aqua science engineers inc.

RO 479 AG

Alameda County
JUL 19 2004
Environmental Health

July 13, 2004

RO 479

8/12/04

QUARTERLY GROUNDWATER MONITORING REPORT
JUNE 2004 GROUNDWATER SAMPLING
at
Lim Family Property
250 8th Street
Oakland, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
208 W. El Pintado
Danville, CA 94526
(925) 820-9391

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 June 17, 2004, 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 0.68-feet of free-floating hydrocarbons this quarter. 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 with an approximate gradient of 0.008 feet/foot during this quarterly sampling period. The gradient and flow direction are consistent with previous findings.

3.0 MONITORING WELL SAMPLING

On June 17, 2004, 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 at the time of sampling.

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 bailers 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 diesel (TPH-D) by modified EPA Method 3510/8015M, 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. With the approval of the Alameda County Health Care Services Agency (ACHCSA), laboratory analysis for Oil and Grease has been discontinued since concentrations have been consistently near or below laboratory method reporting limits and reportable concentrations have not been detected since December 2002. 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

~~Monitoring well MW-3 contained 0.68-feet of free-floating hydrocarbons this quarter.~~ Overall, the hydrocarbon concentrations are consistent with previous analytical results and remain elevated in downgradient monitoring wells MW-2, MW-3, MW-4, and MW-7. The TPH-G and BTEX concentrations in groundwater samples collected from monitoring wells MW-2, MW-4, and MW-7 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 July 2003.

6.0 RECOMMENDATIONS

ASE will be conducting a dual-phase extraction event as an interim remedial action during the following quarter. Additionally, ASE recommends continued quarterly groundwater monitoring.

7.0 REPORT LIMITATIONS

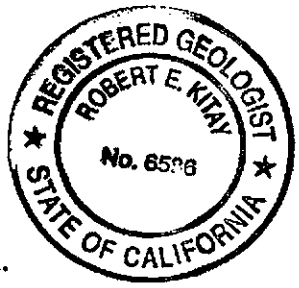
The results presented in this report represent conditions at the time of the groundwater sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from unknown sources,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

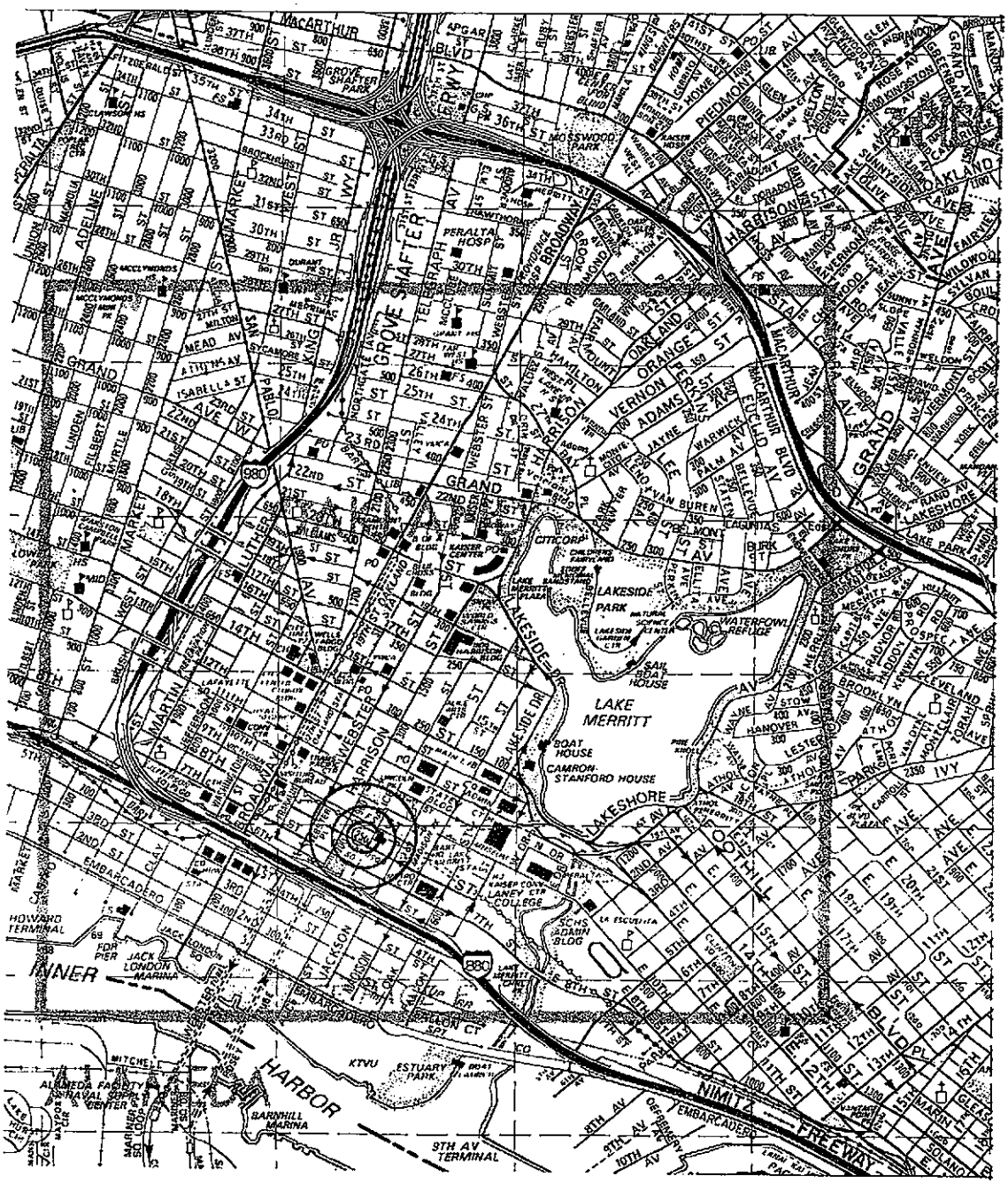
Damian Hriciga
Project Geologist .



