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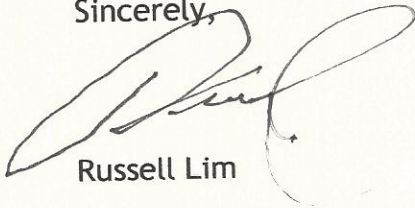
Alameda County Health Care Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: RO #479, Report 

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have further questions I may be reached at 925-381-3608.

Sincerely,



Russell Lim



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

July 23, 2015

SEMI-ANNUAL GROUNDWATER MONITORING REPORT
JUNE 2015 GROUNDWATER SAMPLING

at

Lim Family Property
250 8th Street
Oakland, California

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



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
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1.0 INTRODUCTION

This report presents the methods and findings of Aqua Science Engineers, Inc. (ASE)'s semi-annual groundwater monitoring event 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 23, 2015, ASE measured the depth to water in monitoring wells MW-1, MW-2, MW-3, MW-4R, MW-5, and MW-7 using an electric water level sounder. Monitoring wells MW-6 and MW-8 are no longer sampled. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. No free-floating hydrocarbons or sheen were present in any of the monitoring wells. This is the sixth consecutive semi-annual sampling event where neither monitoring well MW-3 nor MW-4R contained free-floating hydrocarbons thicker than a sheen. 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 southwest and southeast components at an approximate gradient of approximately 0.007 to 0.017-feet/foot during this sampling period. The gradient and flow direction are generally consistent with previous findings.

3.0 MONITORING WELL SAMPLING

On June 23, 2015, ASE collected groundwater samples from six monitoring wells for analysis. 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 McCampbell Analytical of Pittsburg, 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.



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

4.0 ANALYTICAL RESULTS FOR GROUNDWATER

All groundwater samples were analyzed by McCampbell for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene, total xylenes (collectively known as BTEX), fuel oxygenates including methyl tertiary butyl ether (MTBE), and lead scavengers by EPA Method 8260B, and total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 8015. The analytical results are tabulated in Table Two, and copies of the certified analytical report and chain of custody form are included in Appendix B.

5.0 CONCLUSIONS

- Hydrocarbon concentrations in groundwater samples collected from monitoring well MW-1 are very similar to concentrations from the previous sampling event, with a slight increase in TPH-D, and slight decreases in TPH-G, benzene and total xylene concentrations. No toluene, ethyl benzene or oxygenates were detected.
- Hydrocarbon concentrations in groundwater samples collected from monitoring well MW-2 are generally similar to concentrations from the previous sampling event, with increases in TPH-D and total xylenes, and decreases in TPH-G from the previous sampling event. There has been a long term decreasing trend for hydrocarbon concentrations in this well, although the results during the 2014 and 2015 sampling events are higher than those seen during 2012 and 2013.
- No free-floating hydrocarbons were detected in monitoring well MW-3 this period, and TPH-G, toluene and total xylene concentrations in groundwater samples collected from monitoring well MW-3 decreased to historic low concentrations. The TPH-D and benzene concentrations increased from the previous quarter, although they remain lower than the historic trend.
- No free-floating hydrocarbons were detected in monitoring well MW-4R this period. TPH-G concentrations in groundwater samples collected from monitoring well MW-4R remained very similar to the previous sampling, and TPH-D decreased from the previous sampling event and are at historic lows. No BTEX or oxygenates were detected for the second consecutive sampling event.
- No hydrocarbons were detected in groundwater samples collected from monitoring well MW-5 during this sampling period other than 0.53 parts per billion (ppb) DIPE. These results are slightly lower than the previous results, and consistent with occasional detections of relatively low hydrocarbon concentrations in this well.
- There was a decrease in all hydrocarbon concentrations detected in groundwater samples collected from monitoring well MW-7 during this sampling event on the order of one magnitude. There is a long term decreasing trend in hydrocarbon concentrations for samples collected from this well dating back to 2010.



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Concentrations in groundwater samples collected from the following wells exceeded Environmental Screening Levels (ESLs) for drinking water 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 December 2013:

- Concentrations of TPH-G, TPH-D and benzene in the groundwater sample collected from monitoring well MW-1.
- Concentrations of TPH-G, TPH-D, and benzene, in the groundwater sample collected from monitoring wells MW-2 and MW-3 exceeded ESLs. The toluene, ethyl benzene, total xylenes and TBA concentrations in the groundwater sample collected from MW-3 also exceeded ESLs.
- Concentrations of TPH-G in groundwater samples collected from monitoring well MW-4R exceeded ESLs.
- Concentrations of TPH-G and TPH-D in the groundwater sample collected from monitoring well MW-7 exceeded ESLs.

6.0 RECOMMENDATIONS

ASE turned off the remediation system on the date of the sampling per a telephone conversation with Jerry Wickham on April 13, 2015.

ASE recommends modifying the groundwater monitoring frequency to a quarterly sampling schedule to monitor for rebound during non-remediation conditions. Based on a quarterly sampling schedule, the next groundwater monitoring event is scheduled for September 2015.

ASE also recommends conducting a soil vapor survey to obtain data necessary to determine whether case closure might be appropriate using the low-threat closure guidelines.

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.



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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.

A handwritten signature in black ink that reads "Robert E. Kitay".



Robert E. Kitay, P.G.
Senior Geologist

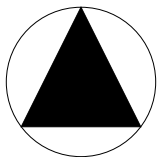
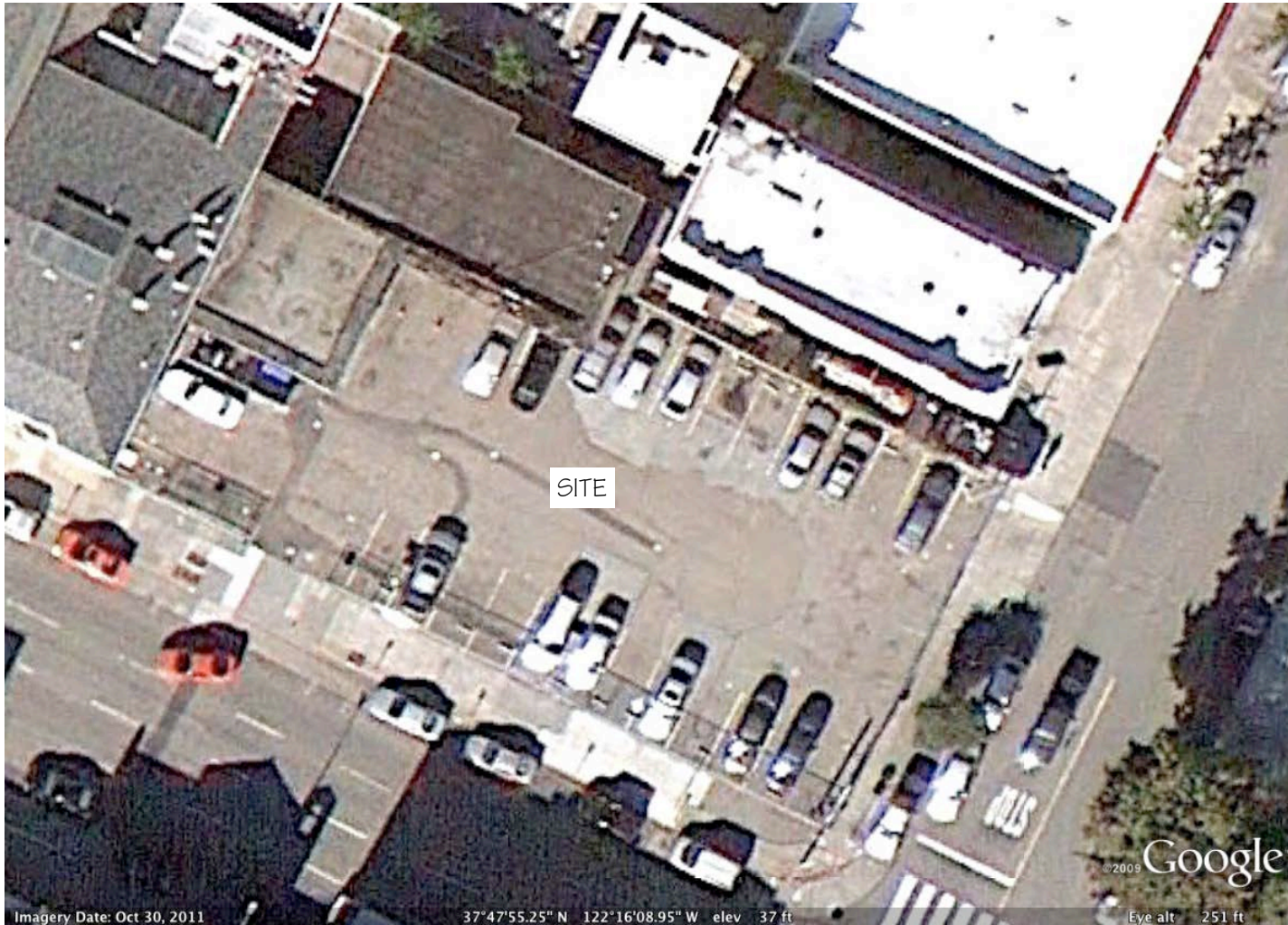
Attachments: Figures 1 and 2
Tables One, Two, and Three
Appendices A and B

