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Alameda County
Environmental Health

June 30, 2011

**Mr. Mark Detterman
Alameda County Health
Care Services Agency
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577**

Subject: First Semi-Annual 2011 Groundwater Monitoring Report, 17715 Mission Boulevard, Hayward, California

Dear Mr. Detterman:

Enclosed please find a copy of First Semi-Annual 2011 Groundwater Monitoring Report dated June 28, 2011 for the subject property. With my authorization, the work was performed by Sierra Environmental, Inc. (Sierra).

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

Please call me at (925) 383-5131 if you have questions.

Sincerely Yours,

A handwritten signature in black ink, appearing to read 'Paul Garg', with a large, sweeping loop at the beginning and a small flourish at the end.

**Paul Garg
ABE Petroleum LLC**

Enclosure

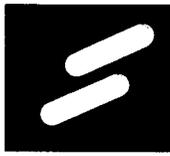
**FIRST SEMI-ANNUAL 2011
GROUNDWATER MONITORING**

**ABE Petroleum LLC
17715 Mission Boulevard
Hayward, California 94539**

**Prepared for
Mr. Paul Garg
ABE Petroleum LLC**

**Prepared by
Sierra Environmental, Inc.**

**June 28, 2011
Project 11-103.00**



Sierra Environmental, Inc.
Environmental Consultants

June 28, 2010
Project 11-103.00

Mr. Paul Garg
ABE Petroleum LLC
33090 Mission Boulevard
Union City, California 94587

Subject: Report for First Semi-Annual 2011 Groundwater Monitoring, ABE Petroleum LLC, 17715 Mission Boulevard, Hayward, California

Dear Mr. Garg:

Sierra Environmental, Inc. (Sierra) is pleased to present this report summarizing the results for the first semi-annual 2011 groundwater monitoring at the subject location, hereafter, referred to as Site. Figure 1 shows the Site location. The groundwater monitoring was concurred by Alameda County Health Care Services (ACHCS) in a letter dated February 16, 2000, as result of gasoline impact to groundwater beneath the Site.

On June 3, 2011, Sierra obtained and recorded groundwater data, and collected groundwater samples from five (5) groundwater monitoring wells at and near the Site for chemical analysis. Sierra submitted the samples to Accutest Laboratories (Accutest) for chemical analysis. Accutest is a State-certified analytical laboratory (08258CA).

980 W. Taylor Street
San Jose, CA 95126
Phone (408) 971-6758
Fax (408) 971-6759

GROUNDWATER MONITORING

On June 3, 2011, Sierra performed the first semi-annual 2011 groundwater monitoring at the Site. Sierra's field personnel measured the groundwater levels at MW1, MW2, MW3, MW6, and MW7 (Figure 2) using an electronic sounder. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 15.93' to 19.69' feet below TOC with a westerly flow direction during this monitoring event. Table I presents the groundwater measurement data.

MW4 and MW5 were inaccessible due to route 238 expansion project. CalTrans covered the location of MW4 and MW5 with imported fill material without notifying Sierra.

Sierra's field personnel purged the wells using bailers. pH, temperature, and electrical conductivity of groundwater were recorded during the purging activities to affirm that groundwater in the wells have stabilized. After completion of the purging, groundwater samples MW-1, MW-2, MW-3, MW-6, and MW-7 were collected from the wells. After collection, the groundwater from each well was transferred into clean volatile organic analysis vials. The vials were sealed with Teflon-septum screw caps, labeled, placed on ice in a cooler, and delivered to Accutest with chain-of-custody documentation.

All sampling and measurement equipment were washed with Liqui-Nox[®] (a phosphate free laboratory detergent), and rinsed with tap water at each measurement and sampling interval. Purged and wash water was stored in 55-gallon drums at a designated location at the Site. Sierra's quality assurance/quality control (QA/QC) protocol is presented in Appendix A.

CHEMICAL ANALYSIS

The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHG) using the United States Environmental Protection Agency (EPA) GC-MS/8260B method. The samples were also analyzed for benzene, toluene, ethyl benzene, total xylenes (BTEX), and fuel oxygenates also using EPA method 8260B. Copies of certified analytical results and chain-of-custody documentation are presented in Appendix B. Copies of the field notes are presented in Appendix C.

ANALYTICAL RESULTS

Table II presents Summary of the analytical results.

CONCLUSION AND RECOMMENDATIONS

No gasoline constituents were detected in offsite monitoring well MW6 and MW7. Concentrations of the gasoline constituents in the groundwater samples collected from onsite wells have slightly decreased during this monitoring event, compared to the 1st and 2nd semi-annual 2010 groundwater monitoring events. Sierra recommends continuing the semi-annual groundwater monitoring at the Site in 2011.

As requested by ACEH in a letter dated June 17, 2011, Sierra will address and submit requested technical comments in a revised pilot test work plan on or before August 26, 2011. In addition Sierra will retain the services of a registered land surveyor to resurvey all accessible monitoring wells and upload the results to the GeoTracker database, shortly.

LIMITATIONS

The content and conclusion provided by Sierra in this report are based on information collected during its assessment/monitoring, which include, but are not limited to field observations and analytical results for the groundwater samples collected at the Site. Sierra assumes that the samples collected and laboratory results are reasonably representative of the whole Site, which may not be the case at unsampled areas. This assessment/monitoring was performed in accordance with generally accepted principles and practices of environmental engineering and assessment in Northern California at the time of the work. This report presents our professional opinion based on our findings, technical knowledge, and experience working on similar projects. No warranty, either expressed or implied, is made. The conclusions presented are based on the analytical results and current regulatory requirements. We are not responsible for the impact of any changes in environmental standards or regulations in the future.

Please feel welcome to call us if you have questions.

Very Truly Yours,
Sierra Environmental, Inc.



Reza Baradaran, PE, GE
Principal

A large, handwritten signature in black ink, appearing to read "Mitch Hajiaghai".