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, Alameda County Health Care Services
Mr. Chuck Headlee, RWQCB, San Francisco Bay Region

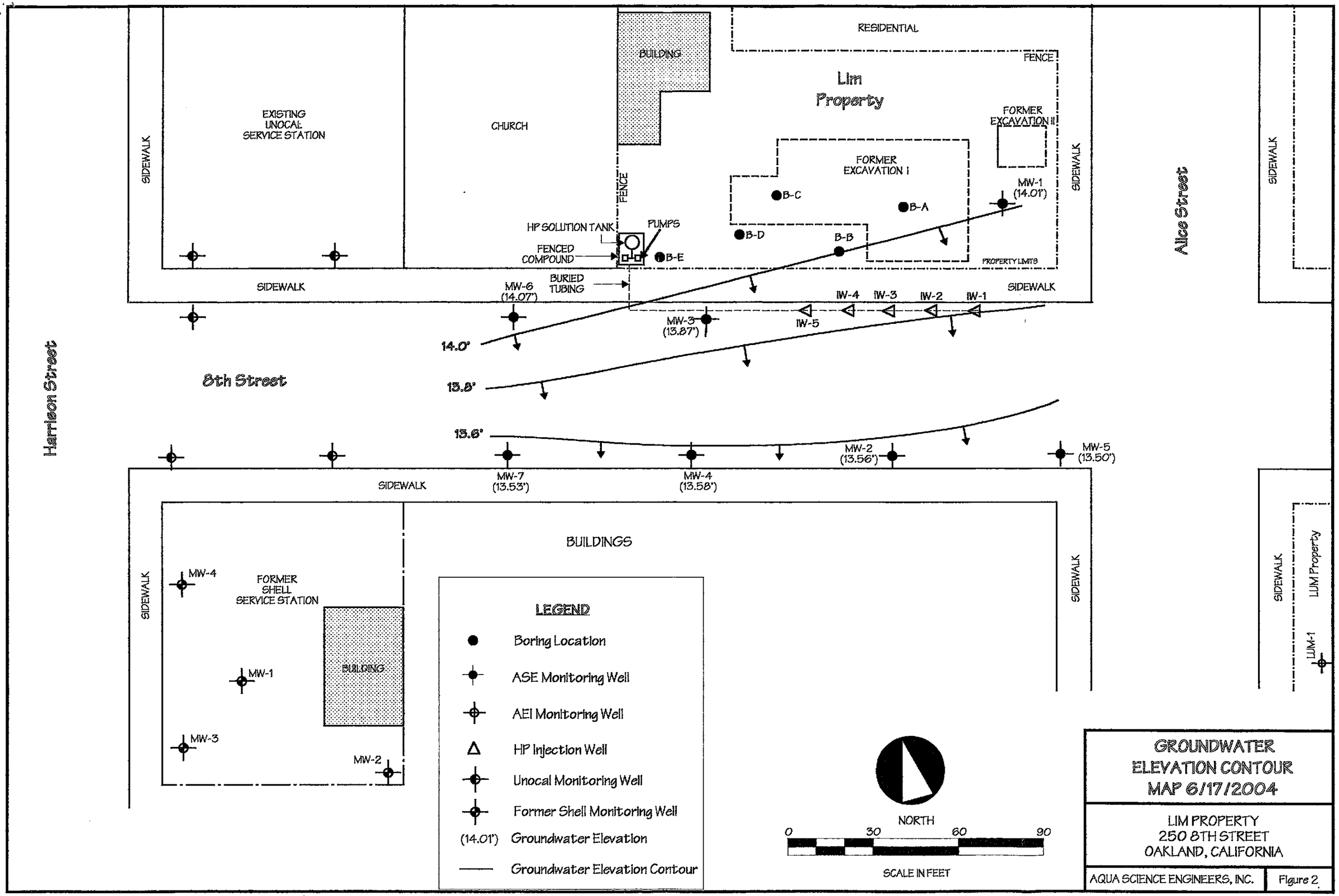


SITE LOCATION MAP

Lim Property
250 8th Street
Oakland, California

Aqua Science Engineers | Figure 1

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



GROUNDWATER ELEVATION CONTOUR MAP 6/17/2004

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 Casing 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		15.96		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

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

Well I.D.	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-2	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		14.13
	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**

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

Well I.D.	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-3	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***
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**

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

Well I.D.	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-5	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**
MW-6	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**
MW-7	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**
IW-1	07/13/99	24.05	14.75		9.30
	06/11/02	28.33			
IW-2	07/13/99	24.21	15.10		9.11
	06/11/02	28.50			
IW-3	07/13/99	23.93	15.00		8.93
	06/11/02	28.14			
IW-4	07/13/99	23.83	Unknown		Unknown
	06/11/02	28.24			

TABLE ONE

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Oakland, CA

Well I.D.	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-5	07/13/99	24.00	15.50	1.00	9.55*
	07/23/99		15.52	1.05	9.32*
	08/03/99		15.58	0.64	8.93*
	08/17/99		15.62	0.86	9.07*
	08/27/99		15.92	0.77	8.70*
	09/10/99		15.82	0.56	8.63*
	09/24/99		15.57	0.26	8.64*
	10/08/99		15.56	0.23	8.62*
	11/02/99		15.59	0.22	8.59*
	11/19/99		15.64	0.07	8.42*
	12/16/99		16.12	0.64	8.39*
	01/12/00		16.54	0.28	7.68*
	06/11/02	28.32			

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 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
3/25/03							
Oil and Greaae	-	<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	-	-	-	-
6/23/03							
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	-	-	-	-
9/26/03							
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	-	-	-	-
12/18/03							
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	-	-	-	-
3/12/04							
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	-	-	-	-
6/17/04							
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	-	-	-	-