cc: Mr. Jerry Wickham, ACHCSA



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

FIGURES



NORTH

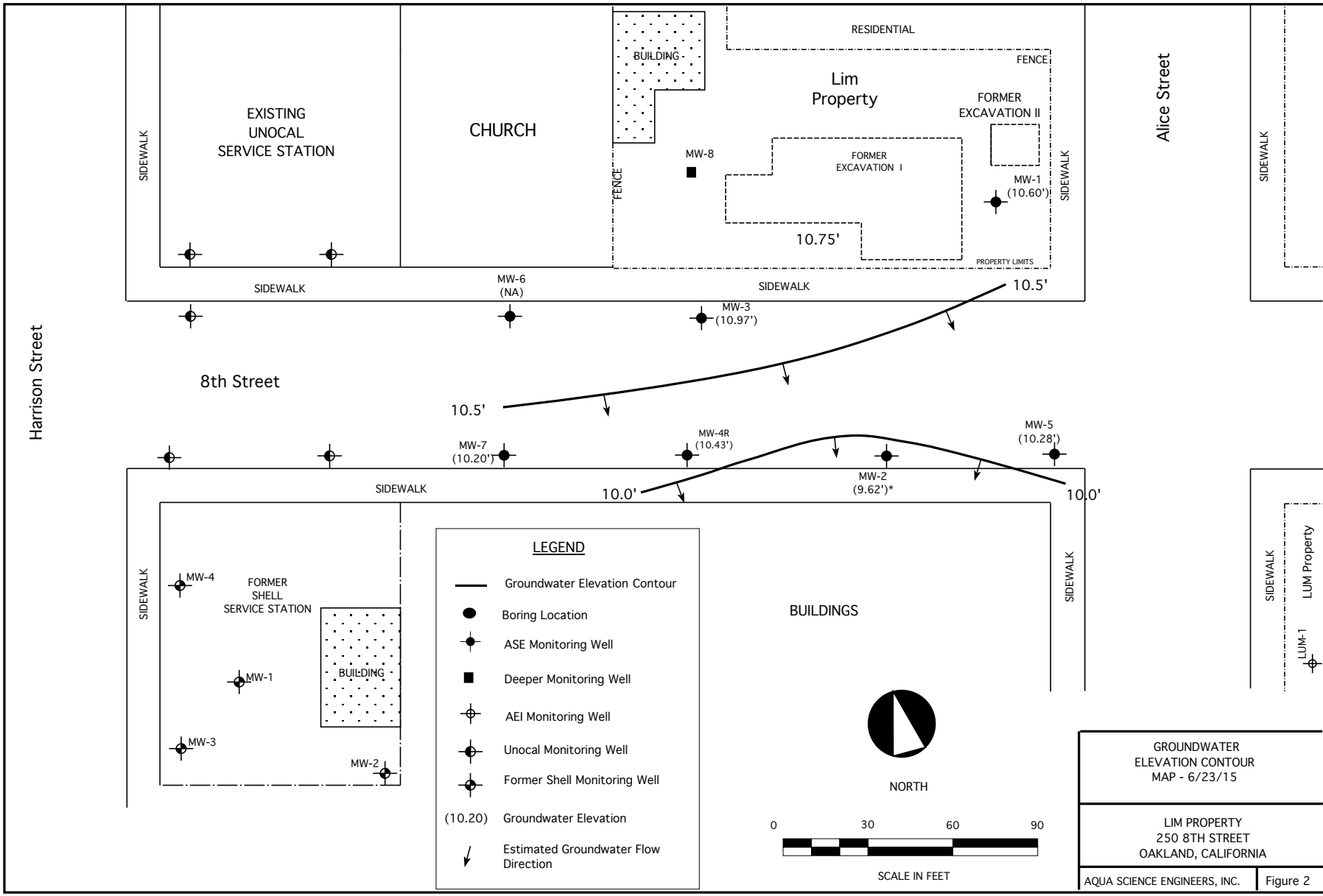
NOT TO SCALE

SITE LOCATION MAP

Lim Family Property
250 8th Street
Oakland, California

Aqua Science Engineers

Figure 1



Harrison Street

SIDEWALK

EXISTING UNOCAL SERVICE STATION

SIDEWALK

CHURCH

MW-6 (NA)

BUILDING

FENCE

MW-8

RESIDENTIAL

Lim Property

10.75'

SIDEWALK

FORMER EXCAVATION II

MW-1 (10.60')

SIDEWALK

PROPERTY LIMITS

10.5'

Alice Street

SIDEWALK

8th Street

10.5'

MW-7 (10.20')

MW-4R (10.43')

MW-2 (9.62')*

MW-5 (10.28')

10.0'

SIDEWALK

SIDEWALK

SIDEWALK

MW-4

FORMER SHELL SERVICE STATION

MW-1

BUILDING

MW-3

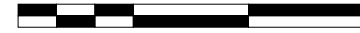
MW-2

BUILDINGS



NORTH

0 30 60 90



SCALE IN FEET

SIDEWALK

LIM Property

MW-1

▲



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TABLES

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		15.96		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
	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	
	10/03/05	16.34		13.38	
	12/06/05	16.21		13.51	
	03/15/06	16.21		13.51	
	06/28/06	14.92		14.80	
	08/31/06	15.60		14.12	
	11/21/06	17.20		12.52	
	02/12/07	16.12		13.60	
05/02/07	16.92		12.80		
08/09/07	17.58		12.14		
12/06/07	18.60		11.12		
02/26/08	17.13		12.59		
05/30/08	18.17		11.55		
08/28/08	18.47		11.25		
12/11/08	19.19		10.53		
03/31/09	17.59		12.13		
12/31/09	18.57		11.15		
06/03/10	16.94		12.78		
12/20/10	18.21		11.51		
06/30/11	17.43		12.29		
06/22/12	17.08		12.64		
12/13/12	17.32		12.40		
06/18/13	18.13		11.59		
12/23/13	18.29		11.43		
06/30/14	18.95		10.77		
12/17/14	18.39		11.33		
06/23/15			19.12	10.60	

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-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	
	09/17/04	15.19		13.00	
	12/17/04	14.88		13.31	
	04/28/05	13.39		14.80	
	07/19/05	15.27		12.92	
	10/03/05	15.57		12.62	
	12/06/05	15.35		12.84	
	03/15/06	12.65		15.54	
	06/28/06	14.45		13.74	
	08/31/06	15.37		12.82	
	11/21/06	16.22		11.97	
	02/12/07	16.12		12.07	
	05/02/07	16.12		12.07	
08/09/07	16.85		11.34		
12/06/07	17.95		10.24		
02/26/08	16.15		12.04		
05/30/08	17.33		10.86		
08/28/08	17.53		10.66		
12/11/08	18.28		9.91		
03/31/09	16.63		11.56		
12/31/09	17.46		10.73		
06/03/10	16.00		12.19		
12/20/10	17.25		10.94		
06/30/11	16.55		11.64		
06/22/12	16.36		11.83		
12/13/12	16.24		11.95		
06/18/13	17.28		10.91		
12/23/13	18.60		9.59		
06/30/14	17.16		11.03		
12/17/14	17.39		10.80		
06/23/15	18.57		9.62		

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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-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*	
	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*	
	07/19/05	16.29	1.67	13.63*	
	10/03/05	16.10	1.47	13.66*	
	12/06/05	15.04	1.17	14.48*	
	03/15/06	12.65	2.41	15.49*	
	06/28/06	13.55	2.61	16.16*	
	08/31/06	14.85	2.20	15.49*	
	11/21/06	16.05	1.10	13.41*	
	02/12/07	15.96	0.35	12.90*	
	05/02/07	15.11	0.09	13.54*	
08/09/07	15.83	0.09	12.82*		
12/06/07	18.10	0.50	10.88*		
02/26/08	16.47	0.22	12.29*		
05/30/08	17.90	0.70	11.24*		
08/28/08	18.05	0.54	10.96*		
12/11/08	18.57	0.46	10.38*		
03/31/09	16.89	0.23	11.87*		
12/31/09	17.64	sheen	10.94*		
06/03/10	16.58	0.56	12.45*		
12/20/10	17.20	0.45	11.74*		
06/30/11	15.92		12.66		
06/22/12	16.64	0.69	12.48*		
12/13/12	16.24	None	12.34		
06/18/13	17.01		11.57		
12/23/13	18.29		10.29		
06/30/14	NOT MEASURED - PROBE MALFUNCTION				
12/17/14		16.91		11.67	
06/23/15			17.61		10.97

TABLE ONE
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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	
	10/03/05	15.91			12.70	
	12/06/05	15.71			12.90	
	03/15/06	13.05			15.56	
	06/28/06	14.49			14.12	
	08/31/06	15.75			12.86	
	11/21/06	16.70		11.91		
	02/12/07	16.51		12.10		
	05/02/07	16.51		12.10		
	08/09/07	17.17		11.44		
	12/06/07	18.08		10.53		
02/26/08	16.57		12.04			
05/30/08	17.66		10.95			
08/28/08	17.98		10.63			
12/11/08	18.61		10.00			
03/31/09	18.75		2.00	11.46*		
MW-4R	12/31/09	28.78	19.85	2.30	10.77*	
	06/03/10		18.67	2.57	12.17*	
	12/20/10		18.95	2.00	11.43*	
	06/30/11		16.45		12.33	
	06/22/12		16.69		12.09	
	12/13/12		16.61		12.17	
	06/18/13		17.60		11.18	
	12/23/13		19.07		9.71	
	06/30/14		18.77		10.01	
	12/17/14		17.95		10.83	
	06/23/15		18.35		10.43	