Mitch Hajiaghai, REA II, CAC
Principal

July 5, 2011
[Handwritten initials]

- Attachments:
- Table I - Groundwater Elevation Data
 - Table II - Analytical Results for Groundwater Samples
 - Figure 1 - Site Location Map
 - Figure 2 - Groundwater Monitoring Well Locations
 - Appendix A - QA/QC Protocol
 - Appendix B - Certified Analytical Results and Chain-of-Custody Documentation
 - Appendix C - Field Notes

cc: Mr. Mark Detterman ACHCS (1 Copy)

**TABLE I
GROUNDWATER ELEVATION DATA**

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to ¹ Water (ft)	Water Table ² Elevation (ft)
MW1	8-18-00	2	99.46	20.32	79.14
	3-30-01			20.30	79.16
	6-22-01			21.91	77.55
	9-20-01			23.56	75.90
	12-27-01			22.59	76.87
	9-24-02			23.69	75.77
	12-17-02			22.75	76.71
	4-2-03			21.15	78.31
	6-12-03			20.64	78.82
	9-29-03			22.95	76.51
	12-04-03			23.70	75.76
	03-09-04			19.80	79.66
	6-24-04			21.44	78.02
	9-09-04			23.30	76.16
	12-21-04			22.92	76.54
	3-16-05			18.99	80.47
	6-09-05			20.02	79.44
	9-22-05	20.69	78.77		
	12-07-05	21.90	77.56		
	3-10-06	17.85	81.61		
	6-7-06	15.91	43.59		
	9-11-06	18.60	40.90		
	12-13-06	20.05	39.45		
	3-12-07	19.47	40.03		
	6-6-07	21.11	38.39		
	9-6-07	22.61	36.89		
	12-14-07	23.50	36.00		
	3-13-08	20.09	39.41		
	6-13-08	22.08	37.42		
	09-09-08	23.57	35.93		
	12-12-08	24.42	35.08		
	03-12-09	21.22	38.28		
	06-04-09	22.52	36.98		
12-03-09	24.18	35.32			
06-02-10	19.85	39.65			
12-01-10	22.73	36.77			
06-03-11	18.48	41.02			
			59.50		

**TABLE I
GROUNDWATER ELEVATION DATA
(CONTINUED)**

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to Water (ft)	Water Table Elevation (ft)
MW2	8-18-00	2	100.58	21.55	79.03
	3-30-01			21.55	79.03
	6-22-01			23.15	77.43
	9-20-01			24.78	75.80
	12-27-01			23.82	76.76
	9-24-02			24.89	75.69
	12-17-02			23.99	76.59
	4-2-03			22.32	78.26
	6-12-03			21.84	78.74
	9-29-03			24.15	76.43
	12-04-03			24.91	75.67
	03-09-04			21.05	79.53
	6-24-04			22.95	77.63
	9-09-04			24.55	76.03
	12-21-04			24.21	76.37
	3-16-05			20.29	80.29
	6-09-05			21.68	78.90
	9-22-05			21.98	78.60
	12-7-05			23.22	77.36
	3-10-06			19.15	81.43
	6-7-06	17.31	43.30		
	9-11-06	19.99	40.62		
	12-13-06	21.48	39.13		
	3-12-07	20.71	39.90		
	6-6-07	22.33	38.28		
	9-6-07	23.85	36.76		
	12-14-07	24.71	35.90		
	3-13-08	21.34	39.27		
	6-13-08	23.29	37.32		
	09-09-08	24.82	35.79		
	12-12-08	25.65	34.96		
	03-12-09	22.45	38.16		
06-04-09	23.68	36.93			
12-03-09	25.33	35.28			
06-02-10	21.01	39.60			
12-01-10	23.96	36.65			
06-03-11	19.69	40.92			

**TABLE I
GROUNDWATER ELEVATION DATA
(CONTINUED)**

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to Water (ft)	Water Table Elevation (ft)
MW3	8-18-00	2	99.69	20.68	79.01
	3-30-01			20.68	79.01
	6-22-01			22.31	77.38
	9-20-01			23.92	75.77
	12-27-01			22.95	76.74
	9-24-02			24.03	75.66
	12-17-02			23.09	76.60
	4-2-03			21.46	78.23
	6-12-03			20.99	78.70
	9-29-03			23.30	76.39
	12-04-03			24.05	75.64
	03-09-04			20.20	79.49
	6-24-04			22.11	77.58
	9-09-04			20.20	79.49
	12-21-04			23.35	76.34
	3-16-05			19.43	80.26
	6-09-05			20.47	79.22
	9-22-05	21.13	78.56		
	12-7-05	22.36	77.33		
	3-10-06	18.30	81.39		
	6-7-06	16.47	43.26		
	9-11-06	19.13	40.60		
	12-13-06	20.66	39.07		
	3-12-07	19.88	39.85		
	6-6-07	21.48	38.25		
	9-6-07	22.99	36.74		
	12-14-07	23.85	35.88		
	3-13-08	20.47	39.26		
	6-13-08	22.43	37.30		
	09-09-08	23.98	35.75		
	12-12-08	24.91	34.82		
	03-12-09	21.57	38.16		
	06-04-09	22.82	36.91		
12-03-09	24.49	35.24			
06-02-10	20.16	39.57			
12-01-10	23.07	36.66			
06-03-11	18.84	40.89			
			59.73		

**TABLE I
GROUNDWATER ELEVATION DATA
(CONTINUED)**

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to Water (ft)	Water Table Elevation (ft)
MW4	6-7-06	2	59.29	15.71	43.58
	9-11-06			18.40	40.89
	12-13-06			19.64	39.65
	3-12-07			19.13	40.16
	6-6-07			N/A ³	N/A
	9-6-07			N/A	N/A
	12-14-08			N/A	N/A
	3-13-08			N/A	N/A
	6-13-08			N/A	N/A
	09-09-08			N/A	N/A
	12-12-08			N/A	N/A
	03-12-09			N/A	N/A
	06-04-09			N/A	N/A
	12-03-09			N/A	N/A
	06-02-10			N/A	N/A
12-01-10	N/A	N/A			
06-03-11	N/A	N/A			
MW5	6-7-06	2	56.31	13.35	42.96
	9-11-06			15.99	40.32
	12-13-06			17.45	38.86
	3-12-07			16.68	39.63
	6-6-07			N/A	N/A
	9-6-07			N/A	N/A
	12-14-08			N/A	N/A
	3-13-08			N/A	N/A
	6-13-08			N/A	N/A
	09-09-08			N/A	N/A
	12-12-08			N/A	N/A
	03-12-09			N/A	N/A
	06-04-09			N/A	N/A
	12-03-09			N/A	N/A
	06-02-10			N/A	N/A
12-01-10	N/A	N/A			
06-03-11	N/A	N/A			