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
10/25/01							
Hydrocarbon Oil and Grease	-	< 5,000	FREE	< 5,000	-	-	-
1,2 dichloroethane	-	< 50	PRODUCT	72	-	-	-
1,2 dibromoethane	-	< 50	NOT	< 50	-	-	-
Other VOCs	-	-	SAMPLED	---	-	-	-
1/22/02							
Hydrocarbon Oil and Grease	-	< 5,000	FREE	< 5,000	-	-	-
1.2 dichloroethane	-	< 50	PRODUCT	< 50	-	-	-
1.2 dibromoethane	-	< 50	NOT	< 50	-	-	-
Other VOCs	-	-	SAMPLED	---	-	-	-
6/11/02							
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	-	-	-	-
6/25/02							
Oil and Grease	-	-	FREE	1,400	-	-	< 1,000
1.2 dichloroethane	-	-	PRODUCT	< 100	-	-	< 20
1.2 dibromoethane	-	-	NOT	< 100	-	-	< 20
Other VOCs	-	-	SAMPLED	-	-	-	-
9/17/02							
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	-	-	-	-
12/18/02							
Oil and Grease	-	1,200	FREE	< 1,000	< 1,000	< 1,000	CAR PARKED
1,2 dichloroethane	-	< 10	PRODUCT	< 50	< 0.50	< 0.50	OVER WELL
1,2 dibromoethane	-	< 10	NOT	< 50	< 0.50	< 0.50	NOT
Other VOCs	-	-	SAMPLED	-	-	-	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
4/24/00							
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 - < 100,00(	< 250 - < 25,000	-	-	-
7/20/00							
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	6.7	---	< 200	-	-	-
Acetone	-	-	NOT	< 20,000	-	-	-
Naphthalene	-	-	SAMPLED	730	-	-	-
Other VOCs	< 0.5 - < 20	< 5.0 - < 20		< 250 - < 20,000	-	-	-
10/24/00			FREE				
Hydrocarbon Oil and Grease	-	< 1,000	PRODUCT	< 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	-	-	-
1/18/01			FREE				
Hydrocarbon Oil and Grease	-	2,100	PRODUCT	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	-	-	-
4/5/01							
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	-	-	-
7/17/01							
Hydrocarbon Oil and Grease	-	< 500	FREE	< 500	-	-	-
Tetrachloroethene	-	-	PRODUCT	-	-	-	-
1,2 dichloroethane	< 0.5	< 50	---	69.0	-	-	-
Trichloroethene	-	-	NOT	-	-	-	-
Naphthalene	-	-	---	-	-	-	-
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
7/8/97							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Tetrachloroethane (PCE)	0.9	< 0.5	-	-	-	-	-
Other VOCs	< 0.5 - < 3	< 0.5 - < 3	-	-	-	-	-
1/26/98							
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	-	-	-	-	-
7/23/98							
Hydrocarbon Oil and Grease	-	< 1,000	-	-	-	-	-
Tetrachloroethene	4	4.6	-	-	-	-	-
1,2-Dichloroethane	< 2	9.9	-	-	-	-	-
Other VOCs	< 2 - < 10	< 0.5 - < 5.0	-	-	-	-	-
1/5/99							
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	-	-	-	-	-
7/13/99							
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	-	-	-	-	-
1/12/00							
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	-	-	-

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
MW-5							
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**
MW-6							
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**
MW-7							
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**
ESL	500	640	46	130	290	13	1,800

Notes:

* = Hydrocarbons reported are in the early diesel range, and do not match the laboratory standard.

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

= Estimated concentration reported due to overlapping fuel patterns.

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

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 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
MW-3							
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						
MW-4							
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

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
MW-2							
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**

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
MW-1							
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	510	< 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**

APPENDIX A

Well Sampling Field Log

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: LIM
Job #: _____ Date of sampling: 6/7/00
Well Name: MW-1 Sampled by: D-1
Total depth of well (feet): 26.8 Well diameter (inches): 2
Depth to water before sampling (feet): 15.71
Thickness of floating product if any: —
Depth of well casing in water (feet): 11.09
Number of gallons per well casing volume (gallons): 1.8
Number of well casing volumes to be removed: ~~3~~ 3
Req'd volume of groundwater to be purged before sampling (gallons): 5.5
Equipment used to purge the well: BAILER
Time Evacuation Began: 1115 Time Evacuation Finished: 1135
Approximate volume of groundwater purged: _____
Did the well go dry?: _____ After how many gallons: _____
Time samples were collected: 1140
Depth to water at time of sampling: 15.80
Percent recovery at time of sampling: _____
Samples collected with: BAILER
Sample color: — Odor: SLIGHT
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1.8	69.3	6.70	815
3.6	67.2	6.89	821
5.3	67.0	6.92	823

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	5	10 ml VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: L&M
Job #: _____ Date of sampling: 6/17/01
Well Name: MW-2 Sampled by: PH
Total depth of well (feet): ~~15~~ 20.8 Well diameter (inches): 2
Depth to water before sampling (feet): 11.63
Thickness of floating product if any: _____
Depth of well casing in water (feet): 12.17
Number of gallons per well casing volume (gallons): 1.9
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 5.8
Equipment used to purge the well: BAILER
Time Evacuation Began: 0720 Time Evacuation Finished: 0740
Approximate volume of groundwater purged: 6
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 0745
Depth to water at time of sampling: 11.68
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: HC
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2	64.0	6.79	799
4	64.8	6.82	820
6	65.1	6.82	822