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-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
	09/17/04		15.45		12.95
	12/17/04		15.12		13.28
	04/28/05		13.63		14.77
	07/19/05		15.67		12.73
	10/03/05		15.81		12.59
	12/06/05		15.60		12.80
	03/15/06		12.81		15.59
	06/28/06		15.21		13.19
	08/31/06		15.55		12.85
	11/21/06		17.09		11.31
	02/12/07		16.29		12.11
	05/02/07		16.21		12.19
	08/09/07		16.97		11.43
	12/06/07		18.35		10.05
	02/26/08		16.35		12.05
	05/30/08		17.62		10.78
	08/28/08		17.72		10.68
	12/11/08		18.62		9.78
	03/31/09		16.94		11.46
	12/31/09		17.73		10.67
	06/03/10		16.20		12.20
	12/20/10		17.72		10.68
06/30/11	16.75		11.65		
06/22/12	16.41		11.99		
12/13/12	16.46		11.94		
06/18/13	17.48		10.92		
12/23/13	18.62		9.78		
06/30/14	18.11		10.29		
12/17/14	17.46		10.94		
06/23/15			18.12		10.28

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-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	
	09/17/04		15.74		13.46	
	12/17/04		15.54		13.66	
	04/28/05		13.91		15.29	
	07/19/05		15.30		13.90	
	10/03/05		15.35		13.85	
	12/06/05		15.69		13.51	
	03/15/06		13.14		16.06	
	06/28/06		14.44		14.76	
	08/31/06		16.25		12.95	
	11/21/06		16.69		12.51	
	02/12/07		16.63		12.57	
	05/02/07		16.57		12.63	
	08/09/07		17.19		12.01	
	12/06/07		17.95		11.25	
	02/26/08		16.66		12.54	
	05/30/08		17.64		11.56	
	08/28/08		18.03		11.17	
	12/11/08		18.54		10.66	
	03/31/09		17.10		12.10	
	12/31/09		18.00		11.20	
	06/03/10		16.58		12.62	
	12/20/10		17.40		11.80	
	06/30/11		17.02		12.18	
06/22/12		16.70		12.50		
12/13/12		16.77		12.43		
06/18/13		17.69		11.51		
12/23/13		18.74		10.46		
06/30/14	No Longer measured					

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-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
	09/17/04		16.02		12.93
	12/17/04		15.45		13.50
	04/28/05		14.15		14.80
	07/19/05		15.30		13.65
	10/03/05		16.25		12.70
	12/06/05		16.05		12.90
	03/15/06		13.36		15.59
	06/28/06		14.81		14.14
	08/31/06		16.13		12.82
	11/21/06		17.06		11.89
	02/12/07		16.97		11.98
	05/02/07		16.93		12.02
	08/09/07		17.56		11.39
	12/06/07		18.32		10.63
	02/26/08		16.93		12.02
	05/30/08		17.97		10.98
	08/28/08		18.33		10.62
	12/11/08		18.86		10.09
	03/31/09		17.37		11.58
	12/31/09		18.26		10.69
	06/03/10		16.86		12.09
12/20/10		17.70		11.25	
06/30/11		17.36		11.59	
06/22/12		17.03		11.92	
12/13/12		17.01		11.94	
06/18/13		18.02		10.93	
12/23/13		19.77		9.18	
06/30/14		18.36		10.59	
12/17/14		18.75		10.20	
	06/23/15		18.75		10.20
MW-8	02/26/08	30.14	21.50		8.64
	05/30/08		22.52		7.62
	08/28/08		23.27		6.87
	12/11/08		23.15		6.99
	03/31/09		21.46		8.68
	12/31/09		22.75		7.39
	06/03/10		21.06		9.08
	12/20/10		22.18		7.96
	06/30/11		21.95		8.19
	06/22/12		21.23		8.91
	12/13/12		21.89		8.25
	06/18/13		22.44		7.70
	12/23/13		23.22		6.92
	06/30/14	No Longer measured			

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	DIPE	TBA	Other Oxys	EDC	EDB
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	---	---	---	< 0.5	< 0.5
01/26/98	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
07/23/98	190	< 50	0.54	2.8	2	1.8	< 5.0	---	---	---	< 2	< 2
01/05/99	200	< 50	1.8	1.6	3.3	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
07/13/99	340	< 50	< 0.5	< 0.5	2.6	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
01/12/00	300	1,000	22	36	5.5	24	< 5.0	---	---	---	< 0.5	< 0.5
04/24/00	360	280*	< 0.5	< 0.5	< 0.5	2.1	< 5.0	---	---	---	< 0.5	< 0.5
07/20/00	290	150*	1.8	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
10/24/00	170**	280*	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
01/18/01	170**	150*	< 0.5	< 0.5	< 0.5	2.1	< 5.0	---	---	---	< 0.5	< 0.5
04/05/01	350**	190*	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
07/17/01	310	570	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	< 0.5	< 0.5
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	---	---	---	< 0.5	< 0.5
12/18/03	150	340	< 0.5	< 0.5	< 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	---	---	---	< 0.5	< 0.5
06/17/04	250	490	< 0.5	< 0.5	< 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	---	---	---	< 0.5	< 0.5
04/28/05	250	190	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.67	< 0.5	< 0.5	< 0.5	< 0.5
07/19/05	340	na	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.76	< 5.0	< 0.5	< 0.5	< 0.5
10/03/05	170	< 100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 5.0	< 0.5	< 0.5	< 0.5
12/06/05	140	67	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	---	---
03/15/06	170	< 80	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
06/28/06	230	130	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
08/31/06	310	< 200	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
11/21/06	220	160	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
02/23/07	140	120	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.2	< 5.0	< 0.50	< 0.50	< 0.50
05/02/07	180	140	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.3	< 5.0	< 0.50	< 0.50	< 0.50
08/09/07	130	120	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.85	< 5.0	< 0.50	< 0.50	< 0.50
12/06/07	53	160	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 5.0	< 0.50	< 0.50	< 0.50
02/26/08	93	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.1	< 5.0	< 0.50	< 0.50	< 0.50
05/30/08	200	240	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.95	< 5.0	< 0.50	< 0.50	< 0.50
08/28/08	150	200	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.2	< 5.0	< 0.50	---	---
12/11/08	110	140	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.92	< 5.0	< 0.50	---	---
03/31/09	160	< 200	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.8	< 5.0	< 0.50	< 0.50	< 0.50
12/31/09	140	200	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.84	< 5.0	< 0.50	< 0.50	< 0.50
06/03/10	300	140	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.72	< 5.0	< 0.50	< 0.50	< 0.50
12/20/10	140	180	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
06/30/11	650	< 200	1.9	< 0.50	< 0.50	< 0.50	< 0.50	0.78	< 5.0	< 0.50	< 0.50	< 0.50
06/22/12	750	< 200	23	< 0.50	1.1	2.3	< 0.50	0.80	12	< 0.50	< 0.50	< 0.50
12/13/12	180	90	2.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
06/18/13	370	84	1.5	< 0.50	< 0.50	< 0.50	< 0.50	0.52	< 5.0	< 0.50	< 0.50	< 0.50
12/23/13	410	200	2.0	< 0.50	< 0.50	< 0.50	< 0.50	0.64	< 5.0	< 0.50	< 0.50	< 0.50
06/30/14	400	140	6.9	< 0.50	< 0.50	< 0.50	< 0.50	1.4	< 5.0	< 0.50	< 0.50	< 0.50
12/17/14	520	77	11	< 0.50	< 0.50	1.8	< 0.50	0.56	< 5.0	< 0.50	< 0.50	< 0.50
06/23/15	380	130	3.2	< 0.50	< 0.50	0.92	< 0.50	< 0.50	2.2	< 0.50	< 0.50	< 0.50