**TABLE I
GROUNDWATER ELEVATION DATA
(CONTINUED)**

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to Water (ft)	Water Table Elevation (ft)
MW6	6-7-06	2	56.63	13.64	42.99
	9-11-06			16.25	40.38
	12-13-06			17.72	38.91
	3-12-07			16.95	39.68
	6-6-07			18.47	38.16
	9-6-07			19.96	36.67
	12-14-07			20.81	35.82
	3-13-08			17.46	39.17
	6-13-08			19.38	37.25
	09-09-08			20.96	35.67
	12-12-08			21.81	34.82
	03-12-09			18.58	38.05
	06-04-09			19.77	36.86
	12-03-09			21.45	35.18
	06-02-10			17.13	39.50
12-01-10	20.04	36.59			
06-03-11	15.93	40.70			
MW7	6-7-06	2	57.50	14.50	43.00
	9-11-06			17.12	40.38
	12-13-06			18.58	38.92
	3-12-07			17.81	39.69
	6-6-07			19.32	38.18
	9-6-07			20.87	36.63
	12-14-07			21.30	36.20
	3-13-08			18.34	39.16
	6-13-08			20.15	37.35
	09-09-08			21.31	36.19
	12-12-08			22.29	35.21
	03-12-09			19.45	38.05
	06-04-09			20.36	37.14
	12-03-09			22.13	35.37
	06-02-10			18.01	39.49
12-01-10	20.89	36.61			
06-03-11	16.81	40.69			

1. Depths to groundwater were measured to the top of the well casings
2. Water table elevations were measured in relation to mean sea level (MSL)
3. N/A = Not Accessible

**TABLE II
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**

Sample ID	Sample Date	Sample Location	TPHG ¹ μg/L	Benzene μg/L	Toluene μg/L	Ethylbenzene μg/L	Xylenes μg/L	MTBE ² μg/L
MW-1	8-18-00	MW1	280,000	10,000	16,000	11,000	49,000	4,000
	3-30-01		98,000	8,600	14,000	6,300	26,000	7,600
	6-22-01		110,000	7,500	12,000	5,700	24,000	3,800
	9-20-01		93,000	8,700	11,000	6,300	27,000	4,600
	12-27-01		140,000	7,700	11,000	6,500	28,000	7,700
	9-24-02		110,000	4,600	4,000	4,000	18,000	3,400
	12-17-02		110,000	6,600	6,700	5,400	23,000	2,900
	4-2-03		89,000	4,800	6,000	4,600	20,000	5,900
	6-12-03		69,000	4,100	4,300	3,900	17,000	4,700
	9-29-03		96,000	7,000	7,700	5,100	22,000	6,200
	12-04-03		110,000	5,800	5,900	4,300	18,000	4,500
	03-09-04		130,000	5,900	9,700	4,900	22,000	6,000
	6-24-04		48,000	5,800	7,500	4,000	18,000	4,000
	9-09-04		64,000	4,800	7,500	4,500	19,000	2,200
	12-21-04		53,000	4,800	6,000	3,600	15,000	2,600
	3-16-05		82,000	4,000	8,600	3,900	18,000	4,300
	6-09-05		52,000	3,600	6,400	3,300	17,000	3,500
	9-22-05		62,000	3,500	5,400	3,900	17,000	2,100
	12-7-05		40,000	3,300	7,500	3,700	18,000	2,500
	3-10-06		53,000	3,600	6,900	4,000	18,000	3,300
	6-07-06		57,000	4,200	12,000	3,700	16,000	3,900
	9-11-06		120,000	3,600	9,500	5,200	23,000	3,000
	12-13-06		21,000	2,600	8,400	4,300	20,000	1,200
	3-12-07		96,000	2,300	5,600	5,900	26,000	1,400
	6-6-07		58,000	2,000	3,400	3,900	16,000	1,500
	9-6-07		84,000	3,000	4,300	6,000	25,000	2,300
	12-14-07		55,000	2,500	2,400	4,400	18,000	1,900
	3-13-08		80,000	2,400	5,400	4,700	22,000	2,000
	6-13-08		87,000	2,800	2,200	5,000	21,000	3,100
	09-09-08		34,400	2,040	1,120	2,390	10,100	1,890
	12-12-08		91,000	2,110	1,240	3,660	17,200	1,560
	03-12-09		92,000	1,510	1,240	2,630	16,500	1,040
	06-04-09		61,200	1,780	711	3,840	14,600	1,580
	12-03-09		66,300	2,300	346	4,100	15,400	2,690
	06-02-10		63,000	2,100	1,300	2,600	13,600	2,500
	12-01-10		54,000	2,520	180	4,240	10,200	2,230
	06-03-11		46,600	1,900	689	2,670	8,110	2,080

TABLE II
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(CONTINUED)

Sample ID	Sample Date	Sample Location	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Xylenes µg/L	MTBE µg/L
MW-2	8-18-00	MW2	290,000	3700	990	7,300	26,000	ND ³
	3-30-01		47,000	3,200	470	4,500	13,000	3,100
	6-22-01		57,000	2,500	350	4,200	12,000	1,800
	9-20-01		42,000	2,300	230	4,300	12,000	2,200
	12-27-01		70,000	2,900	390	4,800	14,000	2,400
	9-24-02		110,000	1,600	200	3,400	9,100	2,500
	12-17-02		66,000	2,400	340	4,600	13,000	1,900
	4-2-03		29,000	1,000	130	2,300	5,100	2,000
	6-12-03		8,700	380	52	790	2,000	2,200
	9-29-03		52,000	1,700	200	4,500	9,800	2,300
	12-04-03		66,000	1,500	210	4,500	9,200	1,900
	03-09-04		61,000	1,500	2,000	4,200	8,500	2,200
	6-24-04		29,000	1,200	72	3,100	6,000	2,100
	9-09-04		37,000	1,600	110	4,000	8,500	3,100
	12-21-04		27,000	1,400	84	3,100	5,400	3,200
	3-16-05		54,000	1,700	140	4,500	8,900	4,000
	6-09-05		2,800	420	ND ³	180	51	930
	9-22-05		33,000	1,400	ND	3,400	5,700	2,200
	12-7-05		20,000	1,600	130	3,400	6,000	3,000
	3-10-06		34,000	2,100	170	4,200	7,500	4,400
	6-07-06		29,000	2,400	250	3,600	5,100	3,200
	9-11-06		32,000	1,100	140	2,400	3,500	1,600
	12-13-06		36,000	1,400	220	3,400	4,900	1,900
	3-12-07		36,000	1,200	250	3,800	5,700	1,800
	6-6-07		24,000	1,100	170	3,000	4,200	1,400
	9-6-07		44,000	1,600	290	5,700	6,800	1,900
	12-14-07		28,000	1,200	160	3,600	3,700	1,500
	3-13-08		47,000	1,100	190	5,800	7,500	1,200
	6-13-08		40,000	950	170	4,600	4,800	1,400
	09-09-08		20,300	706	121	2,680	2,580	1,180
	12-12-08		48,000	826	114	4,050	4,250	1,610
	03-12-09		43,000	686	128	2,740	4,520	974
	06-04-09		20,600	440	94.3	2,770	2,270	717
	12-03-09		26,600	372	29.7	3,250	2,250	608
	06-02-10		21,000	130	13	2,400	1,500	160
	12-01-10		14,300	127	ND	1,890	697	206
*	06-03-11		8,150	72.0	ND	845	352	130