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-2	5	5 x 40 VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: L.M
Job #: _____ Date of sampling: 6/17/01
Well Name: MW-1 Sampled by: PM
Total depth of well (feet): 21.5 Well diameter (inches): 2
Depth to water before sampling (feet): 15.03
Thickness of floating product if any: _____
Depth of well casing in water (feet): 6.77
Number of gallons per well casing volume (gallons): 1.1
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 3.3
Equipment used to purge the well: BAILER
Time Evacuation Began: 0820 Time Evacuation Finished: 0845
Approximate volume of groundwater purged: 3.3
Did the well go dry?: No After how many gallons: —
Time samples were collected: 0850
Depth to water at time of sampling: 15.30
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: HC
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1.1	65.4	6.85	615
2.2	66.5	6.83	620
3.3	66.0	6.90	621

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	5	40 ml VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: LHM
Job #: _____ Date of sampling: 6/7/04
Well Name: MW-5 Sampled by: RH
Total depth of well (feet): 29.6 Well diameter (inches): 2
Depth to water before sampling (feet): 14.90
Thickness of floating product if any: ~~4.70~~
Depth of well casing in water (feet): 14.70
Number of gallons per well casing volume (gallons): 2.4
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 7.1
Equipment used to purge the well: BAILER
Time Evacuation Began: 0855 Time Evacuation Finished: 0915
Approximate volume of groundwater purged: 7.1
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 0920
Depth to water at time of sampling: 1
Percent recovery at time of sampling: ~~SAME~~
Samples collected with: BAILER
Sample color: — Odor: —
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2.4	64.9	6.88	736
4.8	65.4	6.91	740
7.1	65.6	6.91	744

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-5	5	40 mL VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: LIM
Job #: _____ Date of sampling: 6/7/04
Well Name: MW-6 Sampled by: DCL
Total depth of well (feet): 29.5 Well diameter (inches): 2
Depth to water before sampling (feet): 15.15
Thickness of floating product if any: —
Depth of well casing in water (feet): 14.37
Number of gallons per well casing volume (gallons): 2.3
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6.9
Equipment used to purge the well: BAILER
Time Evacuation Began: 0900 Time Evacuation Finished: 0920
Approximate volume of groundwater purged: 7.0
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 0925
Depth to water at time of sampling: 15.18
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: NC
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2.3	66.3	6.91	354
4.6	66.7	6.98	362
6.9	66.9	7.01	365

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-6	5	40 ml VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Lion
Job #: _____ Date of sampling: 6/17/04
Well Name: MW-7 Sampled by: DH
Total depth of well (feet): 29.7 Well diameter (inches): 2
Depth to water before sampling (feet): 3 — 15.42
Thickness of floating product if any: ~~15.15~~ —
Depth of well casing in water (feet): 14.28
Number of gallons per well casing volume (gallons): 2.3
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6.9
Equipment used to purge the well: BAILER
Time Evacuation Began: ~~0900~~ 1030 Time Evacuation Finished: 1106
Approximate volume of groundwater purged: 7
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1105
Depth to water at time of sampling: 15.49
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: HC
Description of sediment in sample: —

CHEMICAL DATA

Volume, Purged	Temp	pH	Conductivity
2.3	70.1	6.78	599
4.6	68.6	6.80	586
7.0	68.1	6.82	587

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-7	5	40 ml	HCl	Y	

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Damian Hriciga
Aqua Science Engineers, Inc.
208 West El Pintado Rd.
Danville, CA 94526

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

Dear Mr. Hriciga,

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

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

Case Narrative

The Method Reporting Limit for TPH as Diesel is increased due to interference from Gasoline-Range Hydrocarbons for samples MW-2, MW-4 and MW-7.

Surrogate recovery for Method 8015, for sample MW-6 is above the control limits. This may indicate a bias in the analysis due to the samples' matrices or an interference with the surrogate from compounds present in the sample.