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	DIPE	TBA	Other Oxys	EDC	EDB
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	--	--	--	< 0.5	< 0.5
01/26/98	50,000	11,000	12,000	12,000	1,600	6,700	< 250	--	--	--	11	< 0.5
07/23/98	50,000	8,100#	11,000	8,300	1,800	7,000	1,100	--	--	--	9.9	< 0.5
01/05/99	50,000	7,600#	12,000	12,000	2,300	9,600	1,300	--	--	--	< 50	< 50
07/13/99	73,000	8,500	11,000	13,000	2,200	9,800	< 500	--	--	--	7.7	< 0.5
01/12/00	63,000	11,000	10,000	12,000	1,800	7,800	< 500	--	--	--	8.8	< 1.0
04/24/00	76,000	23,000*	7,100	14,000	2,000	9,400	< 500	--	--	--	5.9	< 5.0
07/20/00	68,000	5,300#	11,000	14,000	2,300	11,000	< 1,000	--	--	--	6.7	< 5.0
10/24/00	48,000	6,400*	11,000	9,400	1,500	7,300	< 500	--	--	--	< 5.0	< 5.0
01/18/01	37,000	4,600*	6,900	5,600	1,200	5,300	< 500	--	--	--	< 5.0	< 5.0
04/05/01	59,000	4,600*	7,100	9,800	1,600	7,600	< 500	--	--	--	4.6	< 5.0
07/17/01	90,000	< 10,000	9,200	14,000	2,700	11,000	< 50	--	--	--	< 50	--
10/25/01	79,000	< 3,800	9,200	14,000	2,400	11,000	< 50	--	--	--	< 50	< 50
01/22/02	76,000	< 2,300	7,000	13,000	2,200	9,600	< 50	--	--	--	< 50	< 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	--	--	--	< 20	< 20
12/18/02	46,000	< 6,000	2,900	3,000	1,800	7,600	22	--	--	--	< 10	< 10
03/25/03	87,000	< 8,000	7,900	9,300	2,900	12,000	< 50	--	--	--	< 50	< 50
06/23/03	46,000	< 3000	7,800	4,000	1,900	6,600	< 50	--	--	--	< 50	< 50
09/26/03	52,000	< 3000	9,100	3,500	1,300	5,000	< 50	--	--	--	< 50	< 50
12/18/03	61,000	< 4,000	13,000	3,500	1,600	5,600	< 20	--	--	--	< 20	< 20
03/12/04	53,000	< 4,000	9,100	3,500	1,700	5,700	< 25	--	--	--	< 25	< 25
06/17/04	59,000	< 3,000	7,100	4,000	1,700	7,300	< 25	--	--	--	< 25	< 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	--	--	--	< 15	< 15
04/28/05	81,000	< 3,000	7,000	6,000	2,100	8,700	< 15	90	< 15	< 15	< 15	< 15
07/19/05	59,000	na	7,900	4,400	1,900	7,000	< 15	< 15	77	< 15	< 15	< 15
10/03/05	34,000	< 800	7,800	810	1,000	2,800	< 15	< 15	< 70	< 15	< 15	< 15
12/06/05	26,000	< 800	6,100	940	770	2,000	< 15	--	--	--	--	--
03/15/06	33,000	< 1,500	7,700	2,600	1,400	4,200	< 15	< 15	< 15	< 15	< 15	< 15
06/28/06	96,000	< 4,000	10,000	14,000	2,900	12,000	< 15	< 15	< 5.0	< 15	33	< 15
8/31/06	47,000	< 3,000	5,800	5,100	2,200	8,700	< 15	< 15	< 15	< 15	< 15	< 15
11/21/06	51,000	< 1,500	6,800	3,400	1,700	6,200	< 15	< 15	82	< 15	< 15	< 15
02/23/07	38,000	< 1,500	7,800	2,000	1,500	4,600	< 15	< 15	190	< 15	< 15	< 15
05/02/07	55,000	< 3,000	6,500	5,100	2,400	8,600	< 15	< 15	110	< 15	< 15	< 15
08/09/07	39,000	< 3,000	6,600	2,200	1,600	4,900	< 15	< 15	81	< 15	< 15	< 15
12/06/07	20,000	< 1,500	7,400	510	680	1,200	< 15	< 15	120	< 15	< 15	< 15
02/26/08	43,000	< 4,000	8,200	940	1,400	3,700	< 15	< 15	70	< 15	< 15	< 15
05/30/08	31,000	< 1,000	11,000	620	1,100	2,300	< 15	< 15	84	< 15	< 15	< 15
08/28/08	38,000	< 3,000	11,000	630	1,400	3,800	< 25	< 25	< 150	< 25	--	--
12/11/08	32,000	< 2,000	11,000	610	1,000	2,700	< 25	< 25	< 150	< 25	--	--
03/31/09	44,000	< 4,000	6,500	3,300	1,700	5,600	< 9.0	< 9.0	56	< 9.0	< 9.0	< 9.0
12/31/09	36,000	< 4,000	9,700	350	1,600	3,800	< 9.0	13	56	< 9.0	< 9.0	< 9.0
06/03/10	53,000	< 10,000	8,600	2,600	2,500	8,000	< 5.0	8.9	69	< 5.0	< 5.0	< 5.0
12/20/10	39,000	< 4,000	13,000	530	1,600	3,600	< 15	21	< 70	< 15	< 15	< 15
06/30/11	65,000	< 6,000	7,300	5,900	2,400	10,000	< 20	< 20	< 90	< 20	< 20	< 20
06/22/12	1,200	140	50	56	4.0	160	< 0.50	1.6	17	< 0.50	1.1	< 0.50
12/13/12	2,400	66	890	4.1	9.6	16	< 0.50	5.4	17	< 0.50	1.4	< 0.50
06/18/13	5,300	88	2,400	7.8	80	31	< 1.5	7.8	17	< 1.5	< 1.5	< 1.5
12/23/13	6,600	210	2,200	6.6	15	16	< 4.0	7.9	34	< 4.0	< 4.0	< 4.0
06/30/14	21,000	200	8,000	94	290	400	< 4.0	16	66	< 4.0	< 4.0	< 4.0
12/17/14	27,000	180	7,600	53	100	210	< 15	< 15	< 70	< 15	< 15	< 15
06/23/15	17,000	1,400	7,800	< 250	< 250	560	< 250	< 250	< 1,000	< 250	< 250	< 250

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	DIPE	TBA	Other Oxys	EDC	EDB
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											
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											
10/03/05	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
12/06/05	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
03/15/06	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
06/28/06	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
8/31/06	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
11/21/06	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
02/23/07	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
05/02/07	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
08/09/07	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
12/06/07	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
02/26/08	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
05/30/08	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
08/28/08	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
12/11/08	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
03/31/09	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
12/31/09	60,000	< 25,000	7,500	6,500	1,000	6,600	< 20	< 20	< 90	< 20	< 20	< 20
06/03/10	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
12/20/10	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
06/30/11	140,000	< 40,000	12,000	21,000	4,000	17,000	< 20	< 20	< 90	< 20	< 20	< 20
06/22/12	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS (0.69-feet)											
12/13/12	99,000	< 12,000	5,800	5,800	2,100	11,000	< 10	< 10	60	< 10	< 10	< 10
06/18/13	100,000	220,000	6,700	7,900	2,000	15,000	< 10	< 10	< 50	< 10	< 10	< 10
12/23/13	80,000	4,700	4,800	2,100	860	11,000	< 15	< 15	110	< 15	< 15	< 15
06/30/14	97,000	5,900	4,600	6,200	1,300	11,000	< 15	< 15	500	< 15	< 15	< 15
12/17/14	53,000	8,300	1,800	1,200	560	5,300	< 9.0	< 9.0	400	< 9.0	10	< 9.0
06/23/15	27,000	13,000	3,500	390	580	4,600	< 50	< 50	420	< 50	< 50	< 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	DIPE	TBA	Other Oxys	EDC	EDB
MW-4												
01/12/00	99,000	7,900*	16,000	20,000	2,100	12,000	< 2,500	---	---	---	< 50	< 50
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	---	---	---	< 250	< 250
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	---	---	---	< 200	< 200
10/24/00	98,000	8,000*	21,000	29,000	2,700	15,000	< 1,000	---	---	---	< 250	< 250
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	---	---	---	< 250	< 250
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	---	---	---	< 50	< 50
07/17/01	95,000	< 3,000	8,000	16,000	2,900	11,000	49	---	---	---	69	---
10/25/01	89,000	< 2,200	9,300	18,000	2,400	12,000	66	---	---	---	72	< 50
01/22/02	80,000	< 2,300	4,600	15,000	2,500	11,000	< 50	---	---	---	< 50	< 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	---	---	---	< 100	< 100
09/17/02	110,000	< 3,000	9,600	21,000	2,800	13,000	< 100	---	---	---	< 100	< 100
12/18/02	97,000	< 4,000	8,000	20,000	2,600	12,000	< 50	---	---	---	< 50	< 50
03/25/03	97,000	< 7,500	7,600	22,000	2,500	12,000	< 100	---	---	---	< 100	< 100
06/23/03	100,000	< 3,000	9,600	22,000	3,300	15,000	< 100	---	---	---	< 100	< 100
09/26/03	110,000	< 4,000	9,300	17,000	2,100	10,000	< 50	---	---	---	87	< 50
12/18/03	110,000	< 2,000	8,900	19,000	2,500	12,000	< 25	---	---	---	46	< 25
03/12/04	96,000	< 4,000	6,500	18,000	2,700	12,000	< 40	---	---	---	< 40	< 40
06/17/04	110,000	< 4,000	10,000	20,000	2,900	13,000	< 50	---	---	---	93	< 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	---	---	---	53	< 25
04/28/05	110,000	< 3,000	7,800	14,000	2,200	10,000	< 25	< 25	< 25	< 25	46	< 25
07/19/05	90,000	na	10,000	13,000	2,300	10,000	< 40	< 20	< 20	< 20	73	< 40
10/03/05	68,000	< 800	9,400	4,000	1,800	8,700	23	23	< 5.0	< 20	62	< 20
12/06/05	81,000	< 1,500	8,900	7,200	2,200	9,500	< 20	---	---	---	---	---
03/15/06	68,000	< 3,000	7,300	14,000	2,500	10,000	< 20	< 20	< 20	< 20	< 20	< 20
06/28/06	61,000	< 3,000	8,500	4,100	2,600	11,000	< 20	< 20	< 5.0	< 20	20	< 20
08/31/06	68,000	< 2,000	9,500	9,600	2,500	12,000	< 20	< 20	< 5.0	< 20	36	< 20
11/21/06	68,000	< 1,500	9,000	5,000	2,000	9,300	< 20	< 20	230	< 20	42	< 20
02/23/07	90,000	< 2,000	11,000	11,000	2,800	12,000	< 20	< 20	290	< 20	36	< 20
05/02/07	56,000	< 2,000	7,300	6,300	2,500	11,000	< 15	< 15	160	< 15	20	< 15
08/09/07	52,000	< 2,000	7,600	2,600	2,100	8,400	< 15	15	170	< 15	31	< 15
12/06/07	60,000	< 2,000	13,000	2,000	2,800	11,000	< 15	22	150	< 15	< 15	< 15
02/26/08	42,000	< 2,000	3,700	2,300	2,300	8,900	< 15	< 15	90	< 15	< 15	< 15
05/30/08	64,000	< 3,000	9,200	5,100	3,000	12,000	< 15	< 15	83	< 15	19	< 15
08/28/08	73,000	< 5,000	9,700	5,500	3,300	12,000	< 15	< 15	< 70	< 15	---	---
12/11/08	120,000	< 40,000	14,000	12,000	4,400	19,000	< 25	< 25	< 150	< 25	---	---
03/31/09	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
MW-4R												
12/31/09	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
06/03/10	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
12/20/10	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS											
06/30/11	190,000	< 30,000	3,800	11,000	2,900	20,000	< 25	< 25	< 150	< 25	< 25	< 25
06/22/12	4,500	< 200	31	53	5.0	500	6.3	6.1	180	< 0.5	21	< 0.5
12/13/12	3,700	< 200	97	76	50	590	< 0.50	1.0	41	< 0.50	2.5	< 0.50
06/18/13	3,800	110	37	33	10	400	1.5	2.5	120	< 0.50	7.2	< 0.50
12/23/13	240	100	< 0.50	< 0.50	< 0.50	5.4	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
06/30/14	3,600	340	1,300	6.3	1.3	16	< 0.50	0.93	22	< 0.50	< 0.50	< 0.50
12/17/14	210	240	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
06/23/15	200	99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0	< 0.50	< 0.50	< 0.50