**TABLE II
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(CONTINUED)**

Sample ID	Sample Date	Sample Location	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L
MW-3	8-18-00	MW3	46,000	3,200	550	3,700	14,000	2,200
	3-30-01		30,000	3,300	340	2,800	9,100	4,700
	6-22-01		35,000	4,000	340	2,900	7,600	4,100
	9-20-01		30,000	3,800	260	2,500	6,600	5,300
	12-27-01		39,000	4,400	340	3,000	6,700	5,500
	9-24-02		53,000	4,100	270	3,100	6,600	6,400
	12-17-02		40,000	3,600	240	2,200	5,700	5,200
	4-2-03		24,000	2,000	130	1,800	3,300	3,000
	6-12-03		26,000	2,700	180	2,000	4,200	5,500
	9-29-03		39,000	4,000	220	3,200	5,300	4,800
	12-04-03		40,000	3,200	180	2,200	4,300	4,400
	03-09-04		39,000	3,100	160	2,100	4,400	4,000
	6-24-04		21,000	3,000	110	2,300	3,800	3,400
	9-09-04		26,000	4,100	140	2,200	4,300	6,000
	12-21-04		20,000	3,400	99	1,700	2,900	6,400
	3-16-05		35,000	1,800	78	1,900	2,600	4,000
	6-09-05		2,000	55	ND	120	30	150
	9-22-05		17,000	2,000	69	1,500	1,900	3,500
	12-7-05		11,000	1,800	62	1,500	1,700	2,300
	3-10-06		9,100	1,100	24	990	810	1,300
	6-07-06		3,000	440	16	180	450	320
	9-11-06		17,000	1,300	38	1,000	1,600	690
	12-13-06		13,000	1,200	ND	1,000	1,300	520
	3-12-07		120,000	10,000	210	11,000	11,000	ND
	6-6-07		13,000	1,200	19	1,100	1,100	590
	9-6-07		22,000	1,900	32	2,000	1,600	1,000
	12-14-07		16,000	1,400	23	1,200	1,300	600
	3-13-08		10,000	870	ND	1,000	670	420
	6-13-08		15,000	1,300	27	1,300	1,200	660
	09-09-08		9,030	890	<10	695	372	460
	12-12-08		26,000	1,200	15.4	995	875	423
	03-12-09		15,000	759	18.3	704	1,010	300
06-04-09	11,500	1,250	34.9	821	1,040	422		
12-03-09	19,500	2,250	25.1	1330	1,050	577		
06-02-10	8,800	1,100	9.7	200	530	320		
12-01-10	7,910	1,020	ND	358	128	257		
*	06-03-11		2,910	93.7	ND	104	55.5	43.9

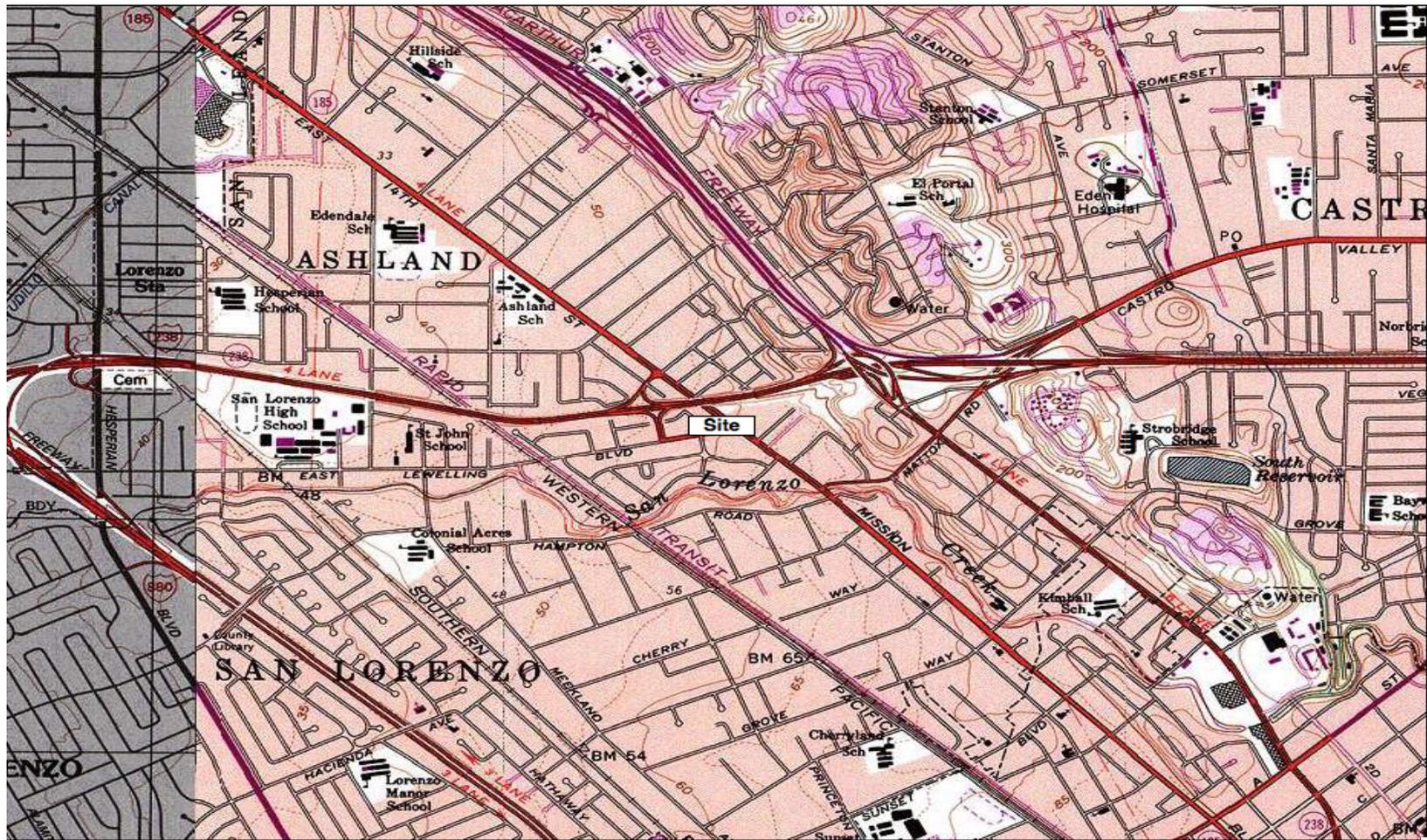
TABLE II
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(CONTINUED)