Approved By: Joe Kiff

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Project Name : **LIM**
Project Number : **2808**

Sample : **MW-1** Matrix : Water Lab Number : 38840-01
Sample Date :6/17/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
TPH as Gasoline	**250**	50	ug/L	EPA 8260B	6/20/2004
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Toluene - d8 (Surr)	111		% Recovery	EPA 8260B	6/20/2004
4-Bromofluorobenzene (Surr)	96.5		% Recovery	EPA 8260B	6/20/2004
Dibromofluoromethane (Surr)	102		% Recovery	EPA 8260B	6/20/2004
1,2-Dichloroethane-d4 (Surr)	97.6		% Recovery	EPA 8260B	6/20/2004
TPH as Diesel	**490**	50	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	92.0		% Recovery	M EPA 8015	6/24/2004

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Project Name : **LIM**
Project Number : **2808**

Sample : **MW-2** Matrix : Water Lab Number : 38840-02
Sample Date :6/17/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**7100**	100	ug/L	EPA 8260B	6/26/2004
Toluene	**4000**	100	ug/L	EPA 8260B	6/26/2004
Ethylbenzene	**1700**	100	ug/L	EPA 8260B	6/26/2004
Total Xylenes	**7300**	100	ug/L	EPA 8260B	6/26/2004
Methyl-t-butyl ether (MTBE)	**< 25**	25	ug/L	EPA 8260B	6/28/2004
TPH as Gasoline	**59000**	10000	ug/L	EPA 8260B	6/26/2004
1,2-Dichloroethane	**< 25**	25	ug/L	EPA 8260B	6/28/2004
1,2-Dibromoethane	**< 25**	25	ug/L	EPA 8260B	6/28/2004
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	6/26/2004
4-Bromofluorobenzene (Surr)	112		% Recovery	EPA 8260B	6/26/2004
Dibromofluoromethane (Surr)	95.8		% Recovery	EPA 8260B	6/26/2004
1,2-Dichloroethane-d4 (Surr)	97.8		% Recovery	EPA 8260B	6/26/2004
TPH as Diesel	**< 3000**	3000	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	104		% Recovery	M EPA 8015	6/24/2004

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Project Name : **LIM**
Project Number : **2808**

Sample : **MW-4** Matrix : Water Lab Number : 38840-03
Sample Date :6/17/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**10000**	50	ug/L	EPA 8260B	6/23/2004
Toluene	**20000**	50	ug/L	EPA 8260B	6/23/2004
Ethylbenzene	**2900**	50	ug/L	EPA 8260B	6/23/2004
Total Xylenes	**13000**	50	ug/L	EPA 8260B	6/23/2004
Methyl-t-butyl ether (MTBE)	**< 50**	50	ug/L	EPA 8260B	6/23/2004
TPH as Gasoline	**110000**	5000	ug/L	EPA 8260B	6/23/2004
1,2-Dichloroethane	**93**	50	ug/L	EPA 8260B	6/23/2004
1,2-Dibromoethane	**< 50**	50	ug/L	EPA 8260B	6/23/2004
Toluene - d8 (Surr)	96.4		% Recovery	EPA 8260B	6/23/2004
4-Bromofluorobenzene (Surr)	95.6		% Recovery	EPA 8260B	6/23/2004
Dibromofluoromethane (Surr)	98.6		% Recovery	EPA 8260B	6/23/2004
1,2-Dichloroethane-d4 (Surr)	92.4		% Recovery	EPA 8260B	6/23/2004
TPH as Diesel	**< 4000**	4000	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	108		% Recovery	M EPA 8015	6/24/2004

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Project Name : **LIM**
Project Number : **2808**

Sample : **MW-5** Matrix : Water Lab Number : 38840-04
Sample Date :6/17/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Methyl-t-butyl ether (MTBE)	**9.8**	0.50	ug/L	EPA 8260B	6/20/2004
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	6/20/2004
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	6/20/2004
4-Bromofluorobenzene (Surr)	93.3		% Recovery	EPA 8260B	6/20/2004
Dibromofluoromethane (Surr)	108		% Recovery	EPA 8260B	6/20/2004
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	EPA 8260B	6/20/2004
TPH as Diesel	**510**	50	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	93.8		% Recovery	M EPA 8015	6/24/2004

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Project Name : **LIM**
Project Number : **2808**

Sample : **MW-6** Matrix : Water Lab Number : 38840-05
Sample Date :6/17/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	6/20/2004
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	6/20/2004
Toluene - d8 (Surr)	108		% Recovery	EPA 8260B	6/20/2004
4-Bromofluorobenzene (Surr)	91.6		% Recovery	EPA 8260B	6/20/2004
Dibromofluoromethane (Surr)	107		% Recovery	EPA 8260B	6/20/2004
1,2-Dichloroethane-d4 (Surr)	98.3		% Recovery	EPA 8260B	6/20/2004
TPH as Diesel	**< 50**	50	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	182		% Recovery	M EPA 8015	6/24/2004

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 38840
Date : 6/28/2004

Project Name : **LIM**
Project Number : **2808**

Sample : **MW-7** Matrix : Water Lab Number : 38840-06
Sample Date :6/17/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**250**	5.0	ug/L	EPA 8260B	6/22/2004
Toluene	**1800**	5.0	ug/L	EPA 8260B	6/22/2004
Ethylbenzene	**450**	5.0	ug/L	EPA 8260B	6/22/2004
Total Xylenes	**1900**	5.0	ug/L	EPA 8260B	6/22/2004
Methyl-t-butyl ether (MTBE)	**< 5.0**	5.0	ug/L	EPA 8260B	6/22/2004
TPH as Gasoline	**12000**	500	ug/L	EPA 8260B	6/22/2004
1,2-Dichloroethane	**< 5.0**	5.0	ug/L	EPA 8260B	6/22/2004
1,2-Dibromoethane	**< 5.0**	5.0	ug/L	EPA 8260B	6/22/2004
Toluene - d8 (Surr)	93.6		% Recovery	EPA 8260B	6/22/2004
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	6/22/2004
Dibromofluoromethane (Surr)	103		% Recovery	EPA 8260B	6/22/2004
1,2-Dichloroethane-d4 (Surr)	104		% Recovery	EPA 8260B	6/22/2004
TPH as Diesel	**< 800**	800	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	103		% Recovery	M EPA 8015	6/24/2004

Approved By: Joel Kiff

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

Report Number : 38840

Date : 6/28/2004

QC Report : Method Blank Data

Project Name : **LIM**

Project Number : **2808**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	< 50	50	ug/L	M EPA 8015	6/23/2004
Octacosane (Diesel Surrogate)	109		%	M EPA 8015	6/23/2004
TPH as Diesel	< 50	50	ug/L	M EPA 8015	6/24/2004
Octacosane (Diesel Surrogate)	86.8		%	M EPA 8015	6/24/2004
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/21/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	6/21/2004
Toluene - d8 (Surr)	102		%	EPA 8260B	6/21/2004
4-Bromofluorobenzene (Surr)	101		%	EPA 8260B	6/21/2004
Dibromofluoromethane (Surr)	102		%	EPA 8260B	6/21/2004
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	6/21/2004
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/28/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	6/28/2004
Toluene - d8 (Surr)	100		%	EPA 8260B	6/28/2004
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	6/28/2004
Dibromofluoromethane (Surr)	98.5		%	EPA 8260B	6/28/2004
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	6/28/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/26/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	6/26/2004
Toluene - d8 (Surr)	101		%	EPA 8260B	6/26/2004
4-Bromofluorobenzene (Surr)	105		%	EPA 8260B	6/26/2004
Dibromofluoromethane (Surr)	97.7		%	EPA 8260B	6/26/2004
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	6/26/2004
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/19/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	6/19/2004
Toluene - d8 (Surr)	108		%	EPA 8260B	6/19/2004
4-Bromofluorobenzene (Surr)	91.6		%	EPA 8260B	6/19/2004
Dibromofluoromethane (Surr)	107		%	EPA 8260B	6/19/2004
1,2-Dichloroethane-d4 (Surr)	104		%	EPA 8260B	6/19/2004

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 38840

Date : 6/28/2004

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
TPH as Diesel	Blank	<50	1000	1000	855	856	ug/L	M EPA 8015	6/23/04	85.5	85.6	0.128	70-130	25
TPH as Diesel	Blank	<50	1000	1000	848	735	ug/L	M EPA 8015	6/24/04	84.8	73.5	14.2	70-130	25
Benzene	38842-02	<0.50	39.6	36.8	38.4	35.5	ug/L	EPA 8260B	6/22/04	96.8	96.4	0.505	70-130	25
Toluene	38842-02	<0.50	39.6	36.8	38.4	35.7	ug/L	EPA 8260B	6/22/04	96.9	96.8	0.124	70-130	25
Tert-Butanol	38842-02	11	198	184	196	184	ug/L	EPA 8260B	6/22/04	93.5	94.2	0.755	70-130	25
Methyl-t-Butyl Ether	38842-02	0.78	39.6	36.8	39.8	37.8	ug/L	EPA 8260B	6/22/04	98.6	100	1.96	70-130	25
Benzene	38971-01	<0.50	40.0	40.0	40.8	39.8	ug/L	EPA 8260B	6/28/04	102	99.6	2.36	70-130	25
Toluene	38971-01	<0.50	40.0	40.0	41.0	40.3	ug/L	EPA 8260B	6/28/04	102	101	1.72	70-130	25
Tert-Butanol	38971-01	<5.0	200	200	204	206	ug/L	EPA 8260B	6/28/04	102	103	1.05	70-130	25
Methyl-t-Butyl Ether	38971-01	<0.50	40.0	40.0	38.8	38.6	ug/L	EPA 8260B	6/28/04	97.0	96.5	0.572	70-130	25
Benzene	38903-08	<0.50	40.0	40.0	37.5	36.2	ug/L	EPA 8260B	6/26/04	93.7	90.6	3.38	70-130	25
Toluene	38903-08	<0.50	40.0	40.0	38.2	36.2	ug/L	EPA 8260B	6/26/04	95.4	90.4	5.38	70-130	25
Tert-Butanol	38903-08	<5.0	200	200	198	198	ug/L	EPA 8260B	6/26/04	99.2	99.2	0.0325	70-130	25
Methyl-t-Butyl Ether	38903-08	21	40.0	40.0	55.0	55.8	ug/L	EPA 8260B	6/26/04	84.2	86.3	2.42	70-130	25
Benzene	38835-05	<0.50	40.0	40.0	38.5	37.1	ug/L	EPA 8260B	6/19/04	96.2	92.7	3.73	70-130	25
Toluene	38835-05	<0.50	40.0	40.0	38.4	36.8	ug/L	EPA 8260B	6/19/04	96.1	92.0	4.41	70-130	25
Tert-Butanol	38835-05	<5.0	200	200	187	189	ug/L	EPA 8260B	6/19/04	93.7	94.3	0.641	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 38840

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 6/28/2004

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
Methyl-t-Butyl Ether	38835-05	<0.50	40.0	40.0	35.2	34.2	ug/L	EPA 8260B	6/19/04	88.0	85.5	2.81	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 38840

Date : 6/28/2004

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	6/21/04	96.9	70-130
Toluene	40.0	ug/L	EPA 8260B	6/21/04	97.0	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/21/04	96.2	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/21/04	96.6	70-130
Benzene	40.0	ug/L	EPA 8260B	6/28/04	95.3	70-130
Toluene	40.0	ug/L	EPA 8260B	6/28/04	98.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/28/04	96.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/28/04	92.7	70-130
Benzene	40.0	ug/L	EPA 8260B	6/26/04	92.0	70-130
Toluene	40.0	ug/L	EPA 8260B	6/26/04	97.3	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/26/04	99.2	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/26/04	84.9	70-130
Benzene	40.0	ug/L	EPA 8260B	6/19/04	94.4	70-130
Toluene	40.0	ug/L	EPA 8260B	6/19/04	93.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/19/04	92.6	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/19/04	89.4	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

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

Chain of Custody

38840

PAGE 1 OF 1

SAMPLER (SIGNATURE)

PROJECT NAME Lim [illegible] JOB NO. 280[illegible]

ADDRESS OAKLAND

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
EDF-
T0600100535

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX	TPH-DIESEL	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)	LUFT 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 OXYS/1,2 DCA/PCE (EPA 8260)	LEAD			
MW-1	6/16/04	1140	W	5	X	X																-01
MW-2		0745	W	5	X	X																-02
MW-3		0850	W	5	X	X																-03
MW-5		0860	W	5	X	X																-04
MW-6		0925	W	5	X	X																-05
MW-7		1105	W	4	X	X																-06

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) 1530 (time)	(signature) (time)	(signature) (time)	(signature) (time) 1200	
DAMIAN HOICIO4 6/17/04 (printed name) (date)	(printed name) (date)	(printed name) (date)	JEREMY D JENKINS (printed name) (date) 061804	TURN AROUND TIME
Company ASE	Company-	Company-	Company- KAP ANALYTICAL	STANDARD 24Hr 48Hr 72Hr
				OTHER: