03		12.92	
	03/12/04		14.28		14.67	
	06/17/04		15.42		13.53	
	09/17/04		16.02		12.93	
	12/17/04		15.45		13.50	
	04/28/05		14.15		14.80	
	<b>07/19/05</b>			<b>15.30</b>		<b>13.65</b>

Notes:

\* = Adjusted for the presence of free-floating oil by the equation: Top of Casing Elevation - Depth to Water + (0.8 x Floating Hydrocarbon Thickness) = Groundwater Elevation (Adjusted).

Top of casing elevations resurveyed by Mid Coast Engineers on 6/27/02 and 7/11/02.

**TABLE TWO**  
 Summary of Chemical Analysis of Groundwater Samples  
 Petroleum Hydrocarbon Concentrations  
 All results are in parts per billion

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<u>MW-1</u>							
01/30/95	740	200	3	5	1	4	--
04/12/95	400	500	< 0.5	< 0.5	3	< 2	--
07/14/95	520	400	1	< 0.5	2	3	--
10/17/95	400	200	0.5	1	3	< 2	--
01/12/96	120	890	< 0.5	< 0.5	< 0.5	< 1.0	< 2.0
07/08/96	320	300	0.52	2.7	1.2	2.3	< 5.0
01/06/97	110	75	< 0.5	0.68	< 0.5	< 0.5	< 5.0
07/08/97	380	290	< 0.5	1.5	1.4	1.9	< 5.0
01/26/98	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
07/23/98	190	< 50	0.54	2.8	2	1.8	< 5.0
01/05/99	200	< 50	1.8	1.6	3.3	< 0.5	< 5.0
07/13/99	340	<50	<0.5	<0.5	2.6	<0.5	< 5.0
01/12/00	300	1,000	22	36	5.5	24	< 5.0
04/24/00	360	280*	< 0.5	< 0.5	< 0.5	2.1	< 5.0
07/20/00	290	150*	1.8	< 0.5	< 0.5	< 0.5	< 5.0
10/24/00	170**	280*	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
01/18/01	170**	150*	< 0.5	< 0.5	< 0.5	2.1	< 5.0
04/05/01	350**	190*	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
07/17/01	310	570	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
10/25/01	250	260	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
01/22/02	200	250	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
04/11/02	260	300	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
06/11/02	270	330	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
09/17/02	320	1,700	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
12/18/02	170	320	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
03/25/03	320	< 500	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
06/23/03	240	310	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
09/26/03	110	300	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
12/18/03	150	340	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
03/12/04	220	310	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
06/17/04	250	490	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
09/17/04	110	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
11/10/04***	180	400	0.68	< 0.5	1.7	< 0.5	< 5.0
12/17/04	77	130	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
04/28/05	250	190	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
<b>07/19/05</b>	<b>340</b>	<b>na</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>

**TABLE TWO**  
**Summary of Chemical Analysis of Groundwater Samples**  
**Petroleum Hydrocarbon Concentrations**  
All results are in parts per billion

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<b>MW-2</b>							
01/30/95	88,000	800	19,000	18,000	2,400	10,000	--
04/12/95	110,000	990	21,000	28,000	2,800	14,000	--
07/14/95	120,000	5,000	20,000	25,000	3,200	15,000	--
10/17/95	190,000	4,000	15,000	26,000	4,900	23,000	--
01/12/96	32,000	2,600	10,000	8,000	1,100	4,800	< 2
07/08/96	110,000	2,500	20,000	18,000	2,500	12,000	< 500
01/06/97	230,000	37,000	11,000	19,000	4,300	20,000	< 1,200
07/08/97	91,000	35,000	16,000	20,000	2,700	13,000	< 1,000
01/26/98	50,000	11,000	12,000	12,000	1,600	6,700	< 250
07/23/98	50,000	8,100#	11,000	8,300	1,800	7,000	1,100
01/05/99	50,000	7,600#	12,000	12,000	2,300	9,600	1,300
07/13/99	73,000	8,500	11,000	13,000	2,200	9,800	< 500
01/12/00	63,000	11,000	10,000	12,000	1,800	7,800	< 500
04/24/00	76,000	23,000*	7,100	14,000	2,000	9,400	< 500
07/20/00	68,000	5,300#	11,000	14,000	2,300	11,000	< 1,000
10/24/00	48,000	6,400*	11,000	9,400	1,500	7,300	< 500
01/18/01	37,000	4,600*	6,900	5,600	1,200	5,300	< 500
04/05/01	59,000	4,600*	7,100	9,800	1,600	7,600	< 500
07/17/01	90,000	< 10,000	9,200	14,000	2,700	11,000	< 50
10/25/01	79,000	< 3,800	9,200	14,000	2,400	11,000	< 50
01/22/02	76,000	< 2,300	7,000	13,000	2,200	9,600	< 50
04/11/02	76,000	< 1,500	7,800	11,000	2,900	12,000	< 50
06/11/02	72,000	< 2,500	7,300	9,600	2,500	12,000	< 50
09/17/02	52,000	< 3,000	5,000	5,400	2,100	9,100	< 20
12/18/02	46,000	< 6,000	2,900	3,000	1,800	7,600	22
03/25/03	87,000	< 8,000	7,900	9,300	2,900	12,000	< 50
06/23/03	46,000	< 3000	7,800	4,000	1,900	6,600	< 50
09/26/03	52,000	< 3000	9,100	3,500	1,300	5,000	< 50
12/18/03	61,000	< 4,000	13,000	3,500	1,600	5,600	< 20
03/12/04	53,000	< 4,000	9,100	3,500	1,700	5,700	< 25
06/17/04	59,000	< 3,000	7,100	4,000	1,700	7,300	< 25
09/17/04	33,000	--	9,800	1,200	1,300	4,000	< 20
11/10/04***	44,000	3,600	13,000	4,400	1,600	6,000	< 1000
12/17/04	54,000	< 3,000	7,900	2,200	1,700	3,900	< 15
04/28/05	81,000	< 3,000	7,000	6,000	2,100	8,700	< 15
07/19/05	59,000	na	7,900	4,400	1,900	7,000	< 15

**TABLE TWO**  
**Summary of Chemical Analysis of Groundwater Samples**  
**Petroleum Hydrocarbon Concentrations**  
All results are in parts per billion

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<b>MW-3</b>							
01/12/00	140,000	13,000*	22,000	19,000	2,400	11,000	< 500
04/24/00	240,000	700,000*	33,000/ 35,000	52,000/ 87,000	5,700/ 18,000	28,000/ 84,000	< 5,000
07/20/00	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
10/24/00	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
01/18/01	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
04/05/01	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
07/17/01	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
10/25/01	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
01/22/02	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
04/11/02	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
06/11/02	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
09/17/02	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
12/18/02	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
03/25/03	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
06/23/03	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
09/26/03	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
12/18/03	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
03/12/04	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
06/17/04	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
09/17/04	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
11/10/04	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
12/17/04	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
04/28/05	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS						
07/19/05	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS (1.67ft)						

**TABLE TWO**  
**Summary of Chemical Analysis of Groundwater Samples**  
**Petroleum Hydrocarbon Concentrations**  
All results are in parts per billion

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<b>MW-4</b>							
01/12/00	99,000	7,900*	16,000	20,000	2,100	12,000	< 2,500
04/24/00	54,000	44,000*	3,400/ 4,500	13,000/ 20,000	1,800/ 2,800	8,800/ 14,000	< 1,300
07/20/00	8,000	3,500	9,200/ 11,000	20,000 22,000	2,500 3,400	12,000/ 13,000	< 1,000
10/24/00	98,000	8,000*	21,000	29,000	2,700	15,000	< 1,000
01/18/01	91,000	12,000	17,000/ 15,000	21,000/ 21,000	2,500/ 2,800	13,000/ 11,000	< 1,000 < 5,000
04/05/01	88,000	7,500*	6,900/ 3,200	18,000/ 9,000	2,500/ 1,300	12,000/ 6,400	< 1,000 < 500
07/17/01	95,000	< 3,000	8,000	16,000	2,900	11,000	49
10/25/01	89,000	< 2,200	9,300	18,000	2,400	12,000	66
01/22/02	80,000	< 2,300	4,600	15,000	2,500	11,000	< 50
04/11/02	90,000	< 900	6,600	18,000	2,800	12,000	55
06/25/02	110,000	< 3,000	10,000	20,000	2,900	13,000	< 100
09/17/02	110,000	< 3,000	9,600	21,000	2,800	13,000	< 100
12/18/02	97,000	< 4,000	8,000	20,000	2,600	12,000	< 50
03/25/03	97,000	< 7,500	7,600	22,000	2,500	12,000	< 100
06/23/03	100,000	< 3,000	9,600	22,000	3,300	15,000	< 100
09/26/03	110,000	< 4,000	9,300	17,000	2,100	10,000	< 50
12/18/03	110,000	< 2,000	8,900	19,000	2,500	12,000	< 25
03/12/04	96,000	< 4,000	6,500	18,000	2,700	12,000	< 40
06/17/04	110,000	< 4,000	10,000	20,000	2,900	13,000	< 50
09/17/04	78,000	--	9,300	15,000	2,400	11,000	< 50
11/10/04***	87,000	4,300	15,000	21,000	3,000	16,000	< 1300
12/17/04	88,000	< 3,000	8,500	16,000	2,800	12,000	< 25
04/28/05	110,000	< 3,000	7,800	14,000	2,200	10,000	< 25
07/19/05	<b>90,000</b>	<b>na</b>	<b>10,000</b>	<b>13,000</b>	<b>2,300</b>	<b>10,000</b>	<b>&lt; 40</b>
<b>MW-5</b>							
06/11/02	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	28
09/17/02	< 50	110	< 0.5	< 0.5	< 0.5	< 0.5	4.8
12/18/02	< 50	140	< 0.5	< 0.5	< 0.5	< 0.5	1.8
03/25/03	< 50	130	< 0.5	< 0.5	< 0.5	< 0.5	7.4
06/23/03	< 50	390	< 0.5	< 0.5	< 0.5	< 0.5	17
09/26/03	< 50	700	< 0.5	< 0.5	< 0.5	< 0.5	21
12/18/03	< 50	550	< 0.5	< 0.5	< 0.5	< 0.5	16
03/12/04	< 50	490	< 0.5	< 0.5	< 0.5	< 0.5	9.1
06/17/04	< 50	510	< 0.5	< 0.5	< 0.5	< 0.5	9.8
09/17/04	< 50	--	< 0.5	< 0.5	< 0.5	< 0.5	5.5
11/10/04***	< 50	370	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
12/17/04	< 50	120	< 0.5	< 0.5	< 0.5	< 0.5	9.2
04/28/05	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	2.2
07/19/05	<b>&lt; 50</b>	<b>na</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>6.1</b>



**TABLE TWO**  
**Summary of Chemical Analysis of Groundwater Samples**  
**Petroleum Hydrocarbon Concentrations**  
All results are in parts per billion

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
<b>MW-6</b>							
06/11/02	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	1.2
09/17/02	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	1.0
12/18/02	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	0.90
03/25/03	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
06/23/03	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
09/26/03	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
12/18/03	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
03/12/04	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
06/17/04	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
09/17/04	< 50	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
11/10/04***	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
12/17/04	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
04/28/05	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
07/19/05	< 50	na	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
<b>07/19/05</b>	<b>&lt; 50</b>	<b>&lt; 50</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>	<b>&lt; 0.5</b>
<b>MW-7</b>							
06/25/02	38,000	< 2,000	890	5,100	1,200	5,200	< 20
09/17/02	26,000	< 2,000	590	3,600	880	4,000	< 20
12/18/02	NOT SAMPLED - CAR PARKED OVER WELL						
03/25/03	39,000	< 2,900	410	7,700	1,000	6,400	< 5.0
06/23/03	17,000	< 1,000	440	2,600	630	2,600	< 10
09/26/03	17,000	< 1,000	230	1,800	470	2,200	< 5.0
12/18/03	20,000	< 1,000	290	2,500	590	2,900	< 5.0
03/12/04	20,000	< 1,500	300	3,000	760	3,200	< 10
06/17/04	12,000	< 800	250	1,800	450	1,900	< 5.0
09/17/04	9,900	--	200	1,500	450	1,800	< 5.0
11/10/04***	20,000	1,900	550	4,200	920	4,000	< 500
12/17/04	14,000	< 800	220	1,700	530	2,000	< 3.0
04/28/05	13,000	< 300	84	1,000	660	2,200	< 2.5
<b>07/19/05</b>	<b>16,000</b>	<b>na</b>	<b>170</b>	<b>1,800</b>	<b>540</b>	<b>2,200</b>	<b>&lt; 2.5</b>
<b>ESL</b>	<b>500</b>	<b>640</b>	<b>46</b>	<b>130</b>	<b>290</b>	<b>13</b>	<b>1,800</b>

**Notes:**

\* = Hydrocarbons reported are in the early diesel range, and do not match the

\*\* = Hydrocarbons reported do not match the laboratory gasoline standard.

\*\*\* = Grab sample - Not purged

# = Estimated concentration reported due to overlapping fuel patterns.

/ = Results separated by a slash represent results from two different laboratory methods (8020/8260).

na = not analyzed

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

Most recent data in bold.

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.

**TABLE THREE**  
**Groundwater Analytical Results**  
**Oil & Grease and Volatile Organic Compounds**  
 All results are in parts per billion

Date Sampled & Compound Analyzed	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
<u>7/8/97</u>							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Tetrachloroethane (PCE)	0.9	< 0.5	-	-	-	-	-
Other VOCs	< 0.5 - < 3	< 0.5 - < 3	-	-	-	-	-
<u>1/26/98</u>							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Trichloroethene	0.7	< 5.0	-	-	-	-	-
Tetrachloroethene	10	< 5.0	-	-	-	-	-
1,2-Dichloroethane	< 0.5	11	-	-	-	-	-
Other VOCs	< 0.5 - < 50	< 0.5 - < 50	-	-	-	-	-
<u>7/23/98</u>							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Tetrachloroethene	4	4.6	-	-	-	-	-
1,2-Dichloroethane	< 2	9.9	-	-	-	-	-
Other VOCs	< 2 - < 10	< 0.5 - < 5.0	-	-	-	-	-
<u>1/5/99</u>							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Tetrachloroethene	5.1	< 50	-	-	-	-	-
Trichloroethene	0.52	< 50	-	-	-	-	-
1,1,2,2-Tetrachloroethane	0.58	< 50	-	-	-	-	-
Chloroform	8.2	< 50	-	-	-	-	-
Other VOCs	< 0.5 - < 5	< 50 - < 500	-	-	-	-	-
<u>7/13/99</u>							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Tetrachloroethene	1.5	0.68	-	-	-	-	-
Chloroform	4.6	< 50	-	-	-	-	-
1,2-Dichloroethane	< 0.50	7.7	-	-	-	-	-
Other VOCs	< 0.5 - < 5	< 0.5 - < 500	-	-	-	-	-
<u>1/12/00</u>							
Hydrocarbon Oil and Grease	-	< 1,000	< 1,000	< 1,000	-	-	-
Tetrachloroethene	0.8	< 1.0	< 100	< 50	-	-	-
Chloroform	3.2	< 1.0	< 100	< 50	-	-	-
1,2-Dichloroethane	< 0.50	8.8	120	140	-	-	-
Acetone	-	-	25,000	6,400	-	-	-
Naphthalene	-	-	550	540	-	-	-
Isopropylbenzene	-	-	120	89	-	-	-
Other VOCs	< 0.5 - < 5.0	< 1.0 - < 4.0	< 100 - < 10,000	< 50 - < 5,000	-	-	-
<u>4/24/00</u>							
Hydrocarbon Oil and Grease	-	< 1,000	4,100	< 1,000	-	-	-
1,2-Dichloroethane	< 0.5	5.9	< 1,000	< 250	-	-	-
Naphthalene	-	-	3,800	590	-	-	-
Isopropylbenzene	-	-	1,200	< 250	-	-	-
Other VOCs	< 0.5 - < 5.0	< 5.0 - < 20	1,000 - < 100,000	250 - < 25,000	-	-	-
<u>7/20/00</u>							
Hydrocarbon Oil and Grease	-	< 1,000	-	< 1,000	-	-	-
Tetrachloroethene	0.59	< 5.0	FREE	< 200	-	-	-
Chloroform	2.1	< 5.0	PRODUCT	< 200	-	-	-
1,2-Dichloroethane	< 0.5	7	---	< 200	-	-	-
Acetone	-	-	NOT	< 20,000	-	-	-
Naphthalene	-	-	SAMPLED	730	-	-	-
Other VOCs	< 0.5 - < 20	< 5.0 - < 20	-	< 250 - < 20,000	-	-	-
<u>10/24/00</u>							
Hydrocarbon Oil and Grease	-	< 1,000	FREE	< 1,000	-	-	-
Tetrachloroethene	< 0.5	< 5.0	---	< 250	-	-	-
Chloroform	1.0	< 5.0	NOT	< 250	-	-	-
Other VOCs	< 0.5 - < 20	< 5.0 - < 20	SAMPLED	< 250 - < 25,000	-	-	-
<u>1/18/01</u>							
Hydrocarbon Oil and Grease	-	2,100	FREE	1,300	-	-	-
Tetrachloroethene	1.3	< 5.0	---	< 250	-	-	-
Chloroform	6.4	< 5.0	NOT	< 250	-	-	-
Other VOCs	< 0.5 - < 20	< 5.0 - < 20	SAMPLED	< 250 - < 25,000	-	-	-

**TABLE THREE**  
**Groundwater Analytical Results**  
**Oil & Grease and Volatile Organic Compounds**  
 All results are in parts per billion

Date Sampled & Compound Analyzed	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
<u>4/5/01</u>							
Hydrocarbon Oil and Grease	-	< 1.0	FREE	1,100.0	-	-	-
Tetrachloroethene	< 0.5	1.1	PRODUCT	< 50	-	-	-
1,2 dichloroethane	< 0.5	4.6	---	< 50	-	-	-
Trichloroethene	< 0.5	0.58	NOT	< 50	-	-	-
Naphthalene	-	-	---	320	-	-	-
Other VOCs	< 0.5 - < 2.0	< 5.0 - < 20	SAMPLED	< 50 - < 5,000	-	-	-
<u>7/17/01</u>							
Hydrocarbon Oil and Grease	-	< 500	FREE	< 500	-	-	-
Tetrachloroethene	-	-	PRODUCT	-	-	-	-
1,2 dichloroethane	< 0.5	< 50	---	69.0	-	-	-
Trichloroethene	-	-	NOT	-	-	-	-
Naphthalene	-	-	---	-	-	-	-
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>10/25/01</u>							
Hydrocarbon Oil and Grease	-	< 5,000	FREE	< 5,000	-	-	-
1,2 dichloroethane	-	< 50	PRODUCT	72	-	-	-
1,2 dibromoethane	-	< 50	NOT	< 50	-	-	-
Other VOCs	-	-	SAMPLED	---	-	-	-
<u>1/22/02</u>							
Hydrocarbon Oil and Grease	-	< 5,000	FREE	< 5,000	-	-	-
1,2 dichloroethane	-	< 50	PRODUCT	< 50	-	-	-
1,2 dibromoethane	-	< 50	NOT	< 50	-	-	-
Other VOCs	-	-	SAMPLED	---	-	-	-
<u>6/11/02</u>							
Oil and Grease	-	1,100	FREE	-	< 1,000	< 1,000	-
1,2 dichloroethane	-	< 50	PRODUCT	-	< 0.5	< 0.5	-
1,2 dibromoethane	-	< 50	NOT	-	< 0.5	< 0.5	-
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>6/25/02</u>							
Oil and Grease	-	-	FREE	1,400	-	-	< 1,000
1,2 dichloroethane	-	-	PRODUCT	< 100	-	-	< 20
1,2 dibromoethane	-	-	NOT	< 100	-	-	< 20
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>9/17/02</u>							
Oil and Grease	-	< 1,000	FREE	< 1,000	< 1,000	< 1,000	< 1,000
1,2 dichloroethane	-	< 20	PRODUCT	< 100	< 0.50	< 0.50	< 20
1,2 dibromoethane	-	< 20	NOT	< 100	< 0.50	< 0.50	< 20
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>12/18/02</u>							
Oil and Grease	-	1,200	FREE	< 1,000	< 1,000	< 1,000	CAR PARKED OVER WELL
1,2 dichloroethane	-	< 10	PRODUCT	< 50	< 0.50	< 0.50	NOT SAMPLED
1,2 dibromoethane	-	< 10	NOT	< 50	< 0.50	< 0.50	-
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>3/25/03</u>							
Oil and Grease	-	< 1,000	FREE	< 1,000	< 1,000	< 1,000	< 1,000
1,2 dichloroethane	-	< 50	PRODUCT	< 100	< 0.50	< 0.50	2.5
1,2 dibromoethane	-	< 50	NOT	< 100	< 0.50	< 0.50	< 2.5
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>6/23/03</u>							
Oil and Grease	-	< 1,000	FREE	< 1,000	< 1,000	< 1,000	< 1,000
1,2 dichloroethane	< 0.5	< 50	PRODUCT	< 100	< 0.50	< 0.50	< 10
1,2 dibromoethane	< 0.5	< 50	NOT	< 100	< 0.50	< 0.50	< 10
Other VOCs	-	-	SAMPLED	-	-	-	-

**TABLE THREE**  
**Groundwater Analytical Results**  
**Oil & Grease and Volatile Organic Compounds**  
 All results are in parts per billion

Date Sampled & Compound Analyzed	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
<u>9/26/03</u>							
Oil and Grease	-	< 1,000	FREE	< 1,000	< 1,000	< 1,000	< 1,000
1,2 dichloroethane	< 0.5	< 50	PRODUCT	87	< 0.50	< 0.50	< 5.0
1,2 dibromoethane	< 0.5	< 50	NOT	< 50	< 0.50	< 0.50	< 5.0
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>12/18/03</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	< 0.5	< 20	PRODUCT	46	< 0.50	< 0.50	< 5.0
1,2 dibromoethane	< 0.5	< 20	NOT	< 25	< 0.50	< 0.50	< 5.0
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>3/12/04</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	< 0.5	< 25	PRODUCT	< 40	< 0.50	< 0.50	< 10
1,2 dibromoethane	< 0.5	< 25	NOT	< 40	< 0.50	< 0.50	< 10
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>6/17/04</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	< 0.5	< 25	PRODUCT	93	< 0.50	< 0.50	< 5.0
1,2 dibromoethane	< 0.5	< 25	NOT	< 50	< 0.50	< 0.50	< 5.0
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>9/17/04</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	-	-	PRODUCT	-	-	-	-
1,2 dibromoethane	-	-	NOT	-	-	-	-
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>12/17/04</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	< 0.5	< 15	PRODUCT	53	< 0.50	< 0.50	< 3.0
1,2 dibromoethane	< 0.5	< 15	NOT	< 25	< 0.50	< 0.50	< 3.0
Other VOCs	-	-	SAMPLED	-	-	-	-
<u>4/28/05</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	< 0.5	< 15	PRODUCT	46	< 0.50	< 0.50	< 2.5
1,2 dibromoethane	< 0.5	< 15	NOT	< 25	< 0.50	< 0.50	< 2.5
Other VOCs	DIPE @ 0.67	TBA @ 90	SAMPLED	-	-	-	-
<u>7/19/05</u>							
Oil and Grease	-	-	FREE	-	-	-	-
1,2 dichloroethane	< 0.5	< 15	PRODUCT	73	< 0.50	< 0.50	< 2.5
1,2 dibromoethane	< 0.5	< 15	NOT	< 40	< 0.50	< 0.50	< 2.5
Other VOCs	DIPE @ 0.76	TBA @ 77	SAMPLED	-	DIPE @ 2.1	-	-

# **APPENDIX A**

## Well Sampling Field Log

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME LIM

JOB NUMBER 2808 DATE OF SAMPLING 7-19-05

WELL ID. MW-1 SAMPLER DA

TOTAL DEPTH OF WELL 26.8 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 15.94

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 10.86

NUMBER OF GALLONS PER WELL CASING VOLUME 1.73

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5.2

EQUIPMENT USED TO PURGE WELL DISP. BATTERY

TIME EVACUATION STARTED 1430 TIME EVACUATION COMPLETED 1442

TIME SAMPLES WERE COLLECTED 1445

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

VOLUME OF GROUNDWATER PURGED 5.2

SAMPLING DEVICE DISP. BATTERY

SAMPLE COLOR CLEAR ODOR/SEDIMENT NONE/NONE

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	68.9	6.45	582
2	67.8	6.51	590
3	67.8	6.52	588

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-1</u>	<u>5</u>	<u>40 ml BOTTLES</u>	<u>8015</u>	<input checked="" type="checkbox"/>

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME U.S.M.

JOB NUMBER 2808 DATE OF SAMPLING 7-19-05

WELL ID. MW-2 SAMPLER DA

TOTAL DEPTH OF WELL 26.8 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 15.27

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 11.53

NUMBER OF GALLONS PER WELL CASING VOLUME 1.84

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 DISP. BAILER

TIME EVACUATION STARTED 1230 TIME EVACUATION COMPLETED 1240

TIME SAMPLES WERE COLLECTED 1242

DID WELL GO DRY NO AFTER HOW MANY GALLONS -

VOLUME OF GROUNDWATER PURGED 5.5

SAMPLING DEVICE DISP. BAILER

SAMPLE COLOR TAN ODOR/SEDIMENT MOD. HC / SILT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	70.5	6.50	804
2	67.5	6.43	778
3	67.3	6.42	773

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-2</u>	<u>5</u>	<u>40 mL DGA</u>	<u>8015</u>	<input checked="" type="checkbox"/>

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME 2-111

JOB NUMBER 2808 DATE OF SAMPLING 7-19-05

WELL ID. MW-3 SAMPLER DA

TOTAL DEPTH OF WELL \_\_\_\_\_ WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 16.29 (WATER); 14.62 (PRODUCT) 14.62 16.20

PRODUCT THICKNESS 1.67

DEPTH OF WELL CASING IN WATER \_\_\_\_\_

NUMBER OF GALLONS PER WELL CASING VOLUME \_\_\_\_\_

NUMBER OF WELL CASING VOLUMES TO BE REMOVED \_\_\_\_\_

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING \_\_\_\_\_

EQUIPMENT USED TO PURGE WELL \_\_\_\_\_

TIME EVACUATION STARTED \_\_\_\_\_ TIME EVACUATION COMPLETED \_\_\_\_\_

TIME SAMPLES WERE COLLECTED \_\_\_\_\_

DID WELL GO DRY \_\_\_\_\_ AFTER HOW MANY GALLONS \_\_\_\_\_

VOLUME OF GROUNDWATER PURGED \_\_\_\_\_

SAMPLING DEVICE \_\_\_\_\_

SAMPLE COLOR \_\_\_\_\_ ODOR/SEDIMENT \_\_\_\_\_

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY

*SAMPLE*

*NOT*

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED



# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	7.19.05
WELL ID.	MW-4	SAMPLER	DA
TOTAL DEPTH OF WELL	21.8	WELL DIAMETER	2
DEPTH TO WATER PRIOR TO PURGING	15.44		
PRODUCT THICKNESS	0		
DEPTH OF WELL CASING IN WATER	6.36		
NUMBER OF GALLONS PER WELL CASING VOLUME	1.01		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	3		
EQUIPMENT USED TO PURGE WELL	DISP. BAUER		
TIME EVACUATION STARTED	1255	TIME EVACUATION COMPLETED	1302
TIME SAMPLES WERE COLLECTED	1305		
DID WELL GO DRY	No	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED	3		
SAMPLING DEVICE	DISP. BAUER		
SAMPLE COLOR	CLAY	ODOR/SEDIMENT	mod HC / SILT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	68.2	6.60	684
2	68.0	6.62	730
3	68.0	6.63	735

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-4	5	40ml VOA	8015	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	7-19-05
WELL ID.	MW-5	SAMPLER	DA
TOTAL DEPTH OF WELL	29.6	WELL DIAMETER	2
DEPTH TO WATER PRIOR TO PURGING	15.67		
PRODUCT THICKNESS	0		
DEPTH OF WELL CASING IN WATER	13.93		
NUMBER OF GALLONS PER WELL CASING VOLUME	2.22		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	6.66		
EQUIPMENT USED TO PURGE WELL	DISP. BAILEY		
TIME EVACUATION STARTED	1155	TIME EVACUATION COMPLETED	1205
TIME SAMPLES WERE COLLECTED	1208		
DID WELL GO DRY	NO	AFTER HOW MANY GALLONS	-
VOLUME OF GROUNDWATER PURGED	7		
SAMPLING DEVICE	DISP. BAILEY		
SAMPLE COLOR	TAN	ODOR/SEDIMENT	none/silt

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	71.0	6.85	720
2	71.2	6.74	713
3	69.4	6.61	703

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-5	5	40 ml WAT	8015	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME LIM

---

JOB NUMBER 2808 DATE OF SAMPLING 7.19.05

---

WELL ID. MW-6 SAMPLER DA

---

TOTAL DEPTH OF WELL 29.5 WELL DIAMETER 2

---

DEPTH TO WATER PRIOR TO PURGING 15.30

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 142

---

NUMBER OF GALLONS PER WELL CASING VOLUME 2.27

---

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 DISP. BAILEY

---

TIME EVACUATION STARTED 1342 TIME EVACUATION COMPLETED 1355

---

TIME SAMPLES WERE COLLECTED 1400

---

DID WELL GO DRY NO AFTER HOW MANY GALLONS

---

VOLUME OF GROUNDWATER PURGED 7

---

SAMPLING DEVICE DISP. BAILEY

---

SAMPLE COLOR TAN ODOR/SEDIMENT NOISE/SILT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	70.0	6.72	254
2	69.0	6.67	231
3	68.9	6.64	226

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-6</u>	<u>5</u>	<u>40 ml VOA</u>	<u>PO15</u>	<u>✓</u>

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME LIM

JOB NUMBER 2808 DATE OF SAMPLING 7-19-05

WELL ID. MW-7 SAMPLER DA

TOTAL DEPTH OF WELL 29.7 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 15.74

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 13.96

NUMBER OF GALLONS PER WELL CASING VOLUME 2.23

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 6.75

EQUIPMENT USED TO PURGE WELL DISP. BAILER

TIME EVACUATION STARTED 1315 TIME EVACUATION COMPLETED 1328

TIME SAMPLES WERE COLLECTED 1330

DID WELL GO DRY NO. AFTER HOW MANY GALLONS -

VOLUME OF GROUNDWATER PURGED 7

SAMPLING DEVICE DISP. BAILER

SAMPLE COLOR TAN ODOR/SEDIMENT MOD HC / SILT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	67.8	6.72	482
2	67.4	6.64	428
3	67.5	6.69	430

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-7</u>	<u>5</u>	<u>40 ml VOA</u>	<u>8015</u>	<u>✓</u>

## **APPENDIX B**

Certified Analytical Report  
and  
Chain of Custody Documentation



Report Number : 44916

Date : 7/28/2005

David Allen  
Aqua Science Engineers, Inc.  
208 West El Pintado Rd.  
Danville, CA 94526

Subject : 6 Water Samples  
Project Name : LIM  
Project Number : 2808

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,

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

Joel Kiff

Project Name : **LIM**

Project Number : **2808**

Sample : **MW-1**

Matrix : Water


Lab Number : 44916-01

Sample Date : 7/19/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Methyl-t-butyl ether (MTBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Diisopropyl ether (DIPE)</b>	0.76	0.50	ug/L	EPA 8260B	7/25/2005
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	7/25/2005
<b>TPH as Gasoline</b>	340	50	ug/L	EPA 8260B	7/25/2005
<b>1,2-Dichloroethane</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>1,2-Dibromoethane</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	7/25/2005
4-Bromofluorobenzene (Surr)	94.7		% Recovery	EPA 8260B	7/25/2005
Dibromofluoromethane (Surr)	105		% Recovery	EPA 8260B	7/25/2005
1,2-Dichloroethane-d4 (Surr)	99.5		% Recovery	EPA 8260B	7/25/2005

Approved By:

Joel Kiff



Project Name : **LIM**

Project Number : **2808**

Sample : **MW-2**

Matrix : Water

Lab Number : 44916-02

Sample Date : 7/19/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>7900</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Toluene</b>	<b>4400</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Ethylbenzene</b>	<b>1900</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Total Xylenes</b>	<b>7000</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Methyl-t-butyl ether (MTBE)</b>	<b>&lt; 15</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 15</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 15</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 15</b>	15	ug/L	EPA 8260B	7/28/2005
<b>Tert-Butanol</b>	<b>77</b>	70	ug/L	EPA 8260B	7/28/2005
<b>TPH as Gasoline</b>	<b>59000</b>	1500	ug/L	EPA 8260B	7/28/2005
<b>1,2-Dichloroethane</b>	<b>&lt; 15</b>	15	ug/L	EPA 8260B	7/28/2005
<b>1,2-Dibromoethane</b>	<b>&lt; 15</b>	15	ug/L	EPA 8260B	7/28/2005
Toluene - d8 (Surr)	94.7		% Recovery	EPA 8260B	7/28/2005
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	7/28/2005
Dibromofluoromethane (Surr)	116		% Recovery	EPA 8260B	7/28/2005
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	EPA 8260B	7/28/2005

Approved By:

Joel Kiff



Project Name : **LIM**

Project Number : **2808**

Sample : **MW-4**

Matrix : Water

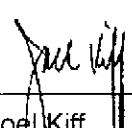
Lab Number : 44916-03

Sample Date : 7/19/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>10000</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Toluene</b>	<b>13000</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Ethylbenzene</b>	<b>2300</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Total Xylenes</b>	<b>10000</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Methyl-t-butyl ether (MTBE)</b>	<b>&lt; 40</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 40</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 40</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 40</b>	40	ug/L	EPA 8260B	7/28/2005
<b>Tert-Butanol</b>	<b>&lt; 200</b>	200	ug/L	EPA 8260B	7/28/2005
<b>TPH as Gasoline</b>	<b>90000</b>	4000	ug/L	EPA 8260B	7/28/2005
<b>1,2-Dichloroethane</b>	<b>73</b>	40	ug/L	EPA 8260B	7/28/2005
<b>1,2-Dibromoethane</b>	<b>&lt; 40</b>	40	ug/L	EPA 8260B	7/28/2005
Toluene - d8 (Surr)	95.1		% Recovery	EPA 8260B	7/28/2005
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	7/28/2005
Dibromofluoromethane (Surr)	118		% Recovery	EPA 8260B	7/28/2005
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	7/28/2005

Approved By:

Joel Kiff



Project Name : LIM

Project Number : 2808

Sample : MW-5

Matrix : Water

Lab Number : 44916-04

Sample Date : 7/19/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Methyl-t-butyl ether (MTBE)</b>	6.1	0.50	ug/L	EPA 8260B	7/25/2005
<b>Diisopropyl ether (DIPE)</b>	2.1	0.50	ug/L	EPA 8260B	7/25/2005
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>Tert-Butanol</b>	19	5.0	ug/L	EPA 8260B	7/25/2005
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	7/25/2005
<b>1,2-Dichloroethane</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
<b>1,2-Dibromoethane</b>	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Toluene - d8 (Surr)	96.4		% Recovery	EPA 8260B	7/25/2005
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	7/25/2005
Dibromofluoromethane (Surr)	104		% Recovery	EPA 8260B	7/25/2005
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	7/25/2005

Approved By:

Joel Kiff

Project Name : **LIM**

Project Number : **2808**

Sample : **MW-6**

Matrix : Water


Lab Number : 44916-05

Sample Date : 7/19/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Methyl-t-butyl ether (MTBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	7/26/2005
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	7/26/2005
<b>1,2-Dichloroethane</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
<b>1,2-Dibromoethane</b>	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	7/26/2005
4-Bromofluorobenzene (Surr)	93.4		% Recovery	EPA 8260B	7/26/2005
Dibromofluoromethane (Surr)	107		% Recovery	EPA 8260B	7/26/2005
1,2-Dichloroethane,d4 (Surr)	99.6		% Recovery	EPA 8260B	7/26/2005

Approved By:

Joel Kiff



Project Name : **LIM**

Project Number : **2808**

Sample : **MW-7**

Matrix : Water


Lab Number : 44916-06

Sample Date : 7/19/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>170</b>	2.5	ug/L	EPA 8260B	7/28/2005
<b>Toluene</b>	<b>1800</b>	2.5	ug/L	EPA 8260B	7/28/2005
<b>Ethylbenzene</b>	<b>540</b>	2.5	ug/L	EPA 8260B	7/28/2005
<b>Total Xylenes</b>	<b>2200</b>	2.5	ug/L	EPA 8260B	7/28/2005
<b>Methyl-t-butyl ether (MTBE)</b>	< 2.5	2.5	ug/L	EPA 8260B	7/28/2005
<b>Diisopropyl ether (DIPE)</b>	< 2.5	2.5	ug/L	EPA 8260B	7/28/2005
<b>Ethyl-t-butyl ether (ETBE)</b>	< 2.5	2.5	ug/L	EPA 8260B	7/28/2005
<b>Tert-amyl methyl ether (TAME)</b>	< 2.5	2.5	ug/L	EPA 8260B	7/28/2005
<b>Tert-Butanol</b>	< 15	15	ug/L	EPA 8260B	7/28/2005
<b>TPH as Gasoline</b>	<b>16000</b>	250	ug/L	EPA 8260B	7/28/2005
<b>1,2-Dichloroethane</b>	< 2.5	2.5	ug/L	EPA 8260B	7/28/2005
<b>1,2-Dibromoethane</b>	< 2.5	2.5	ug/L	EPA 8260B	7/28/2005
Toluene - d8 (Surr)	99.6		% Recovery	EPA 8260B	7/28/2005
4-Bromofluorobenzene (Surr)	93.4		% Recovery	EPA 8260B	7/28/2005
Dibromofluoromethane (Surr)	101		% Recovery	EPA 8260B	7/28/2005
1,2-Dichloroethane-d4 (Surr)	97.6		% Recovery	EPA 8260B	7/28/2005

Approved By:

Joe Kiff



Report Number : 44916

Date : 7/28/2005

## QC Report : Method Blank Data

Project Name : LIM

Project Number : 2808

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	7/25/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/25/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Toluene - d8 (Surr)	100		%	EPA 8260B	7/25/2005
4-Bromofluorobenzene (Surr)	93.5		%	EPA 8260B	7/25/2005
Dibromofluoromethane (Surr)	106		%	EPA 8260B	7/25/2005
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	7/25/2005

Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	7/26/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/26/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	7/26/2005
Toluene - d8 (Surr)	100		%	EPA 8260B	7/26/2005
4-Bromofluorobenzene (Surr)	93.5		%	EPA 8260B	7/26/2005
Dibromofluoromethane (Surr)	104		%	EPA 8260B	7/26/2005
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	7/26/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	7/27/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/27/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	7/27/2005
Toluene - d8 (Surr)	94.6		%	EPA 8260B	7/27/2005
4-Bromofluorobenzene (Surr)	104		%	EPA 8260B	7/27/2005
Dibromofluoromethane (Surr)	119		%	EPA 8260B	7/27/2005
1,2-Dichloroethane-d4 (Surr)	106		%	EPA 8260B	7/27/2005

Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	7/28/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/28/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	7/28/2005
Toluene - d8 (Surr)	99.2		%	EPA 8260B	7/28/2005
4-Bromofluorobenzene (Surr)	88.9		%	EPA 8260B	7/28/2005
Dibromofluoromethane (Surr)	100		%	EPA 8260B	7/28/2005
1,2-Dichloroethane-d4 (Surr)	99.5		%	EPA 8260B	7/28/2005

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 44916

Date : 7/28/2005

**QC Report : Method Blank Data**

Project Name : **LIM**

Project Number : **2808**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	7/25/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/25/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	7/25/2005
Toluene - d8 (Surr)	93.9		%	EPA 8260B	7/25/2005
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	7/25/2005
Dibromofluoromethane (Surr)	102		%	EPA 8260B	7/25/2005
1,2-Dichloroethane-d4 (Surr)	105		%	EPA 8260B	7/25/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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KIFF ANALYTICAL, LLC

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

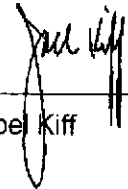
Approved By:  Joel Kiff

## QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : LIM

Project Number : 2808

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
Benzene	44916-01	<0.50	40.0	40.0	40.8	40.0	ug/L	EPA 8260B	7/25/05	102	99.9	2.09	70-130	25
Toluene	44916-01	<0.50	40.0	40.0	40.8	40.1	ug/L	EPA 8260B	7/25/05	102	100	1.75	70-130	25
Tert-Butanol	44916-01	<5.0	200	200	213	214	ug/L	EPA 8260B	7/25/05	107	107	0.416	70-130	25
Methyl-t-Butyl Ether	44916-01	<0.50	40.0	40.0	34.0	34.0	ug/L	EPA 8260B	7/25/05	85.0	85.1	0.0701	70-130	25
Benzene	44961-21	<0.50	40.0	40.0	41.6	41.0	ug/L	EPA 8260B	7/26/05	104	102	1.56	70-130	25
Toluene	44961-21	<0.50	40.0	40.0	41.3	40.6	ug/L	EPA 8260B	7/26/05	103	102	1.58	70-130	25
Tert-Butanol	44961-21	<5.0	200	200	216	217	ug/L	EPA 8260B	7/26/05	108	108	0.403	70-130	25
Methyl-t-Butyl Ether	44961-21	<0.50	40.0	40.0	34.6	34.2	ug/L	EPA 8260B	7/26/05	86.4	85.6	0.930	70-130	25
Benzene	45002-02	<0.50	40.0	40.0	41.0	39.8	ug/L	EPA 8260B	7/27/05	102	99.5	2.89	70-130	25
Toluene	45002-02	<0.50	40.0	40.0	37.8	36.5	ug/L	EPA 8260B	7/27/05	94.4	91.3	3.33	70-130	25
Tert-Butanol	45002-02	<5.0	200	200	198	199	ug/L	EPA 8260B	7/27/05	99.1	99.4	0.280	70-130	25
Methyl-t-Butyl Ether	45002-02	<0.50	40.0	40.0	39.2	38.9	ug/L	EPA 8260B	7/27/05	97.9	97.2	0.768	70-130	25
Benzene	44967-01	0.79	40.0	40.0	41.6	40.6	ug/L	EPA 8260B	7/28/05	102	99.6	2.52	70-130	25
Toluene	44967-01	4.8	40.0	40.0	45.7	45.9	ug/L	EPA 8260B	7/28/05	102	103	0.540	70-130	25
Tert-Butanol	44967-01	<5.0	200	200	205	201	ug/L	EPA 8260B	7/28/05	102	100	1.98	70-130	25
Methyl-t-Butyl Ether	44967-01	5.2	40.0	40.0	40.3	39.7	ug/L	EPA 8260B	7/28/05	87.8	86.4	1.61	70-130	25
Benzene	44916-04	<0.50	40.0	40.0	39.8	35.9	ug/L	EPA 8260B	7/25/05	99.5	89.7	10.3	70-130	25
Toluene	44916-04	<0.50	40.0	40.0	36.9	33.5	ug/L	EPA 8260B	7/25/05	92.2	83.8	9.44	70-130	25

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 44916

Date : 7/28/2005

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : LIM

Project Number : 2808

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
Tert-Butanol	44916-04	19	200	200	212	218	ug/L	EPA 8260B	7/25/05	96.3	99.7	3.44	70-130	25
Methyl-t-Butyl Ether	44916-04	6.1	40.0	40.0	49.2	48.2	ug/L	EPA 8260B	7/25/05	108	105	2.34	70-130	25

KIFF ANALYTICAL, LLC

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

Approved By:  Joe Kiff



Report Number : 44916

Date : 7/28/2005

**QC Report : Laboratory Control Sample (LCS)**

Project Name : **LIM**

Project Number : **2808**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	7/25/05	102	70-130
Toluene	40.0	ug/L	EPA 8260B	7/25/05	105	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/25/05	107	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/25/05	84.2	70-130
Benzene	40.0	ug/L	EPA 8260B	7/26/05	101	70-130
Toluene	40.0	ug/L	EPA 8260B	7/26/05	105	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/26/05	106	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/26/05	84.6	70-130
Benzene	40.0	ug/L	EPA 8260B	7/27/05	105	70-130
Toluene	40.0	ug/L	EPA 8260B	7/27/05	100	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/27/05	103	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/27/05	99.1	70-130
Benzene	40.0	ug/L	EPA 8260B	7/28/05	105	70-130
Toluene	40.0	ug/L	EPA 8260B	7/28/05	107	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/28/05	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/28/05	89.7	70-130
Benzene	40.0	ug/L	EPA 8260B	7/25/05	98.6	70-130

KIFF ANALYTICAL, LLC

Approved By:

Joe Kiff

Report Number : 44916

Date : 7/28/2005

QC Report : Laboratory Control Sample (LCS)

Project Name : LIM

Project Number : 2808

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Toluene	40.0	ug/L	EPA 8260B	7/25/05	92.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/25/05	99.3	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/25/05	111	70-130

KIFF ANALYTICAL, LLC

Approved By:

  
Joel Kiff

Temp °C 3.2 Therm. ID# IR-3  
 Initial MAS Date 07/21/05  
 Time 1350 Coolant present (Y) N

44916

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

# Chain of Custody

PAGE 1 OF 1  
 JOB NO. ~~2808~~ 2808

SAMPLER (SIGNATURE)

*[Signature]*

PROJECT NAME LIM

ADDRESS 250 8th St., Oakland

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LIFT 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)	TPH-G/BTEX/5 OXY'S (EPA 8260)	TPH-G/BTEX/5 OXY'S & LEAD SCAVENGERS (EPA 8260)	EDF	HOLD	
																						MW-1
MW-2		1242																				
MW-4		1305																				
MW-5		1202																				
MW-6		1400																				
MW-7		1330																				

RELINQUISHED BY:

*[Signature]*  
 (signature) (time)

RECEIVED BY:

*[Signature]*  
 (signature) (time) 11/6

RELINQUISHED BY:

*[Signature]*  
 (signature) (time) 1744

RECEIVED BY LABORATORY:

*[Signature]*  
 (signature) (time) 1200

COMMENTS:

*[Handwritten: KIFF]*

D. ALLEN  
 (printed name)

07-20-05  
 (date)

*[Signature]*  
 (printed name) (date) 7/20/05

*[Signature]*  
 (printed name) (date) 7/20/05

*[Signature]*  
 (printed name) (date) 7-21-05

TURN AROUND TIME

STANDARD 24hr 48hr 72hr

Company-  
 ASE, INC.

Company-  
 STL - SF

Company-  
 STL SF

Company-  
 STL

OTHER:

Relinquished by *[Signature]* 7-21-05

Received by Michelle Spencer Kiff Analytical 072105 1250