Sample ID	Sample Date	Sample Location	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L
MW-4	6-7-06	MW4	<25	<0.5	<0.5	<0.5	<0.5	<1
	9-11-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	12-13-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	3-12-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	6-6-07		NS ⁴	NS	NS	NS	NS	NS
	9-6-07		NS	NS	NS	NS	NS	NS
	12-14-07		NS	NS	NS	NS	NS	NS
	3-13-08		NS	NS	NS	NS	NS	NS
	6-13-08		NS	NS	NS	NS	NS	NS
	09-09-08		NS	NS	NS	NS	NS	NS
	12-12-08		NS	NS	NS	NS	NS	NS
	03-12-09		NS	NS	NS	NS	NS	NS
	06-04-09		NS	NS	NS	NS	NS	NS
	12-03-09		NS	NS	NS	NS	NS	NS
	06-02-10		NS	NS	NS	NS	NS	NS
12-01-10	NS	NS	NS	NS	NS	NS		
06-03-11	NS	NS	NS	NS	NS	NS		
MW-5	6-7-06	MW5	<25	<0.5	<0.5	<0.5	<0.5	<1
	9-11-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	12-13-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	3-12-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	6-6-07		NS	NS	NS	NS	NS	NS
	9-6-07		NS	NS	NS	NS	NS	NS
	12-14-07		NS	NS	NS	NS	NS	NS
	3-13-08		NS	NS	NS	NS	NS	NS
	6-13-08		NS	NS	NS	NS	NS	NS
	09-09-08		NS	NS	NS	NS	NS	NS
	12-12-08		NS	NS	NS	NS	NS	NS
	03-12-09		NS	NS	NS	NS	NS	NS
	06-04-09		NS	NS	NS	NS	NS	NS
	12-03-09		NS	NS	NS	NS	NS	NS
	06-02-10		NS	NS	NS	NS	NS	NS
12-01-10	NS	NS	NS	NS	NS	NS		
06-03-11	NS	NS	NS	NS	NS	NS		

**TABLE II
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(CONTINUED)**

Sample ID	Sample Date	Sample Location	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L
MW-6	6-7-06	MW6	<25	<0.5	<0.5	<0.5	<0.5	<1
	9-11-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	12-13-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	3-12-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	6-6-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	9-6-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	12-14-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	3-13-08		<25	<0.5	<0.5	<0.5	<0.5	<1
	6-13-08		<25	<0.5	<0.5	<0.5	<1	<1
	09-09-08		<25	<0.3	<0.5	<0.3	<0.7	<0.5
	12-12-08		<50	<0.5	<0.5	<0.5	<1.5	<0.5
	03-12-09		<50	<0.5	<0.5	<0.5	<1.5	<0.5
	06-04-09		<25	<0.3	<0.5	<0.3	<0.7	<0.5
	12-03-09		<25	<0.3	<0.5	<0.3	<0.7	<0.5
	06-02-10		<50	<0.5	<0.5	<0.5	<0.5	<0.5
12-01-10	<25	<0.3	<0.5	<0.3	<0.7	<0.5		
06-03-11	<25	<0.3	<0.5	<0.3	<0.7	<0.5		
MW-7	6-7-06	MW7	<25	<0.5	<0.5	<0.5	<0.5	<1
	9-11-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	12-13-06		<25	<0.5	<0.5	<0.5	<0.5	<1
	3-12-07		27	<0.5	<0.5	<0.5	<0.5	<1
	6-6-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	9-6-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	12-14-07		<25	<0.5	<0.5	<0.5	<0.5	<1
	3-13-08		<25	<0.5	<0.5	<0.5	<0.5	<1
	6-13-08		<25	<0.5	<0.5	<0.5	<1	<1
	09-09-08		<25	<0.5	<0.5	<0.5	<1	<1
	12-12-08		<50	<0.5	<0.5	<0.5	<1.5	<0.5
	03-12-09		<50	<0.5	<0.5	<0.5	<1.5	<0.5
	06-04-09		<25	<0.3	<0.5	<0.3	<0.7	<0.5
	06-02-10		<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12-01-10		<25	<0.3	<0.5	<0.3	<0.7	<0.5
06-03-11	<25	<0.3	<0.5	<0.3	<0.7	<0.5		

1. TPHG = Total Petroleum Hydrocarbons as Gasoline
 2. MTBE = Methyl Tertiary Butyl Ether
 3. ND = Below Laboratory Detection Limit
 4. NS = Not Sampled
- * 78.3 ug/L of TertButyl Alcohol was detected in sample MW-2, and 84.2 ug/L of Tert-Butyl Alcohol was detected in sample MW-3.



TN \star MN
15°

0 1000 FEET 0 500 1000 METERS
0 5 1 MILE

Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)



SIERRA ENVIRONMENTAL, INC.
Environmental Consultants

980 W. Taylor Street, San Jose, CA 95126
Phone [408] 971-6758 • Fax [408] 971-6759

SITE LOCATION MAP

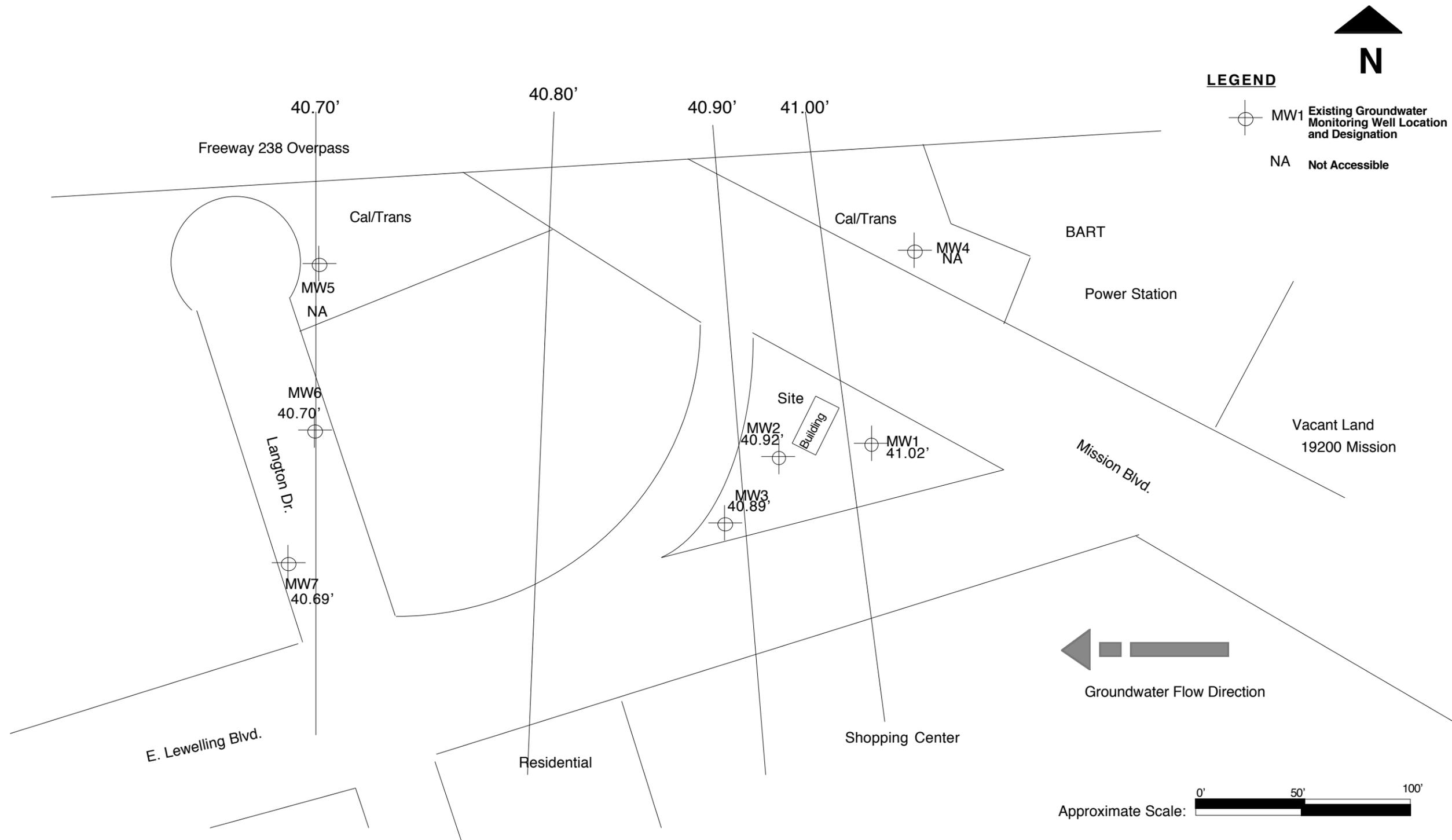
**First Semi-Annual 2011 Groundwater Monitoring
ABE Petroleum LLC**

17715 Mission Boulevard • Hayward • California

FIGURE

1

June 28, 2011
Project 11-103.00



SIERRA ENVIRONMENTAL, INC.

Environmental Consultants

980 W. Taylor Street, San Jose, CA 95126
 Phone [408] 971-6758 • Fax [408] 971-6759

On-Site & Off-Site Monitoring Well and Boring Locations

**First Semi-Annual 2011 Groundwater Monitoring
 ABE Petroleum LLC**

17715 Mission Boulevard • Hayward • California

FIGURE

2

June 28, 2011
 Project 11-103.00

Appendix A
QA/QC PROTOCOL

QA/QC PROTOCOL

Groundwater Level and Well Depth Measurements

Groundwater level and well depths are measured using electrical sounder. An electrical sounder consists of a reel, two-conductor cable, a water sensor, and a control panel with a buzzer. To measure groundwater level, the sensor is lowered into a well. A low current circuit is completed when the sensor makes contact with water. The current in the circuit is then amplified and activates a buzzer which produce an audible signal. Cable markings are divided at 0.05-foot increments. Well depths are measured to the nearest 0.01 foot. Groundwater levels are measured before and after sample collection to ensure data accuracy.

Well Purging

Low flow submersible electrical pumps or bailers are used to purge groundwater monitoring wells. Approximately 3 to 5 well casing volume of water is removed from the well as a measure to stabilize natural, and representative groundwater in each well. pH, electrical conductivity, and temperature of the purged water is measured and recorded at approximately each casing volume interval. Purge water is stabilized when pH is recorded within 0.5 unit, electrical conductivity is within 5 percent, and temperature is within 1.0 degree Celsius.

Groundwater Sampling

Groundwater samples are transferred into appropriate containers provided by certified analytical laboratories. The containers include proper preservatives, and labels with appropriate project information. Groundwater is transferred into the containers with as little agitation as possible. After collection, containers are sealed and checked to ensure that no head space or air bubbles are present in the sample.

After collection, if required, samples are kept in a cooler to be delivered to analytical laboratory with chain-of-custody documentation.

Equipment Decontamination

All sampling equipment are washed with Liqui-Nox[®] (a phosphate free laboratory detergent), and rinsed with tap water before each sampling event, and at each sampling interval. To reduce the risk of cross contamination, wells which have shown lower levels of contamination historically are purged and sampled first.

Analytical Procedures

Samples are analyzed by an accredited State-certified analytical laboratory using procedures prescribed by United State Environmental Protection Agency (EPA) and other Federal, State, and Local agencies. At minimum a field blank is analyzed with each group of samples for quality assurance measures. At minimum two qualified personnel review analytical results and compare them with historical data for consistency and accuracy.

Field Reports

All field observations are documented in field reports. A field report contain project information, climatic condition, contractor/subcontractor information, field observation, discussions and communications during each particular field activity. Field reports are stored in appropriate project files. Project managers review field reports to obtain necessary information regarding the status of each project on daily basis.

Appendix B
CERTIFIED ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION

Technical Report for

Sierra Environmental, Inc.

T0600102154-ABE, 17715 Mission Boulevard, CA

11-103.00

Accutest Job Number: C16376

Sampling Date: 06/03/11

Report to:

Sierra Environmental, Inc.
980 West Taylor Street
San Jose, CA 95126
maz.sierra@sbcglobal.net

ATTN: Mitch Hajiaghai

Total number of pages in report: **18**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Diane Theesen 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

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Sample Summary

Sierra Environmental, Inc.

Job No: C16376

T0600102154-ABE, 17715 Mission Boulevard, CA
 Project No: 11-103.00

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C16376-1	06/03/11	00:00 MH	06/03/11	AQ	Ground Water	MW-1
C16376-2	06/03/11	00:00 MH	06/03/11	AQ	Ground Water	MW-2
C16376-3	06/03/11	00:00 MH	06/03/11	AQ	Ground Water	MW-3
C16376-4	06/03/11	00:00 MH	06/03/11	AQ	Ground Water	MW-6
C16376-5	06/03/11	00:00 MH	06/03/11	AQ	Ground Water	MW-7

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-1		Date Sampled: 06/03/11
Lab Sample ID: C16376-1		Date Received: 06/03/11
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0600102154-ABE, 17715 Mission Boulevard, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W22819.D	100	06/13/11	TN	n/a	n/a	VW772
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1900	100	30	ug/l	
108-88-3	Toluene	689	100	50	ug/l	
100-41-4	Ethylbenzene	2670	100	30	ug/l	
1330-20-7	Xylene (total)	8110	200	70	ug/l	
108-20-3	Di-Isopropyl ether	ND	500	50	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	500	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2080	100	50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	500	50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	1000	500	ug/l	
	TPH-GRO (C6-C10)	46600	5000	2500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2		Date Sampled: 06/03/11
Lab Sample ID: C16376-2		Date Received: 06/03/11
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0600102154-ABE, 17715 Mission Boulevard, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W22829.D	10	06/13/11	TN	n/a	n/a	VW772
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	72.0	10	3.0	ug/l	
108-88-3	Toluene	ND	10	5.0	ug/l	
100-41-4	Ethylbenzene	845	10	3.0	ug/l	
1330-20-7	Xylene (total)	352	20	7.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	50	5.0	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	50	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	130	10	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	50	5.0	ug/l	
75-65-0	Tert-Butyl Alcohol	78.3	100	50	ug/l	J
	TPH-GRO (C6-C10)	8150	500	250	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3		Date Sampled: 06/03/11
Lab Sample ID: C16376-3		Date Received: 06/03/11
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0600102154-ABE, 17715 Mission Boulevard, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W22830.D	5	06/13/11	TN	n/a	n/a	VW772
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	93.7	5.0	1.5	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
100-41-4	Ethylbenzene	104	5.0	1.5	ug/l	
1330-20-7	Xylene (total)	55.5	10	3.5	ug/l	
108-20-3	Di-Isopropyl ether	ND	25	2.5	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	25	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	43.9	5.0	2.5	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	25	2.5	ug/l	
75-65-0	Tert-Butyl Alcohol	84.2	50	25	ug/l	
	TPH-GRO (C6-C10)	2910	250	130	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-7		Date Sampled: 06/03/11
Lab Sample ID: C16376-5		Date Received: 06/03/11
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0600102154-ABE, 17715 Mission Boulevard, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W22831.D	1	06/13/11	TN	n/a	n/a	VW772
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



C110376

CHAIN OF CUSTODY SECASJ137

Project Name: ABE Project No: 11-103.00 Date: 06-03-11
Project Location: 17715 Mission Boulevard Client: Paul Garg Sampler: Mike Hagi

Sample ID	Date Sampled	Sampling Time	Matrix	N° of Containers	Analysis Requested						Turnaround Time		
					TPHG, BTEX, Fuel Oxygenates 8260B						24-hour Other	Normal	
-1 MW-1	6/03/11	—	Water	3	X							24-hour Other	Normal
-2 MW-2	↓	—	↓	↓	↓							24-hour Other	Normal
-3 MW-3		—										24-hour Other	Normal
-4 MW-4		—										24-hour Other	Normal
-5 MW-5		—										24-hour Other	Normal
		—										24-hour Other	Normal
												24-hour Other	Normal

Remarks: Please email the results in EDF format for Geotracker ID# T0600102154 to mazyar@sierrainvironmentalinc.com

43.05 = 38°C

Relinquished by	Date <u>6/03/11</u>	Time <u>3:30</u>	Received by	Date <u>6.3.11</u>	Time <u>15:30</u>
Relinquished by	Date	Time	Received by	Date	Time

980 W. Taylor Street • San Jose • California • 95126
Phone (408) 971-6758 • Fax (408) 9716759

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3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C16376
Account: SECASJ Sierra Environmental, Inc.
Project: T0600102154-ABE, 17715 Mission Boulevard, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW772-MB	W22817.D	1	06/13/11	TN	n/a	n/a	VW772

The QC reported here applies to the following samples:

Method: SW846 8260B

C16376-1, C16376-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	93% 60-130%
2037-26-5	Toluene-D8	100% 60-130%
460-00-4	4-Bromofluorobenzene	94% 60-130%

Method Blank Summary

Job Number: C16376
Account: SECASJ Sierra Environmental, Inc.
Project: T0600102154-ABE, 17715 Mission Boulevard, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW772-MB2	W22827.D	1	06/13/11	TN	n/a	n/a	VW772

The QC reported here applies to the following samples:

Method: SW846 8260B

C16376-2, C16376-3, C16376-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	95% 60-130%
2037-26-5	Toluene-D8	100% 60-130%
460-00-4	4-Bromofluorobenzene	97% 60-130%

Blank Spike Summary

Job Number: C16376
Account: SECASJ Sierra Environmental, Inc.
Project: T0600102154-ABE, 17715 Mission Boulevard, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW772-BS1	W22816.D	1	06/13/11	TN	n/a	n/a	VW772

The QC reported here applies to the following samples:

Method: SW846 8260B

C16376-1, C16376-2, C16376-3, C16376-4, C16376-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	128	102	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	93%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	95%	60-130%

4.2.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: C16376
Account: SECASJ Sierra Environmental, Inc.
Project: T0600102154-ABE, 17715 Mission Boulevard, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW772-BS	W22814.D	1	06/13/11	TN	n/a	n/a	VW772
VW772-BSD	W22815.D	1	06/13/11	TN	n/a	n/a	VW772

The QC reported here applies to the following samples:

Method: SW846 8260B

C16376-1, C16376-2, C16376-3, C16376-4, C16376-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.2	96	19.1	96	1	60-130/30
108-20-3	Di-Isopropyl ether	20	17.9	90	17.4	87	3	60-130/30
100-41-4	Ethylbenzene	20	19.9	100	19.4	97	3	60-130/30
637-92-3	Ethyl Tert Butyl Ether	20	19.5	98	19.2	96	2	60-130/30
1634-04-4	Methyl Tert Butyl Ether	20	18.8	94	18.9	95	1	60-130/30
994-05-8	Tert-Amyl Methyl Ether	20	19.1	96	18.9	95	1	60-130/30
75-65-0	Tert-Butyl Alcohol	100	70.7	71	81.2	81	14	60-130/30
108-88-3	Toluene	20	19.9	100	19.7	99	1	60-130/30
1330-20-7	Xylene (total)	60	61.6	103	60.3	101	2	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	95%	60-130%
2037-26-5	Toluene-D8	99%	99%	60-130%
460-00-4	4-Bromofluorobenzene	97%	96%	60-130%

4.3.1
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C16376
Account: SECASJ Sierra Environmental, Inc.
Project: T0600102154-ABE, 17715 Mission Boulevard, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C16376-5MS	W22845.D	1	06/14/11	TN	n/a	n/a	VW772
C16376-5MSD	W22846.D	1	06/14/11	TN	n/a	n/a	VW772
C16376-5	W22831.D	1	06/13/11	TN	n/a	n/a	VW772

The QC reported here applies to the following samples:

Method: SW846 8260B

C16376-1, C16376-2, C16376-3, C16376-4, C16376-5

CAS No.	Compound	C16376-5 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	19.5	98	20.0	100	3	60-130/25
108-20-3	Di-Isopropyl ether	ND	20	19.1	96	19.2	96	1	60-130/25
100-41-4	Ethylbenzene	ND	20	19.6	98	20.0	100	2	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND	20	21.6	108	21.6	108	0	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND	20	21.6	108	21.4	107	1	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND	20	21.3	107	21.4	107	0	60-130/25
75-65-0	Tert-Butyl Alcohol	ND	100	90.4	90	92.4	92	2	60-130/25
108-88-3	Toluene	ND	20	19.7	99	20.3	102	3	60-130/25
1330-20-7	Xylene (total)	ND	60	61.7	103	62.6	104	1	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C16376-5	Limits
1868-53-7	Dibromofluoromethane	100%	98%	94%	60-130%
2037-26-5	Toluene-D8	98%	99%	101%	60-130%
460-00-4	4-Bromofluorobenzene	100%	96%	95%	60-130%

4.4.1
4

Appendix C
FIELD NOTES



GROUNDWATER MONITORING DATA FORM

Project No: 11-103.00 Date: 06-03-11

Project Name ABE Well N°: MW1

Field Personnel: Mike Weather: cloudy

Project Location: 17715 Mission Boulevard, Hayward

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
				2"	4"	6"		
	33.25	18.48	14.77	0.16	0.64	1.44	2.36	≈ 7.0

Purge Method: Bailer Measuring Reference: TOC

Time						
Volume Purged (gal)		0	2.5	5.0	7.0	
Temperature (° F)		64.1	63.9	63.7	63.5	
pH		6.39	6.37	6.36	6.35	
Specific Conductivity (umhos/cm)		690	690	680	690	
Turbidity/Color		Light Gray	→	→	→	
Odor		Yes	→	→	→	

Comments: shenes were observed in the well



GROUNDWATER MONITORING DATA FORM

Project No: 11-103.00

Date: 06-03-11

Project Name ABE

Well N°: MW2

Field Personnel: Mike

Weather: cloudy

Project Location: 17715 Mission Boulevard, Hayward

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
				2"	4"	6"		
	33.75	19.69	14.06	0.16	0.64	1.44	2.24	≈ 7.0

Purge Method: Bailer Measuring Reference: TOC

Time							
Volume Purged (gal)		0	2.5	5.0	7.0		
Temperature (° F)		64.3	64.0	63.9	63.9		
pH		6.61	6.58	6.59	6.57		
Specific Conductivity (umhos/cm)		690	700	710	700		
Turbidity/Color		light gray	→	→	→		
Odor		Yes	→	→	→		

Comments: NO shears



GROUNDWATER MONITORING DATA FORM

Project No: 11-103.00 Date: 06-03-11

Project Name ABE Well N°: MW3

Field Personnel: Mike Weather: cloudy

Project Location: 17715 Mission Boulevard, Hayward

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
				2"	4"	6"		
	33.75	18.84	14.91	0.16	0.64	1.44	2.38	± 7.0

Purge Method: Bailer Measuring Reference: TOC

Time						
Volume Purged (gal)		0	2.5	5.0	7.0	
Temperature (° F)		64.2	63.9	63.9	63.7	
pH		6.57	6.57	6.55	6.53	
Specific Conductivity (umhos/cm)		690	700	710	700	
Turbidity/Color		light gray	→	→	→	
Odor		NO S	→	→	→	

Comments: NO shears



GROUNDWATER MONITORING DATA FORM

Project No: 11-103.00 Date: 06-03-11
 Project Name ABE Well N°: MW6
 Field Personnel: Mike Weather: cloudy
 Project Location: 17715 Mission Boulevard, Hayward

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
				2"	4"	6"		
	25	15.93	9.07	0.16	0.64	1.44	1.45	~4.5

Purge Method: Bailer Measuring Reference: TOC

Time							
Volume Purged (gal)	0	1.5	3.0	4.5			
Temperature (° F)	63.7	63.5	63.5	63.3			
pH	6.50	6.57	6.55	6.55			
Specific Conductivity (umhos/cm)	710	700	700	690			
Turbidity/Color	Light Brown	→	→	→			
Odor	No	→	→	→			

Comments: _____



GROUNDWATER MONITORING DATA FORM

Project No: 11-103.00 Date: 06-03-11
 Project Name ABE Well N°: MW7
 Field Personnel: Mike Weather: cloudy
 Project Location: 17715 Mission Boulevard, Hayward

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
				2"	4"	6"		
	25	16.81	8.19	0.16	0.64	1.44	1.31	4.0

Purge Method: Bailer Measuring Reference: TOC

Time							
Volume Purged (gal)		0	1.5	3.0	4.0		
Temperature (° F)		64.0	63.8	63.6	63.4		
pH		6.37	6.36	6.37	6.39		
Specific Conductivity (umhos/cm)		680	670	670	660		
Turbidity/Color		Light Brown	→	→	→		
Odor		NO	→	→	→		

Comments: _____