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	DIPE	TBA	Other Oxys	EDC	EDB
MW-5												
06/11/02	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	28	---	---	---	< 0.5	< 0.5
09/17/02	< 50	110	< 0.5	< 0.5	< 0.5	< 0.5	4.8	---	---	---	< 0.5	< 0.5
12/18/02	< 50	140	< 0.5	< 0.5	< 0.5	< 0.5	1.8	---	---	---	< 0.5	< 0.5
03/25/03	< 50	130	< 0.5	< 0.5	< 0.5	< 0.5	7.4	---	---	---	< 0.5	< 0.5
06/23/03	< 50	390	< 0.5	< 0.5	< 0.5	< 0.5	17	---	---	---	< 0.5	< 0.5
09/26/03	< 50	700	< 0.5	< 0.5	< 0.5	< 0.5	21	---	---	---	< 0.5	< 0.5
12/18/03	< 50	550	< 0.5	< 0.5	< 0.5	< 0.5	16	---	---	---	< 0.5	< 0.5
03/12/04	< 50	490	< 0.5	< 0.5	< 0.5	< 0.5	9.1	---	---	---	< 40	< 40
06/17/04	< 50	510	< 0.5	< 0.5	< 0.5	< 0.5	9.8	---	---	---	< 0.5	< 0.5
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	---	---	---	< 0.5	< 0.5
04/28/05	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	2.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
07/19/05	< 50	na	< 0.5	< 0.5	< 0.5	< 0.5	6.1	2.1	< 5.0	< 0.5	< 0.5	< 0.5
10/03/05	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	2.4	1.7	< 5.0	< 0.5	< 0.5	< 0.5
12/06/05	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---	---	---
03/15/06	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	3.3	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5
06/28/06	< 50	< 50	< 0.5	< 0.5	< 0.5	< 0.5	1.8	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5
08/31/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	3.4	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
12/05/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	5.2	1.7	5.4	< 0.50	< 0.50	< 0.50
02/23/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	6.0	1.4	< 5.0	< 0.50	< 0.50	< 0.50
05/02/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	3.8	1.3	< 5.0	< 0.50	< 0.50	< 0.50
08/09/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	5.5	1.3	< 5.0	< 0.50	< 0.50	< 0.50
12/06/07	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	1.8	1.5	< 5.0	< 0.50	< 0.50	< 0.50
02/26/08	260	< 50	32	1.3	0.62	0.92	3.4	5.6	7.7	< 0.50	0.60	< 0.50
05/30/08	71	< 50	1.8	< 0.50	< 0.50	< 0.50	2.4	3.1	< 5.0	< 0.50	< 0.50	< 0.50
08/28/08	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	2.1	2.2	< 5.0	< 0.50	---	---
12/11/08	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	2.2	2.5	< 5.0	< 0.50	---	---
03/31/09	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	1.2	1.3	< 5.0	< 0.50	< 0.50	< 0.50
12/31/09	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	1.9	1.5	< 5.0	< 0.50	< 0.50	< 0.50
06/03/10	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	0.56	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
12/20/10	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	0.61	0.67	< 5.0	< 0.50	< 0.50	< 0.50
06/30/11	< 50	< 50	1.6	< 0.50	< 0.50	< 0.50	< 0.50	1.0	< 5.0	< 0.50	< 0.50	< 0.50
06/22/12	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
12/13/12	79	< 50	2.7	< 0.50	0.86	0.74	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
06/18/13	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
12/23/13	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.65	< 5.0	< 0.50	< 0.50	< 0.50
06/30/14	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.70	< 5.0	< 0.50	< 0.50	< 0.50
12/17/14	100	< 50	21	0.56	< 0.50	< 0.50	< 0.50	1.2	< 5.0	< 0.50	< 0.50	< 0.50
06/23/15	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.53	< 2.0	< 0.50	< 0.50	< 0.50

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	DIPE	TBA	Other Oxys	EDC	EDB
MW-7												
06/25/02	38,000	< 2,000	890	5,100	1,200	5,200	< 20	---	---	---	< 20	< 20
09/17/02	26,000	< 2,000	590	3,600	880	4,000	< 20	---	---	---	< 20	< 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	---	---	---	< 2.5	< 2.5
06/23/03	17,000	< 1,000	440	2,600	630	2,600	< 10	---	---	---	< 10	< 10
09/26/03	17,000	< 1,000	230	1,800	470	2,200	< 5.0	---	---	---	< 5.0	< 5.0
12/18/03	20,000	< 1,000	290	2,500	590	2,900	< 5.0	---	---	---	< 5.0	< 5.0
03/12/04	20,000	< 1,500	300	3,000	760	3,200	< 10	---	---	---	< 10	< 10
06/17/04	12,000	< 800	250	1,800	450	1,900	< 5.0	---	---	---	< 5.0	< 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	---	---	---	< 3.0	< 3.0
04/28/05	13,000	< 300	84	1,000	660	2,200	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
07/19/05	16,000	na	170	1,800	540	2,200	< 2.5	< 2.5	< 5.0	< 2.5	< 2.5	< 2.5
10/03/05	7,400	< 200	140	710	350	1,100	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
12/06/05	22,000	< 600	240	2,300	800	3,400	< 5.0	---	---	---	---	---
03/15/06	3,800	< 200	4.6	160	120	620	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50
06/28/06	6,400	< 500	19.0	340	490	940	< 0.90	< 0.50	< 5.0	< 0.50	< 0.90	< 0.90
08/31/06	20,000	< 600	160	2,200	1,300	3,500	< 2.5	1.4	< 15	< 5.0	< 2.5	< 2.5
11/21/06	21,000	< 1,000	240	2,500	880	3,400	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0
02/23/07	10,000	< 200	150	1,300	580	2,400	< 2.5	< 2.5	< 15	< 2.5	< 2.5	< 2.5
05/02/07	26,000	< 1,000	300	2,400	1,800	6,700	< 2.5	< 2.5	< 50	< 2.5	< 2.5	< 2.5
08/09/07	13,000	< 800	250	800	1,000	3,000	< 2.5	< 2.5	< 15	< 2.5	< 2.5	< 2.5
12/06/07	9,600	< 1,000	160	850	530	2,000	< 2.5	< 2.5	45	< 2.5	< 2.5	< 2.5
02/26/08	14,000	< 800	190	1,000	740	3,000	< 2.5	< 2.5	69	< 2.5	< 2.5	< 2.5
05/30/08	9,900	< 200	160	620	590	2,300	< 2.5	< 2.5	< 15	< 2.5	< 2.5	< 2.5
08/28/08	11,000	< 800	180	500	650	2,400	< 2.5	< 2.5	< 15	< 2.5	---	---
12/11/08	8,000	< 500	160	300	540	1,600	< 2.5	< 2.5	< 15	< 2.5	---	---
03/31/09	5,600	< 300	82	190	360	1,000	< 1.5	< 1.5	< 7.0	< 1.5	< 1.5	< 1.5
12/31/09	16,000	< 800	140	1,200	750	2,800	< 0.5	< 0.50	10	< 0.50	< 0.50	< 0.50
06/03/10	22,000	< 2,000	160	1,000	1,300	3,500	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0
12/20/10	23,000	< 1,000	230	820	1,500	4,900	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0
06/30/11	26,000	< 4,000	190	310	1,800	3,900	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0
06/22/12	10,000	< 600	120	52	1,100	310	< 2.0	< 2.0	43	< 2.0	< 2.0	< 2.0
12/13/12	16,000	610	78	80	1,000	940	< 2.5	< 2.5	< 15	< 2.5	< 2.5	< 2.5
06/18/13	6,000	250	19	22	310	390	< 0.90	< 0.90	6.3	< 0.90	< 0.90	< 0.90
12/23/13	2,200	290	6.8	5.2	15	78	< 0.50	< 0.50	10	< 0.50	< 0.50	< 0.50
06/30/14	2,700	380	12	7.3	83	63	< 0.50	< 0.50	32	< 0.50	< 0.50	< 0.50
12/17/14	3,300	700	3.0	8.3	31	200	< 0.50	< 0.50	14	< 0.50	< 0.50	< 0.50
06/23/15	440	180	< 0.50	0.50	2.7	4.9	< 0.50	< 0.50	5.3	< 0.50	< 0.50	< 0.50



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

APPENDIX A

Well Sampling Field Log

AQUA SCIENCE ENGINEERS

WELL SAMPLING FIELD LOG

PROJECT NAME LIM

JOB NUMBER 2808 DATE OF SAMPLING 6/23/15

WELL ID. MW-1 SAMPLER RK/DA

TOTAL DEPTH OF WELL 26.80 WELL DIAMETER 2"

DEPTH TO WATER PRIOR TO PURGING 19.12 TIME OF MEASUREMENT

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 7.68

NUMBER OF GALLONS PER WELL CASING VOLUME 1.3

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 3.9 gal

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

TIME EVACUATION STARTED 1240 TIME EVACUATION COMPLETED 1300

TIME SAMPLES WERE COLLECTED 1310

DID WELL GO DRY No AFTER HOW MANY GALLONS NA

VOLUME OF GROUNDWATER PURGED 4

SAMPLING DEVICE NEW DISPOSABLE BAILER

SAMPLE COLOR lt green ODOR/SEDIMENT NO / LIGHT

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	21.5	6.1	220
2	21.3	6.2	210
3	20.8	6.2	210

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-1	5	40ML VOA's	8015/8260	Hcl

AQUA SCIENCE ENGINEERS

WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	6/23/15
WELL ID.	MW- 2	SAMPLER	RK/DA
TOTAL DEPTH OF WELL	26.80	WELL DIAMETER	2"
DEPTH TO WATER PRIOR TO PURGING	18.57	TIME OF MEASUREMENT	
PRODUCT THICKNESS			
DEPTH OF WELL CASING IN WATER	8.23		
NUMBER OF GALLONS PER WELL CASING VOLUME	1.4		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	4.2 gal		
EQUIPMENT USED TO PURGE WELL	NEW DISPOSABLE BAILER		
TIME EVACUATION STARTED	800	TIME EVACUATION COMPLETED	820
TIME SAMPLES WERE COLLECTED	830		
DID WELL GO DRY	no	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED	4.5 gal		
SAMPLING DEVICE	NEW DISPOSABLE BAILER		
SAMPLE COLOR	None	ODOR/SEDIMENT	Mod. hc / none

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	20.5	6.4	610
2	20.6	6.5	580
3	20.6	6.5	580

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW- 2	5	40ML VOAs	8015/8260	Hcl

AQUA SCIENCE ENGINEERS

WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	6/23/15
WELL ID.	MW- 3	SAMPLER	RK/DA
TOTAL DEPTH OF WELL	30.0	WELL DIAMETER	2"
DEPTH TO WATER PRIOR TO PURGING	17.41	TIME OF MEASUREMENT	
PRODUCT THICKNESS			
DEPTH OF WELL CASING IN WATER	12.39		
NUMBER OF GALLONS PER WELL CASING VOLUME	2.1		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	6.3 gal		
EQUIPMENT USED TO PURGE WELL	NEW DISPOSABLE BAILER		
TIME EVACUATION STARTED	1120	TIME EVACUATION COMPLETED	1145
TIME SAMPLES WERE COLLECTED	1150		
DID WELL GO DRY	NO	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED	6.3 gal		
SAMPLING DEVICE	NEW DISPOSABLE BAILER		
SAMPLE COLOR	brack	ODOR/SEDIMENT	Very Strong h ₂ S / black sediment

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1			

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW- 3	5	40ML VOAs	8015/8260	Hcl

AQUA SCIENCE ENGINEERS

WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	6/23/15
WELL ID.	MW- 4R	SAMPLER	RK/DA
TOTAL DEPTH OF WELL	28.0	WELL DIAMETER	4"
DEPTH TO WATER PRIOR TO PURGING	18-35	TIME OF MEASUREMENT	
PRODUCT THICKNESS			
DEPTH OF WELL CASING IN WATER	9.65		
NUMBER OF GALLONS PER WELL CASING VOLUME	1.5 6.43		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	19.3 gal		19.3
EQUIPMENT USED TO PURGE WELL	NEW DISPOSABLE BAILER		
TIME EVACUATION STARTED	9:00	TIME EVACUATION COMPLETED	9:20
TIME SAMPLES WERE COLLECTED	9:25		
DID WELL GO DRY	NO	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED	5.0 gal		
SAMPLING DEVICE	NEW DISPOSABLE BAILER		
SAMPLE COLOR	light yellow brown	ODOR/SEDIMENT	1.5

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	20.9	6.4	290
2	21.6	6.5	320
3	21.6	6.5	330

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW- 4R	5	40ML VOAs	8015/8260	Hcl

AQUA SCIENCE ENGINEERS

WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	6/23/15
WELL ID.	MW- 5	SAMPLER	RK/DA
TOTAL DEPTH OF WELL	29.6	WELL DIAMETER	2"
DEPTH TO WATER PRIOR TO PURGING	18.12	TIME OF MEASUREMENT	6:30
PRODUCT THICKNESS			
DEPTH OF WELL CASING IN WATER	11.48		
NUMBER OF GALLONS PER WELL CASING VOLUME	2.0		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	6.0 gal		
EQUIPMENT USED TO PURGE WELL	NEW DISPOSABLE BAILER		
TIME EVACUATION STARTED	7:00	TIME EVACUATION COMPLETED	7:25
TIME SAMPLES WERE COLLECTED	7:30		
DID WELL GO DRY	No	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED	6.0 gal		
SAMPLING DEVICE	NEW DISPOSABLE BAILER		
SAMPLE COLOR	slight yellow brown		ODOR/SEDIMENT none / slight silt

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.8	6.3	500
2	19.7	6.2	470
3	19.7	6.2	470

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW- 5	5	40ML VOAs	8015/8260	Hcl

AQUA SCIENCE ENGINEERS

WELL SAMPLING FIELD LOG

PROJECT NAME	LIM		
JOB NUMBER	2808	DATE OF SAMPLING	6/23/15
WELL ID.	MW- 7	SAMPLER	RK/DA
TOTAL DEPTH OF WELL	28.0	WELL DIAMETER	2"
DEPTH TO WATER PRIOR TO PURGING	18.75	TIME OF MEASUREMENT	
PRODUCT THICKNESS			
DEPTH OF WELL CASING IN WATER	9.25		
NUMBER OF GALLONS PER WELL CASING VOLUME	1.5		
NUMBER OF WELL CASING VOLUMES TO BE REMOVED	3		
REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING	4.5 gal		
EQUIPMENT USED TO PURGE WELL	NEW DISPOSABLE BAILER		
TIME EVACUATION STARTED	1010	TIME EVACUATION COMPLETED	1030
TIME SAMPLES WERE COLLECTED	1035		
DID WELL GO DRY	No	AFTER HOW MANY GALLONS	—
VOLUME OF GROUNDWATER PURGED	4.5 gal		
SAMPLING DEVICE	NEW DISPOSABLE BAILER		
SAMPLE COLOR	none	ODOR/SEDIMENT	slight hc / none

CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	20.2	6.5	260
2	20.3	6.5	260
3	20.3	6.5	260

SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW- 7	5	40ML VOAs	8015/8260	Hcl



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

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1506B89

Report Created for: Aqua Science Engineers, Inc.
55 Oak Court Suite 220
Danville, CA 94526

Project Contact: Robert Kitay
Project P.O.:
Project Name: #2808; Lim

Project Received: 06/26/2015

Analytical Report reviewed & approved for release on 07/06/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Aqua Science Engineers, Inc.
Project: #2808; Lim
WorkOrder: 1506B89

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

a3	sample diluted due to high organic content.
b1	aqueous sample that contains greater than ~1 vol. % sediment
b6	lighter than water immiscible sheen/product is present
e2	diesel range compounds are significant; no recognizable pattern
e3	aged diesel is significant
e4	gasoline range compounds are significant.
e11/e8	stoddard solvent/mineral spirit (?); and/or kerosene/kerosene range/jet fuel range
e11	stoddard solvent/mineral spirit (?)



Analytical Report

Client: Aqua Science Engineers, Inc.
Project: #2808; Lim
Date Received: 6/26/15 21:15
Date Prepared: 7/2/15-7/3/15

WorkOrder: 1506B89
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Oxygenates, MBTEX & Lead Scavengers by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1506B89-001B	Water	06/23/2015 13:10	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/02/2015 12:33
Benzene	3.2	0.50	1	07/02/2015 12:33
t-Butyl alcohol (TBA)	2.2	2.0	1	07/02/2015 12:33
1,2-Dibromoethane (EDB)	ND	0.50	1	07/02/2015 12:33
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/02/2015 12:33
Diisopropyl ether (DIPE)	ND	0.50	1	07/02/2015 12:33
Ethylbenzene	ND	0.50	1	07/02/2015 12:33
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/02/2015 12:33
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/02/2015 12:33
Toluene	ND	0.50	1	07/02/2015 12:33
Xylenes, Total	0.92	0.50	1	07/02/2015 12:33

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	110	70-130	07/02/2015 12:33
Toluene-d8	93	70-130	07/02/2015 12:33

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1506B89-002B	Water	06/23/2015 08:30	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	250	500	07/03/2015 00:02
Benzene	7800	250	500	07/03/2015 00:02
t-Butyl alcohol (TBA)	ND	1000	500	07/03/2015 00:02
1,2-Dibromoethane (EDB)	ND	250	500	07/03/2015 00:02
1,2-Dichloroethane (1,2-DCA)	ND	250	500	07/03/2015 00:02
Diisopropyl ether (DIPE)	ND	250	500	07/03/2015 00:02
Ethylbenzene	ND	250	500	07/03/2015 00:02
Ethyl tert-butyl ether (ETBE)	ND	250	500	07/03/2015 00:02
Methyl-t-butyl ether (MTBE)	ND	250	500	07/03/2015 00:02
Toluene	ND	250	500	07/03/2015 00:02
Xylenes, Total	560	250	500	07/03/2015 00:02

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	110	70-130	07/03/2015 00:02
Toluene-d8	94	70-130	07/03/2015 00:02

Analyst(s): KF

Analytical Comments: b1

(Cont.)



Analytical Report

Client: Aqua Science Engineers, Inc.
Project: #2808; Lim
Date Received: 6/26/15 21:15
Date Prepared: 7/2/15-7/3/15

WorkOrder: 1506B89
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Oxygenates, MBTEX & Lead Scavengers by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1506B89-003B	Water	06/23/2015 11:50	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	50	100	07/02/2015 15:59
Benzene	3500	50	100	07/02/2015 15:59
t-Butyl alcohol (TBA)	420	200	100	07/02/2015 15:59
1,2-Dibromoethane (EDB)	ND	50	100	07/02/2015 15:59
1,2-Dichloroethane (1,2-DCA)	ND	50	100	07/02/2015 15:59
Diisopropyl ether (DIPE)	ND	50	100	07/02/2015 15:59
Ethylbenzene	580	50	100	07/02/2015 15:59
Ethyl tert-butyl ether (ETBE)	ND	50	100	07/02/2015 15:59
Methyl-t-butyl ether (MTBE)	ND	50	100	07/02/2015 15:59
Toluene	390	50	100	07/02/2015 15:59
Xylenes, Total	4600	50	100	07/02/2015 15:59

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	111	70-130	07/02/2015 15:59
Toluene-d8	92	70-130	07/02/2015 15:59

Analyst(s): KF

Analytical Comments: b6

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4R	1506B89-004B	Water	06/23/2015 09:25	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/02/2015 16:40
Benzene	ND	0.50	1	07/02/2015 16:40
t-Butyl alcohol (TBA)	ND	2.0	1	07/02/2015 16:40
1,2-Dibromoethane (EDB)	ND	0.50	1	07/02/2015 16:40
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/02/2015 16:40
Diisopropyl ether (DIPE)	ND	0.50	1	07/02/2015 16:40
Ethylbenzene	ND	0.50	1	07/02/2015 16:40
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/02/2015 16:40
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/02/2015 16:40
Toluene	ND	0.50	1	07/02/2015 16:40
Xylenes, Total	ND	0.50	1	07/02/2015 16:40

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	111	70-130	07/02/2015 16:40
Toluene-d8	94	70-130	07/02/2015 16:40

Analyst(s): KF

Analytical Comments: b1

(Cont.)



Analytical Report

Client: Aqua Science Engineers, Inc.
Project: #2808; Lim
Date Received: 6/26/15 21:15
Date Prepared: 7/2/15-7/3/15

WorkOrder: 1506B89
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Oxygenates, MBTEX & Lead Scavengers by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1506B89-005B	Water	06/23/2015 07:30	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/02/2015 17:21
Benzene	ND	0.50	1	07/02/2015 17:21
t-Butyl alcohol (TBA)	ND	2.0	1	07/02/2015 17:21
1,2-Dibromoethane (EDB)	ND	0.50	1	07/02/2015 17:21
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/02/2015 17:21
Diisopropyl ether (DIPE)	0.53	0.50	1	07/02/2015 17:21
Ethylbenzene	ND	0.50	1	07/02/2015 17:21
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/02/2015 17:21
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/02/2015 17:21
Toluene	ND	0.50	1	07/02/2015 17:21
Xylenes, Total	ND	0.50	1	07/02/2015 17:21

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	110	70-130	07/02/2015 17:21
Toluene-d8	94	70-130	07/02/2015 17:21

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1506B89-006B	Water	06/23/2015 10:35	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/02/2015 18:02
Benzene	ND	0.50	1	07/02/2015 18:02
t-Butyl alcohol (TBA)	5.3	2.0	1	07/02/2015 18:02
1,2-Dibromoethane (EDB)	ND	0.50	1	07/02/2015 18:02
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	07/02/2015 18:02
Diisopropyl ether (DIPE)	ND	0.50	1	07/02/2015 18:02
Ethylbenzene	2.7	0.50	1	07/02/2015 18:02
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/02/2015 18:02
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/02/2015 18:02
Toluene	0.50	0.50	1	07/02/2015 18:02
Xylenes, Total	4.9	0.50	1	07/02/2015 18:02

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	112	70-130	07/02/2015 18:02
Toluene-d8	93	70-130	07/02/2015 18:02

Analyst(s): KF

Analytical Comments: b1



Analytical Report

Client: Aqua Science Engineers, Inc.
Project: #2808; Lim
Date Received: 6/26/15 21:15
Date Prepared: 7/2/15

WorkOrder: 1506B89
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1506B89-001B	Water	06/23/2015 13:10	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	380	50	1	07/02/2015 12:33
Surrogates	REC (%)	Limits		
Dibromofluoromethane	104	70-130		07/02/2015 12:33

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1506B89-002B	Water	06/23/2015 08:30	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	17,000	5000	100	07/02/2015 15:17
Surrogates	REC (%)	Limits		
Dibromofluoromethane	103	70-130		07/02/2015 15:17

Analyst(s): KF Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1506B89-003B	Water	06/23/2015 11:50	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	27,000	5000	100	07/02/2015 15:59
Surrogates	REC (%)	Limits		
Dibromofluoromethane	105	70-130		07/02/2015 15:59

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4R	1506B89-004B	Water	06/23/2015 09:25	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	200	50	1	07/02/2015 16:40
Surrogates	REC (%)	Limits		
Dibromofluoromethane	105	70-130		07/02/2015 16:40

Analyst(s): KF Analytical Comments: b1

(Cont.)



Analytical Report

Client: Aqua Science Engineers, Inc.
Project: #2808; Lim
Date Received: 6/26/15 21:15
Date Prepared: 7/2/15

WorkOrder: 1506B89
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1506B89-005B	Water	06/23/2015 07:30	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/02/2015 17:21

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	104	70-130	07/02/2015 17:21

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1506B89-006B	Water	06/23/2015 10:35	GC10	107169

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	440	50	1	07/02/2015 18:02

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	106	70-130	07/02/2015 18:02

Analyst(s): KF

Analytical Comments: b1



Analytical Report

Client: Aqua Science Engineers, Inc.

WorkOrder: 1506B89

Project: #2808; Lim

Extraction Method: SW3510C/3630C

Date Received: 6/26/15 21:15

Analytical Method: SW8015B

Date Prepared: 6/29/15

Unit: µg/L

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1506B89-001A	Water	06/23/2015 13:10	GC11A	106935

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	130	50	1	06/29/2015 18:27

Surrogates	REC (%)	Limits	Date Analyzed
C9	94	70-130	06/29/2015 18:27

Analyst(s): TK Analytical Comments: e11/e8

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1506B89-002A	Water	06/23/2015 08:30	GC6A	106935

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1400	100	1	06/30/2015 12:54

Surrogates	REC (%)	Limits	Date Analyzed
C9	103	70-130	06/30/2015 12:54

Analyst(s): TK Analytical Comments: e4,e3,a3,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1506B89-003A	Water	06/23/2015 11:50	GC11A	106935

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	13,000	250	5	06/29/2015 20:44

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	06/29/2015 20:44

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4R	1506B89-004A	Water	06/23/2015 09:25	GC11A	106935

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	99	50	1	06/30/2015 01:18

Surrogates	REC (%)	Limits	Date Analyzed
C9	82	70-130	06/30/2015 01:18

Analyst(s): TK Analytical Comments: e11/e8,e2,b1

(Cont.)



Analytical Report

Client: Aqua Science Engineers, Inc.

WorkOrder: 1506B89

Project: #2808; Lim

Extraction Method: SW3510C/3630C

Date Received: 6/26/15 21:15

Analytical Method: SW8015B

Date Prepared: 6/29/15

Unit: µg/L

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1506B89-005A	Water	06/23/2015 07:30	GC2A	106935

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	06/30/2015 08:17

Surrogates	REC (%)	Limits	Date Analyzed
C9	88	70-130	06/30/2015 08:17

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1506B89-006A	Water	06/23/2015 10:35	GC2B	106935

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	180	50	1	06/30/2015 08:17

Surrogates	REC (%)	Limits	Date Analyzed
C9	75	70-130	06/30/2015 08:17

Analyst(s): TK

Analytical Comments: e11,b1



Quality Control Report

Client: Aqua Science Engineers, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC10
Matrix: Water
Project: #2808; Lim

WorkOrder: 1506B89
BatchID: 107169
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107169
 1506B89-005BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	8.63	0.50	10	-	86	54-140
Benzene	ND	10.4	0.50	10	-	104	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	25.1	2.0	40	-	63	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	-	0.50	-	-	-	-
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	9.21	0.50	10	-	92	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	10.1	0.50	10	-	101	66-125
1,1-Dichloroethene	ND	-	0.50	-	-	-	-
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Aqua Science Engineers, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC10
Matrix: Water
Project: #2808; Lim

WorkOrder: 1506B89
BatchID: 107169
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107169
 1506B89-005BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	9.87	0.50	10	-	99	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.39	0.50	10	-	94	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.00	0.50	10	-	90	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	9.70	0.50	10	-	97	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	-	0.50	-	-	-	-
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

Surrogate Recovery

Dibromofluoromethane	28.0	27.9		25	112	112	70-130
Toluene-d8	23.8	23.4		25	95	94	70-130
4-BFB	3.07	-		2.5	123	-	-

(Cont.)



Quality Control Report

Client: Aqua Science Engineers, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC10
Matrix: Water
Project: #2808; Lim

WorkOrder: 1506B89
BatchID: 107169
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107169
 1506B89-005BMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	9.07	9.08	10	ND	91	91	69-139	0	20
Benzene	9.66	9.57	10	ND	97	96	69-141	0.956	20
t-Butyl alcohol (TBA)	36.7	36.8	40	ND	92	92	41-152	0	20
1,2-Dibromoethane (EDB)	9.54	9.28	10	ND	95	93	76-135	2.79	20
1,2-Dichloroethane (1,2-DCA)	10.0	9.98	10	ND	100	100	73-139	0	20
Diisopropyl ether (DIPE)	9.72	9.70	10	0.5286	92	92	72-140	0	20
Ethyl tert-butyl ether (ETBE)	9.60	9.53	10	ND	96	95	71-140	0.797	20
Methyl-t-butyl ether (MTBE)	9.68	9.58	10	ND	96	95	73-139	0.970	20
Toluene	8.72	8.69	10	ND	87	87	71-128	0	20
Surrogate Recovery									
Dibromofluoromethane	28.7	28.5	25		115	114	70-130	0.847	20
Toluene-d8	23.1	22.8	25		92	91	70-130	1.27	20



Quality Control Report

Client: Aqua Science Engineers, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC10
Matrix: Water
Project: #2808; Lim

WorkOrder: 1506B89
BatchID: 107169
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-107169

QC Summary Report for TPH(g)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
VOC (C6-C12)	ND	602	50	644	-	93	75-105
Surrogate Recovery							
Dibromofluoromethane	26.4	26.3		25	106	105	70-130



Quality Control Report

Client: Aqua Science Engineers, Inc.
Date Prepared: 6/29/15
Date Analyzed: 6/29/15
Instrument: GC2B
Matrix: Water
Project: #2808; Lim

WorkOrder: 1506B89
BatchID: 106935
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-106935

QC Report for SW8015B w/SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	896	50	1000	-	90	59-151
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	460	574		625	74	92	77-130



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506B89

ClientCode: ASED

WaterTrax
 WriteOn
 EDF
 Excel
 EQUIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Robert Kitay
 Aqua Science Engineers, Inc.
 55 Oak Court Suite 220
 Danville, CA 94526
 (925) 820-9391 FAX: (925) 837-4853

Email: rkitay@aquascienceengineers.com
 cc/3rd Party:
 PO:
 ProjectNo: #2808; Lim

Bill to:
 Diane Schiell
 Aqua Science Engineers, Inc.
 217 Wild Flower Drive
 Roseville, CA 95678
 deezthng22@yahoo.com

Requested TAT: 5 days

Date Received: 06/26/2015
Date Printed: 06/29/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506B89-001	MW-1	Water	6/23/2015 13:10	<input type="checkbox"/>	B	B	A	A									
1506B89-002	MW-2	Water	6/23/2015 8:30	<input type="checkbox"/>	B	B		A									
1506B89-003	MW-3	Water	6/23/2015 11:50	<input type="checkbox"/>	B	B		A									
1506B89-004	MW-4R	Water	6/23/2015 9:25	<input type="checkbox"/>	B	B		A									
1506B89-005	MW-5	Water	6/23/2015 7:30	<input type="checkbox"/>	B	B		A									
1506B89-006	MW-7	Water	6/23/2015 10:35	<input type="checkbox"/>	B	B		A									

Test Legend:

1	260B_MBTEXOXYPBSCV_V	2	8260GAS_W	3	PREDF REPORT	4	TPH(D)WSG_W	5	
6		7		8		9		10	
11		12							

The following SampID's: 001B, 002B, 003B, 004B, 005B, 006B contain testgroup.

Prepared by: Maria Venegas

Comments:

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



WORK ORDER SUMMARY

Client Name: AQUA SCIENCE ENGINEERS, INC.

QC Level: LEVEL 2

Work Order: 1506B89

Project: #2808; Lim

Client Contact: Robert Kitay

Date Received: 6/26/2015

Comments:

Contact's Email: rkitay@aquascienceengineers.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506B89-001A	MW-1	Water	SW8015B (Diesel w/ S.G. Clean-Up)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:10	5 days	Present	<input type="checkbox"/>	
1506B89-001B	MW-1	Water	TPH(g) & BTEX & 5 Oxys+Lead Scav by 8260B	3	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:10	5 days	Present	<input type="checkbox"/>	
1506B89-002A	MW-2	Water	SW8015B (Diesel w/ S.G. Clean-Up)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 8:30	5 days	1%+	<input type="checkbox"/>	
1506B89-002B	MW-2	Water	TPH(g) & BTEX & 5 Oxys+Lead Scav by 8260B	3	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 8:30	5 days	1%+	<input type="checkbox"/>	
1506B89-003A	MW-3	Water	SW8015B (Diesel w/ S.G. Clean-Up)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 11:50	5 days	Present	<input type="checkbox"/>	
1506B89-003B	MW-3	Water	TPH(g) & BTEX & 5 Oxys+Lead Scav by 8260B	3	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 11:50	5 days	Present	<input type="checkbox"/>	
1506B89-004A	MW-4R	Water	SW8015B (Diesel w/ S.G. Clean-Up)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 9:25	5 days	1%+	<input type="checkbox"/>	
1506B89-004B	MW-4R	Water	TPH(g) & BTEX & 5 Oxys+Lead Scav by 8260B	3	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 9:25	5 days	1%+	<input type="checkbox"/>	
1506B89-005A	MW-5	Water	SW8015B (Diesel w/ S.G. Clean-Up)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 7:30	5 days	Present	<input type="checkbox"/>	
1506B89-005B	MW-5	Water	TPH(g) & BTEX & 5 Oxys+Lead Scav by 8260B	3	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 7:30	5 days	Present	<input type="checkbox"/>	
1506B89-006A	MW-7	Water	SW8015B (Diesel w/ S.G. Clean-Up)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 10:35	5 days	1%+	<input type="checkbox"/>	
1506B89-006B	MW-7	Water	TPH(g) & BTEX & 5 Oxys+Lead Scav by 8260B	3	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 10:35	5 days	1%+	<input type="checkbox"/>	

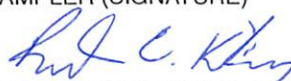
NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Chain of Custody

1506B89

PAGE 1 / 1

SAMPLER (SIGNATURE)


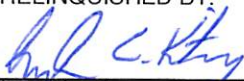
PROJECT NAME Lim
 ADDRESS 250 8th Street Oakland, CA

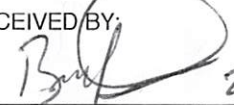
JOB NO. 8082

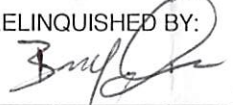
ANALYSIS REQUEST


SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	QUANTITY	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-DIESEL w/ Silica Gel (EPA 3510/8015) cleanup	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	VOLATILE ORGANICS (EPA 624/8240/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	ORGANOCHLORINATED HERBICIDES (EPA 8151A)	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs (EPA 8082)	ORGANOCHLORINATED PESTICIDES (EPA 8081A)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-G, BTEX & 5 OXY's + Pb (EPA 8260) <i>Scav.</i>	ARSENIC, LEAD & MERCURY (EPA 6010)	COMPOSITE	EDF	HOLD			
																						MW-1	6-23-15	1310
MW-2		830				X																		
MW-3		1150				X																		
MW-4R		925				X																		
MW-5		730				X																		
MW-7		1035				X																		

RELINQUISHED BY:

 (signature) (time) 6:20

RECEIVED BY:

 (signature) (time) 2033

RELINQUISHED BY:

 (signature) (time) 2115

RECEIVED BY LABORATORY

 (signature) (time)

COMMENTS:

(printed name) (date)
 Robert C. Kity

(printed name) (date)
 Bob

(printed name) (date)
 Bob

(printed name) (date)
 Maria Venegas

TURN AROUND TIME

STANDARD 24Hr 48Hr 72Hr

OTHER: 4/26/15 2115



Sample Receipt Checklist

Client Name: **Aqua Science Engineers, Inc.** Date and Time Received: **6/26/2015 9:15:00 PM**
 Project Name: **#2808; Lim** LogIn Reviewed by: **Maria Venegas**
 WorkOrder No: **1506B89** Matrix: Water Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 2°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No
 (Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

 Comments: